

The Bias of the World

A History of Theories of Unequal Exchange
from Mercantilism to Ecology

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Table of Contents

Table of contents	2
Introduction	3
Part I – The death and resurrection of the ‘mercantilist’ doctrine of the balance of trade and employment	23
Chapter 1. Mercantilism: non-entity, nuisance, or human nature?	24
Chapter 2. What happened in the debates of the 1620s?	32
Chapter 3. The absurdity of selling	36
Chapter 4. Non-equivalent exchange in the early classical tradition and the re-emergence of mercantilism	42
Part II – Marxist theories of non-equivalent exchange	63
Chapter 5. Austrian approach to non-equivalent exchange in relation to nationalism and the breakdown of capitalism	64
Chapter 6. Non-equivalent exchange in the Soviet transition debate	81
Chapter 7. The socialist scene after Stalin	97
Part III – Centre on the transatlantic periphery	128
Chapter 8. George Fitzhugh and the unequal exchange of the Southern slave society	128
Chapter 9. Staples and communication in the peripheral vortex of Harold Innis	136
Chapter 10. Raúl Prebisch, the Argentinean raw materials export economy, and the debate on the terms of trade	159
Chapter 11. W. Arthur Lewis – differential agricultural productivity and directed migration in the eyes of a West Indian immigrant	189
Chapter 12. From drain theory to dependency – the importance of Paul Baran	217
Part IV – Unequal exchange in the political economy of Arghiri Emmanuel	242
Chapter 13. Emmanuel’s formative years in Greece and the Belgian Congo	244
Chapter 14. Planning, monopolies, and international worker solidarity in French Marxism	249
Chapter 15. Marxian unequal exchange reversing assumptions of Heckscher-Ohlin	259
Chapter 16. Marxist dispute on unequal exchange in France and Britain	278
Chapter 17. From Marxism to ecology with Jan Otto Andersson	319
Chapter 18. Sraffian unequal exchange and debates	340
Chapter 19. Emmanuel’s unequal exchange in a world of its own	363
i – The importance of wages to investment	363
ii – Inequality between the value of output and the purchasing power of income	374
iii – An inventory of deblocking mechanisms	386
iv – Incentives to overtrading	396
Part V – Ecological theories of unequal exchange	412
Chapter 20. Richard Cantillon and the unequal exchange of land values	413
Chapter 21. Maximum empower to Odum’s empire – ecosystematics and the unequal exchange of ‘emergy’	421
Chapter 22. Ecological Protestantism in an overpopulated affluent society	448
Chapter 23. Ecological dependency in Stephen Bunker and Joan Martinez-Alier	472
Summary and Conclusions	507
Bibliography	527

Introduction

The primary purpose of this thesis is to write a history of certain conceptions, theorists and theories of unequal exchange, which ought to be of interest to those wishing to understand the problematic of 'ecological unequal exchange'. Its title is a quote from William Shakespeare's *King John* (Act II, Scene 1) – "Commodity, the bias of the world" – and was thought not only a fit description of its theme, which concerns primarily the capitalist commodity economy (although Shakespeare may have had other things in mind), but also relates it to the titles of one of its objects of study, H. A. Innis's *The Bias of Communication* (1951).

The term 'unequal exchange' became widespread in the 1970s through Marxist debate on underdeveloped countries and their falling terms of trade. The source and centre of the debate was the Greco-French economist, Arghiri Emmanuel. An often passionately hostile attention was paid his conclusions about the lack of international worker solidarity evident between low and high wage countries, and of which we can find daily evidence in the news on 'illegal immigrants'. For all its proclaimed idealism in attacking international capital mobility, the current anti-globalisation movement and most environmentalism, for fear of Gethsemane, shuns any serious confrontation with the problematic of international worker mobility. If the problematic of unequal exchange is again relevant to discussions of globalisation and its discontents, it also has important predecessors.

Large sections of the history of unequal exchange theories have remained unwritten. Other portions have been well studied in themselves, but not, or not necessarily so, in the context of unequal exchange. What this study does, then, is to *retrieve* and *re-enact* a neglected aspect of intellectual history, presenting that history as it seems when this particular view is placed in the seat of honour. As such, it would not have been possible without its centre piece Emmanuel, who collected the loose threads lying about in history, weaving them into a useful fabric, or a coherent argument with a specific interpretative purpose. If he retrieved the cloth, this study attempts to retrieve some of the spinners and weavers. This is in itself a contribution to current discussions of unequal exchange, if only by putting them in perspective, and it would be dishonest to pretend otherwise.

The main positive argument, in this latter sense, is to advocate a conception of (ecological) unequal exchange, which places emphasis on retaining a differential of *consumption* of ecological goods and services for large masses of populations. It is, thus, one which places large-scale *appropriation* of total societal or bioproductive output, and the corresponding, socially 'horizontal', antagonistic relations, at centre-stage. It is, finally, one in which these social relations have some reverberation on relative *prices*, or the terms of trade. Such a delimitation is much more strict than common usage would allow, but it is, I would argue, one which retains what is most useful and original in the concepts history, and what makes it a problematic distinct from those found in other traditions. It is also one with clear relevance to global environmental problems, and to human ecology in general.

As Martinez-Alier (2002: 204), one of the contributors to current debates, has put it: "One peculiarity of human ecology is that, on the borders of rich countries, there are a sort of Maxwell's Demons [...], which keep out most people from poor countries, thus being able to maintain extremely different per capita rates of energy and material consumption in adjoining territories". The study of unequal exchange, as I would have it, is the study of these 'demons', their consequences and underlying mechanisms, notably as they include price phenomena. This is in place of another conception, which I would prefer to call 'non-equivalent exchange', focusing on the net transfer or transportation of such environmental, or in other

cases labour, goods and services. That this even constitutes a difference appears to be far from evident to most who have ecological unequal exchange on their agenda. If it is, there seems to be little awareness that the former sense is what theories of unequal exchange have been about, and it is to be hoped that the present work might add some clarification on this issue.

Material and delimitations

‘Unequal exchange’ has been used in many more or less wide-ranging senses relating to inequalities or disproportionate gains or losses involved in economic exchange. The actual expression ‘unequal exchange’ in English may have originated among Ricardian socialists. One of them, John Francis Bray (1839; cf. Carr 1940), was quoted by Marx (1929) when arguing against Proudhon. In his and Engels’s German the corresponding expression translated ‘non-equivalent’ exchange, in which form it entered Russian in the 1920s through the work of Preobrazhensky (1965), and re-entered English. This is a more unambiguous term in Marxist literature, meaning a net transfer of, in this case, embodied labour hours or ‘value’, and is usually a simple analytical result of different capital intensities between branches of production. *Unequal* exchange was reintroduced in modern economic debate via the French, ‘échange inégal’, and gained its present popularity only following the publication of Emmanuel (1962, 1969a, 1972a), where it was explicitly presented in contrast to the idea of a mere non-equivalence.

The ensuing heated debates and misunderstandings have meant that the term has become common property, while at the same time losing its more specific content. Thus, the earliest responses by Bettelheim (1962, 1969a) began by trying to reintegrate it as a subcategory of ‘non-equivalent exchange’ in the above sense, or unequal exchange in the ‘broad’ sense as he had it. In this sense of a net-transfer of labour values it has gained wide currency in Marxist literature over the years. Sometimes similarly and sometimes differently, Amin (1970, 1973, 1974, 1976) used it both to mean an exchange when wage-differentials were greater than productivity differentials, and in the sense of ‘double factorial terms of trade’ differing from unity. Magnusson (1978) distinguished mercantilist economic thought (roughly 16th through 18th centuries) from later thought by saying that it took exchange to be unequal. Boss (1990), on the other hand, found ‘non-equivalent exchange’ to originate with their physiocratic and classical critics. Love (1980) found the origin of ‘the’ theory of unequal exchange in the writings of the Argentinean economist Prebisch, who never used the term, in a general sense relating to the terms of trade between a centre and a periphery. Bunker (1985) invoked the term with reference to an exchange of unequal embodied ‘energy values’, a sense found in the work of Odum. It also figures in many often more emotive senses of ‘unfair’ or monopolistic trade, exploitation or protectionism in general, or in the political speeches of Fidel Castro (quoted in Bernal 1980: 167, & Koont 1987: 15). Indeed, on a rather preliminary level, much of the effort behind this work has simply gone into taking stock of material at all speaking about ‘unequal exchange’. As may already have become evident, or soon will, there can be no claim to completeness.

Catalogues and databases available via the Lund University Library (e.g., COPAC, Digital Dissertations, Econlit, Karlsruhe Virtual Catalogue, JSTOR, Libris, Sudoc), have been used proficiently to try to take stock and identify relevant works. Searches on Google have been conducted on several occasions (‘hits’ in rounded figures 2006-02-28), e.g., for the exact expressions ‘unequal exchange’ (72,000), ‘non-equivalent exchange’ (160), ‘intercambio desigual’ (51,000), ‘échange inégal’ (30,000), ‘scambio ineguale’ (14,000), ‘ungleicher Tausch’ (500), ‘ulige bytte’ (200), ‘ongelijke ruil’ (200), ‘ojämmt utbyte’ (140). While thousands of these have been ransacked, I have tried keeping to published materials. Even with systematic study and no direct language barriers, there are other restrictions to such an

approach. *Geographically* following it through would require compensation for the inherent Anglo-Saxon bias in most such search engines. The most notable shortcoming is perhaps the relative neglect implied of thinking in the technologically and economically less developed regions of the world, although the bias may be less for the internet than that of conventional publications or databases. Debate may of course be as intense or more in less developed countries, where not as many publications or internet sites exist. On the other hand, technical and economic advantage tends to coincide with economic opportunities to busy oneself with elaborate theorising. It is nevertheless instructive that the sites in Spanish outnumber those in French, and that, apart from English, Germanic languages are so much less prominent than Romanic. Taken as an index of current debates, it implies with respect to the coverage attempted by myself, that there is more to be done or found on Spanish (including Latin American) and Italian debates. *Chronologically*, however, the recent flood of publications, particularly on the internet, is not proportional to the historical or theoretical importance of these contributions. As was said initially, one of the points of this thesis is to give some historical perspective to current debates, both in terms of their theoretical and historical importance.

There are nevertheless some common features in this area, which one may wish to classify into three or four different branches of thought on unequal exchange: mercantilist, classical-Marxist, and ecological, in addition perhaps to a general centre-periphery framework. One of these features is that more or less all of the theories mentioned are outside mainstream economics. For in the classical world of economics, there cannot really be losers in trade, every free exchange being basically equal, conveying mutual benefits that in its most radical form cannot even be disproportionately allocated. From this perspective, mercantilism could be seen as the ugly duckling or Cinderella of political economy and Marxism its black sheep, ecological economics too untried, perhaps, and the centre-periphery perspective too peripheral. The chosen field for this thesis, then, is with ideas or theories of international exchange outside the latter-century mainstream according to which every free exchange is necessarily advantageous to both the exchanging parties. Outside the textbooks of political economy, however, there lies a world in which equal exchange is the exception. Speaking, with minor exceptions, of *international* exchange narrows the field considerably to an Occidental tradition, whose historical origin is sometimes identified with ‘mercantilism’. This does not imply that the idea is absent from other or earlier traditions, although it may take rather different forms (cf. Bolton 2002, Boorstin 1986, Collard 2001, Collard & Héritier 2000, Donlan 1989, Godelier 1968, 1999, Lévi-Strauss 1963, 1969, Mauss 2002, Rodriguez & Pastor 2000). Having pointed to these other traditions here may habituate the mind to the idea of unequal exchange in possibly similar oral or non-monetary systems also within the Occidental tradition.

If writers and moral philosophers demonstrate a need and tend to underline the importance of maintaining equality in exchange, it suggests that it was not taken for granted in common parlance. In the legal terminology of the Shari’ah, ‘riba’ has been defined as “an increment, which, in an exchange or sale of a commodity, accumulates to the owner or lender without giving in return an equivalent counter-value or recompense (*‘Iwad*) to the other party.” (Sarakhsi 1906-07, VII: 109). Arabic debate on *riba al-fadl* and *riba al-buyu* has nevertheless been removed from the list of themes covered in the present work, even in its possible modern form. It was largely from the Muslim world that the West inherited Greek learning, science and moral philosophy, and the emphasis on equality can be found as well in Scholastic economics. A point which could have been more elaborated, however, is that the mercantilist conception of trade as basically unequal can largely be understood as an *oral tradition*, whose ubiquitous acceptance corresponds to a closer attention to the ‘facts of life’ than do subsequent traditions, but by contrast falls short when it comes to abstract exposition of its

ideas in more formal models. When ‘fenced’ by print, the oral tradition appears in its different national varieties in increasingly elaborate modelling. With time, the formal elegance and purity of those models become perceived as more important than their usefulness and realism. Orality succumbs to literacy or print. In the meantime, however, some extraordinary texts have been produced, which profit from elements of both tendencies, notably Adam Smith’s *Wealth of Nations*. Indeed, the idea of unequal exchange did not wholly disappear from normal science until after the ‘Jevonian’ or marginalist revolution of the 1870s. This period is characterised by numerous discontinuities, not least the one referring to extended communications and transports, which simultaneously change the character of previous tendencies, the whole world in a sense imploding on the mind, and forcing upon it a Nietzschean ‘reappraisal of all values’. As has been noted of Roman Law, however, the indestructibility of matter is nothing compared to the indestructibility of mind, and many of the newer ideas about unequal exchange often seem to be a rehashing of old ones. But perhaps the opportunity has also opened to overcome the previous choice between realism and generality of presentation.

The vagueness in the term ‘unequal exchange’ has a counterpart in the understanding of ‘mercantilism’, a conception which resists being obediently contained in the conventional time period assigned to it, and has a tendency to reappear again and again in various forms of ‘neo-mercantilism’. It seems ultimately to be of greater historical importance than Marxism, and immensely more so than ecology, having in many respects formulated the main ideas to be reiterated in them. The mercantilist section would soon grow out of proportion to the rest if treated with equal reverence, even if restricted to British writers, and I decided to amputate it and put most of the work already undertaken in mothballs. The exception is the late mercantilist Richard Cantillon, whose economic ‘land theory of value’ can be seen as including a corresponding theory of unequal exchange of land, which predates ecological versions by two centuries.

Apart from the basic conceptions of trade inequality among mercantilists, ideas of non-equivalent or unequal exchange can be found both among the French physiocratic economists of the 18th century (e.g., Quesnay), and the British classical economists (e.g., Smith). Although Ricardo himself figures as necessary background, and regretful though this may be, the present work has not allowed full study of Ricardian socialists, taking up only the work of Gerald Fitzhugh, which, excepting political stance, has many similarities with later dependency analysis, allows comparisons with other writers in the periphery of the British Empire, and finally also demonstrated many ecological concerns.

Instead of the Ricardian socialist strand or even Marx himself, I have focussed on later Marxian traditions as the more important for modern debates. Here, as does Marxism itself, we eventually transgress the strictly Occidental tradition. That contemporary debates originated in a Marxist framework is beyond doubt, originally an outgrowth of the classical economic ‘labour theory of value’, or more specifically, as Boss (1990) has argued, are an aspect of ‘theories of surplus and transfer’. Inherent differences between ‘unequal’ and what I will attempt to call ‘non-equivalent’ exchange, immediately suggested isolating the interpretation of Emmanuel’s ‘unequal exchange’ from much of the rest of Marxist ‘non-equivalent exchange’. Whatever the merit of this argument, in the end it has become necessary for reasons of presentation.

The inclusion of certain transatlantic perspectives on the centre–periphery relation initially suggested itself by the centrality of both the British Empire and British political economy. Perhaps not always fitting the concept of ‘unequal exchange’, many have nevertheless been so fitted by posterity in one way or another. In addition to Fitzhugh, the category brings together writers with a geographical spread from Innis in Canada to Prebisch in Argentina, and could have included much North and Latin American ‘dependency’ writing. Both Innis’s ‘staple

thesis' and Prebisch's contribution to the terms of trade debate have been evoked as unequal exchange theories in ecological discussions of the dependency ilk. The West Indian Lewis is important as a theorist and historian in the context of unequal exchange, and makes a valuable addition also because of the neglect ecologists have so far shown him. (The reason, I suspect, is that he does not fit in with standard preconceptions.) These writers allow comparisons relevant for the link often seen between producing raw materials and suffering from an unequal exchange or bargaining position, and also to the discussion of ecological unequal exchange.

Some such comparisons were made notably by Emmanuel himself, who remains a central character in any history of theories of unequal exchange and the central character in my own. Since his intellectual contributions have never been afforded full appreciation or study in the often heated reaction to and rejection of his work – and certainly have met with little or no understanding among ecological economists – I have taken this job upon me. My treatment of the debates themselves has unfortunately suffered from this choice, but future studies will hopefully find it easier to treat it dispassionately if the different theoretical (and ideological) stances have first been clearly spelt out. I do include many of the other central and not very central participants in this the central and thickest part of this work. I would argue that lack of recognition of Emmanuel's theoretical originality has made previous estimations biased against him, including those by my illustrious predecessors in the 'Earlier studies' section, and it may be that I have therefore adopted a certain counter-bias which will eventually have to be adjusted. As it stands, reading the debate from a more Emmanuelian perspective perhaps has the merit of illustrating that theoretical novelty tends to be accepted, or at all *seen*, only as long as it corresponds with the pre-established scheme of whatever school the interpreter happens to adhere. In any case, an interpretation of Emmanuel would still have to place his ideas on unequal exchange in the general perspective of his thought as a whole. To the best of my knowledge, this has never been attempted until now. One of the central novelties of Emmanuel's perspective has direct bearing on the interpretation of mercantilism, and I will also point out where he formulated unequal exchange in ecological terms.

Turning to more strictly *ecological* theories of unequal or non-equivalent exchange, there cannot as yet be said to exist a historiographical canon, and whom to include and where to lay emphasis is a matter which will have to work itself out with time. Human ecologists may be disappointed at their late introduction, or with how it has been executed, but one ambition of this thesis has been to put contemporary debates in perspective rather than vainly attempt full coverage. In fact, most ecological 'theories' of unequal exchange have been concerned with environmental accounting rather than theoretical or historical explanation, and more can be said of them in the former capacity than in the latter. Starting in the postwar 'Age of Ecology' with Odum, Borgström and the lineage of ecological footprints, my own study ends with ecological dependency theory and lays no claim to completeness. More could have been said on 'social metabolist' theories appearing here and there, but their history has already been well studied (see below), and they have so far been concerned mostly with domestic relations, not international trade.

All in all, the field covered in this thesis is incomplete as a study of theories and conceptions of unequal exchange. I have instead attempted to focus on aspects with more direct relevance for human ecology. As it concerns 'exchange', the full history of unequal exchange has, however, been an affair largely of political economy, preferably in its Marxian version. 'Passing beyond' political economy, which is or perhaps ought to be on the agenda of certain human ecologists, cannot be achieved by passing it by, and this also goes for the branch of theories relating to unequal exchange.

In the above attempt to delimit the coverage of the present thesis I have not been concerned so much with what theories of unequal exchange *should* be about, as with how people tend to see it. Used as a technical term, however, one aim of the book is to *promote* the idea of unequal exchange as a theme distinct from those guiding several long-standing schools of interpretation.

An overwhelming share of the literature using the term is Marxist, so it may be particularly important to clarify things with respect to that family of interpretations. First of all, theories of unequal exchange, as seen in this work, are separate from theories purporting to explain *imperialism*, either in a general sense or in its late 19th-century avatar. Unequal exchange may or may not be relevant as an element in such interpretations, but this is another question. Much more specifically, and though it has proved difficult in practice, I wish to promote the distinction between *unequal* and *non-equivalent* exchange. The latter term is commonly specific to Marxism, and should in my view be preferred when dealing specifically with (net) transfers of 'labour values'. By analogy, most of what is today referred to as ecological 'unequal' exchange could preferably be termed ecologically 'non-equivalent' exchange, when dealing specifically with the (net) transfer of 'ecological values'. I have little hope of this change in terminology breaking through in the near future, however, and have not attempted to uphold it throughout the text. By contrast, *unequal* exchange would ideally not require either a labour theory or an ecological theory of 'value', but would refer directly to a relation between prices and the underlying sphere of social and distributional conflicts (without necessarily passing *via* 'values' of any kind). The discussions about Sraffa's alternative to Marxism which appear in Part IV are aimed at clarifying this, for many, apparently difficult point, though (hopefully) without getting too much entangled in the problems arising from the contrary view. Unfortunately, and complicating the picture, many Marxist applications of the Sraffian approach continue the search for some allegedly 'objective' standard of value and equality. This has relevance also for the ecological approach, since by conceiving it in contrast to that of the labour theory of value, ecologists have often fallen into a similar naturalistic conception of value. If so, they have thereby missed the much greater opportunities offered by theories used as tools to understand the relation between prices and conflicting social interests.

Marxist theory has not always been used to make sterile measurements of net value transfers or of aberrations of certain tools of interpretation from other tools of interpretation, *i.e.*, of 'prices of production' from 'values'. In dealing with some of the more prominent early exemplars (Bauer, Grossmann, Preobrazhensky) I have attempted to show ways in which Marxist theories of exchange have been used precisely with an eye to conflicting interests in the social and historical sphere: national hatred and wage-levels in Bauer; for Grossmann in maintaining the rate of profit and thereby evading the decline of capitalism through trade with low-productivity peripheral areas; and promoting industrial development through price policies devised to expropriate the rural sector in Preobrazhensky. While post-war Marxist versions in the socialist bloc may be more sterile from this point of view in serving to provide ideological legitimacy between socialist states or against the capitalist system, they also had a concrete role in practical price policy contrasting them with Western Marxism.

Contemporary postwar discussions in the West on the terms of trade between developed and underdeveloped countries – *e.g.*, Singer, Prebisch, and Lewis, to all of whom we shall return – eventually shifted focus from the type of goods exchanged to the types of countries involved in the exchange, *i.e.*, from manufactures vs. raw materials to social relations. This led up to the first explicit modern formulation of a theory of unequal exchange by Emmanuel, and must be said to constitute the concept's principal and most imminent line of descent. It is one without which the modern history of the concept becomes incomprehensible, and without which it loses its denotation, whatever its various connotations may be.

However, by referring to the relation between prices and the underlying sphere of conflict over societal output, or what in economic language would be called the ‘factors of production’, unequal exchange also becomes distinct from the very wide-spread concern over *monopolies*. Thus, the *usefulness* of ‘unequal exchange’ as a concept will better be seen if it is not mixed up with the more commonplace idea of monopolistic market distortions. This refers to much of the ‘unfair’ trade and lessened efficiency against which common people, liberals and Marxists have been ravaging at least since the late 16th century, via Adam Smith, the ‘monopoly capitalist’ interpretation informing Leninism and dependency, up to and including many recent attacks on globalisation.

This may explain some of this thesis’s otherwise perhaps questionable inclusion of theories, omissions, and lesser treated luminaries. Some explicit theories of unequal exchange, which cannot be evaded, have nevertheless been founded on the idea of monopolistic distortions along with protective barriers. Although often seen as constituting one and the same thing, the so called *dependency* tradition has an at best ambiguous, and at worst hostile, relation to theories of unequal exchange. It sprang from a tradition which denied both the importance of the terms of trade and the possibility of transfers of value through trade. Thus, the transfer of ‘surplus’ initially spoken of in this tradition commonly referred to purely financial transactions, preferably within multinational corporations. The question cannot be fully dealt with in this work, but the reaction to the original formulation of unequal exchange by Emmanuel, which challenged the idea of a material basis of common interests among all the working peoples of the world, suggests that everything had to be done to reintegrate the term ‘unequal exchange’ with one in which it was ‘monopolies’ which orchestrated and ultimately benefited from the whole thing. This defensive character of the dependency movement, along with the generally rather vague and inconsistent formulations of unequal exchange which it has produced suggests, at least to the present author, the idea of drawing a more or less clear line of demarcation between a tradition of unequal exchange proper and of dependency. As the expression ‘unequal exchange’ is used in common parlance today, however, this dividing line would be more or less absent, but, as was said, it is one that I wish to promote, and that I hold would also promote the usefulness of the concept.

As for what I have chosen to refer to in this work as ‘ecological dependency’, there is still nothing sufficiently explicit with respect to relative prices to decide whether it may also qualify as ecological unequal exchange. The same point as the one above over distributional conflicts as against ‘embodied values’ in an ecological context is, however, a point in Martinez-Alier’s work, with which we shall end our presentation.

Earlier Studies

The historiography of theories and theorists of unequal exchange can be said to have started with the work of Emmanuel. His hotly contested 1969 book of that title set out to relate his theory to its predecessors, and thus contained a short review of other contributions “on the fringe of unequal exchange”, which included Prebisch, Singer, and Lewis. The book also contained a review of Marxist theories of non-equivalent exchange in the sense of a transfer of values due to exchange under conditions of different ‘organic composition’ – the Marxist expression for the economists’ ‘capital intensity’, and so termed rather confusingly since a *higher* proportion of ‘living labour’ (worker effort) to ‘dead labour’ (incorporated capital inputs) means a *lower* organic composition. This tradition, which included Bauer, was traced back even to the 18th-century economist Quesnay. Wiles’s (1969) book on communist international economics began with a review of the tradition of non-equivalent exchange in socialist economies. More important, however, was Andersson’s (1972a) licentiate dissertation, which took off more systematically where Emmanuel had left it, including

systematic treatments of Bauer, Grossmann, Preobrazhensky, Bettelheim, and Emmanuel himself, as well as of Prebisch, Lewis and others. Like Emmanuel, Andersson was himself engaged in constructing a theory of unequal exchange, and it is interesting to note that both of them pointed out that Paul Sweezy, Paul Baran, and Andre Gunder Frank (*i.e.*, scholars whose ideas evolved into the main Western ‘monopoly capitalist’ and dependency tradition) had been *opposed* both to the idea of value transfers via exchange and to the importance of the terms of trade. If this is a brothers’ broil, the initial conflict has become very much blurred in subsequent and general presentations and understanding, which tend to see unequal exchange as part of the dependency tradition. While admitting the historical importance of Baran’s work for the general change of view on the relation between capitalism and underdevelopment within Western Marxism, tracing the history of unequal exchange to the terms of trade debate and the Marxist transfer of value through exchange has meant reviving this initial distinction. Andersson’s (1976) doctoral thesis included an overview of thitherto unknown Soviet debates on non-equivalent exchange along with many other useful references, among others to the late mercantilist Sir James Steuart and to relevant passages in Adam Smith. Literature from the eastern bloc covering both the terms of trade and post-war Marxist debates include the Szentes. Ma (1986) and Woo & Tsang (1988) are my principal sources for Chinese debates. Japanese debates were observed already by Andersson (1976), based on Matsui (1970). Thanks to Hoston (1986), much more has become known to Westerners about the important early contributions by Japanese to Marxist theories of economic development from the 1920s and 1930s, but the literature on its unequal exchange aspects are so far scant and difficult to assess (Morris-Suzuki 1989).

Writings on the post-Emmanuelian debate are hard to distinguish from the debate itself. Several doctoral dissertations have been written on the subject of unequal exchange (*e.g.*, Delarue 1973, Andersson 1976, Gibson 1977, Daffe 1986, Moraes 1986, Koont 1987, Barrientos 1988, Darmangeat 1991), but they have all been concerned rather with advancing some particular theory or criticism of their own, and none has focused on giving an historical account of such theories and criticisms, although parts can be found in each. Barrientos (1988, 1991) makes some kind of historical case that Emmanuel was a Smithian ‘adding-up value’ mercantilist, but manages this feat only by disregarding the Sraffian arguments and presentations that he himself preferred. Along with Andersson’s above (1972a, 1976), the formal presentation and critique of Emmanuel’s and many of his successors’ theories found in articles by Evans (1978, 1979, 1980, 1981a, 1981b, 1984, 1989) are among the more valuable. Another stocktaking of unequal exchange theorists of comparable importance to Andersson’s, especially for the post-Emmanuelian debate, is Raffer (1987), who was, however, similarly concerned with constructing a theory of his own. The present thesis could be seen as an extension of this tradition of interpretation, and must therefore be said to have significantly followed an ‘internalist’ path into the subject, where writers have been personally engaged in the progressive development of theory.

In addition, many general and particular studies of factions of the theories or periods touched upon here have been useful. Howard & King’s (1989, 1992) history of Marxist economics has been of great value, particularly for the earlier periods, whereas the chapter on unequal exchange, in my opinion, is rather weak, covering only Emmanuel and Andersson and misrepresenting the former. In this respect, the treatment of Emmanuel and Amin in Brewer’s (1990, for Amin esp. the 1978 ed.) history of Marxist theories of imperialism is better. Pouch (2001) is an unusual and much needed study of French Marxism in that it treats economics (but unfortunately brief on the unequal exchange debate). An older study with insightful comments in this context is Lichtheim (1966), while Judt (1986) often makes well-found remarks to the same effect. Edwards’s (1985) study of international economics originated in an attempt to make Emmanuel’s theory of unequal exchange comprehensible to

undergraduates. He identified three schools of economic thought, the ‘Marxist’, ‘cost of production’ (i.e., Sraffian), and ‘neoclassical’, where Emmanuel is classified among the Sraffians rather than the Marxists – a useful perspective adopted already by Evans – but the point is blurred by similarly including Ricardo, Mill, Marshall, Keynes, Veblen, Galbraith, Myrdal, Hirschman, Kaldor, Schumpeter, Willy Brandt and many others (cf. Bowles 1986).

The terms of trade debate has produced a wealth of comment, overviews, and reinterpretations of the data, in an area dominated by a highly internalist perspective. Of studies with an historical ambition, Love’s (e.g., 1980) studies of Prebisch have been most useful, along with FitzGerald (1994), Toye & Toye (2003). Inspired by Amin (1974), Love calls Prebisch *the* originator of the debate on unequal exchange but, as will be argued, the sense in which this could be true is questionable. This is partly because of Love’s slighting over Singer, who made the substantial contribution with respect to the terms-of-trade debate, and partly because the only other sense in which ‘the’ debate on unequal exchange originated would have to be with Emmanuel (1962, 1969a). I have tried to incorporate findings from Tignor’s (2006) biography of Lewis, although it appeared when my own text was basically completed, but I had already profited from his earlier article (Tignor 2004). The views of the ‘pioneers’ of development economics themselves, collected in Meier & Seers 1984, have of course also been consulted. A good general overview of post-war paradigms within development economics, with suggestions on the cold-war context in which they appeared, is Hunt (1989; see also Arndt 1978, 1987, Oman & Wignaraja 1991). In addition to Love (e.g., 1980, 1990, 1994, 2005), a well-informed and sympathising study of Latin American structuralism and dependency is Kay (1989). A hostile one on the dependency movement is Packenham (1992). Fitzhugh was discovered in the context of unequal exchange by Persky (1992).

My treatment of Innis largely builds on work undertaken during the years 1994-97 for my M.A. in the history of ideas and learning at Lund University (Brolin 1997), but has been refashioned in the context of unequal exchange. Among the most insightful interpreters are still some of his contemporaries, e.g., Easterbrook (1953), while McLuhan (1964a, 1972) is perhaps still the most stimulating. Berger (1986) gives the best brief overall view, and Patterson (1990) makes useful efforts to unify the all too common ‘schizophrenic’ separation into early and late Innises, by linking him to Canadian traditions in historiography. Most have neglected the importance of economic theory and historical economics, and unfortunately Neill’s (1972) focus does not seem on target. Baragar (1996) is a useful reminder with respect to Veblen. Bunker (1989) is the origin for including him in the canon of ecological unequal exchange. The most important recent work is certainly Watson’s (2006) sensitive study, building on his 1983 dissertation.

General book-length studies and collections of mercantilist and pre-Adamite economics have been used extensively (e.g., Furniss 1920, Suviranta 1923, Heckscher 1931, 1994, Keynes 1973 [orig.1936], Viner 1937, Johnson 1937, Supple 1959, Wilson 1969, Coleman 1969a, Appleby 1978, Hutchison 1988, Magnusson 1993, 1999, Finkelstein 2000), along with great numbers of articles for more specific topics and periods (for Cantillon, e.g., Higgs 1931, Brewer 1988b). It is often refreshing to look into Schumpeter (1954), and I have great sympathy for his postulate that when it comes to mercantilism one had better to forget all one has ever read and turn directly to original sources.¹ Although it may not particularly show in

¹ Given that questions pertaining to the *debates* on mercantilism constitute as large a part of the scientific debates on mercantilism as do actual studies of the ‘mercantilist’ writers themselves, I can perhaps be excused for not attempting a more formal review of the subject at this point. I very much regret that, as it stands, the present study is no exception to this self-referential tendency in mercantilist studies. This also lessens the force of my own principal argument at this point, that separating the periods before and after the breakthrough of classical liberal political economy constitutes a liberal bias, which overemphasises the historical importance of economic

the current presentation, original sources (or rather reprints) of British mercantilists have been extensively perused during this work (good collections are found in McCulloch 1856; Tawney & Power 1924; Thirsk & Cooper 1972; Magnusson 1995, which must be complemented with works of individual authors, such as the 16th century Commonwealthmen, Malynes, Petty, Cantillon, Hume, or Steuart). The continuance or revival of these traditions in British (neo)mercantilism of the 19th century has been studied by Semmel (1960; 1970) and Koot (1987; 1993).

No comprehensive single treatment of the history of ecologist economics and the social context of environmental movements is known to me. Important parts of it can be found, *e.g.*, in Anker 2001, Bramwell 1989, Cleveland 1987, Grove 1996, Golley 1993, Fischer-Kowalski 1998, Fischer-Kowalski & Hüttler 1999, Foster 2000, Hagen 1992, Haberl 2001a-b, Linnér 2003, Martinez-Alier 1987, 2002, Martinez-Alier & O'Connor 1999, Sandbach 1978, P. J. Taylor 1997, and Worster 1977. There is more to be done on integrating these ecological theories and movements in their general historical setting than has been done, but this would be the theme for another book. Taylor's (1997) study pointing out links between H. T. Odum and the Technocracy movement of the 1930s has been highly relevant (Rotaby 2005 puts greater emphasis on his father's 'holism'). Linnér's (2003) study of Borgström and neo-Malthusianism has also been very serviceable, particularly for its linking theoretical issues to the general historical and political context. There is much less on ecological theories of unequal exchange, of course, although useful indications can be found in the works cited above (and probably more so than I have done), and the present work is only a highly preliminary attempt to construct such a history. I know of no previous studies on Bunker or Martinez-Alier, and have not myself attempted full coverage. The 'social metabolist' perspective will only be touched upon in passing. Although from a strictly internalist and 'monumental' perspective, its intellectual history has already been traced in Fischer-Kowalski's well-documented survey (1998; cf. 2003), and in her and Hüttler's (1999) review of the state of the art, complemented by Martinez-Alier (1987), Rosa *et al.* (1988) and Foster (2000) – from Justus von Liebig and Marx, via Bukharin and the 'industrial metabolism' of Robert Ayres, to the material and energy flow analyses undertaken by contemporary Viennese scholars. A good overview of the recent and scarcer contributions to studies of biophysical exchange between North and South is Giljum & Eisenmenger (2004).

Methodological problems in relating internalist and externalist approaches

"Doubtless", Skinner (1988: 234) has observed, "it is the universal fate of those with the temerity to write about historical method to find their conclusions dismissed as obvious where they are not dismissed as false." Let me start with the obvious, and see if I can glide sufficiently imperceptibly into falsehood. I have of course had recourse to standard historical methods of confirming with original sources (or at least reprints) and not taking everything read at face value (historical 'source criticism' as it was called in the early 20th century); trying to understand the specific context in, and purpose for which a text was written, as well as placing it in the larger context of the author's other writings. As can be seen in the final text, the focus on individual authors has also turned into something of an organising principle.

theory and with more relevance to the internal developments of French and British economics. What is *historically* problematic is not the period in which politicians and theoretical writers were in accord on the importance of a favourable balance of trade, but the period when this accord was lost and 'mercantilism' became a problem. The mercantilist 'paradox' implies a *fundamental* fault with economic theory in its present form, if theory is supposed to explain reality.

Having usually concerned myself with obscure and misunderstood authors, I have developed a preference for letting individuals have their own say, rather than repeat what others have had to say about them or swiftly placing them in some category.

Even including checking off databases and search-engines, the most important ‘tool’ has been to look up references and hints in already familiar sources (cf. ‘Earlier studies’), following them up by renewed general searches. If we need a name for this it could be referred to as the ‘snow-ball’ method. After a while, when it seems as if the snow-ball has turned into an avalanche, certain patterns emerge and, as in Poe’s ‘descent into the maelstrom’, one may re-emerge to the surface. With time and repeated descents, one may come to learn the underlying ‘geography’, and the problem becomes how to relate it to others who may have found themselves caught in the stream. It becomes a question of ‘translation’ so to speak. Describing this ‘hermeneutical spiral’ is of course a tricky business, as may be guessed by my avalanche melting into a maelstrom, and since it risks leading into another maelstrom, this is perhaps not the best place to do it.² One of the hermeneutical ‘rules’ is the zick-zacking between the meaning of the whole and that of the parts. Another is that one should seek the best interpretation in the sense of being the best *Gestalt*. If readers will ultimately come to disagree with me on this best gestalt, it is nevertheless hoped that the ability to *discuss* them will have been enhanced by such historical interpretations as those suggested in this thesis. It is not to be presumed that there exists an ultimate ‘synthesis’, on which all parties will come to agree (cf. Patočka 1979: 66ff., 162).

Trying to write on current theories from an historical perspective, one is forced to confront certain inevitable problems, which are in fact not restricted to recent theory but general to historical interpretation. This concerns a difficulty of drawing the line between interpretation of and contribution to debates, or in more general terms between secondary and primary sources, or between narratives and relics, and the inevitable risk of oneself becoming a mere exemplar of the latter. If most commentary on, e.g., Emmanuel has been a contribution to the reaction against his work, certain could also qualify as ‘secondary sources’ with respect to the debate. As it happens, even these have been conceived from what in the historiography of ideas may be termed an ‘internalist’ perspective, *i.e.*, from the perspective internal to the advancement of learning within the science itself, commonly by scholars who are themselves active in the discipline, and often with an aim to establish a ‘monumental’ past to current undertakings. The present study pays homage to this perspective in that it treats very disparate

² I am told this is a difficult work to read. If it is any comfort, it has also been a difficult work to write. I take full responsibility for its shortcomings, but the difficulties are partly inherent. Although a synthesising work, contrary to the dialectical imagination of Fichte, Hegel, and Marx, the theses and antitheses have not been fully absorbed in the synthesis. Instead, they retain a function as openings to past and different experiences, on which paths the reader may or may not wish to follow the writer. I agree with Steiner (1998: 316) that the triadic form of the hermeneutic movement “is dangerously incomplete”: “it is dangerous because it is incomplete, if it lacks its forth stage, the piston-stroke, as it were, which completes the cycle. The a-prioristic movement of trust put us off balance. We ‘lean towards’ the confronting text [...]. We encircle and invade cognitively. We come home laden, thus again off-balance, having caused disequilibrium throughout the system by taking away from ‘the other’ and by adding, though possibly with ambiguous consequence, to our own. The system is now off-tilt. The hermeneutic act must compensate. If it is to be authentic, it must mediate into exchange and restored parity.” The necessary ‘trust’ in the material before oneself corresponds to the Nietzschean historians’ ‘antiquarian’ mission, the cognitive encirclement and invasion to his ‘critical’, and the ‘home-coming’ to the ‘monumental’. The re-equilibrating restoration of exchange and parity, would then correspond to Nietzsche’s insight that ultimately it must all somehow benefit ‘life’. The perfection implied in tripartite dialectic or syllogistic logic is similarly out of tune with reality, rather than being one of its overtones (cf. McLuhan & McLuhan 1988). I like to think of them as three-legged stools which for that reason cannot ‘wobble’ like the world. Although a synthesising work, contrary to the dialectical imagination of Fichte, Hegel, and Marx, the theses and antitheses need not be fully contained in the synthesis. Instead, they retain a function as openings to past and different experiences, and requiring the fourth stage or leg in the ongoing balancing and counter-balancing according to the dominant biases and disquieting trends of one’s own society.

theorists under the same heading of unequal exchange, and in that its author often has his own opinions as to what constitutes ‘progress’ or not. So far, no study seems to have existed which attempts to treat these theories and theorists from a general historical point of view, sometimes called ‘externalist’ because it relates scientific changes rather to ‘extra-scientific’ events, and to place them in their general and specific historical context. The historiography of ideas has traditionally sprung from the internalist and evolved towards the externalist, to an extent which now seems to make even this terminology obsolete in that no serious study of the history of ideas can be conceived in wholly internalist terms.³ What is generally in question, however, is not the defunct ‘Whig interpretation of history’ (Butterfield 1965), which still dominates the way any specific scientific discipline or school is presented to its newcomers, but in what sense a work can still be considered relevant in an ongoing search for ‘truth’. This relevance is not something once and for all established, but is, like Tao, ever changing (cf. Postan 1971: Ch. 5, Matz 1970, 1984).

The Mertonian (Merton 1973) paradigm of sociology typically separated the institution of science from other subsystems of society, studying, *e.g.*, distinctive norms and reward structures. In sociology, then, the ‘internalist-externalist’ divide has come to relate to studies of the *social* relations within the confines of this subsystem, or the social relations with the outside (patrons and public). However, the closer one looked within ‘science’, the more ‘society’ was found, and as Cozzens & Gieryn (1990: 1) comment: “it soon became evident that the internalist-externalist dichotomy was bogus: science is society, inside and out.”

Another way to draw the same line, which is perhaps not as easily discarded, is evident in the respective approach to the history of philosophy by philosophers and historians of ideas. The former treats classical philosophers, such as Parmenides or Plato, as contemporary *colleagues* on the quest for Truth. The latter try to relate the same philosophers to their own contemporaries and society in the quest of understanding what they said *meant at the time*. I have sympathies for both of these approaches and am fairly convinced that the separation between them, which may have been necessary at some point, is ultimately a hindrance to the advancement of either tradition. An obsolete positivist tradition in philosophy struggles with relativist demons and detractors, and the dispute will not be resolved without an expansion of the notion of ‘truth’ as the correspondence between a statement and the thing itself (Kant 2004: A58), to incorporating the good orientation of the *ultimate concerns* (Tillich 1978, inspired by Heidegger 1963; cf. also *res publica* or the ‘commonweal’) of one’s predecessors as well as oneself. Historiography, on the other hand and in Nietzsche’s (1998) terms, has persistent tendency to fall back into *antiquarianism*, to the neglect of its *monumental* and *critical* tasks, ultimately, still according to Nietzsche, to the benefit of ‘life’. There is no once and for all ‘synthesis’ to resolve this dialectic, nor is there necessarily a progressive hermeneutical ‘spiral’. Rather, there is a *metaphorical* relation between, on the one hand, say Plato, his society and their ultimate concerns, and, on the other, the contemporary researcher, our world and ultimate concerns. Such metaphorical comparisons with the classical world have indeed been a defining characteristic of Western humanist and social science at least since the ‘Renaissance’, serving as a tool for self reflection. Relational studies are not limited to the classical world, of course, and similar self-reflection was promoted, *e.g.*, in the comparison with extra-European ‘savages’ (see, *e.g.*, Fairchild 1961, Lévi-Strauss 1983, Malm 2003: 83-95). The ultimate concerns of both the ‘philosophical’ and the ‘historical’ approaches to history tend to become *biased* by contemporary society, its ‘methods’ and ‘ultimate concerns’. This is perhaps where critical or even *satirical* (McLuhan 1972) historiography has its role to play, but it requires first of all *self-criticism* and imagination.

³ As Kuhn (1977) has remarked, however, the popularity of the externalist approach can also be ascribed to the fact that the internal concerns of the science in question have tended to become too difficult for the average historian or his readers to fathom.

On one level, science can be seen as the ultimate refinement of ‘method’, and its proponents certainly like to present it as such, with ever more refined induction and deduction, either filling out ever greater blanks on the map of knowledge through verification, or advancing on the never-ending Popperian quest of falsifying one’s most cherished foundations (Popper 1959). There is also some truth in one of his critics, Kuhn’s (1970) concept of a paradigm, the normal scientific working out of which ultimately produces enough anomalies to create revolutionary breakthroughs or reversals. Lakatos (1970) tried to resolve the problem with the perceived relativism of Kuhn’s approach, while accepting Kuhn’s or Feyerabend’s (1978) point that all theories have already been falsified, by speaking of competing research programs each with their own hard-core and protective belt. While protective belts, and with them research programs, can be refuted empirically, the same is not true of the hard-core elements. The economist Takashi Negishi certainly cannot be charged with not having given full emphasis to ‘normal science’, being a Japanese pioneer in the application of general equilibrium theory to international trade. His approach to the study of past economic thought is not to take the superiority of well-established theories for granted, however, but rather the contrary one of searching for contradicting or complementary ideas, ‘anomalies’, in an attempt at renewing or even revolutionising the standard paradigm or research program. “It is difficult to see”, Negishi (1989: 4) writes, following Lakatos, “why an apparently defeated research program cannot suddenly make a triumphal return with its hard core the same as before but with a better articulated or different protective belt. But, to make a triumphal return, there must be some scientists seeking to develop it while it is in a state of hibernation.” Thus, through the work of some ‘individual talent’, as T. S. Eliot (1920) saw in a classic essay, a seemingly defunct tradition can suddenly find itself re-enacted (Collingwood 1946) or retrieved (Heidegger 1963; *i.e.*, *Wiederholung* rather than *Wiederholung*, ‘repetition’; cf. foreword in Swedish translation) in a new guise.

Different research programs are found both within Marxian and non-Marxian economics. Negishi exemplifies for the latter with the Keynesian revival of mercantilists, underconsumptionists and Malthus, making obsolete the earlier quantity theory of money, which has, however, in its turn been revived by more recent monetarist theory. Further, we have the Ricardian research program, in hibernation since the marginal revolution of the 1870s, which has been revived by Sraffa’s theory. Yet another example is the still dominating neo-classical, or neo-Walrasian, research program, being challenged by neo-Austrians, and the current vogue is to replace ‘general equilibrium theory’ with ‘game-theory’ (cf. Rashid 1980: 9). “The study of mercantilism, which has been outmoded since the dominance of classical economics, may suggest to us a different perspective on the current problem of frictions among trading nations which classical and post-classical economics cannot” (Negishi 1989: 3). In the history of theories of unequal exchange, Emmanuel plays the role of theoretical rejuvenator, Eliot’s individual talent, and he will accordingly be allotted a significant and perhaps disproportionate space and attention. Indeed, according to Eliot every genuinely new poem (and by analogy theory, discovery, etc.) necessitates a rewriting of the entire history of literature (and by analogy science). This, then, is partly the role I have had to adopt. Nietzsche (1998), on whom Heidegger built, spoke of this aspect as ‘monumental’ historiography, building one’s own past, not anachronistically but for the future and simply because history had been essentially changed.

Both the work of the ‘individual talent’ and that of the ‘monumental historian’ are related to the *abductive* logic of Peirce (1990), superior in rank to both inductive and deductive logic. It is also of the same essence as Kant’s ‘synthetic propositions a priori’, or in more common terms to the plea for ‘imagination’ (*inbillningsgåva*) by the 19th century Swedish historian E. G. Geijer (1874). At one stage or another, abandoning one’s ingrained habits and conventionalism, a leap of faith is necessary to get the whole and perhaps revolutionary

intuitive picture. This may then be subjected to renewed questioning or confirmation, but mostly serves as the organising principle for further work. Its success, as has been observed, is measured by the time it manages to hold scientific progress back. The phenomena are not limited to 'science' and its conventionalism, but equally or more to 'society'.

If science and society are not isolated, or rather, if science is society through and through, how are these conventionalisms established? One answer could be found in the historiography of political thought, speech or discourse by Skinner (1972) and Pocock (1985: 2; cf. 1962). As Pocock describes it, Skinner obliges us to recover

an author's language no less than of his intentions toward treating him as inhabiting a universe of *langues* that give meaning to the *paroles* he performs in them. This by no means has the effect of reducing the author to the mere mouthpiece of his own language; the more complex, even the more contradictory, the language context in which he is situated, the richer and more ambivalent become the speech acts he is capable of performing, and the greater becomes the likelihood that these acts will perform upon the context itself and include modification and change within it. At this point the history of political thought becomes a history of speech and discourse, of the interactions of *langue* and *parole*; the claim is made not only that its history is one of discourse, but that it has a history by virtue of becoming discourse. (Pocock 1985: 5.)

The more complex, even contradictory, the context of different languages, the richer and more ambivalent can the individual contributions become, and the greater the likelihood that a fundamental movement will take place in the context, or *langue*, itself. Speech constantly acts upon language, *parole* upon *langue*, but languages also "exert the kind of force that has been called paradigmatic", Pocock (1985: 8) explains, and "present information selectively as relevant to the conduct and character of politics, and it will encourage the definition of political problems and values in certain ways and not in others". However, although every innovative speech-act, argument, *parole*, takes place within a current language, *langue*, at the same time it must also, if ever so little, like Eliot's individual talent, transform this language tradition.

Contrary to what has been the focus of these scholars, 'means of performing' are not limited to voice or pen phenomena – or even the 'swords' (Tully 1983) noted by their critics. It is a pity that Pocock and Skinner have not made more profound attempts to incorporate the 'history of speech and language' into its more hardware context. Speaking of popular contentious claims as a constantly changing 'repertoire', where innovations are incorporated and older forms become unpopular, Tilly (1995) argues that the form becoming ever more popular over the decades of his study was *national*. This highlights one shortcoming in the humanist Pocock-Skinner approach, namely their lack of concern with how technical innovations might sneak their way into 'language', and thereby the speech acts possible within it – the more potent because their impact is often unconscious. In essence this amounts to including not only 'words' but technical aspects of culture as part of 'language', and thereby of technical innovations as 'speech acts' or 'words' in themselves. Already Lewis Mumford (1934) pointed out the impact mechanical watches had on medieval thinking and philosophy. So did Lynn White, Jr. (1962), noting how by the time of Descartes the mechanical metaphor had been exalted to metaphysics.

Neither Skinner nor Pocock, or even Eisenstein (1979), show any appreciation of how *all* languages, vernacular, political, religious, humanist, scientific, etc., were paradigmatically modified, extinguished, re-created, and enclosed, in the new discursive context after Gutenberg. The movable types applied to a culture of alphabetic script can be seen notably in the consolidation of vernaculars themselves, and as has been extensively argued and reargued, nationalism is an offspring that could exist only in a culture of print and paper. The printing

press could thus be said to have had a notable *rhetorical* impact on *la langue*, thus justifying talk about a ‘Gutenberg galaxy’.

Including technology in the explanation of thought is hardly revolutionary, but doing so in the hazardous interplay of language and speech acts implies a rehabilitation of McLuhan (1962), who also used, *e.g.*, the *langue*–*parole* word-pair to express his idea. This perhaps also gives us a frame of reference with which to distinguish the early mercantilist concerns from their 20th century analogues. Where the former citizens were involved exclusively with progressively articulating national concerns (cf. Ferguson 1965), up to the point where the level of abstraction and generality took overhand, the latter often seem to face the contrary problem of stating abstract and general concerns, and often very similar arguments, in terms which can emotionally stir public morality. More interesting perhaps is the general reversal, via world wars and colonialism, of national sentiments from something progressive in domestic politics into an alarmed defence of political and economic achievements against menacing Others. This is the situation which I hope the theories discussed in this thesis, whether ecologic or not, will help to understand.

Remembering the ‘paradigmatic’ effect of Skinner’s and Pocock’s many languages and sub-languages, to which we may add the paradigmatic effects exerted by man’s non-verbal extensions, will be instructive when brought back to the present and to the question of methodology. This was the point of some notes by Harold Innis in the 1930s on the familiar point that the social sciences should not try to emulate the natural sciences with their ‘laws’. Since the object of study was endowed with free will, so said this view, there could be no laws in the sense of the natural sciences, and neither could the social sciences claim ‘objectivity’, since the social scientist, as a participant of his subject matter, necessarily brought values with him. The participation of the social scientist himself in the process under study, Innis (1935: 286) agreed, entailed innumerable difficulties for the objectivity of the social sciences. Various vested interests and “the corroding effects of institutions” always threatened to lead the search for truth astray. The natural sciences faced a much easier task, imposing few restrictions on the scientist other than laboratory discipline. Consequently, they also permitted him “to indulge in all the biases from which the social scientist is barred”. The social scientist should and must take these biases into account, but this was not all. Paradoxically, they could become a tool of investigation: “the prevalence of these biases at close range should provide the social scientist with an excellent laboratory but it is seldom regarded as such” (*loc. cit.*). Thus, he explains: “Habits and institutions, *even stupidity*, are the assets of the social scientist. Relative capacities of social scientists for observing, in contrast to being observed, extend his range” (*ibid.*: 284, emphasis added). The distortions and prejudices of the scientist’s surroundings become tools, in a way not dissimilar to the course of events in psychotherapy although transcending its scope. If possibly beyond human endurance, it was on the one hand comforting that “the social sciences grows by development and correction of bias. On the other hand he will receive small thanks and possibly much contempt and persecution for attempting to tear the mask off from innumerable biases which surround him” (*ibid.*: 283). Methodologically, “[t]he innumerable difficulties of the social scientist are paradoxically his only salvation”. Since it was impossible to be ‘objective’ in the strict sense, one could only learn of one’s numerous limitations:

The “sediment of experience” provides the basis of scientific investigation. The neverending shell of life suggested in the persistent character of bias provides possibilities of intensive study of the limitations of life and its probable direction. “Introspection” is a contradiction, but what is meant by the word is the foremost limit of scientific investigation in a range extending back to geological times. The difficulty if not impossibility of predicting one’s own course of action is decreased in predicting the course of action of others. [...] The habits or biases of individuals which permit

prediction are reinforced in the cumulative bias of institutions and constitute the chief interest of the social scientist. (*Loc. cit.*)

Imagination is certainly a required element in studying ones' shared stupidities. 'Stupidity' in this sense of "cogwheels of the skull", to borrow Max Stirner's expression, is not easy to engage in discussion, and according to Bonhoeffer (1960: 20), information or positive arguments will never suffice, only 'liberation'. This and the dangers perceived to be involved may explain the felt need to have recourse to *satire*, for as Jonathan Swift (1968: 144) wrote in the preface to *The Battle of the Books* (1704): "Satire is a sort of glass wherein beholders do generally discover everybody's face but their own".

According to the externalist view of historiography, then, since the purpose of this thesis is *historical* there would really be no need to engage in debates over the respective coherence and usefulness of these theories. Instead it should be a question of relating ideas to the circumstances in which they appeared. I have great sympathy for this approach – with the reservation that coherence and usefulness are also part of history, and whether one likes it or not, do inform the reception and subsequent historiography of a theory – and I would argue that even *theoretical* understanding may be enhanced by this means. One commonplace way of relating ideas to their circumstances goes via the persons coming up with the ideas. This is a fairly straightforward method, which adds to the concreteness of both ideas and circumstances, and which I have chosen to apply also in the style of presentation, commonly referring to what may or appears to have been formative experiences in formulating some specific of a theory, and pointing forward to the more general concerns by which the theorist was ultimately motivated. If this tends to overemphasise the ideological and politico-religious side of theory-building, and only rarely imply 'purely scientific' motives, it should be remembered that 'pure' science in this sense is defined by its tool-like character and as such can only motivate action on strictly subordinate levels, which are unlikely to produce theoretical novelty in the first place. My point is not that 'anything goes' since it is all politics anyway, but rather the contrary that theoretical novelty demands a certain ruthlessness to one's own most cherished ideological and politico-religious traditions which may be difficult to obtain if *circumstances* are not also rather unusual.

There is, nevertheless, something to be said for the 'internalist' tradition within the history of ideas, so called because it saw theoretical changes as a consequence of purely scientific reasoning and findings, and whose practitioners were also most often themselves actively involved in the maintenance and advancement of their discipline. If the 'externalist', or general historical approach, in relating thoughts and theoretical shifts within science to the circumstances of the time, tends to shun any evaluative judgements of theories (or likes to think that it does), this is not so in the opposite camp, where the evaluative simultaneity of theories is rather taken for granted. Often – such as when introducing novices to a subject, and which is what makes it old-style – this approach decays into a simple recounting of scientific progress, staking out linearly the cumulative advances which end in the current state of affairs, or rather, would do so were it not for some irritating of exotic infidels who have as yet to be enlightened. This corresponds to what Herbert Butterfield (1960) once called the 'Whig-interpretation of history' in which the world advanced towards the ideal of Protestantism. Keeping to the internalist perspective, a counterpart of this history of verification is the history of falsification, in Popper's term, which recounts the eradication of falsehood, or in which erroneous theories and facts are filtered out with time. I subscribe to this falsification view in that, for my own part, I am convinced that theories are *all* wrong, even should they not yet have been proven so, but that they are more or less so, or more or less useful and relevant depending on the task which one considers most relevant to undertake.

My own concerns are to understand historical phenomena rather than giving policy advice, constructing elaborate mathematical models, or trying to measure unequal exchange according to some often more or less hypothetical unit (for an interesting approach with empirical relevance, see Köhler & Tausch 2002). These may all be relevant and important undertakings, but they are nevertheless subordinate to the aid they may give the general understanding of our historical experience and existence. This bias on my part is reflected in the evaluation of and respective space afforded individual theoretical contributions (or even exclusion). Certain theorists would on the other hand qualify because of the light they may cast as exemplars of their societies and the problems with which these have been concerned, some of whom have been included, *e.g.*, Fitzhugh. Most of these, however, have been excluded, *e.g.*, postwar Eastern bloc scholars, or many later Marxist writers basing themselves on the distinction between ‘value’ and price, who would provide little illumination (for our purpose) other than as exemplars of a certain academic Marxism. Furthermore, many contemporaries – Marxists, ecologists and others – are involved in trying to measure unequal exchange according to their preferred standards. They, too, have most often not qualified for individual presentation, though, since they do not, as it seems as yet, provide much *new* light on historical understanding. These reasons for inclusion or exclusion may be questioned, but it is probably better to have them stated than merely implied.

If social science is basically a quest for introspection, my own way to the problematic of ‘unequal exchange’ may also be instructive to readers wishing to understand some of the peculiarities of the approach of this work. Interest in the subject was awakened by reading Emmanuel (1969a, 1972a), who tried to confront an anomaly and what I felt to be a certain self-sufficient smugness in the Marxist understanding of the industrial working-classes as one big, ‘happy’ exploited family. This had struck a discordant note both with centuries of nationalist warfare, notably in the First World War, and with the overconsumption that had been the major concern of the ecological movement. Furthermore, it also first made comprehensible to me the point of, *e.g.*, Marxist theories of value, understood as a determination of long-term relative prices from the social and political sphere rather than merely from the sphere of demand and supply, and which also made to me crucial point of, in some sense, liberating the determination of wages from the level of productivity. I had come across references to Emmanuel in various circumstances, but the most noteworthy was probably Immanuel Wallerstein, who claimed affinity for his interesting historical-sociological synthesis in *The Modern World System* (1974-1989), where he struggles with the double and interrelated problem of the capitalist and the nation-state systems. This problematic in turn engaged me as a consequence of studies of the above Canadian economic historian Harold Innis, in which I also learnt some of my methodological habits and preferences. Innis’s synthesising historiography focused centrally on the overall ‘subliminal’ effects of means of communication in biasing societal organisation and habits of thought, *e.g.*, paper and the printing press on nation states and nationalism. As in the related cases of Thorstein Veblen and Marshall McLuhan, this had often been interpreted as ‘technological determinism’, a quasi-Marxist emphasis on the impact of the techno-economical basis on the political, ideological, etc., sphere. As McLuhan has argued this would only be true to the extent to which such insights were not acted upon:

Approaching the past dynamically as a dramatic action with a world cast, Innis naturally saw history as a mass of ruins and misconceived enterprises. In his power to reveal the patterns of massive imperial events, Innis is a kind of *deus ex machina*, unmasking the actors. This power to expose the hidden motivations of great corporate actors, such as the city-state or Roman or Babylonian bureaucracies, almost puts Innis in the role of a satirist. One no sooner uses the word than its appropriateness to Harold Innis becomes evident. If he is an artist in his manipulation of major

historical actions, he is a satirist in his power to reveal the perversity and obtuseness of the actors. (McLuhan 1972: v.)

Innis and Emmanuel came from politically opposite corners – a Baptist liberal with an anarchic weakness in the case of Innis, and a Marxist believer in globally planned economy in the case of Emmanuel. They also exemplified very different methodologies – Innis being an economic historian with a loathing for political engagement and a penchant for ‘dirt science’, and Emmanuel an economist using Marx’s abstract drawing-board ‘price of production’ schemas with a background in communist resistance and private enterprise. Despite this, there was an apparent likeness in their attempts to reveal hidden motivations of the ‘corporate actors’ such as the majorities of populations. As in the case of Innis, I began by reading all I could find written by Emmanuel as well as about unequal exchange. It was said of Innis that his method was to collect all the material he could come across in huge, amorphous heaps and then to engage in free association in an attempt to discover some pattern in it (cf. Watson 2006: 289). This very painstaking and perhaps unrepeatable ‘method’ is roughly how I see the way I work, though I do not claim to be an artist at it.

Outline of the book⁴

Part I starts in Chapter 1 by spelling out the two defining characteristics of mercantilist thought: the desirability of a surplus balance of payments and particularly one in manufactures. Its ubiquitous acceptance in practice, and in spite of the teachings of modern theory, suggests the arguments in Chapter 2 that the ‘origins’ of the particular historical tradition of debate known as mercantilism, can best be seen as an oral tradition turning to more systematic presentations when ‘fenced’ by print, and in Chapter 3, that the absurdity of selling, of which it is a reflection, is rather a characteristic of the functioning of the economic system than of the irrationality of policy makers. Chapter 4 introduces the ‘non-equivalent exchange’ of the more abstract logics of classical political economy, while showing that ‘mercantilism’ was still going strong in actuality.

Part II studies a tradition which is parallel to marginalism mainstream: non-equivalent exchange in the more abstract form of the labour theory of value. This tradition can be almost indefinitely extended in numbers, although perhaps not in originality, and we shall focus on some of the earlier and more illustrious members. We shall also indicate some of the geographical extension, which corresponds, first, to the German language and Russian traditions, from where Marxist economics in general sprang, and second, after these intellectual traditions had been cut short by Hitler and Stalin, become more geographically diversified but still, unsurprisingly, corresponds to areas in which Marxism had a relatively strong institutional support. We start by following the Marxist line of non-equivalent exchange in German-language form (Chapter 5), where it appeared in an explanation of nationalist antagonism and the breakdown of capitalism. Its Bolshevik form argued for non-equivalent exchange as a form of primitive socialist accumulation (Chapter 6). Chapter 7 looks at many of expressions found on the Eastern European, post-Stalinist scene, as well as in East Asian form.

Another parallel tradition to both the Jevonian and the Ricardian-Marxian, can be found in historical economists who in general attempted to retain the mercantilist realism still evident

⁴ The basic outline of the book may already have been guessed from the above discussions, and for the reader wishing to get a fuller outline right away, the ‘Summary and conclusions’ at the end should be consulted. For orientation, Chapters 7, 10, 11, 12, 15, 16, 21, 22, and constitute an horizontal sweep largely dealing with the same immediate postwar decades.

in the work of Smith. Most nevertheless opted for protectionism as against the liberal free trade, and were primarily worried by the class hostility they felt had been encouraged by Ricardo. Instead of adding to the literature on protectionist and historical economists, however, Part III concentrates on those elaborating the centre–periphery relation, preferably those on the periphery, where sensitivity to disadvantages were greater. We study the centre–periphery relation as seen by certain transatlantic writers: Fitzhugh in the American South (Chapter 8), Innis in the Canadian North, Prebisch in Argentina along with the terms of trade debate, the Caribbean emigrant to Britain, Lewis, and finally the Vilnian immigrant to America, Baran, along with some Indian predecessors and the dependency tradition largely inspired by him.

The geographical divergence is indicated, but also the ideological one, starting with a proto-fascist propagandist of southern slavery, Fitzhugh, inspired by Ricardian socialists to formulate a theory of non-equivalent exchange (Chapter 8). Both the problems pertaining to the ‘cyclonic’ interactions of the centre–periphery relation and those relating to nationalism reappeared in the work of the Canadian liberal and Veblenesque economic historian Innis (Chapter 9). He is known primarily in the former category for his so called ‘staple-thesis’ explanation of Canadian history, which has been revived in the context of ecological unequal exchange. I suggest that he may have as much to offer in the second office, if it is accepted that such horizontal social conflict is what unequal exchange theory is ultimately about. The Canadian example serves to illustrate part of the argument also in Chapter 10 on Prebisch and the debate on the terms of trade, where it is pointed out that the Argentinean export economy showed many similarities with the British Dominions, and certainly could not be said to have underdeveloped because of its raw materials exports. Discussed is also in what sense, if any, Prebisch can be said to have originated rather than helped inspire the debate on unequal exchange, and how the debate on the Prebisch-Singer theorem soon showed that the question of raw materials vs. manufactures was another from that of development vs. underdevelopment, whether with respect to general economic development or to the trend of the terms of trade. In Chapter 11, we then turn to the West-Indian immigrant to Manchester, Lewis who built primarily on the classical paradigm, pointing out the cold-war context of his effort to understand the British industrial revolution. His model, which focused on the unequal wage-levels due to productivity differences, and their non-equalisation through political restrictions on migration, significantly contributed to the interpretation of the falling terms of trade, and has in itself been seen as a theory of unequal exchange. It furthermore stimulated Emmanuel, with whose theory it has important connections in reversing the order of causality – now letting the ‘factoral’ terms of trade determine the ‘commodity’ terms, rather than the other way around. Finally, (Chapter 12) we turn to the early ‘dependency’ tradition, or rather some of its exponents active in the United States, primarily Baran and the dependency traditions, which generally have not contributed theories of unequal exchange in any strict sense. Initially, excepting Wallerstein, they have appeared rather as critics – while perhaps in a brothers’ broil. Along with both being Marxist, the association seems mostly to be based on the shared centre–periphery perspective, although historically Baran can be considered a stimulant to many, including Emmanuel.

The former mercantilist, classical, Marxist, and centre–periphery traditions are all present, in one way or another, in the work of Emmanuel, the principal subject of Part IV along with some of the debate around him. Emmanuel functions as unifier for the present thesis, but has also functioned as the historical catalyst for the idea of unequal exchange, at least potentially reviving it to the normal science paradigm. This is the theoretical centre of the book, concentrating on Emmanuel, starting with his possible background Greece and the Congo (Chapter 13). Chapter 14 looks into the French Marxism to which he had to relate, and Chapter 15 his theory’s reversal of neoclassical trade theoretical assumptions as well as some

debates occasioned by neoclassical critics. The French Marxist reaction to his book, and some of the Anglo-Saxon, will be studied in Chapter 16, and in Chapter 17 we look more closely into the theoretical response of Andersson, who eventually turned to ecology. In Chapter 18 we turn to Emmanuel's more strictly Sraffian version and critics, expressible also in ecological form, whereas in Chapter 19 we shall see what specific historical function unequal exchange had in Emmanuel's theory. Some of the more original aspects of Emmanuel's perspective have still not been afforded either debate or rejection, but indicates a possible theoretical foundation for what we have referred to above as the mercantilist 'realism'. Another aspect of such realism is the abandonment of the abstract labour theory of value, usually endorsed by Marxists, and consequently expressing the basics of his theory of unequal exchange in terms of the social appropriation of limited physical and ecological resources. This step from labour values to ecology was taken in a rather different and more clean-cut way by Jan Otto Andersson, for whom the possibility to unambiguously and abstractly define the inequality of trade was more important. In the ecological tradition there has been a similar problematic, and in this sense, Martinez-Alier's emphasis on the incommensurability of values is a most welcome addition, though not yet very well incorporated into a theoretical explanation, to the usual focus on some unidimensional standard of measurement.

Turning in Part V to ecological theories of unequal exchange, we shall point out that a land unit of measurement can be found already in one of the more remarkable early 18th century theories, Cantillon's (Chapter 20). In Chapter 21, we turn to the most advanced of the biophysical units of measurement, which sometimes also comes close to common sense opinion, although perhaps not easily presented or understood as such. This is the sophisticated, but unidimensional 'emergy' concept of H. T. Odum, which is an outgrowth of his general systems ecology. It has found unequal exchange resulting both from the relative emergy incorporated in exports of raw materials and of manufactures, and from the respective 'emergy purchasing power' of different currencies. This begins to link it with social aspects more relevant with respect to underdeveloped and developed countries, although, like most ecologists, Odum tends to see these dichotomies as if they were the same thing.

If the links to the Cold War were evidenced already in Lewis and Emmanuel, they become equally so for Odum and the branch of ecological 'Protestantism' to which we turn in Chapter 21. I have chosen this term to point out the more general environmentalist tradition of concern with population and overconsumption, expressed, *e.g.*, in the work of Borgström as the additional 'ghost acreage' needed to supply the population of a certain area with its consumption goods. The idea has been extended, given new names, *e.g.*, as 'ecological footprints', and as such been used to express ecological inequality in trade, as well as in countering the claims for an 'environmental Kuznets curve', notably by the above Jan Otto Andersson. I also review Sætra's attempt, partly inspired by Borgström, to extend the concept of imperialism over time's three tenses, which has not had much following in subsequent literature.

Finally, in Chapter 23, some of the more prominent contributions to 'ecological dependency' tradition shall be examined: first, Stephen Bunker, who was perhaps the first to try to explicitly unite the debates on unequal exchange and on the ecological shortcomings of Marxist economic or development theory. Secondly, Martinez-Alier who has tried to advance the political aspects of ecological unequal exchange. Here we also take the opportunity to confront the association, common to almost every ecological attempt at a theory of unequal exchange, between the production of raw materials and underdevelopment. We also propose that much more could be gained from Emmanuel's specific approach in which such an association is absent, and that it would in fact be consistent with the approach underlying Martinez-Alier's writings.

Part I

The death and resurrection of the ‘mercantilist’ doctrine of the balance of trade and employment

Initially, we shall take a brief look at mercantilist ideas, *i.e.*, that were established before the classical paradigm, and which though ‘realistic’ are not ‘widely followed’ and, for all the revivals of mercantilist ideas, are not included in the present normal science paradigm. Magnusson (1978: 110) speaks of a divergence in “the mercantilists’ view [...] from that of modern price theorists at one crucial point. Both views take exchange as their point of departure, [...], but the mercantilists do not take a maximization of utility for both parties for granted, assuming instead that the exchange will be unequal” (cf.: 111, 113, 114 for ‘unequal exchange’ as a description of the mercantilist attitude). Here we shall headlight two intertwined mercantilist conceptions of trade inequalities: on the one hand, the fundamental perceived inequality of exchanging money for goods, and on the other, the exchange of raw materials for manufactures, which cannot be well understood separately from the first. Both seem related to the idea of maximising the utilisation and productive output of land and labour, and to be motivated by the realised necessity of *selling* in order to keep one’s weight in the balance of trade. We shall then turn to such aspects of the emerging physiocratic or classical paradigm (Quesnay and Smith), which retain ideas of trade inequality even to the extent that Boss, the principal writer on this subject for the classical economists, could think of ‘non-equivalent exchange’ as first emerging with these theorists of surplus and transfer.

Chapter 1 outlines some problems of interpretation and definition of mercantilism. It tries to show that in spite of divergence on its *connotation*, the term’s *denotation* involves the joint idea that a favourable balance of trade (or payments) is desirable and that a favourable balance in manufactures is particularly desirable. This implies a hierarchy of preferred exports from manufactures and services, via raw materials, to bullion, and conversely for imports. The chapter also argues that the problems of interpretation, the divergence of evaluation between economic theorists and historians, and the divergence between economic practice and economic theory, suggest that the true problem lies within economic theory. The subsequent two chapters elaborate this point, trying to illuminate two particular problems and suggest their solution.

Chapter 2 attempts to deal with the problem of the ‘origins’ of the mercantilist doctrine in the English economic debates of the 1620s. It is pointed out that the dispute was not over whether a favourable balance of trade was actually beneficial, but over its fundamental causes and the best way to achieve it. It is suggested that the basic novelty of the Mun and Misselden side was not their greater understanding of economic phenomena, but rather their greater

levity of presentation and method. This, it is argued, was induced not by changes in the workings of the economy itself, but rather by the increase in debate and publication. It is this which creates the new ‘paradigm’ or ‘language’ which points forward to more conventional scientific abstraction. The doctrine of the balance of trade itself was commonplace, a constituent of an oral tradition in the world of merchants and political policy makers, but contrasting with the foregoing more religious and morally inclined scholastic literature.

Chapter 3 takes up the problematic ‘absurdity’ of a country striving to sell more than it buys, and the paradox of why, if so absurd, the doctrinal contents and policy took this and not some other form. Heckscher’s description of this attitude as an underconsumptionist ‘fear of goods’, related to a fear of comparative unemployment of factors of production, is still most relevant, but its explanation requires something else than his liberal righteousness, and more than the mere references to circumstances of the time suggested by other historians. It is suggested that, in spite of Heckscher & Co. the perceived ‘absurdity’ is not the fault of economic practitioners and policy makers, but is related to an absurdity in the workings of a market economy. This is the simplest answer to the greater ‘realism’ of mercantilist writers. It is nevertheless not implied that the market economy originated in the ‘age of mercantilism’, merely that this perspective, for a period in between the more sophisticated system-building of scholastics and classical economics, broke through to dominate published views.

Chapter 4 sets the stage for the book’s subsequent presentation. First, we turn to the Physiocratic and Classical grave-diggers in economic theory of the balance of trade doctrine. Instead they advanced systematic land or labour theories of value, which involved another kind of *non-equivalent* exchange, involving sometimes opposite sometimes similar policy implications to standard mercantilist ones. This line of interpreting non-equivalence was continued primarily within Marxism, which will be taken up in Part II, and in certain ecological reactions towards the labour theory, which will be taken up in Part V and which revert instead to something like a land theory. The theory of comparative advantage, on which Marxism had nothing to add, became standard economics with the Heckscher-Ohlin theory, along with the liberal creed of free trade, and its fundamental assumptions were arguably not seriously and systematically questioned until Emmanuel’s theory of unequal exchange, which will be the subject of Part IV. Its practical wisdom was questioned by American, German and in general historical economists. They commonly abhorred the Ricardian vision, welcomed by Marxists, of a society based on social conflict, as well as the increased conflict they felt were implied by free trade. In practice, the theory of comparative advantage and the irreverence over the balance of trade was seldom accepted by politicians even when they accepted free trade. With the coming of depression in the 1870s – confusingly for the traditional protectionist stance due to increased imports of *agricultural* products (not manufactures) from the Dominions and Latin America – the days of European free trade were numbered except in Britain, where it succumbed only in the depression of the 1930s. In Part III we shall return to the view from countries on the British periphery, but already in Part II we come across a Marxist encounter with the nationalism enlivened in that era.

Chapter 1. Mercantilism: non-entity, nuisance, or human nature?

Mercantilism has been viewed and defined in different ways, and we might do well to remember Schumpeter’s advice that it would be better to forget all one has ever heard of it, and start afresh. Herlitz (1964: 120) has noted that “theoretical definitions, refutations or defences of ‘mercantilism’ are surrounded by a perceptible aura of unreality”.

The term *système mercantile* was coined by François Quesnay's follower Mirabeau in 1763 (marginal note: 329) to denote the set of economic ideas that seemed to dominate economic discussion from the beginning of the sixteenth century to his own day, and in particular in attacking the "absurd inconsistency" of the idea that a nation could have any benefit from an inflow of money. For similar purposes the expression was taken up by Adam Smith in part IV of *The Wealth of Nations*, and in more defensive German hands was turned into the familiar 'mercantilism' of today. Scholars are divided as to the usefulness of the term, some questioning it as a 'school' or 'system' (cf. Marshall 1919: 719f.; Marshall 1935: 719), Johnson (1937: 4) regarding it as "a positive nuisance" that should be avoided if it could not be abolished (cf. Coleman 1980: 791), Judges (1969: 35f.; 1934: 68) calling it a "dummy dragon".

Magnusson has identified three uses of the term, and this chapter will be structured around these uses and what they imply about the problems of interpretation and interpreters. The first (1993a: 3ff.) is as a trend of economic thought, an intellectual construct that includes some specific conceptual tools, a view of how the economic system works and a common interpretative framework. This is apparently his own favoured usage both here and later as extended to a specific mercantilist language (1999). As such it is delimited, he explains, to the period 1620-1776 and geographically to the leading economies of Western Europe, especially Britain and France, to some extent Italy, Spain, and Holland, and more controversially Germany and Scandinavia, although the Cameralist tradition certainly carried with it ideas and viewpoints apparent also in the other countries (cf. Ekelund 1990: 43). (Magnusson's later usage (1999) restricts the concept, perhaps excessively, to the English case only). In spite of its many forms it was kept together by a certain problematic and set of issues. Ekelund claims that "on the whole there was less consistency and continuity among mercantilists than among the Scholastics of the previous age" (Ekelund 1990: 43). This lack of cohesion can partly be understood from the absence of common analytical tools that could be shared and passed on to a generation of successors, and as the same scholar has it, by the circumstance that "communication among mercantilists was poor or nonexistent, in contrast to the strong network of interrelations among modern economists." Oddly, however, in spite of this absence of communication, voices are remarkably unison on several crucial fronts: "Nevertheless, mercantilism was based on several unifying ideas – doctrines and pronouncements that appear and reappear throughout the period" (*loc. cit.*).

"Everywhere in Western Europe", Suviranta (1923: 53) maintains, "the importance of treasure is emphasized in the same spirit". The old view that mercantilism is easily distinguished from the classical school which followed has received many serious blows in the scholarship of the last half century or so, the modernity of Adam Smith having been questioned, while analytical tools and economic concepts have been found in earlier writers (Suviranta 1923; Grampp 1952; Schumpeter 1954; Winch 1978; Skinner 1979; Haakonsen 1981; Hutchinson 1988). What remains as a demarcation seems to be the general attitude as to whether a surplus balance of payments was really favourable or not.

In his later book-length study on mercantilism as a 'language', Magnusson (1999) appears to question that the favourable balance of trade was one of the constituent parts in the grammar of the overall European debates. Although assuredly there were differences of emphasis, I do not believe him to have shown that it was particularly denied in any of the national debates. He specifically criticises Perrotta for his "bold generalizations" on the issue, but the latter retorts (Perrotta 1997: 314) that what matters is not whether generalisations are bold or cautious, but whether they are correct and well documented, and that "overstressing the differences (as Magnusson does on the balance of trade theories) can be just as misleading as an improper generalization."

In the English case, Magnusson (1999: 32) points out that the greater part of the literature cannot be regarded simply as a defence of ‘protectionism’ or the traditional economic policy conducted by the state during the seventeenth and eighteenth centuries, that many of the leading mercantilist writers actually were critical of contemporary policy, promoting one or another deregulation in foreign trade, and, thus, that one can find several ‘proto-free-traders’ among them, such as Barbon, Child, Davenant and Petyt. Though they may have been sceptical of actual estimates of it or even the possibility of actually estimating it, however,⁵ the writers he mentions, with the possible exception of Barbon, were not opposed to the view that a favourable balance of trade was actually just that – favourable (see, *e.g.*, quotations in Suviranta 1923: 40, 41, 44, 74, 79). Since he refers to the ‘liberal elements’ found by Grampp, it should perhaps be mentioned that these did not include a rejection of a favourable balance of trade. On the contrary, such a balance was one of the principle means proposed to reduce unemployment, accompanied by a host of derived measures aimed at increasing overseas sales (Grampp, 1952: 474; 1965). The overall picture he presented was not so different from the standard one, but for the stress on employment and spending. However, even on that primary mercantilist “goal of full employment”, “there was the greatest difference between the mercantilists and the classical economists. It was the mercantilist view that free international trade would reduce employment” (*ibid.*: 487). Particularly among some ‘late mercantilist’ writers this may no longer always be the case (*e.g.*, Tucker, who did not believe in either protection or [involuntary] unemployment).

Nor is it always easy to distinguish the demarcation line towards scholastic economists, who already acknowledged, *e.g.*, the ‘law’ of supply and demand or that profit was an incentive to bring forth supplies, although their approach on the whole was more on the morally correct distribution. The idea that a positive balance of trade was somehow beneficial, and that a country must sell more than it imported, was “already part and parcel of orthodox state economic policy” in the early seventeenth century. The exact meaning of the balance-of-trade doctrine is not always evident, sometimes referring merely to the whether things seemed to be going well or not, however, and Magnusson here refers to it as a ‘slogan’ or ‘formula’ summing up ideas of old ancestry. Like many interpreters, he believes (1993a: 4) that the doctrine was “transformed” from a bullionist idea into a theory of “export of work” and “foreign paid income” towards the end of the 17th century, according to which “a country should export products with as much value-added content as possible and import as little of such products as they could.” Viner (1937: 55) believed that this later version was even more absurd than the original, but he also pointed out that the emphasis on employment and the export of labour was just as great, or even greater, in the 16th century. The doctrine of exporting goods in their most finished state, and not to import them, was indeed standard policy already with the 16th century Commonwealthmen, but “the thesis was much older than that” (Johnson 1937: 58f.; cf. 330), perhaps coincident with the common law tradition. Forgetting the earliest examples, some specialists on ‘late mercantilism’ even argue that the attention given to employment effects was a novelty for the late 17th century. This could well be an illusion created by lesser emphasis on the problem of underemployment in the foregoing decades. These later formulations are certainly not renunciations of the older version, but rather a renewed attempt to express its essentials. The specific bullionist fears of letting money at all leave the country were lessened, as these researchers testify, but the doctrine that a favourable balance of trade was a good in itself was never abandoned, nor was the idea a novelty that exports of manufactures were more beneficial than of raw materials.

⁵ The same scepticism was shown by Gerrard de Malynes against the formulations of Misselden and Mun, with the difference that he has been seen as an old fogey who could not understand the finesse of the new balance of trade paradigm.

Finally, most would certainly agree that, were it possible, the export of manufactures made of *domestic* raw materials would be the most beneficial export good of all (Furniss 1920).

The second usage identified by Magnusson (1993a: 8f.) is as a specific economic policy, often regarded as the practical realisation of ‘mercantilist’ doctrine and ideas. Thus, the ‘Age of Mercantilism’ is often seen as discussion and policy characterising the whole (Western) European continent from the 16th to the end of the 18th century. The standard work arguing on this presupposition is Heckscher (1931), but it was already well established by then. In a way it as a definitional delimitation, since it was also that of Adam Smith. He blamed mercantilist writers for centuries of protectionism, monopolistic devices, and corruptive economic policies, which, he claimed initially, could all be traced back to the popular Midas fallacy of believing gold and silver to be wealth. In essence, Heckscher and Viner fell back on similar explanations. As was remarked above, many ‘free trade tendencies’ have been found among writers normally referred to as mercantilist, and their publications were often arguments rather for liberalisation of trade. However, Heckscher (1994, II: 27) argued that since the same conceptions, *i.e.*, the necessity to sell more than was bought, were shared both among liberalisers and their opponents, this was proof of the existence of his ‘mercantilism’ rather than the contrary: “For to the extent that contrary demands emanated from the same closely related principles, this disunity on matters of practice indicates that the premises themselves did not rest on practical interests but on more or less generally recognised principles.”

If Heckscher was convinced of the absurdity of striving for a surplus balance, when and wherever such ideas appeared, others have tried to show their reasonableness for the circumstances at the time. This position was taken already by Taussig (1923: 248-9), and Suviranta (1923: 97; cf. 72f.) agrees that the new money and capitalist economy has conditioned writers, and that their theories were not so unrealistic for their time. Similarly, G. N. Clark (1947: 27) believed that, “the explanation of the mercantilist attitude seems to lie in the commercial conditions of the time, and especially in the needs of traders for capital in a solid and ponderable form”. This argument was supported by Wilson in 1949 (1969: 49), who added that international lending and credit, and multilateral payments could help to explain the lessening of anxiety about bullion resources in the 18th century, and that “periodic revelations of weakness in the credit mechanism may well have had the result of prolonging the life of the old prejudices (*ibid.*: 60). Some years later, he charged Adam Smith with having overlooked the connection with the historical situation: “The possibility that the obsession with bullion might have rational historical roots is scarcely examined” (Wilson 1957: 182; 1969: 64). Gould (1955: 128f.) suggested that the absence of foreign competition coupled with the fact that English manufacturers shipped unfinished cloth, implied an inelastic demand for the primary British export during the Elizabethan period, and that this made the mercantilist theories more plausible for the period. Arguing against the tendency to discount contemporary theories of a shortage of money as products of a “confused economic analysis” (Viner 1937: 88f.), Supple (1957: 245, 252) pleaded that “historians should listen with a more sympathetic ear to contemporary complaints concerning a ‘scarcity of money’”. Much of the economic literature which had been interpreted as ‘typical’ of mercantilism was, in fact, “the product of a specific situation and a short-run crisis” (*ibid.*: 251). A shortage of money could from time to time “prove a harsh reality”, thus explaining the flowering of economic literature “concerned with reversing the outflow of bullion and specie” (*ibid.*: 252). For all his scepticism, Coleman (1969b: 15f.) agreed that “[a]n understanding of the contemporary economic situation may be a better guide to contemporary recommendations than a criticism of policy.” All were aware of, he continued, “not to say obsessed with, the extreme difficulty of aggregate expansion in consumption. And they were right to be. [...] From these positions, Colbert’s ‘trade causes perpetual strife’ (un combat perpetual) or Child’s ‘all trade [is] a kind of warfare’ are logical consequences.” Magnusson (1978: 114) considered mercantilist policy

a relevant response to a specific phase of 'merchant capitalism', characterised by 'primitive accumulation', and the theories and notions as "primarily rationalisations" of this reality.

Now, if the idea of a permanent surplus is really so absurd, how could it have appeared so reasonable as to never even be substantially questioned – by theorists who subscribed to the quantity theory of money –, not only during periods of crises, but for several centuries up to the eighteenth? This is what Mark Blaug and others refer to as 'the mercantilist paradox'. Even more paradoxical – and this is a point rarely addressed face on by those historians on mercantilism – how could it have survived in practical politics also during the following centuries, under constant attack from the expert opinion of political economy?

Wilson (1969: 60) made an effort to tackle the problem of the stubborn phlegm of these ideas: "Certainly they died hard, and even the coming of fully convertible currencies and multilateral payments did not entirely banish them", he agrees. No indeed! On the European scene the return to protectionism was *coincident* with the widespread adoption of the gold standard, and as observed by Capie (1983: 19) "the unambiguous effect of higher tariffs with fixed exchange rates was to increase the domestic money supply", thus raising prices. Wilson (1969: 60f.) quoted Keynes's remark that even in the English stronghold of free trade only a bare half of the politicians seemed to have abandoned the mercantilist ideas, observing that if a high proportion had since then been reconverted to mercantilism, "the reason must be sought in the disturbing tendency of international trade to revert to conditions which in some ways resemble those of the seventeenth rather than of the nineteenth century."

This attempt appears to me rather indicative of the weakness of the historians' approach, and one would want to see the corresponding intense debate on the 'post-mercantilist' ideas of the favourable balance of trade and the 'circumstances of the time' (cf. Rashid 1980: 6), which would explain these. Speaking for all historians (and referring to Robinson 1964), Coleman (1969b: 16) continues his above quoted passage on economic warfare: "But the warfare takes its particular form, though not its general existence, from the particular economic circumstances. To describe the present-day 'warfare' as neo-mercantilism' is, from an historian's viewpoint, simply to misunderstand the nature of the earlier situation". The most notable thing about this quotation is the admission "though not its general existence". Although these historians have done a wealth of good in showing the non-applicability of classical economical presuppositions for the early period (cf. debate in Heckscher 1950: 219; Wilson 1951; Coleman 1957: 14f, n. 45), in view of the pervasiveness of the doctrine of the favourable balance of trade and employment, the attempt is ultimately unconvincing. Sharing the liberal credo of free trade, Heckscher agreed with Smith, that the perspective was that of merchants, which had somehow infiltrated national policy. To a purely commercial perspective nothing was more natural than the strive for surplus, he claimed (cf. Emmanuel 1984: 5 f.),⁶ and under certain circumstances, this point of view had come to dominate the thoughts of other than merchants. However, these circumstances were apparently still with us and "[a]n explanation must therefore be found which holds good for the popular ideas both of the past and of the present", Heckscher underlined (1994, II: 120f.; orig. 1931, II: 106). This had to be something that had remained predominant over a long period of time, which constituted a strong and decisive break with medieval ideas, but which had been adopted in later times without essential alteration.

⁶ Cf. Emmanuel 1984: 5 f.: "This frantic search for a surplus for surplus's sake has been an unshakable feature of the economic policies of all states, ever since commodity relations, capitalist or pre-capitalist, have developed within and between nations. This takes us back a long way – certainly to the High Middle Ages, perhaps to the Greco-Roman world and, according to some, back to the Phoenicians. Selling without buying has always been considered a victory, buying without selling, a defeat, while the most elementary logic shows that, at least at the international level, the former amounts to giving without receiving, and the latter to receiving without giving."

As Heckscher saw, then, it is not even enough to find some circumstance applicable to the centuries up to the 19th, it must also be applicable to the centuries thereafter. In his absolute, old-style liberal faith, Heckscher dared utter this, claiming therefore that “[t]here are no grounds whatsoever for supposing that the mercantilist writers constructed their system [...] out of any knowledge of reality however derived” (1955: 347; orig. 1946). As Emmanuel (1972a: xiv) puts it: “The ‘irrefutable’ proposition of comparative costs eventually convinced the most hesitant that there are two worlds, the rational world of political economy and the crazy world of economic policy.” This odd separation of theory and practice, was commented on by Keynes (1936: 333, 340):

For some two hundred years both economic theorists and practical men did not doubt that there is a peculiar advantage to a country in a favourable balance of trade, and grave danger in an unfavourable balance, particularly if it results in an efflux of the precious metals. But for the past one hundred years there has been a remarkable divergence of opinion. The majority of statesmen and practical men in most countries, and nearly half of them even in great Britain, the home of the opposite view, have remained faithful to the ancient doctrine; whereas almost all economic theorists have held that anxiety concerning such matters is absolutely groundless except on a very short view, since the mechanism of foreign trade is self-adjusting and attempts to interfere with it are not only futile, but greatly impoverish those who practice them because they forfeit the advantages of the international division of labour. [...] Nevertheless, as a contribution to statecraft, which is concerned with the economic system as a whole and with securing the optimum employment of the system’s entire resources, the methods of the early pioneers of economic thinking in the sixteenth and seventeenth centuries may have attained to fragments of practical wisdom which the unrealistic abstractions of Ricardo first forgot and then obliterated.

In fact, Magnusson (1993a) agrees that it is difficult to delimit ‘mercantilist economic policy’ to a certain time-space. The physiocrat critics had similarly used the expression ‘Colbertism’ to denote a system in economic policy, and in 1792 Francesco Mengotti devoted the first half of his discourse *Il Colbertismo* to the system of the balance of trade, and the second to the regulation of industry (Judges 1969: 47). Heckscher (1936-7: 34) stated that “Colbert presents a clear-cut expression of *all* sides of mercantilism” as he understood it. According to Ardant (1965: 706), Colbertism would appear to be the prototype of mercantilism, or in Coleman’s (1969b: 11) version: “Mercantilism without Colbert has some affinity to *Hamlet* without the Prince of Denmark.” Viewed as an ideology of economic modernisation, Magnusson (1993a) agrees that it can be fitted with the dirigism of the 17th and 18th centuries, aiming to build a strong national state by means of increased state control of economic activity, establish a gainful export trade, develop manufactured goods industries, increase investment in the infrastructure, establish a proper institutional framework for a modern capitalist economy, etc.. But it is not so easy to see what distinguished the 17th century from the preceding period, and many of the policy measures stressed for the ‘age of mercantilism’ had been in use for a long time.

Magnusson’s third identified usage of the word mercantilism is as a set of policy measures in a more narrow sense, related to protectionism or to state-sponsored import substitution policies. “However, as such,” he (1993a: 10) maintains, “the term loses its historical quality and becomes part and parcel of a timeless box of tools which the modern state throughout its history has had at its disposal.” This is the tendency to regard ‘mercantilism’ as the natural politics of all states at all times (cf. Cole 1939, 1943). Thus, both 17th century British protectionism and the proposals of Friedrich List for German unification in the 19th, as well as current ‘neo-mercantilist’ import substitution, must all be fitted under the same heading. Magnusson is not absolutely against such a usage, although he underlines that it is a different thing from a particular trend of economic thought in the two centuries before Adam Smith.

In his later study where the English debates are singled out, Magnusson (1999: 239) cannot avoid identifying also a rich, pan-European literature, whose national differences Magnusson laudably wants to emphasise, covering Italy, Spain, England, France, Germany, Sweden, Denmark, Russia, and the Netherlands, recommending domestic production and protectionism

to promote growth and modernisation, although he denies that belief in the favourable balance of trade was among its common themes. What this literature and debate is to be called Magnusson does not tell us, and whether the standard ‘mercantilism’ does the trick or not is perhaps of minor importance. He certainly has a point in that neither the protectionism and striving for surplus usually identified with the concept, nor the debate on the fortunes of nations, are limited to the ‘mercantilist period’ usually assigned, and that the changes relevant for this period is rather to be identified in scientific debate. From this perspective it is clearly 19th and 20th century normal science which is ideological or utopian in its praise of free trade. The ultimate usage of ‘mercantilism’ is perhaps ‘negatively’, so to speak, as that period in economic theory, policy, and debate, when the “timeless box” was not substantially at odds in praxis and mainstream theory, regarding the ultimate benefits of selling more than one buys.

Speaking of the term ‘mercantilism’, Blaug (1985: 10) wrote: “as a description of a central tendency in economic thought from the close of the 16th to the middle of the 18th century, the label retains general validity.” It refers to “the doctrine that a favourable balance of trade is desirable, and that a favourable balance in manufactures is particularly desirable.” The view of Coleman (1969b: 4f.) is no different: “Let us readily concede that much contemporary thinking about economic matters was influenced by a concern for the balance of trade; and that state measures to encourage the export and discourage the import of manufactured goods were widespread.” He even accepts van Klaveren’s (1969: 142) criterion of mercantilist economic policy: “the objective is always the development, from an agrarian base, of an industrial, commercial and maritime superstructure coupled with an attempt to secure a bigger share in the profits of international commerce for one’s own citizens”. Coleman thus finds two pervasive mercantilist themes: the belief in a fixed cake of commerce so that one nation’s gain therein must be at the expense of another’s loss; and the concern over fostering activities other than agriculture. Another anti-essentialist sceptic, Judges (1969: 39), who had observed the interest in employment, called the theorem of the general balance of trade “hoary with age” already with Mun and his “school” (this is a slip of the tongue on Judges’s part, in an article which is famous for its outcry against such a conception), and its calculus “a touchstone of principle which was to determine what forms of exchange might be encouraged as tending to yield a net balance in treasure and what forms should be discouraged on account of the drain of precious metal they set in motion.”

Already Cunningham (1892: 391f.) saw the mercantilist obsession to be not its confusion of wealth with money, but rather with employment: “It was assumed, as an obvious maxim, that additional employment would be furnished either by opening up new markets and thus securing a vent for our commodities, or by stimulating consumption at home.” Furniss (1920: 8) pointed out what he saw as fundamental characteristics of mercantilist thought: “With all their diversity of opinion, however, the writers do concur with considerable unanimity in two sets of doctrine: (a) the balance-of-trade theory with its manifold derivative principles; (b) a set of doctrines which, along with many incoherent ideas, contains as a solid core a statement of the national importance of the laborer.” Viner (1937) also finds two common concerns in mercantilist thought: the concern over a favourable balance of trade, and the concern over employment. Heckscher found the Medieval concern for ‘provisions’ to be supplemented and superseded in mercantilism by a concern for ‘protection’ by which he understood a ‘fear of goods’. In this part of his presentation, perhaps still the most coherent one, the mercantilist striving for a surplus balance is a glorification of selling, that is, a fear of redundant stocks of finished goods. The enthusiasm showed for selling is correlated with that of maximising the factors of production. (Although he sees a connection in the protectionist efforts to disburden the home market of its goods and the concern over unemployment, he finds the will to sell older and more primary.) Grampp (1952) saw the aim for a favourable balance of trade as one of the methods to resolve the principle problem of unemployment. Wilson (1968: 91)

summarised policy in the ‘mercantilist age’: “The government (and plenty of others) might be divided about how to achieve national ends, but what they were after was maximum employment and minimum public disorders, maximum exports, minimum loss of native raw materials, maximum shipping tonnage. These were, in turn, compendiously contained within a formula which they read as a sort of shorthand for a dynamic economic model: the favourable balance of trade.” Rashid (1993: 139) found this to be exaggerating the relative importance of the balance of trade and too uniform an image of policy for the period 1600-1770: “If any one idea dominated the economic thought of this entire period, it was concern for employment.” Emmanuel (1975: 5) saw two ways recommended by mercantilists to lighten un- or underemployment. One quantitative: “A policy of simultaneous autarky and trade expansion. The apparent contradiction between these two targets was resolved by a one-way trade, that is, by a permanent surplus on the balance of trade.” The other qualitative: “A policy of close selection of exports and imports so that the exports embody the most possible, and the imports the least possible amount of living labour. This meant that they attempted to export manufactured goods and import raw materials.” The concern over employing workers did not in general imply favouring labour intensive branches of production, that is, which have more labour per *total* invested capital. As evidenced by the emphasis on ‘art and ingenious labour’ (Johnson 1937), this seems on the contrary to have been regarded a disadvantage. The idea was instead to apply more labour per *consumed* constant capital, that is, in relation to the other material inputs (raw material, wear and tear, etc.). Nevertheless, as we shall see, in the choice between supplying labour on economically meaningless tasks – and to a certain extent even materially negative –, and letting the workforce go unemployed the former seems to have been preferred. If there are similarities with ecological economic ideas and mercantilist regarding the advantage of exporting manufactures, on this point they come in full opposition.

Further, Johnson (1937: 237-56) has delineated the basics of a ‘theory’ of production, which traces back to mythological times. Folklore and religious beliefs had already outlined how a sinless age, when deities provided men with free goods, had come to an end and men has to toil for a living. As pointed out by Frankfort (1948), depending on the character of river systems, the emphasis on hardships was stronger in Mesopotamian mythology, while that on beneficent deities dominated the Egyptian. Fallen from grace man had to eat with sweat in his brow, or as Hesiod (1815: 10, 15) wrote: “The food of man in deep concealment lies, The angry gods have hid it from our eyes. [...] On earth of yore the sons of man abode, From evil free and labour’s galling load.” In medieval Christendom the division between God’s and man’s creation, was stimulated by the concept of the book of nature and the book of man, and it is possible that the transformation implied in the *printing* of books is provocative in the simultaneous re-conceptualisation of nature and man as national factors of production (cf. McLuhan 1962). The Christian providential conception of history as a progressive eschatological movement, linearly modelled on the Book, now became secularised into the linear progress of arts and civilisation from a barbarous ‘state of nature’. The synchronic cultural variation revealed in the ‘discoveries’ was viewed diachronically, and mercantilists tended to interpret the comparative states not so much as due to variations in the natural environment as in man’s art (which in some opinions included that of the merchant), industry, and ingenious labour, or, as in the 19th century, to use machines as the measure of men (Herlitz 1993; Collingwood 1946; Johnson 1937: 259-77; Adas 1989).

That the economy suffered from underutilised land and labour was indeed one of the greatest concerns of the princes’ economic advisors and experts (self-appointed or not). Given the state of technology, and particularly if there was land still waiting for domestication, the ultimate objective of economic expansion, required mainly increasing the size and efficiency of the labour force. Johnson (1937: 247) notes that “Practically all writers [...] saw a correlation between total industry and total numbers, and urged as a consequence that every

effort be made to increase population.” Even the great witch-hunts – the actual or impending burning of those child-eaters and kidnappers – is evidently related to these efforts, as Heinsohn and Steiger (1999) has argued, most convincingly for the great rationalist Jean Bodin. Garraty (1978) on the other hand characterises epoch by its “struggle for full employment”, *i.e.*, it is only, or primarily, as productive subjects that they acquire their value, although the effort also has another, more humanitarian, face (Wilson 1959; 1969: 73-93).

Although the debates on population, improvements, employment, etc., are sometimes separated from that of other means to make countries gainers in the balance of trade, at least to the present author this seems somewhat artificial, and strictly speaking has no foundation in the arch-mercantilist Thomas Mun (1664), whose principal work listed the essentials in those other fields before proceeding with his more specific aim of refuting Gerrard Malynes.

Chapter 2. What happened in the debates of the 1620s?

The origins of ‘mercantilism’ are often traced to the debates of the 1620s. There seems, however, to be a certain uncertainty among interpreters as to what, if anything, was actually new with the balance of trade argument as presented by Misselden and Mun, either against their immediate opponent Gerrard de Malynes or against previous contributors. Furniss (1920: 11) calls their view a “revision of the theory” by the forced defence of the re-export trade, which “modified the criterion” by which the ebb and flow of national wealth should be gauged. In opposition to Cunningham (1892: 266), according to whom the idea of a general balance preceded that of particular balances, Furniss (*loc. cit.*) maintained that “the annual balance of the total foreign trade of the nation was now the deciding factor”. Viner was to reaffirm that even the oldest 14th century expressions of the idea were of a general and favourable balance. Suviranta (1923: 20f.) saw the 1620s debate as one over the best means to the same end. Heckscher (1931, II: 223; 1994: 248ff.) found it particularly odd that Mun could present the balance of trade doctrine as opposite to Malynes’ theory of exchange rates, since the influence of the former could only be exerted via the latter, all while using almost the same words as his many predecessors. Mun even slighted over the major question of what determined the balance of trade itself, which was never clarified in its context, and had it been done, Heckscher maintained, would have led to the revelation of the futility of the mercantilist system. Supple (1957: 252) agreed on the general acceptance of the principle: “For Malynes, Misselden, Mun and a host of other writers there was controversy only as to the remedy; on general principles all concurred”. In the report by Thomas Parry and Francis Bacon in 1612 on the scarcity of silver at the Mint, the idea of attracting bullion by achieving an export surplus is referred to as one of several “commonplaces so well knowne [...] as it is enough to mention them only” (quoted in Gould 1954: 83, n. 1).

Herlitz (1964: 115) called the balance of trade doctrine “a commonplace in the literature long before Thomas Mun” and Muchmore (1969: 340) agreed calling it a commonplace axiom and a truism even as *Malynes* began his pamphleteering. The important question was why the ‘overbalancing’ occurred, to which he had answered that England suffered from adverse terms of trade. In his debate with Misselden and Mun, Malynes not only pointed out that the necessary inaccuracy in the procedure of calculation, based on irregular customs accounts of a traffic that was itself irregular, made the attempt vain and worthless. Rather than did not understand, Malynes “disapproved of Mun’s emphasis and was sceptical about his statistical techniques” (Supple 1957: 253, n. 2). In addition to the practical impossibility there was “the absolute insipidity of the concept itself”, as Muchmore (1969: 354) put it, being only

another way of stating the problem: “we all agree that there is an overbalance, which must be remedied by the redress of the causes, and not by the study of balances, which demonstrate little in truth and certainty, but much in imagination and conceit” (Malynes quoted *loc. cit.*). Mun’s campaign for his own ideas on the balance of trade seem to be condoned more than any other by modern economists. The inescapable logic that treasure would be lost only when ‘imports’ exceed ‘exports’, and that the exchanges would fluctuate with the state of international indebtedness, was, Supple (1957: 254) admits, “clothed in a clarity that is rare in the polemical writings of his age.” And yet, he continues, “in emphasizing the balance of trade as a ‘cause’ of treasure movements he was perpetuating an *ex post* truism rather than advancing a causal analysis.” Though he real cause remained to be found, Mun “dismissed as irrelevant all other considerations: currency alterations, exchange manipulation, administrative action, etc.” (*loc. cit.*). Muchmore (1969: 353f.) concurs that Mun’s analysis should be considered a *retardation* of economic doctrine, by his choice to rule out all monetary considerations and rely solely upon the balance of trade, ignoring capital movements, international borrowing and lending, excluding bimetallic flows and failing to recognize that the monetary sector can have an impact upon conditions of trade.

Malynes’s view on the undervaluation by exchange of English currency, conspired by foreign bankers and involving adverse terms of trade, or an ‘overbalance’ of trade and a loss to the country, need perhaps not be so illogical after all. Supple (1957: 253f.) writes: “for Malynes such an overbalance implied a loss of bullion because with higher import prices more *in value* would be purchased by England and with lower export prices less total income would be derived from sales.” With the necessary assumption of inelastic demand, which he made expressly at least for English exports, this theory had some validity. Nevertheless, since the market was more competitive than ever, Malynes’s assumptions were, in Herlitz’s view (1964: 114f.), “well out of date”, and the analysis “patently erroneous”, illustrating perfectly “that an economic argument which is logically self-consistent need by no means be true.”

According to Supple (1957: 254f.), “the only contemporary who had the requisite ability to refute Mun [...] was the much neglected Rice Vaughan”, who acknowledged that the balance ‘determined’ the net loss or gain, but also tried to see how the balance could be affected by currency enhancements. Vaughan considered money a medium of exchange, but still “not ill compared to the *materia prima*, because, although it serves actually to no use almost, it serves potentially to all uses” (cited in Suviranta 1923: 62). On the productive capacity of money, Vaughn claimed in line with Malynes (“by money a trade is made for the employment of it both at home and abroad”) and Mun (“Money begets trade, and trade encrease th money”): “For manufactures do breed money, and money doth breed manufactures” (cited *ibid.*: 72). The idea of finding a fit proportion of money to a commonwealth’s state of development, is considered but found a hypothetical problem worthy rather of utopian tracts. Since his object is not that of designing a perfect commonwealth, but of handling the actual one he finds “that *rarity* is almost the sole inconvenience in matter of money” (cited *ibid.*: 50f.; cf. 63f.).

As many of the above, Coleman (1980: 786) calls both the idea that a country can only gain to the loss of another, and the ‘doctrine of the balance of trade’, examples of the “unreasoning acceptance of [a] long-enduring aphorism [...], *i.e.* a maxim to be accepted by all.” He continues: “In no sense did the so-called ‘doctrine of the balance of trade’ resemble the testable hypothesis of modern economics, though it was certainly on its way to being, for its time, something akin to those ‘immutable laws of supply and demand’ beloved of a generation of popularizers of classical economics.” Here he has more affinity with Heckscher than he would probably want to admit, for is this ‘unreasonable acceptance’ so different from the latter’s unreasonable ‘fear of goods’? He explains (1980: 787; cf. Schumpeter 1954: 360):

The loss-and-gain notion was something which had exercised the minds of writers and moralists certainly from ancient Athens and Rome onwards. Schumpeter observed of it that ‘the slow disintegration of one of the oldest

elements of popular economic thought is one of the most important points to remember concerning the history of analysis in the seventeenth century'. In practice it was slower than even he appreciated; and its alliance with that other popular element – the balance-of-trade maxim – helped to ensure the long survival.

The concept of a 'balance' was probably taken from Italian double entry book-keeping practices. When the fifteenth-century pope advised the magistrates of Siena to "keep an account of your exports and imports; a state is badly off that buys more than it sells", it is not probable that he believed himself to be stating anything but received wisdom (cited in de Roover 1974: 362; Coleman 1980: 786). The same is true for the 16th century author of *A Discourse on the Commonweal* (Sir Thomas Smith; the idea has been traced in England at least to the year of the rebellion, 1381), or a similar passage in Montaigne's *Essays*. Francis Bacon found the 'material cause' of seditions and troubles to be "want and poverty in the estate", and the remedies:

the opening and well-balancing of trade; the cherishing of manufactures; the banishing of idleness; the repressing of waste and excess by sumptuary laws; the improvement and husbanding of the soil; the regulating of prices of things vendible; the moderating of taxes and tributes (Bacon 1625: XV 9).

According to Coleman (1980: 785) this catalogue would "not have aroused much dissent amongst the governing strata of England at any time from the fourteenth to the eighteenth centuries". We might observe that in addition to the 'well-balancing of trade' it includes both agricultural and industrial improvement, thus negating the inference of a non-progressive conception of the economy as a whole often drawn from Bacon's further recommendations:

It is likewise to be remembered that foreasmuch as the increase of any estate must be upon the foreigner (for whatsoever is somewhere gotten is somewhere lost), there be but three things which a nation selleth unto another: the commodity as nature yieldeth it; the manufacture; and the vecture of carriage. So that, if these three wheels go, wealth will flow as in a spring tide. And it cometh many times to pass that *materiam superabit opus*, that the work and carriage is more worth than the material, and enricheth the state more; as is notably seen in the Low-Countrey men who have the best mines above the ground in the world (Bacon 1625: XV 10).

Here we have the whole mercantilist kit: the aim is to sell more than one's competitors, and in decreasing order of preference from primary to secondary and tertiary sectors. Thus, Coleman (1980: 786f.) does not consider Mun's oft-cited declaration of the balance of trade as much more than yet another elaboration on an ancient maxim, admitting that his "exposition thereof marked advances in the analytical treatment of the subject." The aim is merely to emphasize "that much of the content of mercantilist writings is a compound of popular maxims and vague expositions held together by a cement in which logic, and what classical economics and its modern derivatives regard as rationality were very variable ingredients." Here he singled out Magnusson's (1978) article for criticism. However, in Magnusson's (1999) later conception 'mercantilism' is similarly seen as a 'discourse', with both its unquestioned and unreasonable *langue* components – although in his mercantilist grammar the balance of trade doctrine is apparently not a constituent component – and its particular *parole* utterings.

The debate of the 1620s seems to have entrenched oppositions rather than enhancing understanding, one side digging itself in on the monetary phenomena neglected by the other, who for its part concentrated wholly and solely, abstractly and levitatingly on 'real' economic forces. Appleby (1978: 47) finds in Misselden's answer "the beginning of an effort to isolate commercial activity for purposes of analysis. The legacy of the economic writings of the 1620s was Mun's lucid model of international trade, the differentiation of economic relations from the society they served, and the planting of the insidious idea that there were laws affecting human activity that knew no royal sovereign." According to Appleby (1978: 41), Mun created a 'paradigm': "He abstracted England's trade relations from their real context and built in that place an intellectual model." Further on she continues (1978: 50f.): "Mun and

Misselden's writings should rightly be celebrated for having invested the world of trade with its own self-sustaining momentum. [...] Malynes' views were obsolete not because he did not understand the causes of the depression – he did – but because he was unable to perceive [...] the subject of legitimate investigation". On this point, Magnusson's presentation has much similarity with Appleby's: 'mercantilism' becomes sort of half-way house on the way to a scientific economic discourse. He sees the "new" English discourse, and even a "completely different" type of analysis, beginning in the 1620s and defined as 'mercantilist', replacing the 'old' (otherwise nameless) in five areas: 1) it was the 'over-' or 'underbalance' of trade that determined exchange rates, not the other way around; 2) the market mechanism was seen as all dominating; 3) the economy was not subordinated any Christian moral order, supply and demand, and moral 'individualism' replacing just distribution; 4) the economy was a system of independent forces driven by competition, not automatically establishing harmony between private and public advantage, but with a preference for letting the economy be ruled by certain 'natural' principles, such as a positive balance of trade; 5) the economy was described in abstract and general terms, a more methodical study was introduced, and the inductive method was, if not practiced, at least praised as an ideal (Magnusson 1999: 115f.).

However, Appleby (1978: 47f.) also made some interesting observations on the impact of the medium on the message and messenger. The "impersonality of the printed word" was reflected in the style of writing – the "arrogance of the sophisticated observer" and "a certain condescension, suggesting the superiority of one who had been liberated from conventional misconceptions" displayed by Misselden made Malynes "appear old-fashioned" – and in the higher level of abstraction of future economic analysis which "would go hand in hand with published writings". Schumpeter (1954: 161) concisely remarked on the relation of printing to pamphleteering and projecting, and its particular prominence in English writings:

The Pamphleteers were a mixed crowd – projectors of banks, canals, industrial and colonial ventures; special pleaders for or against some individual interest, such as the Company of Merchant Adventurers or the East India Company; advocates or foes of a particular measure or policy; planners – often cranks – with pet ideas; and men who do not come within any of these categories but simply wished to clear up some issues or to present a piece of analysis. All of them flourished in all countries owing to the rapid increase of the opportunities for printing and publishing. Newspapers also, rare ventures in the sixteenth century, became plentiful in the seventeenth and, for the eighteenth, 170 papers and periodicals that published economic material have been listed for Germany alone. But England was the classical home of the pamphlet, as we should expect. For nowhere else was there so strong an incentive for anyone with an axe to grind to try to influence public opinion.

Continuing on this line, Appleby (1978: 4) notes that the corpus of some 1500 English 17th-century economic treatises, tracts, pamphlets, handbills, and broadsides, in all probability, owed its existence to the outpouring of the writings on religion and politics. Though small compared to the number of such religious and political tracts, she believed its eventual impact on the intellectual origins of capitalism to be profound: "Because much of the conflict of the contending parties during England's century of revolutions was waged through the printed word, there developed in England a vigorous public press and an equally novel phenomenon, a reading public." London, where the presses, bookstores, writers, and readers to sustain a rapid acceleration of printed communication were gathered, was the centre of not only of conspicuous consumption but also publishing; the dozen or so titles appearing in the 1620s having by the 1670s increased to hundreds each decade. "Debates that were once argued exclusively in face-to-face encounters began to take shape through written words addressed to unseen audiences. Alongside the public discourse conducted in the Houses of Parliament, in churches, in corporation meetings, and in the banquet halls of great men, there grew up a new kind of forum where the absence of the immediate presence of speaker and listener made possible a freer, more impersonal kind of exchange" (Appleby 1978: 4f.). Thus, she explains (1978: 51) the novelty of the 1620s' debate was that it moved *outside* the traditional arenas of

Parliament and Privy Council, which remained the place where crucial decisions were made. All parties made public their ideas in printed and perhaps anonymous tracts, which did not challenge the wisdom of sovereign power but its efficacy, thereby erecting a new forum through which a new conception of the economy could gain currency. Coleman (1980: 779) amuses himself with the defunct idea, further advanced by Appleby (1978: 25, 30-1, 33, 54, 84-5, 105, 127, 130), that this growth and development of economic literature and speculation reflects some “pattern of economic development in which there is an pronounced discontinuity *circa* 1600”, whether in overseas trade, rural parish life, agricultural technique or commercial society. As an able historian of the British paper industry, Coleman’s ironies also, *en passant*, breaks wind of an actual explanation of such a discontinuity, namely “the relative dearth of paper and print in the sixteenth-century England”, but he does not follow this comment up. The side-effects of printing and paper on thinking and policy was, however, the main theme in Innis’s, one of Coleman’s predecessors, historiography of these industries.

Chapter 3. The absurdity of selling

If the greater enumeration, abstraction and sophistication of expression can be traced to changes on the market for printing materials, the question nevertheless remains as to why the doctrinal contents and policy took the form it did rather than some other ancient doctrine. There was a similar, more religious enumeration of how God had ‘endowed’ different nations differently in order to make peoples see the benefits of international trade and relations, which reappeared expressly in Heckscher’s (1919) modern adaptation of the classical trade theory.

In Heckscher’s view, the medieval, more fragmented and regionally regulated system was characterised by a ‘love of goods’ and ‘policy of provisions’, *i.e.*, where the goal of was to supply oneself with goods, securing that provisions would not be dispersed by forbidding their export. Mercantilism, by contrast was inwardly striving towards unified and efficient markets, and outwardly a protectionist system characterised by its ‘fear of goods’. However, whatever the period or system, it seems that as soon as money is spoken of as a matter of national concern, complaints have been made to the want of it, and of the need to sell. Heckscher (1931, II: 115, n. 13) refers to a patriarchal utterance already by Cato major (1936; 234-149 B.C.), often repeated during the 16th and early 17th centuries, that it is more fitting for the head of a family to be a seller than a buyer. This point is of particular interest because of its odd contrast with subsequent and present economic theory, if not practice.

In practical commercial matters it seems always to have been considered fundamentally better to exchange goods for money than money for goods, *i.e.*, to sell rather than to buy. Following the introduction of paper and the printing press, writers started expressing this age old experience in and for the forming national principalities and states. These early politico-economical experts and commentators, ‘articulate citizens’ (Ferguson 1965) ‘consultant administrators and pamphleteers’ (Schumpeter 1954: 159, 161, 181ff.; including even Adam Smith), in their different national varieties, represented the economical reason and speech of these enterprises. Observing their surrounding realities, one of which was a perpetual strife for surplus in external trade, they stated them without always giving rigorous explanations.

The mercantilists’ belief is of course well documented, despite more recent efforts at greater nuance. Thomas Mun (1664: 141) stated as a general rule, that England must always sell more to foreigners than she consumed of theirs, and gives a parable arguing against the prohibition of the export of money, but which makes it equally clear that the end of this export is the even larger returns: “For if we only behold the actions of the husbandman in the seed-time when he casteth away much good corn into the ground, we will rather accompt him a mad man than a husbandman: but when we consider his labours in the harvest which is the

end of his endeavours, we find the worth and plentiful encrease of his actions.” Sir William Petty (1662: 28) observed that Ireland “exporting more than it imports doth yet grow poorer to a paradox” (*i.e.* ‘paradoxically’), and in trying to discover under which circumstances the paradox would materialise, Sir Josiah Child (1668, 1693) is confirmation that the opposite case was considered normal (cf. Heckscher 1931, II: 103; 1994, II: 117). Charles Davenant declared that “It is the exportation of our product that must make England rich; to be gainers in the balance of trade, we must carry out of our own product what will purchase the things of foreign growth that are needful for our own consumption, with some overplus, either in bullion or goods, to be sold in other countries; which overplus is the profit a nation makes by trade”. “[...] by what is consumed at home, one loseth only what another gets and the nation in general is not all the richer” (quoted in Suviranta 1923: 126). “Whatever Goods we make up of Foreign Materials, and sell in the Markets abroad all above the Cost of the Materials is a clear Gain to England” (Davenant 1699: 96f.). John Locke suggested: “It is with a kingdom as with a family. Spending less than our own commodities will pay for, is the sure and only way for the nation to grow rich.” John Pollexfen agrees that “Buying, selling, and trading amongst our selves, may occasion that one man may grow richer than another, but hath no immediate influence upon the enriching or impoverishing of the nation” (quoted in Suviranta 1923: 126). In the opinion of Viner (1937: 6), “[t]he most pervasive feature of English mercantilist literature was the doctrine that it was vitally important for England that it should have an excess of exports over imports.” Heckscher (1931, II: 104; 1994, II: 118) clarified effectively:

None the less, it would be a fundamental mistake to believe that the *whole* explanation is to be found in the monetary aspect. Quite apart from the money or precious metals that an export surplus brought in, such a surplus was considered desirable *per se*. Export was to a very large extent an end in itself.

We approach still closer to the mercantilist mentality if we amplify the last statement by saying that *selling* was an end in itself. The object was, in fact, to dispose of goods by any possible means.

The originator of the term ‘political economy’, Antoine de Montcrétien (1615: 136), warned of having an excess of goods in the country if the arts were to be brought in good order, and Heckscher (1931, II: 102; 1994, II: 116) reports as an often repeated French expression that one must ‘unburden the kingdom of its merchandises’, summing up the idea: “it was of prime importance to get rid of goods.” Even Nicholas Barbon (1690: 32), who is sometimes referred to almost as a free trade liberal (although a Tory), could at the same time speak of “a dead stock called plenty”, referring to an excess of goods in the country. The basic thought in Mandeville’s *The Fable of the Bees, or Private Vices Publick Benefits*, already in its original version of 1705, was the disposal of goods, and its basic idea was, Heckscher (1931, II: 105; 1994, II: 119f.) reminded, the “necessity of selling”: “that human vice is necessary in order that unscrupulous lawyers, venal judges, and parasitic priests, as well as honest citizens dependent upon them may be enabled to live. Mandeville’s numerous critics found it difficult to deal with this idea of his, which shows how much it was based upon the general view”. Mandeville (1970: 73) satirized how the *Grumbling Hive*, the country, would go to ruin as soon as *Knaves turn’d Honest*:

Now mind the glorious Hive, and see
How Honesty and Trade agree;
The Shew is gone, it thins apace;
And looks with quite another Face,
For ’twas not only that they went,
By whom vast Sums were Yearly spent;
But Multitudes, that lived on them,
Were daily forc’d to do the Same.
In vain to other Trades they fly;
All were o’re-stock’d accordingly.

Statements were produced on both sides of the frequent Anglo-French war, expressing the wish to ruin the other by exporting goods. Thus, at the end of the 17th century, both John Cary and Charles Davenant promoted and feared this weapon. Heckscher's (1931, II: 85) most telling example, however, and which initially inspired his interpretation of mercantilism, is Napoleon Bonaparte's Continental system – a predecessor of the European Union – by which Napoleon hoped to 'conquer England by plenty', and deal a staggering blow at the enemy by closing it off, that is, not its imports but its exports, from the outer world and its markets. At the same time English ministers and members of Parliament could brag about how this scheme had failed, and how Yorkshire and Birmingham manufacturers had managed to provide the French army with its cloth, and even some of the adornment.

Jevons (1887: 334) has observed that in almost every country people have from time to time attributed all kinds of evils to the want of money: slackness of trade, falling prices, declining revenue, poverty of the people, want of employment, political discontent, bankruptcy and panic. As noted above, in the debates on the 'scarcity of money' in the early 1620s, Vaughan pertinently observed that "*rarity* is almost the sole inconvenience in matter of money." Commenting on this 'scarcity' and in attacking what he, following Mirabeau (1763), dubbed the commercial or 'mercantile system', the phenomenon as such was admitted and remarked upon by Adam Smith, and most concisely summarized in an explanatory marginal note by Cannan: "It is easier to buy than to sell" (Smith 1937: 406). We shall return to Smith's (1937: 406f.) own explanation of the phenomenon below, which centred on money being the durable medium of exchange and profit-seeking merchants somehow finding it more desirable, but which added no novelty to understanding of the phenomenon itself other than denying the relevance for nations to strive, as they did, for profit.

Suviranta (1923: 74f.) marveled at the peculiar mercantilist attitude: "Money was thought to be a powerful stimulus to trade, and it appeared even in the role of a creator of new commercial activities. There was, indeed, almost something mystical about the power money seemed to exercise in society." He points out the "strange and deep contrast" with canonist theory which had "stigmatized money as barren in the course of economic activities, appreciating it merely as a denominator of value", and finds the explanation of this difference in the introduction of a money economy "and the simultaneous reconstruction of society on a capitalist basis". The transformation from a subsistence to a money economy was adduced by Cunningham and the German historians, and inherited from them by Heckscher, but it has long been found wanting (*e.g.*, Postan 1944: 123-34). In fact, Heckscher agreed that it was difficult to bind the protectionist thoughts he had in mind to the 'breakthrough' to (and unaltered continued existence of) a money economy. As with Suviranta, his description perhaps fits more particularly with a *capitalist* than a mere *money* economy: "As soon as the result of production, from the producer's standpoint, no longer consists in other goods but in money, then the money yield appears as the only aim of economic activity. Other goods are then considered unwelcome since they are merely competing with one's own products for the monetary equivalent" (Heckscher 1931, II: 122; 1994, II: 138f.). Furthermore, the mercantilist 'fear of goods' drew much of its nourishment and design from an area of "unusual objective validity" he (1931, II: 106) explained: concern with measures against unemployment and over domestic employment opportunities. Still, he did not endorse what would seem an obvious solution, that the newly predominant fear of goods and simultaneous drive to employ ever more people, led its origin to some equally new characteristic of the labour market. The substantial reason adduced was that in one of the oldest cases concern was not over an unemployment which had already arisen, but to create *new* employments, whether or not they were previously lacking. Thus, the only reasonable starting point was the new conception of

goods, Heckscher (1931, II: 107; 1994, II: 121f.) concluded, and the idea that unemployment follows from an excess of goods was a reflection of this conception, not the other way around.

If the basic attitude towards money and bullion did not alter in the period between the Crusades and the 18th century, Heckscher explained, “it follows that we are dealing with deep-rooted notions”, perhaps persisting even beyond these 500 years even if “not nearly to the same degree as the ‘fear of goods’”. Only the period of *laissez-faire* constituted an exception in being wholly free from these ideas: “It was only the unique intellectual tenacity of *laissez-faire* that for a time overcame the beliefs of the ‘natural man’ on this point” (Heckscher, 1931: 158f., 1994, II: 176f.). “It required the unqualified faith of doctrinaire *laissez-faire* to wipe out the ‘fear of goods’”, he reiterated. The latter was “the most natural attitude of the ‘natural man’ in the money economy. Free Trade denied the existence of factors which appeared to be obvious, and was doomed to be discredited in the eyes of the man in the street as soon as *laissez-faire* could no longer hold the minds of men enchained in its ideology” (Heckscher 1931, II: 303; 1994, II: 335). These were undoubtedly perceptive remarks, and they were noted by the equally perceptive Keynes (1936: 350f.), who remembered Bonar Law’s “mingled rage and perplexity in the face of the economists, because they were denying what was obvious”, and suggested that explanation for which he deeply craved was presumably to be found in “the analogy between the sway of the classical school of economic theory and that of certain religions. For it is a far greater exercise of the potency of an idea to exercise the obvious than to introduce into men’s common notions the recondite and the remote.” Though opting for opposite sides, Heckscher’s and Keynes’s idea of the ‘natural man’ conflicting with liberal scribes, corresponds well with the perspective of an oral tradition struggling with the written – the realistic Sancho Panza, more interested in the obvious facts of the world than with the quixotic quest of arranging it according to the whims of his well-meaning betters who are too wrapped up in their own theories.

As has been noted by Coleman, Heckscher was anxious to avoid possible Marxian or determinist interpretations, which would find some reasonableness in mercantilist ‘ideology’ by linking it to a capitalist social reality of unemployment. That the unemployment was not wholly of the modern kind, but also lay in the discovery of under-utilisation of productive factors, or of their possible expansion, seems highly probable, but is not necessarily an argument against all possible such interpretations. With Keynes in his back-pocket, Grampp (1952: 496) dared to spite Heckscher and speculate that the “great concern of the mercantilists over employment, particularly of labor, may have been forced upon them” by the “considerable” unemployment of the 16th-18th centuries. The land enclosures, replacing tillage with sheep grazing, continuously reduced the amount of labour required in agriculture. Large numbers were driven off the land into rural slums, towns, or cities, where the craft guilds in spite of the expansion saw no comparable possibilities to increase output. This chronic unemployment problem (there is no particular reason to suppose that it was ‘frictional’) was aggravated in the new phenomenon of frequent commercial crises, or slumps (e.g., Supple 1957, 1959; cf. Coleman 1957: 23). Finally, there was the chronological counterpart of wastelands: the (discovery of) seasonal underemployment – idleness during weekdays, holidays, and after the harvest period, all of which presumably appeared more problematic with clocks and wage labour, and the craving for overseas sales at minimum costs.

Classical writers from François Quesnay, Adam Smith and forth, including first rate interpreters such as Viner and Heckscher, take the view of protectionist practice and mercantilist theories as ‘absurd’, and state this no less bluntly (cf. Coleman 1957: 3f.: though an unsystematic jumble, Smith, superb systematiser that he was, could present mercantilism as a “systematic absurdity”). In a recent estimation of Heckscher’s work, Magnusson (1994: xxxv) concludes that whatever its shortcomings, “he has certainly posed questions which still have not been answered in any satisfactory way.” These include the links between economic

ideas and policies in the Early Modern period, the relationship between mercantilism and nineteenth century liberalism, and, finally, the doctrine of the balance of trade and its understanding still haunts interpreters: “In providing answers to them, we have gained remarkably little ground since the work’s publication more than sixty years ago” (*loc. cit.*). This being so, everything indicates that some fundamental assumption on which they build is mistaken. To state it bluntly, the problem appears to be not with mercantilism but with liberalism and normal trade theory, as can be derived from the way the questions are put. Periodisations and specialisation of historians should not cloud the fact that ‘mercantilism’, or the conceptions associated with this term, did not end with the rise of liberal political economy. It seems that *historically* the *divergence* of theory and policy in the ‘liberal’ period is a phenomenon in more need of explanation than their *links* in the earlier period. Why does one assume that there is a mercantilist ‘fallacy’ or ‘paradox’ in the first place? Since mercantilist policies has continued through the beginning and the end of laissez-faire, unperturbed by theoretical demonstrations of its fallaciousness (or of its correctness, to the extent such arguments can be found), it would rather seem that it is in the textbooks of political economy that the *theoretical* fallacy should be sought.⁷

A common basis for the rejection of mercantilist ideas, though it was not invoked by Smith in spite of his familiarity with it in Hume – and presumably because it had already met criticism from Oswald, Tucker, and Steuart –, is the argument that an inflow of money would only raise prices and finally reverse the balance. Another argument is that protectionism hinders trade and reduces general welfare, and that on the contrary free trade will make every single nation the richer. Even without these theories, some reflection can easily demonstrate why the conviction is no doubt right, that the whole ideal of a permanent surplus in the balance of payments is an absurdity, pungently expressed as a ‘fear of goods’ in what Schumpeter though a very telling image but not an explanation.

The only possible way to transfer values between countries is in goods and services (*i.e.*, including monetised metals, and given that foreign securities can only be used in exchange for such goods or services). “If this is the case,” Emmanuel (1984: 5) explained, “a permanent balance of payments surplus, through the very fact that it makes these goods and services undesirable, amounts to giving the surplus away to the rest of the world as a present.” The country that succeeds in attaining a permanent surplus can only amass an ever increasing mass of gold and silver ingots or foreign assets. Rejecting the idea of a future deficit balance one has forfeited the claim ever to use this hoard of metals, stocks or shares, which can thus never be turned into ‘real’ or use values. At the same time, one is evidently sending abroad such values, which have cost national labour and resources, only to receive others – gold and silver – which are equally real but when obtained, Emmanuel (1984: 5) reminds, “are worth scarcely more than the cellars in which they are buried,” as in La Fontaine’s verse. Or, in the case of stocks, one has received ink and paper, “which, in Leon Say’s expression, are worth less than blank paper, since they have been dirtied with writing.” Yet, it is certainly not generosity which is the underlying driving force, nor is it the ‘invisible hand’ or ‘the cunning of reason’ in which the writers endorsing these ideas had little confidence. Simultaneously they supported the so called ‘quantity theory of money’, the point of which is just that the relative value of monetary metals decreases as their quantity increases, thus resulting merely

⁷ Cf. Sraffa’s letter to Robinson (cited in Gudeman 1986: 142): “I have no doubts as to the seriousness of Economics. I think that Economics (*i.e.* the contents of Macmillan’s blue tomes) has taken in modern society to a large extent the place that theology had in the Middle Ages; and there has never been any thing as serious as that. [...] I mean to say that the fog is not outside, in the air or in human society, but inside the heads of theo[lo]gians (and economists).”

in higher prices. The absurdity is there. As with Don Quixote it is difficult not to grow some sympathy for those who raid against it. The question is, however, if the absurdity lies only in the heads of policy makers and ancient writers on economic subjects, or somehow more fundamentally in the world itself.

In the opinion of Emmanuel (1984: 13 f.), to whose argument we will return at length, everything indicates that protectionism and the search for surplus on external trade is conditioned by, and a by-product of, a fundamental internal disequilibrium, a constraint proceeding from the interior of the market economy system. The functions of realisation and reproduction of the product within the country are in constant danger of deadlock, by a permanent overflow of unsold goods, “which can only be reabsorbed by an external outlet, [...] this bloodletting abroad makes it possible to decongest the domestic market and release forces that increase its activity.” The abnormality of the trade policy of each national capitalist formation, “would then only be a symptom of a profound structural contradiction in its internal functioning”. So, Emmanuel’s (1984: 14) view, the aspired external disequilibrium between sale and purchase is only compensating for an inverse internal disequilibrium:

A struggle to give without receiving, this *is* something completely topsy-turvy, but what is topsy-turvy is not mercantilist thought, but the real world which it reflects. This real world turned commonsense upside down as the result of a radical change in the social relations of production on the day when, in Blanqui’s expression, a ‘strange contradiction’ arose in human society, in which ‘artificial and frantic production has taken the place of the regular and peaceful labour of earlier times, and the ability to sell has been restricted by the ability to buy’.

If it could be achieved, a constant surplus in trade constitutes an evident loss of matter and effort to the national economy. But if it is possible thereby to unlock the internal mechanism of reproduction, to increase the level of activity, and employ productive factors and capacity that would otherwise have been unused, it could very well prove worth the effort. Thus, Emmanuel (*loc. cit.*) continues:

From the moment when commodity relations became predominant, and the power of economic decision-making passed from the community to the individual, a complete reversal of the function of social reproduction took place. Instead of consuming as much as we are materially capable of producing, we can only produce according to the rate and fluctuation of sales. Now the sale is no longer simply one phase of the distribution of the product; it is presupposed in its very existence since it is the condition for its creation. At this point, the marginal social cost of a commodity which is the object of an additional sale may be not only nil, but, so to speak, negative. This is the case if, not only does the production of this actual commodity depend upon its being sold, but its sale is also likely to stimulate the sales, and therefore the production, of other commodities which will be produced with overabundant and idle factors.

In this interpretation, which is clearly inspired by but goes beyond the argument between Heckscher and Keynes, there is in a market economy a permanent tendency towards unused capacity in the factors market, labour and capital tends to become unemployed. This is, of course, in complete contradiction to physiocrat and classical economics, who could see nothing but golden calves, Midas-fallacies, ‘chrysohedonism’, or bullionism in their predecessors’ and contemporaries’ protectionism and efforts at increasing the money stock, putting them all in one huge bag of mercantilism.

Summing up the argument on mercantilism so far, we have noted the longstanding and intertwined ideas of a balance of trade/payments and a ‘balance of labour’, resulting in or from the efforts to export more than one sells, preferably products in as finished a state as possible, and consequently import, if at all, in as ‘unwrought’ a form as possible. Many variants and some alternatives could have been presented but the general picture is well established. We have presented two problems of interpretation, and suggested their reading. First, these general ideas seem merely to restate older maxims and to have risen to

prominence independently over a large area, though preferably in the more commercial and debatable regions. Though we have focused on England and to a lesser extent France, there is probably a greater need to examine other regions in order to establish the national variations of debates, but, *e.g.*, Spain and Italy, even Germany, the Netherlands, Sweden and Russia, could also have furnished examples. We have also suggested the general interpretative framework of seeing these expressions, which were of lesser theoretical sophistication than Scholastic or Medieval economics, but of greater realism, as the expression of the respective national 'oral traditions', notably in the English case, being liberated from the constraints of the foregoing religiously dominated written traditions and at one and the same time nationally 'fenced' by printing. Second, we have also suggested that the 'absurdity' for which mercantilists have been condemned, points to a weakness in the theoretical imagination of interpreters, in that the absurdity seems not to be the fault of mercantilist thinkers and practical policy makers.

With greater desire for theoretical 'enclosure', sophistication, systematisation and abstractness, a certain 'abcedminded' attitude towards the practical world seems eventually to have emerged, combining with the foregoing universalist, Christian idealism. The theoretical impact of Adam Smith and the classical economists was due not least to their greater systematicism while not yet having lost a sense of the factual world. Both economic theory and economic history have sought their origins in the work of Smith, but as it turned out the former was to adopt his condemnation of the mercantilism that the latter sought to revive. The idea of trade inequalities had not yet been fully abandoned, but it had to find a more abstract and systematic expression, which it eventually did in the form of the labour theory of value.

Chapter 4. Non-Equivalent Exchange in the Early Classical Tradition and the Re-Emergence of Mercantilism

Mercantilist, pre-Adamite writers, as we have viewed them so far, had certain more or less definite opinions on what was good or bad exchanges in foreign trade. While there was a fierce reaction against the mercantile system as allegedly confusing gold with wealth and defending monopolies, Physiocrat, Classical, and Marxist (and many ecologist) systems have retained or simply reworked much of the previous order. Contrary to the hierarchy of the 'great chain of being' (Lovejoy 1936), in the angelic *grande chaîne de biens*, the more ethereal tertiary sector (services) were ranked lower than both primary (agricultural) and secondary (industrial) goods. Thus, according to Boss (1990: 2), one of few to have considered the question of non-equivalent exchange in classical economics, "[m]ost economic systems allow for imperfectly equivalent exchange when there are imperfections of competition and information in marketed or other resources. But a surprisingly long list of writers postulated (a few still do) a class of 'unproductive laborers' who despite their handicap managed to survive and even prosper in a competitive social marketplace." Physiocrat, Classical and Marxist theories all tended to discredit what has been referred to as 'productive yet intermediate goods and services' – parts of a perhaps regrettable but necessary 'social framework' assuring that a given net flow of consumption goods be forthcoming. Along with the condemnations of money worshipers and often merchants, they focused on the 'real' values produced by land and labour, agricultural and industrial workers, and the unequal 'transfers' of such values. Contrary to their efforts, this was already a significant *loss* of realism.

Unfortunately, Boss is not interested in comparisons with mercantilists, and draws the main line of contrast between, on the one hand, theories of surplus-generation and transfer and, on the other, theories of interdependence. Surplus and transfer theories portray selected members of society, in a group of dubious professions – consisting of handmaidens and handymen, opera singers and opera dancers, priests and bureaucrats, kings and ministers, doctors and lawyers, leveraged buyout specialists, entrepreneurs and managers, rentiers and retirees, the self-employed, and other unpopular citizens who “fit uneasily into the agricultural or factory paradigms of Classical, Marxian and pre-public choice neoclassical value theory” – “as *de facto* economic parasites, ‘maintained’ without due recompense by society’s true producers.” By contrast, theories of interdependence “postulate sovereign contracting and exchange of equivalents, *quid pro quo*, between services rendered and incomes received – across a plurality of institutions and modes” (Boss 1990: 11; cf. 10). Boss thus redefines the rift between classical and neoclassical economics as one which allows and does not allow for non-equivalent exchange.

This division is still with us in one form or another: “Classical-Marxian microeconomic unproductive-labor theory is widely thought to have perished in the general-equilibrium fires of the marginal revolution. But [...] surplus and transfer theories have a rich present as well as a past”, including a widespread archaic view of the state and immaterial service industries as in some sense parasitic, and the prospects of raising social welfare if unproductives could be set to honest work (Boss 1990: 8).⁸ Boss (1990: 6) argues that using the ‘productive /unproductive’ dichotomy tends to lead to a logical confusion: “*Labor or activities cannot in logic be both ‘necessary’ intermediate inputs and ‘unproductive’ superfluous outputs at the same time.*” She finds this ‘input-output error’ in two versions, one that does not allow ‘immaterial services’ to be included in the final output along with ‘material goods’, and another that does, admitting them as useful or even necessary to society and the economy, but alas still unproductive. It hinges on the isolation of an economic ‘system’ from politics and the world at large, achieved in the foregoing century. Among other things, Boss (1990: 7) holds, this typical division of intellectual labor between political economy and statecraft begged the question of “the *degree of equivalence* presumed for exchanges of different types of goods on markets, and between market and non-market ‘modes’.” Unlike the present work, she is primarily concerned with domestic transfers (between sectors) rather than in international trade, but from this angle she finds an inherent non-equivalent exchange in classical theories: “Strange as it may seem to students raised on modern neoclassical theories, Classical and Marxian surplus and transfer theories postulate non-equivalent exchange *even when markets are competitive.*” ‘Imperfect equivalence’, in Boss’s term, is allowed by modern theory through monopolisation, or in transactions linking households or firms and the state. In all cases: “When exchanges are alleged to be non-equivalent, *some mechanism must be found* (love, terror, mutual advantage) that permits the non-economy to *transfer* to itself the ‘surpluses’ generated in the economy.” A market boundary is needed since “*behavior is presumed to be different* depending on which side of the boundary one is on”, and equalisation of rates of rewards for the different factors, establishment of unique prices for products, etc., are said to occur within the economy but not without. “Real markets are however rarely perfect in the sense of guaranteeing rentless *quid pro quo* nor exclusive in the sense of being the only allocation mechanisms employed by societies” (Boss 1990: 7f.).

⁸ Another way of drawing the same line of demarcation, found in the Sraffa-inspired tradition, which Boss criticises and to which we shall return in later chapters, centres not on ‘surplus and transfer’ or on whether someone is considered productive or not, but on whether the remuneration of productive factors – whether in agriculture, industry or services – is determined through the same market-processes as the prices of commodities, or whether they are somehow externally set and therefore determine the relative long-term prices of the goods produced.

What Boss refers to as ‘transfer’ from productives to unproductives is another way of stating the essence of theories of surplus value. In fact, the general idea of a ‘surplus’ production seems to indicate that no ‘exchange’ is necessary, *e.g.*, if all output is *owned* by the unproductive class and distributed, to a lesser degree, among those actually doing the producing. It does not seem quite pertinent to refer to this as an ‘exchange’ at all. In contrast to Boss, I would argue that the primary field considering ‘non-equivalent exchange’ has been international transfers, principally the Marxist phalanx to be studied in Part II. At the time, the labour theory of value in Ricardo’s form, was used by Ricardian socialists to argue that capitalism was unjust because capitalists did not labour. Thus, a Leeds printer, John Francis Bray (1809–1897) wrote a reputable book on ‘labour’s wrongs and labour’s remedy’ (1839: 48), where he argued: “If a just system of exchanges were acted upon, the value of all articles would be determined by the entire cost of production; *and equal values should always exchange for equal values.*” The central ideas of the movement were ridiculed by Marx in his debate with Proudhon, since equal labour for equal labour was *already* how capitalism worked – or at least domestically.

Boss locates the origin of non-equivalent exchange to the productive-sterile distinction made, *e.g.*, between necessities and luxuries, agriculture and industry, workers and owners, or some such division. Preceded by Petty, Boisguilbert, and Cantillon, to whose land theory of value we shall return in Part V, the idea came into its own with Physiocracy and Quesnay’s *Tableau Économique*:

In the 1766 *Tableau* the proprietors are portrayed as in direct barter trade with the productive farmer class, as if to highlight the alleged *quid pro quo* of farmers’ produce for the landlords’ *avances foncières*. Middlemen of retailers play no role in this virtuous circular flow. [...] So far it is a logic of unidirectional technical causality: industry requires food and raw materials from agriculture but the reverse is not the case. Agriculture produces basics; industry, Sraffian luxuries. Surplus generation and transfer proceed unencumbered by positive feedback from recipients to donors. Exchange of equivalents and mutually beneficial interdependence characterize relations between proprietor and farmer, but not their interaction with the steriles (Boss 1990: 34).

Now, as Boss (*loc. cit.*) explains, two things upset Quesnay’s apple cart: “The first is that artisans do not produce final urban luxuries alone; they also manufacture intermediate agricultural capital goods.” Improved technique and transport formed the backbone of the Physiocrats’ program to advance France to greatness. The second was that “if urban-rural trade does not involve exchange of equivalents, as the *Tableau* implies it does not, the sterile class must get something for nothing, for reasons unknown.”

Quesnay was very confident in his fundamental proposition of the sterility of non-primary activity, and even went to the trouble of expounding the arguments of his mercantilist adversaries, only, as Boss suggests, “in order to have the pleasure of refuting them”. Boss noted that among these arguments was not that “the sterile class would not have the cash with which to maintain the exchange value of agricultural produce unless it was able to earn it by selling things of value in return” (*ibid.*: 36). That is, in the fully monetised and competitive entrepreneurial economy described by Quesnay’s *tableaux*, there must at least be “something like” equivalent exchange. This was nevertheless precisely what Quesnay denied, she observes, noting Herlitz’s (1962: 118) view that it was in order to salvage the idiosyncratic monetary theory of the 1766 *Tableau*, according to which the sterile class seemed to live on the ‘velocity of circulation’ of the money. In line with some 20th century ecological unequal exchange Quesnay’s tableau implies that farmers “buy back their own products by a roundabout and expensive route in which transport costs, the wages and food consumption of the sterile class, constitute an unavoidable loss”, while artisans receive cash assets every year “not as a result of [their] own production, but as a gift!” (Herlitz 1961: 38, 40; cf. Boss 1990: 36.) Thus, domestically, agricultural and primary production would necessarily have to be favoured.

In contrast to both mercantilists and ecological unequal exchange theorists, Quesnay argued the same thing for in international exchange. Believing sales to equal purchases, he abstracted from foreign trade and advocated precisely export of agricultural goods and raw materials in return for manufactures. He (1758-9: 104f.; 1774: 244) warned against mistaking even a surplus balance for a favourable one, if it prejudiced distribution and reproduction of revenues against primary production. In reciprocal commerce of raw materials bought abroad and manufactures sold there, the disadvantage was ordinarily to the latter, because the benefits drawn from the former were so much greater. The point was apparently to maximise primary production and thereby reproduction: “Never let foreign commerce in raw materials be hindered; *for as is the sale, so is the reproduction*” (Quesnay 1758-9: 110; 1774: 242). Stopping foreign trade in grain and primary production, would restrain production to the indigenous population instead of expanding agricultural production. Foreign sales of raw materials raises the remuneration of land and real estate, thus increasing the disbursements of land-owners, which thereby attract men to the kingdom, followed by increased consumption of raw materials, so that ultimately consumption and foreign sale of raw materials accelerates the progress of agriculture, of production, and of revenues (*loc. cit.*). At the same time, it was of essence not to lower prices of one’s goods, particularly not of cereal, since the nation would loose in reciprocal international exchange – one would receive less for a given quantity of goods. Observing that the abundance and non-monetary value of the Louisiana Indians was not wealth, while food shortage and dearness equalled misery, he underlined that it was only the combination of abundance and dearness that made for opulence.

Adding to the case for agricultural exports was the idea, which was to flourish in Marxism but according to Emmanuel already present in the work of Quesnay, of an ‘unequal’ or non-equivalent exchange due to different capital intensities:

Quesnay (in whose work are to be found, if one looks carefully, the germs of all the major ideas in political economy) noted that a country that exported the produce of its soil and purchased manufactured goods from abroad would employ fewer men than would be the case without this trade – which was another way of saying that it would exchange a certain quantity of its national labor for a larger quantity of foreign labor. Despite the recent reformulation used, it emerges clearly from a reading of his argument that for Quesnay this “unequal exchange” was the effect of the difference in “organic composition” between agriculture and industry, the fixed capital of the latter being, in his day, insignificant as compared with that very substantial quantity constituted by the soil. (Emmanuel 1972a: 174f..)

The theoretical reaction against the mercantilist mainstream had grown slowly from North and the Physiocrats, who pointed out the “absurd inconsistency of the mercantile system”, and advocated free trade and deregulation. The best policy for a nation, according to Quesnay, was to acquire the greatest possible abundance of productions – in which way it could procure whatever other riches it may need, and gold and silver would settle a proper level. This was best done, he believed, by liberating commerce from monopolies and protective barriers. However, when something like free trade in grain was tried in France, with the Edict of 1764 and accompanied by a series of poor harvests, the days of Physiocracy were numbered, weighed, measured, and found wanting: “*le bon prix* in Physiocratic parlance, ‘dearness’ or ‘famine’ in the opinion of buyers, including rioters in the streets of Paris and Rouen who made themselves increasingly visible after 1766” (Boss 1990: 37). The next brick in the laissez-faire doctrine, came with Adam Smith, whose economic interest was very much stimulated by, although it did not originate with, his French colleagues.

When Smith arrived in Paris, Physiocrat influence and output was at its zenith. Quesnay’s *Tableau Économique* (1758) had already gone through several editions, and he was working on the *Analyse* (1766) of it. Turgot was currently engaged on his *Reflections on the Formation and Distribution of Wealth* (1766), which Condorcet (1786) considered the germ of Smith’s *Wealth of Nations*. In a very modern sounding, unpublished and unfinished dictionary article,

‘Value and Money’, written around 1769, Turgot advanced a demand-based Crusoe- and Friday-like economic model, in which the “comparison of *value*, this evaluation of different objects, changes continually with the need of the person”. To the confusion of modern marginalists, however, he added that the terms of exchange arrived at through this bargaining process will have “equal exchange value,” since otherwise the person cooler to the exchange “would force the other to come closer to his price by a better offer”, saying that “each gives equal value to receive equal value” (cited in Rothbard n.d.: n.p.; cf. Groenewegen 1987; Hutchison 1988: 308-21). So, Turgot must have assumed some underlying basis of ‘value’.

According to Boss (1990: 9), early political economists used “variations of ‘productive/unproductive’ dichotomy principally to render the distinction between necessities and luxuries, which is relevant to the issue of growth by capital accumulation at the least painful current sacrifice.” The earliest writers were “somewhat more liberal than later in refraining from wholesale discrimination against non-material goods and non-market ‘modes’”, but the first full-fledged economic systems, however, and notably those of François Quesnay, Adam Smith and Karl Marx, are theories of surplus generation and its non-equivalent transfer beyond a narrowly-defined productive domain.”

Thus, even to Smith (1937: 278) it mattered whether imports consist of luxuries or indispensable necessities of life and capital goods. The proprietors of gold and silver do not send it abroad for nothing, making “a present of it to foreign nations”, but exchange it for foreign goods in order to supply either the home consumption or that of some foreign nation, in which case the profit they make “will be an addition to the neat [= net] revenue of their own country”, thus creating a new fund for carrying on new trade. On the other hand:

If they employ it in purchasing foreign goods for home consumption, they may either, first purchase such goods as are likely to be consumed by idle people who produce nothing, such as foreign wines, foreign silks, &c.; or, secondly, they may purchase an additional stock of materials, tools, and provisions, in order to maintain and employ an additional number of industrious people, who re-produce, with a profit, the value of their annual consumption.

So far as it is employed in the first way, it promotes prodigality, increases expence and consumption without increasing production, or establishing any permanent fund for supporting that expence, and is in every respect hurtful to the society.

So far as it is employed in the second way, it promotes industry; and though it increases the consumption of the society, it provides a permanent fund for supporting that consumption, the people who consume re-producing, with a profit, the whole value of their annual consumption. The gross revenue of the society, the annual produce of their land and labour, is increased by the whole value which the labour of those workmen adds to the materials upon which they are employed [...]. (Smith 1937: 278f..)

In view of the fact that in early-modern Europe, the greater part of imports were just such luxuries, which Smith regarded as “in every respect hurtful to society”, Suviranta (1923: 147) is correct to exclaim: “The great critic of mercantilism appears in this passage as a vindicator of the theory of the balance of trade.”

However, Smith realised the vanity of a surplus trade for its own sake, if only because the extension of this policy to every country would block international trade so that ultimately no one would get any surplus. Instead, he considered a balanced trade with increased turnover for all parties to be preferred. He (1937: 456) protested against “the extraordinary restraints upon the importations of goods of almost all kinds, from those countries with which the balance is supposed to be disadvantageous”. They were unreasonable even by their own standards, but these standards were not reasonable: “Nothing, however, can be more absurd than this whole doctrine of the balance of trade, upon which, not only these restraints, but almost all the other regulations of commerce are founded.” According to this doctrine, Smith (*loc. cit.*) explains, if the balance is even, neither party in the exchange either loses or gains, and if it leans in any degree one way or the other, there is loss and gain in proportion to the declension from the exact equilibrium. “Both suppositions are false”, he goes on, and the true problem is rather

the level of regulation: “A trade which is forced by means of bounties and monopolies, may be, and commonly is disadvantageous to the country in whose favour it is meant to be established”. By contrast, “that trade which, without force or constraint, is naturally and regularly carried on between any two places, is always disadvantageous, though not always equally so, to both” (*loc. cit.*).

Rashid (1993: 135f.) has emphasised “Smith’s remarkable conclusion” related to his “disgust with merchants”: “Britain had not only had to endure a “relative disadvantage” but has actually suffered because of the monopoly of the colony trade! The spectacle of a nation of shopkeepers embarking on a policy of loss and sustaining it for almost two centuries boggles the mind, but Smith, nothing daunted, develops it with exquisite patience.”

In charging his mercantilist straw-man with confusing money and wealth – and then burning it at the stakes – Smith, and more strictly his followers, was more or less knocking down open doors. He was in fact following an established tradition even among his resisters, as has been convincingly argued by Suviranta (1923: 120), who quotes similar charges in *England’s Great Happiness* against bullionist prohibitions, Davenant against Pollexfen, John Smith against Davenant, George Berkeley against French councils, Josiah Tucker against Sir Edward Sandy: “These charges had apparently about the middle of the eighteenth century already grown up into a popular creed, that needed but to be picked up by David Hume and Adam Smith and reformed into general repudiation of the theory of the balance of trade.” This tradition seems to be continued in Friedrich List’s (1841) accusations against the liberal economists’ neglect of the ‘productive powers’ of a nation, and in the frequent Marxist charges against liberal ‘circulationism’. Although one can still hear mercantilist economists thus accused from time to time, the work of List and the historical economists has demonstrated it to be mistaken for a century and a half, knowledge oozing even into liberal tracts (*e.g.*, Cannan 1894: 2-5; Suviranta 1923: 116). To the embarrassing fact of the great number of citations where mercantilists expressly deny that money is wealth, Heckscher (recanting Smith) finds the almost amusing, and to him satisfactory, solution that mercantilists were ‘unaware’ that they were in fact, like Midas, worshiping money or precious metals (Heckscher 1931, II: 232ff.; 1994, II:, 259ff.) – the kind of argumentation with which one can prove almost anything.

As was observed above, even Adam Smith admitted that ‘it is easier to buy than to sell’. His own explanation of the phenomenon reads as follows (Smith 1937: 406f.): “It is not because wealth consists more essentially in money than in goods, that the merchant finds it generally more easy to buy goods with money, than to buy money with goods; but because money is the known and established instrument of commerce, for which everything is readily given in exchange, but which is not always with equal readiness to be got in exchange for every thing.” Money is the medium of exchange, and he goes on explaining how its ‘durability’ makes it practical for the merchant. “Over and above all this,” he continues, “his profit arises more directly from selling than from buying, and he is on all these accounts generally much more anxious to exchange his goods for money, than his money for goods.” Now, these minor explanations of the desirability of money had been pointed out already in the earliest mercantilist writings: its ‘durability’ (Suviranta 1923: 45-60) and its function as medium of exchange (Suviranta 1923: 61ff.). If realising the latter implies a refutation of mercantilism, as John Stuart Mill (1848) thought it did, then, of course, the mercantilists were the first to refute themselves. Even had Smith’s predecessors been totally unaware of this ‘explanation’, one may still wonder if it is really anything but a restatement of the problem. Why *should* merchants not be anxious to get rid of something which is in itself useless, a bare medium, whose only *possible* gratification lies in getting rid of it?⁹ Apparently it has something to do

⁹ Cf. Smith (1937: 407): “Goods can serve many other purposes besides purchasing money, but money can serve no other purpose besides purchasing goods. Money, therefore, necessarily run after goods, but goods do not

with getting a profit. Tugan-Baranowsky (1913: 189; emphasis added) later specified Smith's very characterisation: "In the *capitalist* economy, it is more difficult to sell than to buy", explaining: "the superiority of supply over demand is not only no accident under the present economic system – it is the general rule". By contrast, in a planned economy it becomes easier to sell than to buy. This 'mercantilist' character of capitalism may still be with us, and was noted in more technical language by Domar (1960: 5), who believed that "a capitalist society (without sufficient government participation) has an inherent deflationary tendency [...] and I doubt whether the problem of unemployment has been solved for good."

Smith (1937: 407) did not deny the possible relevance of the difficulties to sell for individuals, whose goods were somehow "destined for purchasing money", but was adamant when it came to the economy in general or to nations: "But though a particular merchant, with abundance of goods in his warehouse, may sometimes be ruined by not being able to sell them in time, a nation or country is not liable to the same accident." At least two things were denied in this statement: the first was the possibility of a general overproduction of goods, *i.e.*, difficulties to sell, not for isolated individuals or for groups of society, but for the economy as a whole: "But the annual revenue of every society is always precisely equal to the exchangeable value of the whole annual produce of its industry, or rather is precisely the same thing with that exchangeable value" (*ibid.*: 423). This condition led the gain- or self-interested individual as "by an invisible hand" to promote the social good more effectually than when he really intended to. The other denial, which appears to be intimately linked to the first, concerned the relevance or practical wisdom for a nation of a favourable balance of trade/payments.

Smith (1937: 456) explained that to gain from trade there must be an increase in the total value of the annual produce: "By advantage or gain, I understand, not the increase of the quantity of gold and silver, but that of the exchangeable value of the annual produce of the land and labour of the country, or the increase of the annual revenue of its inhabitants." The total "annual produce" of "necessaries and conveniences of life", was identified as "regulated by two different circumstances; first, by the skill, dexterity, and judgement with which labour is generally applied; and, secondly, by the proportion between the number of those who are employed in useful labour, and that of those who are not so employed" (*ibid.*: lvii). 'Productive', according to Smith (*ibid.*: 315), were on the one hand 'labourers' who produce material goods, and on the other hand those whose products earned money profits when sold. Smith of course believed these two definitions to be perfect substitutes, which has led to extensive debates and revisions. Nevertheless, augmentation of this year's annual produce could only be achieved through decreasing the proportion of it employed in maintaining unproductive hands, "the whole annual produce, if we except the spontaneous productions of the earth, being the effect of productive labour."

Now, disregarding the balance of trade, exchange is beneficial if it increases the value of the total annual produce, and if the traded goods are not reexports the gains will not only be mutual but equal:

If the balance be even, and if the trade between the two places consists altogether in the exchange of their native commodities, they will, upon most occasions, not only both gain, but they will gain equally, or very near equally: each will in this case afford a market for a part of the surplus produce of the other: each will replace a capital which had been employed in raising and preparing for the market this part of the surplus produce of the other, and which had been distributed among, and given revenue and maintenance to a certain number of its inhabitants. Some part of the inhabitants of each, therefore, will indirectly derive their revenue and maintenance from the other. As the commodities exchanged too are supposed to be of equal value, so the two capitals

always or necessarily run after money. The man who buys, does not always mean to sell again, but frequently to use or to consume; whereas he who sells, always means to buy again. [...] It is not for its own sake that men desire money, but for the sake of what they can purchase with it."

employed in the trade will, upon most occasions, be equal, or very nearly equal, and both be employed in raising the native commodities of the two countries, the revenue and maintenance which their distribution will afford to the inhabitants of each will be equal, or very nearly equal. This revenue and maintenance, thus mutually afforded, will be greater or smaller in proportion to the extent of their dealings. (Smith 1937: 456.)

If one country exports native commodities, and the other reexports, both countries would still gain, although not equally so, “and the inhabitants of the country which exported nothing but native commodities would derive the greatest revenue from the trade”, because the capital of the reexporting country would also be redistributed in the country from whence these reexports came (Smith 1937: 457).

There is an interesting connection between, on the one hand, the rise of free-trade arguments and abandonment in theory of the balance of trade doctrine, and on the other the simultaneous decline in concern over unemployment. The problem of unemployment which had so absorbed generations of politicians and economists, all but disappeared in the theories of Physiocrats and classical economists, though not to James Steuart (1767), and, excepting some unorthodox economists before him, did not reoccur until Marx. Instead the problem was conceived of as one of ‘population’, the amassing of which now began to be considered a problem in England. According to Brewer (1988b: 452, n. 13; referring to Smith 1976: 378; cf. 453), Smith did “care about population and employment”. Considering capital a scarce resource, he argued that investment in agriculture is preferable to ‘manufactures for distant sale’, so long as land is relatively abundant (as in the New World). This argument is based on the allegedly low ratio of capital to labour, which would be opposite that of Quesnay, meaning that a given capital stock employs more productive labour. In this he differs, according to Brewer, from modern versions of the case for free trade, which assume a given labour force and full employment.

Nevertheless, the very ambition to see the economy as a self-contained system appears to have contributed to the difficulties in coping with unemployment, as illustrated in the grave logical problems encountered by proponents of underconsumption theories (Bleaney 1976). Smith seems to have agreed with Tucker that there could be no general unemployment, although in his more ‘humane’ world, workers were not congenitally lazy, but “on the contrary, when they are liberally paid by the piece, are apt to over-work themselves, and to ruin their health.” Wages needed not to be held down in order to increase national wealth, since “what improves the circumstances of the greater part can never be regarded as an inconveniency to the whole. No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable” (Smith 1937: 78-82). At least within national borders, he advocated the free movement of labourers, their right to practice trades freely, and the deregulation of the apprentice system, and pointed out the drudgery of monotonous work and the disadvantageous position of workers in relation to employers, who had more resources and no legislation against *their* combining (*ibid.*: 122, 135, 140, 67, 734).

“Yet *The Wealth of Nations* had almost nothing to say about unemployment”, Garraty (1978: 65) concludes. “Smith seems to have assumed that full employment was the normal state of affairs, his reasoning being that high wages and economic growth were sure signs that the demand for labor exceeded the supply”. The same is true of Malthus and Ricardo: “Yet despite his pessimism, Malthus did not consider unemployment a major problem.” “This tendency to pay little heed to unemployment was characteristic also of David Ricardo”, who was “the prototypical economist’s economist” (*ibid.*: 68, 69).

This lack of concern did not go unnoticed. Responding to Smith’s “the tailor does not try to make his own shoes”, Ferrier (1805: 271, 287; quoted from Emmanuel 1984: 18, n. 38) – a high French customs official operating in favour of Napoleon I’s protective system – wrote: “Certainly, the head of a family, all the children of which are gainfully employed, would be very wrong to turn them from gainful work in order to employ them at making their own

clothes [...] but as long as some of the children are out of work. It is a very great economy for the home if he takes advantage of their time.” He continued: “there is no family, nor nation, whose workers may not grow in number, in talent and in industry”.

With the classics’ assumption of full employment and equality between the total value of production and total purchasing power, the whole mercantilist understanding appears irrational. Emmanuel (1984: 15) suspects that in treatment of their predecessors, and confronting an incipient criticism of the economic system, they consciously or unconsciously reverted to apologetics: “The admission that it is necessary to throw a portion of the product of human labour overboard in order to make the economic machine work, would have meant recognising that the established order is the ultimate absurdity. It was more convenient to believe that it was simply a matter of the blindness of the princes who govern it and the experts who advise them.” The all but revealed ‘systemic madness’ was an undercurrent in the grand 18th-century debate starting with Mandeville and in a sense ending with Smith (cf. Winch 1996; Harth 1970: 18f.).

The dispute between Rousseau and Hume on how to proceed from Mandeville’s paradox – that the wealth of nations feed on the vices of men, not their virtues, and that, vice versa, a truly virtuous republic would have to make do with the (perhaps evangelical) poverty of the savages or Spartans – had already occasioned Smith to set out, in the *Theory of Moral Sentiments* (1759), the standards of ethical conduct holding society together, where he emphasised the general harmony of human motives and activities under a beneficent Providence. Defending a paradox was the highest achievement for the classical orator, because it required the profoundest erudition. Adam Smith, *doctus orator* as he was, managed to transform Mandeville’s (1700) satirical “Private Vices, Publick Benefits” into a beneficent ‘invisible hand’, a feat which may have contributed to Burke’s judgement that *The Wealth of Nations* “was probably the most important book that had ever been written” (quoted in Smith 1937: n.p.). Thus it was demonstrated that whereas “hell is paved with good intentions, the Utopia of natural liberty is made by bad intentions” (McLuhan & Nevitt 1972: 54). While the learning of the classical orator aimed at political wisdom and power, Smith¹⁰ directed his erudition to the question of how to increase wealth – the power over nature – by applying knowledge to industry and manufactures, in the tradition of Gutenberg, Galileo, da Vinci, Bacon, and Petty.

Boss (1990: 60) maintains that “Adam Smith’s account of production and exchange allows for non-equivalent exchange.” By this she implies that transfers go from ‘productive labourers’ engaged in the fabrication of material goods for market sale, to non-productive members of society: those excluded from the productive force by age or invalidity, or simply beggars. However, there was a more specific, yet central, situation in which something like unequal exchange was present in Smith’s work, having to do with the closer communications and association of townsmen.

To Smith, commerce was principally conducted between town and country, consisting “in the exchange of rude for manufactured produce” either with or without money: “The country supplies the town with the means of subsistence, and the materials of manufacture. The town

¹⁰ Smith’s ambition, like that of his predecessors was to become the expert advisor of politicians and legislators. Schumpeter’s reference to him as a Consultant Administrator is instructive, and Smith’s objective has since been identified as a ‘science of the legislator’, leaguely him much closer with Steuart than either his followers or he himself would have wanted known. Schumpeter (1954: 162) even argued that in this sense, if not with respect to pamphleteering, “economics was primarily an Italian science until the last quarter of the eighteenth century. Spain, France, and England divide second honors, though in very different proportions at different times.” This also reminds us of the fact that Smith was not yet an ‘economist’, and only on the brink of becoming a ‘political economist’, sprung from the humanist revival of antique ideals concerning the schooling of statesmen. His background thus reveals not only an affinity with the bureaucratic consultant administrator, but also with the learned eloquence of a Ciceronian statesman. (For concise biographical material cf., e.g., Skinner 1987.)

repays this supply by sending back a part of the manufactured produce of the inhabitants of the country. The town, in which there neither is nor can be any reproduction of substances, may very properly be said to gain its whole wealth and subsistence from the country” (Smith 1937: 356). Insight into the complete and ‘parasitic’ dependence of towns upon the countryside is obviously no news, *i.e.*, with the ‘social metabolism’ approach found in Marx, or the concept of ‘ecological footprints’ of Rees and Wackernagel, and in all probability is a commonplace observation as old as towns themselves. Smith’s editor Cannan, on the other hand, considers the identification of agriculture with the production of ‘substances’ and of manufactures with a mere alteration, “the error” which “is doubtless at the bottom of much of the support gained by the theory of productive and unproductive labour” (in Smith 1937: 356, n.). Smith, for his part, was at pains to point out that this did not in the least imply that “the gain of the town is the loss of the country.” On the contrary, the “gains of both are mutual and reciprocal,” because of the omnipresent benefits of the division of labour: “The inhabitants of the country purchase of the town a greater quantity of manufactured goods, with the produce of a much smaller quantity of their own labour, than they must have employed had they attempted to prepare them themselves” (*loc. cit.*). The town affords a market for the surplus product of the country, or what is over and above the maintenance of the cultivators, and the greater the number and purchasing power of the city dwellers, the more extensive the market and the greater the gain in manufactures of cultivators. For proof of these mutual benefits one need only compare “the cultivation of the lands in the neighbourhood of any considerable town, with that of those which lie at some distance from it”. The ultimate proof is perhaps that: “Among all the absurd speculations that have been propagated concerning the balance of trade, it has never been pretended that either the country loses by its commerce with the town, or the town by that with the country which maintains it” (*ibid.*: 357).

Inspired by von Thünen, and basing himself on Dockés’s (1969: 408f.) presentation of this passage, Braudel (1992: 39) finds an opportunity to ridicule Smith: “The town-country exchange which creates the elementary circulation of the economic body is a good example, *pace* Smith, of unequal exchange.” However, following Dockés (1969: 410ff.) yet another page, we find him pointing out a passage in the *Wealth of Nation*, where Smith underlined *precisely* the exchange between town and countryside as unequal. Following upon an interpretation of inequalities arising from the nature of employments themselves, Smith (1937: 118) indicates the ‘artificial’ advantages “of much greater importance”, that are occasioned by the policy of Europe. It does this chiefly in three ways: “First, by restraining the competition in some employments to a smaller number than would otherwise be disposed to enter into them; secondly, by increasing it in others beyond what it naturally would be; and, thirdly, by obstructing the free circulation of labour and stock, both from employment to employment and from place to place.” Most interestingly, Smith here points to monopolies on the *factors* market, *i.e.*, in the equalisation of the rate of wages through ‘extra-economic’ restrictions on the mobility of labour to certain branches of work.

Restricting entrance to particular employments through the “exclusive privileges of corporations” (called ‘universities’ as Smith and Heckscher remind), restrains competition and helped to keep up wages. Guild spirit is institutionalised in laws regulating the number of apprentices and apprenticeship to seven years. Increased competition would ultimately lead to lower prices, and, thus, income for masters and workmen; the “trades, the crafts, the mysteries, would all be losers”, but “the public would be a gainer”, *i.e.*, the purchasers of their goods. If such regulative powers were sometimes dependent on charters from the king, they more generally belonged to town governments:

The government of towns corporate was altogether in the hands of traders and artificers; and it was the manifest interest of every particular class of them, to prevent the market from being overstocked, as they commonly expressed it with their own particular species of industry [...]. Each class was eager to establish

regulations proper for this purpose, and, provided it was allowed to do so, was willing to consent that every other class should do the same. In consequence of such regulations, indeed, each class was obliged to buy the goods they had occasion for from every other within the town, somewhat dearer than they otherwise might have done. But in recompence, they were enabled to sell their own just as much dearer; so that [...] in the dealings of the different classes within the town with one another, none of them were losers by these regulations. But in their dealings with the country they were all great gainers; and in these latter dealings consists the whole trade which supports and enriches every town. (*Ibid.*: 124.)

As was mentioned above, Smith saw how towns drew its whole subsistence and all the materials of its industry, from the country, paying for them “by sending back to the country a part of those materials wrought up and manufactured; in which case their price is augmented by the wages of the workmen, and the profits of their masters or immediate employers”. In this instance of manufacturing, the town gains *also* from the relative increase of wages and, consequently, prices. A similar extra gain, resulting from better access to communications¹¹ and the town’s location at junctions, was drawn from the advantage in inland and foreign trade, by sending to the country “a part both of the rude and manufactured produce, either of other countries, or of distant parts of the same country, imported into the town; in which case too the original price of those goods is augmented by the wages of the carriers or sailors, and by the profits of the merchants who employ them” (*ibid.*: 124f.). Both of these advantages are mirrored in increased wages and profits, and through the terms of trade between town and country goods in a consequent unequal allocation of societal output:

The wages of the workmen, and the profits of their different employers, make up the whole of what is gained upon both. Whatever regulations, therefore, tend to increase those wages and profits beyond what they otherwise would be, tend to enable the town to purchase, with a smaller quantity of its labour, the produce of a greater quantity of the labour of the country. They give the traders and artificers in the town an advantage over the landlords, farmers, and labourers in the country, and break down that natural equality which would otherwise take place in the commerce which is carried on between them. The whole annual produce of the labour of the society is annually divided between those two different sets of people. By means of those regulations a greater share of it is given to the inhabitants of the town than would otherwise fall to them; and a less to those of the country. (*Ibid.*: 125.)

Contrary to what Braudel imagines, what we have here is the basics of a theory of unequal exchange, as noted by Andersson (1976: 39; cf. Raffer 1987: 14): “This passage includes the fundamentals of a theory of non-equivalent exchange: it formulates the measure of equivalency in terms of social labour, it shows the means by which this non-equivalence is upheld, and it indicates the effects, the unequal distribution of wealth, between the two trading partners.” In fact, since the inequality lies in the difference between an actual state of affairs, with a monopoly on the factors market, and a hypothetical state of affairs, where this monopoly is absent, what Smith describes is perhaps not merely a ‘non-equivalent’ exchange in Andersson’s sense of a transfer of disproportionate amounts of ‘embodied labour’, but an ‘unequal’ exchange, in the sense of Emmanuel, valid even without reference to ‘values’ and their unequal transfers.

Smith’s shortcomings regarding ‘unequal exchange’ lay preferably in his treatment of the ‘uncivilised’ regions marginal to Europe, to which his theory of ‘sympathy’ in the *Theory of Moral Sentiments* only barely extended. He nevertheless gave a fairly accurate description of

¹¹ True to his background as rhetorician and grammarian, Smith emphasised communications as the basis for the economy, remarking on the importance of land routes and particularly waterways for the extent of the market and the division of labour, thus, in principle, for the origin of civilisation itself. It is no mere coincidence that Smith locates “the propensity to truck, barter, and exchange one thing for another”, not, as is often presumed, in “human nature”, but “as seems more probable” sees it as a necessary consequence of the faculties of “reason and speech” (Smith 1937: 13). This is a literal translation from the Latin *ratio et oratio*, which in turn is the bifurcated Roman attempt to capture the multi-layered, reverberating Greek *logos*. Smith was obviously concerned with monopolistic derangements of this reason and speech.

oppressive occurrences, but in pointing out their 'miserable' character he was also countering the Rousseauist praise of their republican or Spartan virtues. While complaining of the difficulties to 'displace' certain natives, Smith seems to have believed that the colonising mercantilists did not really know what they were doing when actually succeeding in doing it (see, *e.g.*, Raffer 1987: 15). Ultimately things worked out well, he seems to have believed, and the colonies became more highly developed and 'civilised' since Europeans replaced native peoples. Raffer (*loc. cit.*) takes this as an argument that he had not fully appreciated the possibilities of unequal exchange: "The problem of Unequal Exchange obviously did not exist for Smith, since he defended, it not advocated, the annihilation of those that could later have been exploited by trade, an advice the interior policy of the US has carried out in practice."

If Rousseau could stand up for the 'republican' virtues of noble savages, Smith sprang from a tradition where colonisation had been praised and practiced since the times of Sir Thomas Smith, Petty and Locke, and where the common wealth and power of Britons and European civilisation – raising the productivity and annual output by any disposable means – were taken as supreme goals and ultimate concerns.

Although Smith's *Wealth of Nations* was possibly more influential on economic policy than any other single book in political economy, his attack on the administration and regulation of the mercantile system to the enforcement of the balance of trade and the protection of sheltered industries, monopolies and employments, did not thoroughly convince politicians. They needed reasons for adopting free trade which did not imply diminished relative British strength, and this had in fact already been provided by the reverend Josiah Tucker, whose mind was more in tune with that of politicians than either Smith's or David Ricardo's.

The Pittite commitment to free trade was undermined by the controversy concerning the corn laws. When Lord Archibald Hamilton, in 1814, spoke out for full freedom of trade, an old member of Pitt's government and no friend of the old commercial system, William Huskisson, nevertheless declared that this appeal "to general and abstract principles of political oeconomy totally failed; because the whole of our commercial and oeconomical system was a system of artificial expedients" (quoted in Semmel 1970: 134). The legislation of 1815 imposed a virtual prohibition against corn imports. In preparation for the debates in the House of Commons in 1819, Huskisson, who became the central character in commercial reforms of the 1820s, asked his wife for a copy of Ricardo's *Principles of Political Economy* or the issue of the *Edinburgh* in which it had been reviewed, and seems to have become further convinced of the essential correctness in principle of free trade. "The role which the writings of Tucker and Smith had played in helping to bring about the Irish proposals and the French treaty in the 1780s was filled during the 1820s by the works of David Ricardo" (Semmel 1970: 137). Ricardo, who had secured a seat in the House of Commons in 1819, and Huskisson were the two guiding spirits of the Committee on The Agriculture of the United Kingdom in 1821, with Ricardo as mind and Huskisson holding the pen. However, while agreeing that "those general principles of freedom of trade" were "now universally acknowledged to be sound and true", the committee "abstained" from recommending free trade in corn, so as "to spare vested interests", and to deal tenderly with those obstacles to improvement which the long existence of a vicious and artificial system often creates" (quoted *loc. cit.*). It continued to move cautiously with respect to corn trade, but the general stance was clearly in agreement with the "great commercial and political truth", that "an open trade, especially in a rich and thriving country, is infinitely more valuable than any monopoly" (quoted *ibid*: 136).

By connecting international trade to *absolute* costs, Smith's theoretical solution was unsatisfactory, since England had higher productivity in both manufactures and agriculture. If rent decreased, the price of English corn would become lower than that of foreign, and it becomes hard to see what England should import at all, except for some raw materials to

compensate for the export of manufactures. It was unclear whether corn should be exported or imported. Ricardo's theory of *comparative* costs was an attempt to solve the problem.

Since British superiority was greater concerning manufactures than agricultural products, free trade would imply import of corn, as Torrens (1815: 264 f.; cf. Viner 1937: 442), had concluded simultaneously or even earlier. Ricardo was primarily interested in demonstrating how freer international trade would benefit everyone involved. His famous example was modelled after the Methuen Treaty, 1703, which in its own words to the "mutual advantage" – though in the evaluation of Sideri (1970: 29) it was a "instrument to re-establish the situation of dependence" which recent policies had tried to abolish – of both England and Portugal, inaugurated somewhat freer trade between them. This particular commercial treaty covered only three articles, which permitted the re-entry of English woollen cloth and woollen manufactures under the condition that Portugal's wines be admitted into England at two-thirds of the duties levied on French wines. Although its historical importance has been exaggerated, "[t]his short and simple treaty achieved two basic things: the market of Portugal and her colonies was legally reopened to English products and, at the same time, an outlet for what was yet largely a potential Portuguese product was created in England to replace French wines" (Sideri 1970: 42). Thus, the important Brazilian market was opened to English woollen manufactures with disastrous effects on Portuguese 'infant' manufactures. While it stimulated Portuguese wine production, the substitution of grapes for corn or other foodstuffs further increased their already large share in imports, cancelling out expected improvements in the balance of payments due to exports of wine. In fact, the preferential duty established by the treaty was only apparent – duties on Portuguese wines had been lower than French since the 1690s. England, for its part, could reverse the slackening inflow of money, provide itself with the new source of Brazilian bullion that was "so essential if her monetary circulation was to keep pace with expanding production and trade" (Sideri 1970: 49).

To Ricardo (1963: 71; 1951: 135) the treaty became a demonstration of how free-trade would optimise (given that factors are internationally immobile) productive output. This could be shown in two ways, either by maximising output at the same productive effort (cost), or by minimising effort at equal output. Choosing the latter, he described how Portugal could produce a unit of wine with 80 units (hours, days, etc.) of labour, and one unit of cloth with 90, whereas England needed correspondingly 120 and 100 labour units. In spite of the higher Portuguese productivity of both goods in absolute terms, it would specialise in the production of wine, because the relative (comparative) advantage was greater – the cost of producing wine in relation to cloth is correspondingly less, *i.e.*, $80/90 < 120/100$ (Table 1).

Table 1. Ricardo's Example of Comparative Advantage

	Before specialisation			After specialisation		
	Wine	Cloth	Total	Wine	Cloth	Total
Portugal	80	90	170	160	–	160
England	120	100	220	–	200	200
			390			360

The mechanism by which countries came to specialise according to their relative productivities was provided the quantity theory of money, according to which logic the balance of trade deficit experienced by the less productive country in absolute terms (England) would lower prices until it became competitive in their relatively more productive branch (cf. Shaikh 1979: 286ff.). Ricardo's principal interest was to demonstrate the advantages that the entire world as well as every individual country derives from the international division of labour under a "system of perfectly free commerce":

By stimulating industry, by rewarding ingenuity, and by using more efficaciously the peculiar powers bestowed by nature, it distributes labour most effectively and most economically: while, by increasing the general mass of

productions, it diffuses general benefit, and binds together, one common tie of interest and intercourse, the universal society of nations throughout the civilised world. It is this principle which determines that wine shall be made in France and Portugal, that corn shall be grown in America and Poland, and that hardware and other goods shall be manufactured in England. (Ricardo 1963: 70f; 1951: 133f.)

Portugal had an absolute advantage in the production of both wine and cloth, but a comparative advantage in wine. In his example the total saving/liberation of labour is 30 units, whereof Portugal 10 and England 20. He assumed no transportation costs, and that a unit of cloth was traded for a unit of wine, but this is not a necessary assumption. What is necessary is only that trade is conducted within the limits of 1 wine = 8/9 cloth and 1 wine = 12/10 cloth. Outside these borders, trade ceases to be profitable and therefore stops.

This 'law of comparative costs' has had a most remarkable career (cf. Emmanuel 1972: vii), and even the Heckscher-Ohlin-Samuelson theorem is rather a complement to than a substitute for it (Shaikh 1979: 290ff.; Emmanuel 1972 ix; cf. Hume 1970: 197ff., Cairnes 1874: 138f., Taussig 1915: 57-59, 199-201, Marshall 1919: 55-162, Graham 1923: 204-213). In spite of intense criticism, the fundamental assumption about the international immobility of productive factors, seems not to have been seriously questioned until Emmanuel.¹² The optimistic estimate of the benefits of international trade has possibly aided the theory's progress among 19th and early 20th century economists: "The theory has constituted ever since then the cornerstone of the free-trade argument. It was such a glaring and at the time unexpected truth, that it seemed consistent with the common interest of mankind to send out the British gunboats in order to bring the good message to the most distant Barbarians, who persisted in opposing the free penetration of liberating and welfare-generating trade" (Emmanuel 1975a: 9). Accordingly, "the career enjoyed by the idea of free trade has been at least as amazing as that of the theory of comparative costs" (*idem* 1972: xiii).

This is so even among Marxist economists, the inheritors of classical liberal political economy, who more than anyone else in the 20th century have waged the war against 'monopoly' capitalism. In the battle between free-trade and protectionism, Marxists have tended to come out in favour of free-trade, since it, in Marx's (1848: 465) view, develops the antagonism between the bourgeoisie and the proletariat, and thereby "hastens the Social Revolution". They have not been foremost in systematic study of the phenomenon of protectionism, since the quarrel between free-traders and protectionists has been considered, in Lenin's (1972a: 436) phrase, "a question of bourgeois policy": "Protection [...] serves the interests not of the entire bourgeois class, but merely of a handful of all-powerful magnates". He was followed by Luxemburg (1951: 399) in her description of the rise of protective tariffs at the time of the US civil war, and by Duret (1933: 26), according to whom it protected domestic monopoly super-profits. These authors were only concerned with the protection of disproportionately developed branches – which therefore could not realise their products on the domestic market – not with that kind of protectionism involved in the favourable balance

¹² "For after all the subordinate assumptions – constant costs, equality in potential of production and consumption in the two countries concerned, wages everywhere equal to the subsistence minimum, identical techniques, identity in respect of money and incomes, identity in balance of payments and trade balance, full employment of the factors – have been questioned and rejected, that is after Senior, Cairnes, Bastable, Angell, Nicholson, Mangolt, Fawcett, Edgeworth, Graham, Taussig and Viner have done their work, the fact remains that the value of commodities is not formed on the international market in the same way as on the national market if, and only if, the factors are not so mobile and competitive in the former as in the latter, that is, if Ricardo's fundamental assumption is maintained." (Emmanuel 1972: ix f.) Shaikh's claim (1979: 298f.; 1979-80: 56f.) that Emmanuel's theory, too, builds on comparative costs, confusingly identifies unequal exchange with value transfer due to the opening of trade, occasioning a corresponding uncertainty (1979-80: 53) whether it should be attributed to a differential in wages or in organic compositions.

of trade thesis, which aims at an indefinite export surplus as such, a phenomenon too absurd and unthinkable for Lenin even to acknowledge.¹³

Although much less concerned with the problem, Marxist interpretations of mercantilism has followed the liberal one, calling it “the ideology of the monopoly trading companies” (Plotkinov in Judges 1969: 59, and Hill 1938: 167), or as Dobb (1946: 209): “a system of State-regulated exploitation through trade [...] essentially the economic policy of an age of primitive accumulation”. Dobb (*ibid.*: 204) sees the views of mercantilists acquiring meaning if applied “to the exploitation of a dependent colonial system” and if the writers are regarded as “spokesmen of industrial rather than merchant capital (or perhaps one should say of merchant capital that was already acquiring a direct interest in production)”. Coleman (1969b: 8) comments: “So now we have the happy situation that across the 170 years between 1776 and 1946 the voices of classical and Marxist economics join in sonorous agreement about the machinations of monopoly-seeking merchants [...] unfortunately neither provides evidence of the sort which historical scholarship demands.” Shaikh (1979: 297) sees the paucity of Marxist international economics as a result of the paucity of references to foreign trade in Marx, as well as to the obsession with monopoly from Lenin’s *Imperialism* onwards and repeated at length by Sweezy, since in such a world the laws of price formation must be abandoned. In fact, as Howard and King argues (1989: 100), Hilferding’s *Finance Capital* (1981, orig. 1910), on which Lenin built and where the ‘monopoly capital’ interpretation of the world is presented, “has proved to be the most influential text in the entire history of Marxian political economy, only excepting *Capital* itself” – not due to any analytical merits since “the defects of the book are readily apparent.”

The material substantiating protectionist policies and political interference in economic matters from the 16th century onwards is immense, as Heckscher observed (1931, II: 128; 1994, II: 145), ranging from colonisation and conquests, via statutory restrictions and transportation rules, to prohibitions or quotas on imports and exports, impediments on circulation of gold or silver, customs duties on imports and exports. Smith’s incredulous and conspiratorial interpretation that Thomas Mun’ book, published in 1664, should have seduced first English politicians and then “all other commercial countries” into adopting the balance of trade dogma and protectionist measures,¹⁴ has more substance regarding the exceptionally stronger influence of his own book in fostering free-trade policy. “It is worth remembering that, ever since Adam Smith wrote, there has been something of an evangelistic fervour in the preaching of *laissez-faire*. [...] It was not economic analysis alone that led the great majority of classical economists to urge in favour of free trade” (Rashid 1980: 12).

In most of political economy, the free-trade doctrine and the related critique of mercantilism reigned supreme. J. B. Say parroted the claim of a confusion of money and wealth arisen as a result of the necessity of evaluating commodity relationships in terms of cash: “They have

¹³ “Do we deny that capitalism needs a foreign market? Of course not. But the question of a foreign market has *absolutely nothing to do with the question of realisation* [...] The romanticist says the capitalists cannot consume surplus-value and therefore must dispose of it abroad. The question is: do the capitalists supply foreigners with products gratis, or do they throw them into the sea? They sell them – hence, they receive an equivalent; they export certain kinds of products – hence, they import other kinds” (Lenin 1972b: 162). “Not necessarily so, no”, Emmanuel (1984: 13) retorts: “The equivalent is not necessarily other goods or services. It may be claims representing an export of capital. These claims may even be entirely fictive. The need to sell in order to disburden the domestic market is so great that states nonetheless continue to accept them. Though unthinkable for Lenin, this is however what the Balkan states did before the last war, and what Germany and Japan are doing now. The question of the foreign market is not unconnected with that of realisation, as Lenin thought it to be.”

¹⁴ Wilson (1957: 182; 1969: 64) observed that “like so many economic writers of the eighteenth century, Adam Smith was little bothered by any real sense of historical change.” He saw, in Wilson’s words, a conspiracy “between the gentlemen who did not understand trade and tradesmen who did not grasp the nature of the national welfare”, diverting government attention to misguided ends.

taken the means for the end. The money which they receive only for the purpose of spending is confounded with the product they propose to consume” (quoted in Judges 1969: 45).

Malthus, Ricardo, James Mill, and Torrens had “no constructive analysis to offer on pre-Smithian thought and policy”, according to Judges, who did not find another “broadside assault” on the mercantile ‘system’ until Nassau Senior’s 1827 Oxford lectures. In Senior’s eyes there had apparently been no improvement by the time of writing. The monetary aspects of this mercantile system, “which at present clogs all our actions and disturbs all our reasonings”, were discussed, in Judges words, “at some length in tones of shocked disapproval”, summing up the commercial restrictions as having been “contrived to produce individual gain at the cost of the common loss, remarking that public opinion noticed only the concentration of gain and seemed unaware of the loss” (Judges 1969: 45). Senior attacked the balance of trade doctrine, national jealousies and the manifest mercantilist aim towards autarchy, *i.e.*, to be independent of foreign commodities.

Although not unnatural among minds which “had not yet become familiar with certain modes of starting and of contemplating phenomena”, said John Stuart Mill (quoted in Judges 1969: 46) at mid-19th century, the mercantile system, with its obsession about precious metals, “looks like one of the crude fancies of childhood [...] Once questioned indeed, it was doomed.” Judges (*loc. cit.*) commented that “he displayed no historical understanding”, and noted Mill’s marvel in his letters that in Australia “the exploded fallacies of the mercantile system are revived with a simple ignorance of all that has been written and proved against them”. Somewhat later Cairnes (1874: 450) distinguished the system of the balance of trade from the later but related system of protection, erected “to underpin the tottering edifice”, and where native industry took the place of precious metals as the cause of riches.

Political economy became identified with the free-trade doctrine to such an extent that Sir Thomas Gooch, an advocate of the landed interest, could complain in 1827 that he had heard “so much of political economy”, with respect to the corn laws, as to have become “heartily sick of political economists altogether”, and wished that a clause be “inserted in the present bill, enacting every vessel laden with foreign corn destined for this country should be sent back, instead of ballast, a cargo of political economists” (quoted in Semmel 1970: 137).

The admission of a substantial middle-class electorate to the franchise in 1832, helped to further the cause of political economy and free trade, along with which came the distress among both rural and urban lower classes manifesting in the revolutionary threat of Chartism in the 1830s and 1840s, and of course the continued expansion of industrial output and influence. There could very well be a connection between the breakthrough of free trade and anti-mercantilism, and the increased influence of industrial entrepreneurs – or transformation of landowners into industrialists – with an interest in two-way trade, and an extended international division of labour. In general, no-one doubted the advantage of importing raw-materials and exporting manufactures, but industrialists also needed cheap food imports to keep the wages down of an increasingly urbanised and proletarianised labour force, and although this went counter to landed interests whose incomes (rent) benefited from a high price of corn. These circumstances, at any rate, seem more relevant than the force of Smith’s or Ricardo’s theoretical argument in promoting the adoption of a free trade policy. As has been indicated, this adoption was neither complete nor at all immediate.

By 1846, a substantial part of the landed aristocracy had, for whatever reason, been converted to free trade – out of sympathy with or fear of the lower classes, due to diversification of economic interests and liaisons with industry, or prospects of gaining from financial institutions and international shipping. In the late 1830s Richard Cobden and others began demanding unconditional repeal of agricultural protection, but were then answered by arguments citing Smith, Ricardo, and McCulloch. From 1841 to 1846, when the agitation of the Anti-Corn Law Leagues was at its peak, the Tory prime minister, Sir Robert Peel, now

had the opportunity to demonstrate his boast that he was a free trader, and repealed 605 duties and reduced 1,035 others. During the 1820s he had devoted much time to the study of political economy, particularly of Smith, Hume, and Ricardo, but used them in battling Cobden and the Anti-Corn Law League. All the while, the logic of political economy and his sensitivity to the climate of opinion drove him towards abolition, but only after assuring himself, in contradiction to Ricardo and Cobden, that it would not drive down wages. In 1846 Earl Derby and Benjamin Disraeli became the leaders of the Tories who remained faithful to the corn laws, jibing Peel and Cobden for swallowing the theories of political economists whole, and especially ridiculing the image of a British Workshop of the World. But he also perceived that Cobden “knows very well there is no chance of changing the laws of England with abstract doctrine”, since men do not generally follow the dictates of abstract truths, no matter how scientifically demonstrated, unless impelled by other, more substantial forces (cf. Semmel 1970: 141, 143f., 146, 154).

Already from the outset of British agrarian capitalism, it was particularly beset by balance of payments problems due to increased imports (cf. Brenner 1993: 32). By the time of the first half of the 19th century, England had achieved, as Peel observed, both a “manufacturing and commercial pre-eminence” (quoted in Semmel 1970: 157). Industry was expanding at a remarkable rate (though less than was believed by Deane & Cole 1962; cf. Crafts 1985), notably through exports to the North American market, while imports for the textile industry, in line with mercantilist policy, consisted of raw materials. According to Semmel (1970: 157): “it was the recognition that British exports were necessarily limited by the purchasing power of other countries [...] which helped to spur the abolition of hundreds of tariffs, including those on imported corn”. ‘Workshop of the world’ though she was, Britain achieved a balance of payments surplus, not by virtue of her trade balance, but only thanks to ‘invisibles’, e.g., dividends from overseas investment or fees from shipping. In the 1830s and 1840s, the new principles of political economy spread among all parties and both houses of parliament. They were fuelled not so much by Cobdenite cosmopolitanism, nor perhaps by the diluted principles of classical political economy, Semmel (*loc. cit.*) argues, as by the desire “to preserve Britain’s industrial predominance,” preferably an industrial monopoly. Thus, like Pitt and later Peel, they fell back on the argument of Tucker that free trade would assure a richer manufacturing nation superiority over poorer agricultural nations. By contrast, led by Disraeli, the defeated opposition had to make do with the argument of Hume, Malthus, and Wakefield.

Faced with the indubitable logic of classical political economy, the historical economists did not dare challenging its ideas on their own theoretical grounds, but instead chose the route of questioning its applicability in previous eras and different regions. Even for 19th century Europe, the supposed ‘golden era’ of free trade, Bairoch (1989) speaks of “an ocean of protectionism surrounding a few liberal islands” (though he also points out that the reverse is true of the [under-]developing world). T. H. Marshall’s (1935: 716-19) charge against the unreality of Heckscher’s tripartite concept of mercantilism was that “the unity” and “complete synthesis of the situation, the ideas, and the action”, had not been demonstrated, and “the validity and the utility of the term” had not been established, since “if Mercantilism is a policy only, and not a theory, we cannot deny its reappearance in the nineteenth century.” But even ‘reappearance’ is a euphemism. Having summarised the many free-tradish critics of mercantilist policies, Viner (1937: 109f.) remarked: “On legislation, it is not evident that the critics of mercantilism had much influence, and it could seriously be argued that, with the exception of the disappearance of the bullionist regulations, the general course of foreign-trade legislation from 1600 to *after* Adam Smith was, without important exception, away from, rather than toward, conformity with the doctrines of the critics of mercantilism.” Against a confused connection of the industrial revolution with the liberal free-trade doctrine, already Friedrich List (1841), followed by a host of economic historians, has thus reminded

that the actual industrial revolution took place in a protectionist England. Reflecting on Smith and his environment of protectionist policies, Coleman (1980: 776) similarly observed:

it is a notable historical irony that Smith should have been inventing the mercantile system on the very threshold of the industrial revolution which, unknown to him, was to surge ahead in a British economy surrounded by a wall – of varying thickness and sometimes crumbling – but a wall nevertheless of duties, prohibitions, drawbacks, bounties, treaties and the like which he so deplored as inhibitors of economic growth, stiflers of economic freedom, and stranglers of initiative.

Capie (1983: 11) summarises the situation in the Western world: “imports had been regarded for so long as inimical to the national economy, that a legacy carried into the nineteenth century appears to have been a strong force working to deter imports, and this regardless of the degree of manufacture they embodied.” Aiming “to reduce the flow of imports but at the same time to raise revenue [...] there was little if any discrimination between tariffs on inputs and tariffs on final products,” he explains, adding that both the political power of the landed classes in Europe, and the agricultural interests in America worked for the raising of protective walls against raw material inputs.

Thus, the only real exception to centuries of universal protectionism, outside the textbooks on political economy, is Britain from 1846 to 1932, although there were problems already at the Ottawa conference in 1894 and during the first World War. The theoretical influence of British liberalism on the Continent, strengthened by the apparent success of the British economy, made for what Bairoch (1989) calls the “European free trade interlude”, from 1860 to 1879. “Well before free trade became the ruling ideology in Britain,” explains McCloskey (1980: 318), “Alexander Hamilton and Friedrich List had provided an opposing rationale for high duties, which their countrymen and others adopted with enthusiasm. The French and Prussian enchantment with free trade in mid-century was brief, and some important trading partners of Britain – most notably the United States – never came under its spell. If the British example was followed briefly, it was soon abandoned, leaving Britain in 1881, if not before, with the lowest duties in the world.” Two different opinions had developed among contemporaries, one that the Victorian economic growth from 1850-70 was to a large extent a result of the free trade policy, the other the view of the other nations, seeing “British sponsorship of international free trade as a Machiavellian trick of kicking down the ladder by which Britain had reached her supremacy” (Heckscher 1934; quoted in Capie 1983: 11).¹⁵

Academic proponents and defenders of (neo-)mercantilist policies consisted substantially of economic historians, or historical economists, rehabilitating the history of mercantilism in Britain. However imperfect, they claimed, mercantilist economics at least sought to deal with the pressing problems of the day. Its concern for the welfare of the community was seen as a superior framework to that of neoclassical economics that emphasised the welfare of the individual and the firm. They attacked and contrasted themselves with orthodox economics, who tended to favour a policy of non-intervention. They also attacked the ‘abstract’

¹⁵ Liberal economic doctrine has long been a more powerful stimulus to interpretations than were maneuverable facts. Imlah (1958) presented the story as “The Success of Free Trade” and “The Failure of Protection”; Stolper (1940) and Landes (1969) gave similar accounts on Germany and Western Europe respectively. More protectionist interpreters presented the story in an ‘infant industry’ perspective, and the same can perhaps be said of their accounts; the opinion of Saul (1960: 134) was widely accepted at least in the decades up to the 1980s: “there is no doubt that the raising of tariff barriers in Germany, the United States and elsewhere, initially contributed to the growth of industry in these countries and to the competition which Britain eventually met from them”. Bairoch (e.g., 1993) maintains that the free-trade parenthesis is characterised by slower economic growth in the developed countries (at least as compared with the *subsequent* protectionist period), and that free trade also characterises would-be underdeveloped countries. McCloskey (1980) argues that the British economy developed slower than it would have with protection.

economics of Ricardo, not least because it had opened the door to the political economy of Marx and an emphasis on intra-communal strife.

The late 19th century saw the growth of nationalist and imperialist sentiment, in both old and new Great Powers as well as smaller ones, challenging the imperial, economic and military pre-eminence that Britain had enjoyed during the height of the Pax Britannica. Faced with the competition of a dynamic United States and a unified Germany, both of which unabashedly reverted to protectionism, there was, from the 1870s a revival of mercantilist thought even in Britain. Many had believed that Adam Smith's attack on the mercantile system had been decisive in slaying the false gods of state intervention and national selfishness, and had hoped that the repeal of the Corn Laws in 1846 "would usher in not only a period of unrivalled prosperity but also an age of universal peace among the "civilized" powers" (Koot 1993: 187). Now, "a growing labor movement and a newly enfranchised population mounted a serious critique of the government's reluctance to promote state-sponsored social reform and to regulate industry" (*ibid.*: 189). Facing the new situation led to a proliferation of various political tendencies: liberal imperialists and social imperialists, national socialists, social Darwinists, tariff reformers and proponents of national efficiency – what Martinez-Alier (2002) refers to as the "gospel of eco-efficiency" is a late outgrowth of the latter. Against this background, Joseph Chamberlain mounted an electoral campaign to create a protected imperial market modelled after the German customs union. Though he ultimately failed to win over the decisive workers' votes for his basically Tory program – or convince them that not only the 'imperialism', but also the 'social reform' was honestly meant – he had raised the issue of the economic role of the state to the centre of British political debate.

According to Semmel (1960: 19), "[t]he roots of British social-imperialism lie in the nineteenth century history of the working class." Thomas Carlyle, John Ruskin, and Charles Dickens had attempted to awaken their mid-Victorian countrymen to the miserable condition of the working man, and socialists charged that wages had been set at mere subsistence level. Defenders of the factory system, on the other hand, cited the 'laws' of political economy, claiming that the selfish factory owner was somehow an altruistic servant and saviour of the community, that the unhappy position of workers was due to intemperance, and that higher wages would merely encourage large families and again depress the labour market of the future. The British historical economists attempted to transcend both these positions.

It is still not certain that the principle of a favourable balance of trade (payments), *i.e.*, the benefits of selling more than one bought, was ever repudiated in practice. Arguments for free trade were made on almost mercantilist grounds, that it would create 'more exports', evidently under the assumption that this was good in itself (cf. McCloskey 1980: 315f.). Semmel (1970) has shown that many of the proponents of free trade, such as Josiah Tucker, Robert Torrens, and E. G. Wakefield, argued from essentially 'mercantilist' motives. Even Richard Cobden, the apostle of cosmopolitanism, believed that only in a free trade world could England hope to retain her pre-eminence. Similarly, Keynes (1936: 338) proposed that "in the special circumstances of mid-nineteenth-century Great Britain an almost complete freedom of trade was the policy most conducive to the development of a favourable balance."

As Bairoch (*e.g.*, 1976; 1989) and others (*e.g.*, Capie 1983: 15) have pointed out, it was largely to the confusion of *both* the free-trade and protectionist theorists that an economic crisis then broke out, originating mainly in cheap overseas *agricultural* imports – not manufactures. These had been made possible by the lowering of transport costs, and finally turned the tide against free trade. Governments gradually returned to well-established, all-round protectionist practices, to the horror and outrage of the political economist's profession, flinging out its worst condemnation: 'mercantilism'.¹⁶ The growth of nationalism and anti-

¹⁶ Emmanuel (1984: 6) sums it up well: "If, from time to time, this trade war between nations has been suspended or attenuated by bilateral or multilateral agreements, as in the short interval of free trade in the middle

immigration policies in the West also provide a background against which to relate orthodox economic thinking in the early 20th century – notably the Swedish economist and economic historian Eli F. Heckscher both in his function as the originator of the Heckscher-Ohlin theorem and as the historian of mercantilism – as well as the later reaction against it with the growth of theories of underdevelopment breaking out after the Second World War.

In Part I above some of the dilemmas involved in interpreting the mercantilist tradition have been reviewed. The term itself was originally derogatorily used to describe the established political economic practice in France and England, as well as the intellectual struggles over the best means to become ‘gainers in the balance of trade’, what was perceived as a confusion of money with wealth. Later defended by historians as reasonable practice for the time, the problem is left unresolved why the strivings for a favourable balance of trade continues in practice even after it has been abandoned by theorists. Historical ‘circumstances’ continuing for half a millennium deserves to be described as historical ‘reality’, which presumably is what theory is supposed to describe. Even more, the theories and policy recommendations of the classical economists, such as international free trade, have to large extents been applied with the aim to obtain a favourable balance of trade, but now camouflaged, or so it was perceived by others, as something beneficial to everyone involved. Notably, at a time when machines were definitely becoming the measure of men, Ricardo found England to have a natural and comparative advantage in industrial production, which only so happened to have been the goal every nation was and had been striving for based on the mercantilist argument.

Along with securing an inflow of money, an unquestioned mercantilist aim was to secure maximum employment of both land and labour. This meant placing goods to import in a sort of hierarchy, topped by gold and silver ingots, followed by raw materials and finally manufactures and services – and vice versa for exports. The ultimate export good would be a final consumer good produced from domestic raw materials, in as ‘roundabout’ a way – requiring as much labour – as possible but still with the highest level of technology. It is difficult to see that any substantial change has taken place in this intuition over the centuries until the present, though the alleged motivation for it may have varied. It is not unreasonable to see these aims as intertwined, though the ways in which this has been done varies and perhaps assume too much of theoretical reasoning on behalf of politicians. The idea that a favourable balance of trade was actually favourable most often seems to need no other motivation than being the age-old experience of market-dominated societies that it is better to sell than to buy. Thus, though often seen as the origins of mercantilism the English debates of the 1620s did not substantially change the actual content of the balance of trade doctrine. What changed was the way and higher level of abstraction in which it was expressed. ‘Mercantilism’ has thus been interpreted as a proto-scientific paradigm or language, which prepared the way for, presumably, ‘true’ science with the arrival of Physiocracy and the Classical economists. However, reversing the implied value judgement one could equally well say that with the latter economists, the level of ‘abstraction’ became in a sense so great as to leave reality behind – *i.e.*, the reality of economic policy. This ‘realism’, or rather what it implies about reality, is perhaps the greatest lesson still to learn from the mercantilists.

of the nineteenth century, this was simply a matter, through the play of reciprocal concessions, of guarding against a general contraction of world trade while the balance of forces at the time did not allow any of the parties involved any reasonable hope of beating the others by means of a permanent surplus. The actual principle of the advantageousness of a surplus was never questioned anywhere outside textbooks of political economy. As soon as the uneven rate of development changed this balance of forces, the agreements were smashed to pieces, and trade wars restarted more ferociously than ever. This was well and truly the case at the end of the free-trade truce in the 1880s, which respectable economists expressed their horror about by calling it neo-mercantilism. This does not explain it at all – it merely names it – and the phenomenon we are talking about is in sore need of an explanation.”

The goal of unburdening the kingdom of its goods was so strong that it suggested to Heckscher, a stout defender of international free trade, an irrational 'fear of goods'. Though seeing land and labour as the mainspring of wealth, some of the most talented writers did indeed consider the burden of unsold goods so great that it would be better to sink them in the Caspian Sea than to let the people go without employment, thereby implying that the value of *unsold* goods was not only nothing, but *less* than nothing – a negative value. This, Heckscher perceived and described better than anyone, but he could see no explanation for it – selling was the constant and the earlier concern, and the concern with unemployment and the 'export of work' was rather a derivative of the ambition to sell – other than a mad refusal to perceive things as they were according to the liberal mind.

Though inequality of exchange was inherent in every aspect of mercantilist thought, the specific idea of a 'non-equivalent' exchange has been traced, by contrast, to their original critics, Quesnay and Smith along with other Physiocrats and Classical economists. In this sense they have more in common with their predecessors than with their marginalist or neoclassical followers. One could thus suggest, in line with the above proposal, that the level of abstraction was still not so great as to *completely* abolish mercantilist 'realism', though on the other hand the non-equivalence itself was a consequence *precisely* of this abstraction. This is consistent with the fact that the historical economists, who concerned themselves primarily with empirical matters rather than theory, in general were, and economic historians continue to be, much more understanding and forgiving of mercantilists than are economic theorists. 'Non-equivalent' exchange implies some unit of measurement of value in which the non-equivalence is expressed. To counter the mercantilist over-emphasis on the merchant, Physiocrats centred on agriculture as the fundamental sector creating value, the rest of the economy merely living off the surplus of the land (a tradition revived by certain ecologists, who nevertheless draw precisely the opposite policy conclusions), whereas the classical economists emphasised labour as the main productive activity. In this way they prepared for later, Ricardian and Marxist followers of labour theory of value to find non-equivalent and unequal exchange.

On the one hand, the 'mercantilist' tradition, where trade inequality was commonly assumed in both common sense and more elaborated theoretical expositions, lived on and were reformulated. On the other, in the hands of Marx and the Marxist tradition the classical labour theory of value and the Ricardian comparative advantage, gave rise to a great magnitude, if not as much variety, of theories of non-equivalent exchange in international trade. We shall first follow the evolution of some of these Marxist theories. Then, we shall turn to certain expositions originating in the periphery of British and then American economic influence, where the assumptions of standard economics were somewhat differently perceived, and where we shall focus on the problematic concerning relations between centre and periphery.

Part II

Marxist theories of non-equivalent exchange

In this part we shall look at the Marxist tradition of non-equivalent exchange of labour, centred on central and eastern Europe, but also with following in East Asia.

Chapter 5 traces the origins of non-equivalent exchange theories in Austria, through the novel adaptation of Marxian prices of production to the premise of international equalisation of the rate of profit. This application ensures that branches/regions/countries with a capital intensity, or in Marxian terms an organic composition of capital, above the average will benefit from an inflow of surplus value from those with an organic composition below average.¹⁷ The pioneer in this instance was Otto Bauer, whose geographical position in the Austro-Hungarian Habsburg Empire, seems to have made him unaware of transgressing any theoretical boundaries, although his observations on the conflicts between workers of different nationality provides a clear link to the later theory of Arghiri Emmanuel. The theoretical novelty became apparent with Henryk Grossmann, to whom we then turn. For him this international ‘transfer’ of surplus value – which has been referred to as ‘unequal exchange in the broad sense’ but here will be called ‘non-equivalent’ exchange – served as one of the means to offset the falling rate of profit as well as the tendency towards breakdown of capitalism. This he had discovered in the schemas for capitalist accumulation in Bauer. Of their critics, Paul Sweezy will be singled out, but only in Chapter 12 will one of his closest associates, Paul Baran and the associated dependency tradition, be contrasted with the tradition of unequal exchange.

The Russian tradition of Marxism, which is the subject of Chapter 6, was concerned more directly with the obstacles to economic development in a backward, predominantly agrarian country. The problem of how to construct socialism under these circumstances was accentuated in the debates between Evgenii Preobrazhensky and Nikolai Bukharin, where the former argued for ‘primitive socialist accumulation’ by means of a ‘non-equivalent exchange’ through the price mechanism, to the benefit of industry at the expense of the peasantry.

The Russian, German, east- and central European Marxist traditions were all cut short by Stalinism National socialism in the 1930s. Chapter 7 reviews the attempts to formulate theories of non-equivalent exchange in the context of planned economies of eastern Europe and Communist countries, as their ascendancy over body and mind slackened or withered. The final sections briefly review some of the lesser known debates on the subject of non-equivalent or unequal exchange within or with Japanese Marxism, which had met a fate similar to the German and Russian in the 1930s, as well as the Chinese debates related to the change of foreign trade policy in the late 1970s.

¹⁷ Ecologists having difficulty finding anything of interest in this problematic can reflect upon the fact that the constant capital, c , of the organic composition, $c/(c+v)$, commonly refers to input-costs of land (raw materials) and depreciation (‘entropy’), so that a high organic composition means a high proportion of raw materials use and entropy per worker (*i.e.*, per variable capital, v). In this case, ecological *waste* leads to a (compensating?) non-equivalent net inflow of ‘value’ from less wasteful branches, etc.. Of course, as Georgescu-Roegen (1971) pointed out, even variable capital is subjected to the entropy law.

Chapter 5. Austrian approach to non-equivalent exchange in relation to nationalism and the breakdown of capitalism

After Prussia militarily defeated Austria in 1866, the Austro-Hungarian Empire was divided into a dual monarchy through the Compromise (*Ausgleich*) of 1867, which remained the constitutional basis of the 'multinational' empire until its dissolution in 1918, and at the turn of the century with a population of 53 million people of more than fifteen nationalities. The two parts had separate parliaments, dominated by the Austro-Germans and the Magyars respectively, though foreign affairs, defence and finance were common concerns. Germans, Magyars, Poles and Croats, maintained their advantage over disfranchised Czechs, Slovenes, and Ukrainians in Austria, and Slovaks, Serbs, and Romanians in Hungary. To get a majority in parliament Austro-German rulers granted Polish administrative autonomy to the Polish nobility. This particularly antagonised the Czech nationalists, who wanted precisely that for Bohemia. Their resentment of the German presence there had a counterpart in the Pan-Germanic resentment of Czechs in the German parts of the Empire.

Like other big cities at the time, early twentieth century Vienna experienced an influx of diverse ethnic communities, much of it drawn by the greater prosperity of the empire's German-speaking areas. The population of the capital increased more than four times in 53 years. With immigration from all over the empire, Vienna became a lively and cosmopolitan city, experiencing a period of not often equalled intellectual and artistic efflorescence. However, it also witnessed the erosion of its stimulating multiethnic, multicultural environment – an intimation of the complexities involved can be had in that even Jews themselves not infrequently became anti-Semites. Conservative Pan-Germans in particular showed deep resentment, which generated protracted controversies over schools instructing in languages other than German (notably Czech), bilingual notices, and place names. Victor Adler, the veteran socialist leader and founding member of the Socialist Party, reflected that in Austria, the question of the names of railway stations had become one of principle and of the most important kind. The Austrian Socialist Party was one of few organisations in Austria embracing multiple nationalities that survived more or less intact in this atmosphere of ethnic confrontation, and this only through investing considerable intellectual and political effort in overcoming mistrust.

Marx had not considered the problem of nationalism, and neither did he write his once projected book on the state, where it could have been touched upon. Thus, Marxism had no coherent stance on the question – and still has not – and even here in Habsburg Vienna, where it was more apparently pressing than elsewhere, the foremost socialist theorists and politicians such as Otto Bauer and Karl Renner approached the question of nationalism and national causes with great reluctance, regretting their "bad luck" of having to set aside "far more important" socialist issues. In doing so, however, Bauer came to formulate an important condition for later theories of unequal and non-equivalent exchange, although he seems not to have reflected upon its theoretical novelty, namely the international mobility of capital, or the equalisation of profit in a multinational state.

Otto Bauer (1881–1938) was the son of a prosperous Jewish industrialist in Vienna. His father was a friend of Sigmund Freud, and his sister Ida was Freud's famous patient referred to by the pseudonym 'Dora' in his "Fragment of an Analysis of a Case of Hysteria" (Freud 1977). The Russian Revolution of 1905 and its implications for the Austro-Hungarian

monarchy intrigued Otto Bauer, who at the time was completing his university studies in law. The very next day to his becoming Doctor of Jurisprudence on 25 January 1906, he wrote a letter to Karl Kautsky expressing fears that intensified animosity between Germans and Czechs could harm the Socialist workers' movement, adding reluctantly that he might commit himself to writing "a few articles or pamphlets on national troubles", despite being "much more interested in other matters" (quoted in Nimmi 2000: xvii). In February, he began working on this "regrettable side-track", resulting by the end of the year his voluminous book on 'nationalities and social democracy' (1907).

In May 1907, a parliament was democratically elected for the first time in the Austrian half of the Habsburg Empire. The Social Democratic parliamentary party was made up of 87 deputies drawn from the German, Czech, Polish, Italian, and Ruthenian Social Democratic movements. Charged with coordinating members from five nations, Adler appointed Bauer parliamentary party secretary. He had no great doubts when signing up as an Austrian army officer in World War I. He was taken as a prisoner of war to Russia, where he was freed after the Bolshevik revolution with the help of Social-Revolutionaries, and on his return he assumed the leadership of his party's left wing. At the end of the war he became Austria's foreign minister, but was forced to resign after signing a secret *Anschluss* agreement with Germany. Through his many articles and books, including the second edition of his major book (1924), he nevertheless remained the SPÖ's effective leader and principal theoretician for the next two decades until the Dollfuss coup. In the party's 1926 Linz Programme, he set out the centrist position of Austro-Marxism, rejecting both Bolshevism and Revisionism. He became a member of the Austrian National Council from 1929, until the advent of National Socialism. In 1933 and 1934, Austrian democracy was put to a crucial test, when 'Austro-Fascism' led to the suspension of the parliamentary constitution. The task facing the humanist Bauer was one with which he ultimately proved unequal, searching for compromises with the authoritarian Right. With the outbreak of civil war on 12 February 1934, he was forced into exile, first to Czechoslovakia, then to Paris, where he died in 1938, a lonely and embittered emigrant (for more biographical material see Braunthal 1945: 70-8, 1961, Johnston 1972: 102ff., Nimmi 2000: xvi-xxiv).

In his chapter on the 'multinational state', Bauer included a subsection treating the economic aspects of national hatred, in particular between Germans and Czechs in Bohemia. He treated these as respectively more and less subject to capitalist development, or as more industrial and more agrarian, notwithstanding that next to the Germans, the Czechs were most industrially developed of all, followed by the Italian, then Poles and Slovenes, and finally the Ruthenians, Romanians and the Serbo-Croats, which were "almost purely agrarian nations", and where "the number of self-employed is greatest" (Bauer 1907: 194f.).

He chose to study Bohemia because it represented "the most highly developed land of the monarchy and, precisely for this reason, is the land of the most animated national disputes" (Bauer 1907: 198). There were marked antagonisms everywhere between the industrially developed and the agrarian regions, and where "the industrial regions were German and the rural regions Czech, this economic antagonism necessarily clothed itself in a national guise." (*loc. cit.*). Germany was geared more to capital than to craft industry, had a higher proportion of white- and blue-collar workers, and a lesser of self-employed. The opposition should therefore, he (*ibid.*: 200) argued, be comprehended first "as an opposition between the advanced capitalist regions and the less developed regions."

Bauer argued that Marxian price theory provided a valuable tool to understand the opposition in economic terms between regions at different levels of development that exchange goods with one another. Significantly, the important theoretical novelty of international equalisation of profits is not presented as such, but as a natural consequence of the determination of Marxian prices of production. Intra-national, or inter-regional mobility of

capital in Marx had served to equalise the rates of surplus value as between the branches of production with varying capital intensity or in Marxian terminology varying organic composition of capital (incorporation a higher or lesser portion of ‘dead’ over ‘living’ capital, *i.e.*, capital proper – or machines and raw materials – over labour). Since Bauer put his problem in terms of two regions at different levels of capitalist development within the Habsburg Empire it is not evident that he really was innovating, except so far as the empire was itself a multinational state. He did not immediately spell out the necessary condition of the mobility of capital between regions, only that they exchanged commodities, which probably added to the confused comments Sweezy (cited below) was to make on the following relatively oft-cited passage:

The mass of the surplus value produced in both regions is determined by the mass of the surplus labor provided by the workers of both regions. But what part of this surplus labor falls to the capitalists in each of the two regions? The capital of the more highly developed region has a higher organic composition, that is, in the region that is more advanced in capitalist terms the same amount of wage capital (variable capital) corresponds to a greater amount of material capital (constant capital) than is the case in the less developed region. Marx has taught us to understand that – due to the tendency to equilibrium in the rate of profit – it is not a case of the workers of each of the two regions producing surplus value for “their” capitalists; rather, the surplus value created by the workers of *both* regions is divided between the capitalists of both regions, not according to the amount of labor carried out in both regions, but according to the amount of capital that is active in each of the two regions. Since in the more highly developed region the same quantity of labor provided corresponds to more capital, the more highly developed region also attracts a larger proportion of the surplus value than corresponds to the quantity of the labour actually carried out in that region. It is as if the surplus value produced in both regions is first thrown on a pile and then divided between the capitalists according to the amount of their capital. The capitalists of the more highly developed region thus does not only exploit their own workers, but also always appropriate a part of the surplus value that has been produced in the less developed region.

If we consider only the prices of the commodities, each region receives in exchange as much as it provides; if we focus, on the other hand, on the values, it becomes clear that it is not equivalents that are exchanged. (Bauer 1907: 200.)

The way Bauer put it, in products provided by the region with higher organic composition there was less ‘objectified’ labour than in those received from the region with lower organic composition of capital: “The more highly developed region thus provides the less developed region, with which it conducts commercial relations, with less labor than the latter has to provide for the more advanced region” (Bauer 1907: 200f.). Again, he omitted the condition that capital is mobile and competitive between the regions, but nevertheless maintained that the capital of the developed region appropriated a part of the labour of the less developed.

Bauer (*ibid.*: 201) observed the compensation agricultural regions had in ground rents, through which the owners of land could deduct part of the surplus value and “remove it from division among the capitalists on the basis of the amount of capital invested.” Here, the condition of equal rates of profit was made explicit, though not yet the mechanism by which it came to be. No doubt this was not enough to counter the net transfer of value by means of the production price of industrial products, he (*loc. cit.*) reminded, adding: “There can also be no doubt that this constitutes the basis of the economic relationship between German Bohemia and Czech Bohemia.” To make this case he even refers to the different wage levels:

indeed, since wages in Czech Bohemia are lower than in German Bohemia and surplus labor time consequently makes up a greater fraction of the working day, a greater profit should be realized for every worker employed than is the case in German Bohemia. In reality, however, the profit realized by the German Bohemian capitalist class is unarguably greater, as it in fact must be in order to remain proportional to the size of the workforce employed in German Bohemia. Or, expressed another way: a greater amount of profit corresponds to every worker employed in German Bohemia than in the Czech region. This economic fact is manifested in the greater economic prosperity of the German Bohemian population, in the dazzling development of its cities, in the higher average level of culture found among this population. That which German nationalist authors so happily designate as the superior culture of German Bohemia and the “inferiority” of the Czech region is nothing other

than the effect of the fact that governs all capitalist competition, the fact that the more highly developed regions appropriate a part of the value produced by the regions that are less developed in capitalist terms. (*Loc. cit.*)

Here there can be no doubt that he *did* conceive of the capitalists of the regions as being in competition with each other, and that he considered the rate of profit to be equalised and proportional to capital invested. What was lacking was rather any explanation of how and why wages would correspond to the higher level of capitalist development.

Having thus briefly considered profits, rents, and wages, Bauer (*ibid.*: 201f.) turned to direct taxes which also differed between the regions: “The higher level of taxation in German Bohemia can also be attributed to this fact”, *i.e.*, of higher organic composition of capital, allowing the German parts to support a higher rate of direct taxation in proportion to the size of its population than could the Czech part of the land. Bauer was more interested in the consequences this had on the skewed power relations within the state, when not taking into account the ‘indirect’ taxation born by the masses, and the support the less developed regions offered the material and intellectual culture of the more developed regions.

It all comes to the same whether one speaks of nations or, as Bauer, of regions. Whereas most Marxists, because of Marx’s non-treatment, have felt uncomfortable in dealing with the equalisation of the rate of profit in international trade, and thus with international prices of production, the actual vagueness of what would be considered national and what international trade in the Habsburg empire and its parts, apparently freed Bauer’s mind so that he did not even notice that he was transgressing any boundaries. As we shall see, the assumptions of international mobility of capital and immobility of labour were taken up and made more explicit by Henryk Grossmann and later by Arghiri Emmanuel. To all of them, the economic problem was intimately related to the problem of international worker solidarity. Bauer’s stand was not always clear-cut, as we shall see, because, confining himself to the Austrian problem, he ultimately invoked worker mobility as well as capital mobility.

Briefly put, theories of ‘unequal exchange’ can be said to differ in their implications from the mutual gains in Ricardian comparative advantage favoured by conventional Marxism, to the extent that they assume international mobility of capital and international immobility of labour. The principal interest and conflict awakened by the former, however, concerns the social relations and conflicts underlying the levels of prices, and it is an aim of this study to advance ‘unequal exchange’ in that sense, as distinct from ‘non-equivalent exchange’ for the mere net transfer of labour values. Contrary to much of Marxism, Bauer had a clear grasp of the theory of value as a useful instrument in the former respect. Thus, the implications for the worker mobility and the conflicts this generated constitute a particularly interesting and problematic area with respect to unequal exchange, and they were :

The fact that the German region has reached a higher level of industrial development also means that the population movement within Bohemia assumes great national significance. As everywhere else, the population has undergone a process of resettlement whereby a part of the population leaves the agrarian region and migrates into the industrial region. In national term, this has meant the immigration of Czechs to the German region of Bohemia.” (*Ibid.*: 203.)

Bauer again reverted to the dichotomy agrarian and industrial. The process was the well-known destruction of the old putting-out system and the transformation of agriculture whereby the peasants’ sons and agricultural labourers no longer found a place for themselves in their homelands. Anticipating arguments rehearsed in the post-World War II debate on development, he gave both an external explanation of the higher wage levels in the relative level of political organisation, and of the intra-worker hostility, reminding of the relations between the Irish and the English:

The surplus of labor power and the inability of the agricultural proletariat to help itself through union organization reduced its living standards. By comparison, the demand for labor power increased in the industrial regions due to the constantly strong accumulation of capital, due to the conversion of surplus value into capital. Moreover, union struggle here resulted in wage increases, and the higher wages lured the Czech proletariat into the German regions. [...]

The Czech worker came from areas where the wages were low, where the standard of living was at a low level. Consequently, he arrived in the region as someone who undercut wages and often as a strikebreaker. It is no wonder, then, that he awakened the hatred and the rage of the German worker. (*Ibid.*: 204)

However nationalistically ‘German’ the capitalists of German Bohemia might have been, they had no difficulties seeing the advantage of replacing

the “covetous” German workers with Czech workers who have not yet discarded the vice of “confounded frugality.” In the first place they safeguard their profits at the cost of the German workers, and, if the hatred of German workers for the Czech immigrants is thereby nourished and if the workers – filled with national hatred – allow themselves to be enticed by a bourgeois national party, this represents a tidy bonus for the German capitalists. (*Ibid.*: 205)

The obvious hostilities were not enough to shake Bauer’s confidence in solidarity between German and Czech workers. However, this was apparently achieved by sheer necessity on the German part, and then by appeals to ideology. The Germans had

long since learned that the only method they have of protecting themselves against Czech wage undercutting and strikebreaking is that of winning the support of the Czech workers for their trade union organization and training them for union struggle. And the progress of the Czech workers’ movement has also filled the Czech proletariat with the consciousness of the solidarity of all worker interests. Thus, the undercutting of wages by Czechs has fortunately already become an exception. [...] The more proudly the Czech worker raises his head, the less does the German worker have to fear Czech wage undercutters and strikebreakers, the more he can hope for strong support from his Czech comrades in the struggle against capital and the class state. (*Ibid.*: 205, 207.)

In making these happy observations, Bauer seems to have forgotten that according to his own figures the Czech were the capitalistically second most developed, and that if there were mutual interests between his chosen nationalities, these were likely to be related to their basic economic similarities rather than disparities. It is also to be remembered that his ‘nationalities’ were still confined within a common ‘state’, and as he observed: “There is surely no capitalist land in which it is possible to restrict freedom of movement” (*ibid.*: 207). Fundamentally, solidarity was explained by worker mobility:

Czech immigration certainly initially awakened national hatred, national rage among German workers. However, this hatred was unable to take on the concrete form of political will: modern industrial workers cannot demand the repeal of the freedom of movement, a strategy that would represent the only means of countering Czech immigration. Bitter necessity has thus taught the German workers that only by waging a common struggle against capital, shoulder to shoulder with the Czech workers, can they achieve success.

It is precisely Czech immigration to the German industrial region that has taught the German workers to comprehend the solidarity of the interests of all workers, the necessity of the common struggle of the workers of all nations. (*Ibid.*: 205.)

Even allowing for the oversight that in the real world there were much greater differences in capitalist development than between Germans and Czechs, Bauer here makes several illegitimate logical jumps, the most obvious being that, contrary to the case he had examined, in the real world it is not only possible to hinder international worker migration, but this was precisely what was happening at a grand scale at least by the time of his second edition, and already in the 19th century if Indian and Chinese migrants are taken into account. The only thing which would confer a ‘realisation’ of international worker solidarity would be a ‘bitter realisation’ that such low-wage immigration could not be stopped. It is interesting to note how Bauer took for granted that it was the privileged, wealthy and more highly

developed German workers who had to be forced to make this realisation, contrary to the implication in much other Marxism that the mere handling of more advanced means of production somehow has a mental spill-over of solidarity. In all but words, the argument is close to identifying the whole of German Bohemian working class as a 'labour aristocracy'.

As it was, Bauer was saved, or at least allowed himself to be saved, from drawing this conclusion by the events reported, and so went on to the more irreconcilable petty bourgeois nationalism, which tallied ill with the economic advantages they reaped from worker immigration. The national sentiment and hatred of the petty bourgeois were founded in the mistrust and aversion with which he viewed everything not rooted in the soil of the traditional homeland, everything strange, unfamiliar and foreign to the narrow local sphere in which he was born, married and died. When eventually faced with low-wage worker demands, and even more, the competitive petty bourgeois of the poor regions, his animosity and prejudices were reinforced. The same with the respective intelligentsias (*ibid.*: 205-11).

One cannot really say that Bauer reached a compelling solution to his problem. It took off in the industrial character of the German and the (allegedly) agricultural character of the Czech parts of the land, explaining the immigration of Czech workers, petty bourgeoisie, and intelligentsia to the German. "This immigration aroused the hatred of the German population, above all that of the German petty bourgeoisie and the German intelligentsia", but because the latter two still wanted a cheap labour supply, they "found emotional release in demonstrations devoid of objective or sense, in fruitless outcry. The hatred felt by the majority awakened that felt by the minority." Finally, he continued,

the national hatred that fills the Austrian population and above all the Austrian petty bourgeoisie can be comprehended in causal terms. It is a product of that painful process of population resettlement and the antagonisms and struggles it produced; it is nothing more than one of many forms of the social hatred, the class hatred, engendered by the violent upheaval that has been produced everywhere in the old form of society by modern capitalism. *National hatred is transformed class hatred.* (*Ibid.*: 212f.)

National hatred sprang from the German majority's hatred of low-wage immigrants, then 'realising' their international solidarity, but apparently only to be convinced again by the irrational outcries of the petty bourgeoisie whose ingrained and as yet unexplained hatred of strangers made them particularly receptive. It is not clear in which sense or by what means class hatred was transformed into national hatred.

Bauer's book was written to account for the internal strains of the Habsburg Empire, before the First World War which was to break that unity to pieces. The extent of hatred of which the working classes, too, were capable was in all probability beyond his imagination, and had the book been conceived after the war, or better yet by an attitude of mind formed after the war, it would surely have tackled these problems differently. Even the preface to the second edition gives only the briefest reference to the great war, and only so far as it relates to the necessity of dissolution of the empire if the Austro-Hungarian nationalities problem was to be solved. What this would do to the labour mobility which he had previously thought to assure international solidarity we can only guess.

When of late Nairn (1977: 41) proposed something approaching a plausible Marxist interpretation of nationalism, it consisted in the political christening of the working classes having been 'channelled' into its nationalist form by 'populist' members of the middle class and intelligentsia. But as Hobsbawm (1977: 13) noted and Benedict Anderson (1991: 2f.) quoted, Marxist movements and states have tended to become national not only in form but in substance, *i.e.*, nationalist, and they found no indication that this tendency would not remain. Nairn (1975: 3) spoke of the 'theory' of nationalism as the great historical failure of Marxism, something Anderson (1991: 3) found to be a euphemism considering the minuscule efforts afforded the problem. If anything, it was an inconvenient *anomaly* for Marxist theory, which

for precisely this reason had been elided rather than confronted. Gellner (1997: 168) has amusingly described the agony shown by Marxists before the nationalist phenomenon, resulting in what he refers to as the theory of mistaken address: Just like certain extreme Shiites believe the arch-angel Gabriel to have made a mistake when giving the word to Mohammed, when it was instead meant for Ali, so Marxists would like to believe that the spirit of history or human consciousness has made a giant blunder. The message of awakening was meant for classes, but was instead left with nations. What revolutionary activists now need to do, is to persuade the mistaken receiver to deliver the message to its rightful owner. His unwillingness to do so causes the activist very much frustration and irritation.

From a Marxist point of view, one could perhaps argue that there was an implicit timeline in Marx's proposed books on land-owners, capital, and wage-labour. If the first had been the dominant class under feudalism, the second dominated under Marx's own bourgeois epoch, and therefore became his principal theme. The era of the (wage-)labourer was still in the future, but unfortunately not, as he himself would probably have it, debouching into the 'final battle' of the communist revolution. Instead, the battles became nationalist and turned, much more profanely and ultimately tragically, into a kind of nation-class or welfare-stately consumer society. This implies a more intimate relation between these classes and a logic of the (nation-) state (cf. Andersson 1979; 1981a; 1981b; 1982; Tilly 1992), but, of course, the 'state' was also left untouched by Marx in his unwritten tomes. Marxism and those inspired by it have much fearless work to be done if they are to resolve the problem of nationalism. Part of the problem is directly related to the problematic of unequal exchange relating to non-equalisable wages and levels of consumption. This has also been of central concern in the ecologist criticism of the Marxist 'enlistment of the workers for technocracy' (Matz 1978), and of the consumer society in general. Part of it relates to the decline, or simply absence, of international solidarity, worker or not, which was sealed in the First World War. If there were such a thing as bourgeois and worker cosmopolitanism, the First World War certainly hastened the already commenced demise of both.

Whereas Marxist theory and nationalism have been uncomfortable bed-fellows, liberal free-trade ideals have often inspired critical confrontation. Writing at the end of the Second World War, E. H. Carr (1945: 2, 6-7, 8-9, 17-19) identified three stages in the history of nationalism, roughly corresponding to those implied by Marx's tomes above. The first, conservative period began with the disintegration of the union of the Medieval church and religion, and the establishment of the nation state and national churches, and whose essential characteristic was the identification of the nation with the person of the sovereign. The second, liberal and relatively peaceful period from the Napoleonic to the First World War, saw the 'internationalism' of the free-running economic sector coexisting with political nationalism under intensifying national sentiments. Democratisation of the nation only half-heartedly included the 'worker' or 'common man', but nevertheless made it wholly foreign to the 18th century, while imparting 'a new and disturbing emotional fervour', which came into its own only in the third, socialist period, making itself felt after 1870 but surfacing only in 1914, when the compromises of the previous era were driven to collapse in a catastrophic growth of nationalism and the bankruptcy of internationalism. People in common did not necessarily become more nationalist or resentful of international cooperation, Carr explained, but that nationalism "began to operate in a new political and economic environment", which was unfortunately left unspecified, although it was certainly related to the enormous expansion of the national press and international communications, including not only the telegraph and telephone, but regular steamship and railway transportation, enhancing both labour and capital mobility and compressing the world in what for many identities seems to have been an over-challenging way – certainly for the diplomatic community, which was thrown into a 'war by timetable' (A.J.P. Taylor 1969). Seeming to Carr like logical steps in a process inaugurated

long before, the suggested 'causes' – real national citizenship for new social layers, extended franchise, homogenising obligatory schooling, self-conscious labour organisations; visible union of economic and political power; and a rise of the number of nations (cf. Hayes 1931; McLuhan 1962; Gellner 1997: 43f., 52, 80) – were not self-evidently distinct from 'effects'.

This 'socialisation' of the nation was much more radical than the foregoing 'democratisation':

Henceforth the political power of the masses was directed to improving their own social and economic lot. The primary aim of national policy was no longer merely to maintain order and conduct what was narrowly defined as public business, but to minister to the welfare of members of the nation and to enable them to earn their living. The democratisation of the nation in the second period had meant the assertion of the political claims of the dominant middle class. The socialization of the nation for the first time brings the economic claims of the masses into the forefront of the picture. The defence of wages and employment becomes a concern of national policy and must be asserted, if necessary, against the national policies of other countries; and this in turn gives the worker an intimate practical interest in the policy and power of his nation. The socialization of the nation has as its natural corollary the nationalization of socialism. (Carr 1945: 18f.)

At the time the implication was obviously to national socialism, but the remark is true in a more fundamental sense, captured by Myrdal's identification of the welfare state as nationalist (1956; 1957). Always hard for Marxists to swallow, this idea reappeared only with peripheral radicals when an outlet for solidarity was found in underdeveloped countries.

There are nevertheless some intimations in Bauer's work of a more general, basically historical materialist interpretation of nationalism, relating it simply to the great transformation of the work of society occasioned by the "penetration by modern capitalism" and "rapid industrialization", which somehow awakened and intensified national hatred (Bauer 1907: 217). The systematic increase in the organic composition of capital, involved "the developments of modern means of transport, of the railway and the steamship, [which] made it possible for the fertile lands in distant parts of the globe to be turned to the service of the grain requirements of Europe" (*ibid.*: 217f.). It was "synonymous with the transition from the manufactory to the factory, which has awakened the nation from the slumber of non-historical existence", and "with the movement of the workforce out of agriculture into industry, which through a diverse process gives rise to national hatred, the driving force of national struggles." In short, "the transformation of the power relations of the nations of Austria, the national struggles, are one of the many violent effects of the progress to a higher organic composition of capital" (*ibid.*: 218).

In spite of Gellner's ironies above, most current interpretations, including Carr's historical and Gellner's sociological, are descendent variations on this theme, originating perhaps with Tocqueville, of how industrial society, directly or through its disruptions, has somehow caused nationalism. Gellner's (1997: e.g., 72f., 177) recurrent point is the common modernity and artificiality of nationalism and industrial society, but only rarely does the presentation become so historically specific as to characterise the epoch of nationalism (with premonitions in the Reformation) as that of cheap paper, printing, general literacy, and fast communications, giving birth to countless ideologies competing for our favours (*ibid.*: 163, 60). There is much talk of "objective and inevitable imperatives" and "objective need", arising presumably from an "industrial social organisation", and surfacing as nationalism (*ibid.*: 58, 68; cf. 66, 70). Criticising K. W. Deutsch he points out that it is not the disseminated content, but the media themselves, the penetration and meaning of abstract, centralised, unidirectional communication from one to many, that automatically brings about the idea of nationalism. The most important message is generated by the medium itself, he explains (*ibid.*: 164f.) with McLuhan (1962, 1964b) but without acknowledgement. In fact, Deutsch (1952: 390) appears to have conceived his approach in reaction to Innis (1950, 1951; cf. Chapter 9), who in turn inspired McLuhan. Like Innis or Febvre & Martin (1958),

McLuhan (1962) saw intimate relations between industrial society and nationalism via the printing press, a factor neglected by Bauer. Hobsbawm (1998: 209f., 221ff., 227) estimates that the apex of nationalism occurred in the period before 1945, and that since then a completely different type of imagined community has begun to be erected out of lost sense of identity and perceived menace from 'the Others'. Together with the obscure emotional intensification observed by Carr for the previous period, this is in line with McLuhan's (1964b, 1988) observations on how the overheated medium reverses into its opposite. In fact, his satirical metaphor of the 'global village' referred precisely to how the extended communications were reviving, on a global scale, the anxious vigilance, rumour mongering, and informal settlements of the enclosed village life that one had just proudly left behind. By contrast to Innis, McLuhan or Hobsbawm, neither Gellner (1997) nor Anderson (1991) show any appreciation of different or intensified use of media having basically different effects on communities. Noting the important transition from a national household to a world economy, Hobsbawm cannot avoid linking these changes to the technological revolution in transport and communications, and to the fact that factors of production for a long time have been able to move freely around the world. This contrasts starkly with Gellner's (1997: 128) parading that, in his model, capital, *i.e.*, one of the forces of production, is not even mentioned.

The theme of mobility of the factors of production in Bauer's work, and the conflicts thus engendered, has thus reappeared as a possibly fruitful line of interpretation. By the latter half of the 19th century the international mobility of labour and capital were indeed higher than ever before. However, this mobility was not uniform in either time or space. In addition to the coercive and restrictive forces on migration, there were both attractive and repellent forces at work. In line with Bauer's approach on the mobility or immobility of factors, though reaching less comfortable conclusions regarding nationalism and the lack of international worker solidarity, Lewis (Chapter 11) and particularly Emmanuel (Part IV) provided frameworks for interpreting these forces in accordance with experience. Centripetal forces for labour were of course relatively wealthy, high-wage areas, where living conditions were better, or thought to be so. Surprisingly to some, *e.g.*, in the perspective of Lewis, but more coherently in Emmanuel's, these areas also attracted capital and technology, in spite or because of higher costs of production, because it was here that outlets could be found and that international specialisation would favour 'higher organic composition'. These arguments were still in the future, however, and Bauer's most immediate follower was another Marxist at one time active in Austria, namely Henryk Grossmann, to whom we shall now turn.

Henryk Grossmann was born in 1881 in Krakow, as the son of a Jewish mine-owner in Galicia, Poland. He studied law and then economics in Krakow and Vienna, publishing works on Austrian economic history. He became a Polish subject in 1918 and worked in Warsaw for the Central Statistical Office, before joining the Institut für Sozialforschung (Institute for Social Research) in Frankfurt in 1925. Although he had been a member of the Polish Communist Party, the dogmatic authoritarianism and incompetence of the overly bureaucratic German Communist Party repelled otherwise sympathetic Marxists like Grossmann, along with Fritz Sternberg and Paul Baran. After Hitler's *Machtübernahme* he fled to Paris (1933-35), then London (1935-37), before accompanying the Institute to New York. He returned to Europe in 1949 as Professor of Political Economy at the university of Leipzig, where he died the following year.

The argument of Grossmann's single most important work (1929) on 'the law of accumulation and breakdown of the capitalist system' had been presented in lectures at the Institute for Social Research and at the University of Frankfurt in 1926 to 27. However, following its publication and the response it received, he grew increasingly alienated from them. His interests were much more economic than those of the leading members of the

Frankfurt School, and his support of the Soviet Union added to their estrangement. Furthermore, the economic historian Werner Sombart had published a new edition of *Der Moderne Capitalismus* in 1928, whose interpretation of European history placed groups of nations into 'centre' and 'periphery' – Great Britain supported by the United States, and surrounded by an exploited and dominated Central, Eastern and Southern Europe. Sombart's book was very influential both in central Europe (Manoilescu 1929) and later, directly or indirectly, for Latin American economists such as Prebisch (ECLA 1949), but the economists of the Frankfurt School disputed it fiercely "on the orthodox Marxist grounds that exploitation by one proletariat (and thus one 'country') by another was theoretically impossible" (FitzGerald 1994: 94; cf. Jay 1973). The hostility towards the idea of international transfers of value was shared by another associate of the Frankfurt school, Paul Baran (cf. Chapter 12), who brought it with him into the postwar dependency tradition. By contrast, Grossmann was to incorporate the idea of international transfers of value, and therefore exploitation, as a factor counteracting the nonetheless inevitable breakdown of capitalism.

The Marxist discussion on the breakdown of the capitalist system, deriving from the inner workings of the system itself, had begun with some articles by Eduard Bernstein published in *Die Neue Zeit* in 1896 and 1897. Grossmann, for his part, believed that his theory of the breakdown of the capitalist system sprang from Marx's *method*, involving notably the reproduction schemas of which we shall see some examples below. They did not spring from the resulting *teachings* to which both Marxists and Marx's critics had often clung, taking abstract and simplifying preconditions for the real world (Grossmann 1929: v-vii). The contradiction that Böhm-Bawerk thought he had discovered between Volumes I and III, Grossmann argued to be an example of Marx's method of treating every problem at least *twice*, with simplifying assumptions and in more final form. Grossmann's has been called the first serious attempt to develop Marx's analysis in Volume III of *Capital*, in particular the tendency of the rate of profit to decline (Howard & King 1989: 316). Outdoing Marx, he undertook to study his chosen problem *thrice*: first, the conditions for the normal process of reproduction were examined; secondly, the impact of the accumulation of capital and the resulting tendency towards breakdown were introduced; thirdly, the modifying factors counteracting this tendency were put to the test. The character of his work was theoretical, not empirical, and introduced factual matters only to illustrate theoretical deductions. He thereby limited himself to show

how the sum of the empirically observable tendencies of the world economy, which are seen as the characteristic hallmarks of the *latest* phase of capitalist development (and have been enumerated in various writings on imperialism: monopoly organisations, export of capital, the struggle for the division of raw-material-producing areas, etc.) are secondary *surface appearances*, which arise from the *essence* of capital accumulation as the primary root. By establishing this context it is possible, without reverting to a special ad-hoc-theory, to unambiguously account for all capitalist appearances, including to make comprehensible the latest imperialist phase of capitalism, from *one* principle, the Marxian law of value. (Grossmann 1929: x; partial trans. in Howard & King 1989: 317f..)

The book's organisation followed his method. The first chapter (spreading into the first six sections of the second) was a lengthy summary of the existing Marxist literature on the breakdown and end of the capitalist mode of production. The second attempted to present 'Marx's' theory (*i.e.*, Grossmann's own) of accumulation and breakdown in its pure form, which builds on the analysis of the falling rate of profit, and is used to derive 'his' model of cyclical crisis. The third chapter assessed the counteracting tendencies which operate, first in a hypothesised closed economy and then, which is the most interesting section from our perspective, on the world market, opening it up to gains from non-equivalent exchange. Finally, Grossmann sets out the political implications of his analysis for the class struggle and the prospects for revolutionary change.

Both Grossmann's argument on the falling rate of profit and on the acquisition by the 'capital' of developed countries of part of the 'labour' of less developed were extensions from arguments found in Bauer, but as he (1929: 430, n. 331) observed Bauer had not attempted bringing them in accord to each other. (The usage of *entwickel^{ten}er* and *minder entwickel^{ten}*, which was also Bauer's, predated by decades the English.) To see how the non-equivalent exchange fits into his overall framework of the breakdown and crises of capitalism, we shall first review this debate up to the contribution of Bauer, extending from which Grossmann reached his conclusions, thus unifying two of Bauer's arguments thitherto kept apart.

Since Grossmann so emphasised Marx's method and built his case on a criticism of his predecessors use of the reproduction schemes found in the second volume of Marx's *Capital*, let us briefly rehearse this debate. Among other such schemas, Marx (1915: 600f.) constructed that of Table 2 for what is called 'extended' reproduction, *i.e.*, showing an accumulation of capital, and as opposed to 'simple' reproduction in which the same amount is reproduced in each period.

Table 2. Marx's second schema for extended reproduction

Period	Depart- ment	<i>c</i> Constant capital	<i>v</i> Variable capital	<i>m</i> Surplus value	<i>V</i> Value <i>c + v + m</i>			
0	I	5000	+	1000	+	1000	=	7000
	II	1430	+	285	+	285	=	2000
		6430	+	1285	+	1285	=	9000
1 st	I	5417	+	1083	+	1083	=	7583
	II	1583	+	316	+	316	=	2215
		7000	+	1399	+	1399	=	9798
2 nd	I	5869	+	1173	+	1173	=	8215
	II	1715	+	342	+	342	=	2399
		7583	+	1515	+	1515	=	10614
3 rd	I	6358	+	1271	+	1271	=	8900
	II	1858	+	371	+	371	=	2600
		8216	+	1642	+	1642	=	11500

The actual numerical values of the first year are arbitrary; what is important is the numerical demonstration of relations and possibilities. Department I produces means of production used in the subsequent period, and Department II produces consumption goods. The ratio between the value produced and each constituent part is constant, as is the ratio between departments after the 0th period. As a description of reality this schema is unrealistic because, with a constant organic composition of capital ($c/[v+m]$), it does not take account of technical progress. This implies that the surplus value from each round of production must be equally distributed between constant and variable capital, which not only contradicts the rest of Marx whole production, but is in itself a wholly gratuitous assumption. Rosa Luxemburg (1951: 337) therefore tried to manipulate this schema so as to take account of both increased organic composition (capital intensity) and increased rate of surplus. She arrived at the schema in Table 3, which she wanted to be both intensive (c/v , or $c/[v+m]$ increases) and extended (the quantity of variable capital, *i.e.*, labour, increases) reproduction.

Table 3. Luxemburg's schema for mixed extended reproduction

Year	Department	<i>c</i> Constant capital		<i>v</i> Variable capital		<i>m</i> Surplus value		<i>V</i> Value <i>c + v + m</i>
1 st	I	5000	+	1000	+	1000	=	7000
	II	1430	+	285	+	285	=	2000
		6430	+	1285	+	1285	=	9000
2 nd	I	5428 _{4/7}	+	1071 _{3/7}	+	1083	=	7583
	II	1583 _{5/7}	+	311 _{2/7}	+	316	=	2215
		7016 _{2/7}	+	1382 _{5/7}	+	1399	=	9798
3 rd	I	5903	+	1139	+	1173	=	8215
	II	1726	+	331	+	342	=	2399
		7629	+	1470	+	1515	=	10614
4 th	I	6424	+	1205	+	1271	=	8900
	II	1879	+	350	+	371	=	2600
		8303	+	1555	+	1642	=	11500

Here Luxemburg found that to the extent the organic composition increases, there will be a relative underproduction in department I, producing means of production (corresponding to $7016 \frac{2}{7} - 7000 = 16 \frac{2}{7}$ in the 2nd round) and a corresponding overproduction in department II, producing consumption goods. This discrepancy increases from year to year ($16 \frac{2}{7}$, 46, 88, ...), from which she concluded that any modification giving an increased organic composition will demonstrate the inherent tendency of the system towards overproduction of consumption goods, and that therefore it is mathematically impossible for the system to reproduce without exchanging with non-capitalist economies, which can absorb this excess, and supply the lack of means of production (raw materials).

Luxemburg (1972: 5) expected all Marxists to be convinced by her arguments and to say that hers was “the only possible and thinkable solution to the problem”, so she was genuinely surprised at the reception accorded to it in the Social Democratic press. Most of her critics were probably guided more by political motives – the same could be said of her adherents – than any desire to rectify theoretical shortcomings, but these shortcomings are still highly conspicuous. In Sweezy's (1942: 178) evaluation, hers was certainly the most elaborate underconsumptionist extension of Marx's work, and “probably the one to attract more adherents than any other,” but was nevertheless “a clear failure from a logical standpoint.”

As described by Emmanuel (1984: 185), Luxemburg's case is based in the following argument: “If (i) the rate of surplus-value is the same everywhere, (ii) capitalists save the same proportion of their profits wherever they may be, and (iii) they can only invest these savings in their own Department, the two Departments must expand at the same rate, whereas they produce the material elements of *c* and *v* respectively. Since *c* must grow faster than *v*, a shortfall in I's output and oversupply of II's output necessarily follows.” Accordingly, a capitalist economy must always expand at the expense of non-capitalist ones in search of markets. The only problem is that assumption (iii) is, in Emmanuel's words, “not merely gratuitous but absurd”. The basic argument against it, which “alone is enough to invalidate quite a few theories of crisis” (*ibid.*: 168) – that the equalisation of profit rates requires free mobility of capital throughout the economy – had been provided even earlier by Tugan-Baranowsky (1905: 227, n. 1). Robinson (1951: 25) concluded that her model “is over-determined because of the rule that the increment of capital within each Department at the end of a year must equal saving made within the same Department during the year. If capitalists from Department II were permitted to lend part of their savings to Department I to be invested as capital, a breakdown would no longer be inevitable” (cf. Brewer 1990: 65; Howard & King 1989). In fact, it is not certain that even Tugan-Baranowsky drew the logical conclusion from

his observation – that the production of the means of production could be wholly disengaged from the production of consumption goods – by constructing a schema of intensive extended reproduction. This was first done in Bauer’s (1986) review of Luxemburg’s book for *Die Neue Zeit* in 1913 (Table 4), in response to which Luxemburg (1972: 48) rejected as irrelevant the kind of numerical examples with which she herself had built her own argument, and trying to ridicule her opponents by calling it a viscous circle and a merry-go-round running empty.

Table 4. Otto Bauer’s schema for intensive extended reproduction

Year	Depart- ment	<i>c</i>		<i>v</i>		<i>m</i>			V
		Constant capital		Variable capital		Surplus value Consumed	Invested in <i>c</i>	in <i>v</i>	Value <i>c + v + m</i>
1 st	I	120000	+	50000	+	(37500 +	10000 +	2500)	= 220000
	II	80000	+	50000	+	(37500 +	10000 +	2500)	= 180000
		200000	+	100000	+	(75000 +	20000 +	5000)	= 400000
2 nd	I	134666	+	53667	+	(39740 +	11244 +	2683)	= 242000
	II	85334	+	51333	+	(39010 +	10756 +	2567)	= 188000
		220000	+	105000	+	(77750 +	22000 +	5250)	= 430000
3 rd	I	151048	+	57576	+	(42070 +	12638 +	2868)	= 266200
	II	90952	+	52674	+	(38469 +	11562 +	2643)	= 196300
		242000	+	110250	+	80539 +	24200 +	5511)	= 462500
4 th	I	169324	+	61748	+	(44455 +	14196 +	3097)	= 292820
	II	96876	+	54014	+	(38899 +	12424 +	2691)	= 204904
		266200	+	115762	+	(83354 +	26620 +	5788)	= 497724

Source: Bauer 1986: 96; Bauer’s 4th year corrected after Emmanuel 1984: 188.

The schema has the following characteristics: the working population and the amount of the variable capital both grow at the rate of 5 %; the rate of surplus value remains always at 100%, so that its total quantity is equal to variable capital and thus also grows at 5%; to bring out that the organic composition of capital rises (slightly faster in department I), constant capital is assumed to grow at 10%; the rate of capitalisation of surplus value is the same in each department, but rises along with capitalists’ aggregate income, from 25% the first year to 28% in the fourth – and as Grossmann was to demonstrate by the 35th year transgressing 100%; realisation takes place the same way each year: Department I’s annual output is equal to the following years total constant capital, while Department II’s annual output is equal to capitalists’ personal consumption that same year plus workers’ consumption the following year, but since the rate of accumulation is determined by the rate of surplus value, capitalist consumption is residual (again with Grossmann, becoming negative in the 35th year).

Luxemburg (1972: 93ff.) was outraged at the transfer of capital to Department I – which she feigned to believe was an ‘unpaid’ sale, *i.e.*, a ‘present’, undertaken to remedy an existing disequilibrium, but which was, quite the contrary, necessary precisely to prevent any such disequilibrium from developing in the following period. There were valid objections to Bauer’s theory of crisis but, as Howard & King (1989: 121) observe, very few of these “were made by Rosa Luxemburg in her distinctly ill-tempered *Antikritik*, and most of her objections were wide of the mark.” The style of her writing can be gathered from fits like: “this pedantically puzzled out system of hair-raising nonsense [...] is not a common error, such as can occur in the quest for scientific knowledge [...] [but] a disgrace to present official Marxism and a scandal for Social Democracy”. Howard and King (*loc. cit.*) note that there is certainly nothing in her critique of Bauer to justify this assertion, but they point to some extenuating circumstances: “It must be remembered that the *Antikritik* was written in the prison cell to which Luxemburg’s opposition to the war had brought her. Its main purpose was political rather than academic, and its principal target was Karl Kautsky, not Otto Bauer.”

Underconsumptionist interpretations of crises had been most common in the early Marxist literature on crises, but theoretical shortcomings pointed out in attacks by hostile critics made this approach less and less attractive. For a decade after the First World War, there were no significant contributions to the breakdown controversy. With the weighty contribution by Grossmann in 1929 the possibility of insufficient consumption was flatly denied, and attention diverted in other directions. Taking up the thread where Bauer had left it, he (1929: 121f.) demonstrated that the growth path set out in Bauer's numerical example could not be sustained indefinitely, but would collapse after 35 reproduction rounds when capitalist consumption becomes negative. "Despite his intensions, then," Howard & King (1989: 120) observe, "Bauer's model is one of capitalist breakdown, bound up with (if not in any simple sense caused by) the tendency for the rate of profit to fall in the course of technical change." In Bauer's schema the system eventually fails to produce enough surplus value to permit both the required rate of accumulation and capitalist consumption, and so breaks down from a shortage of surplus value. "By a breath-taking mental leap", as Sweezy (1942: 210) put it, "Grossmann concludes that the capitalist system must also break down from a shortage of surplus value." Indeed, breakdown inevitably follows from the assumption of constant capital grows twice as fast as variable capital while at the same time the rate of exploitation is kept unchanged. Grossmann's breakdown could be avoided either by letting the rate of surplus value increase. Ironically, Luxemburg criticised Bauer precisely for not having allowed for such an increase. As noted by Emmanuel, however, Bauer and others had already remarked that the hypothesis of a constant rate of surplus value was not crucial to the argument and could perfectly well be dropped. While Luxemburg scathingly flung out that Bauer perhaps had not considered it worth his while to construct a scheme in equilibrium where the rate of surplus value did increase, Emmanuel (1984: 196f; cf. 134 on the general tendency) had no trouble doing it for him. Without either of the two constraints, Grossmann's 'law' falls to the ground. Indeed, Grossmann (1929: 186f., 136f.) himself noted that it is unlikely that the capitalist entrepreneurs would remain passive in the face of declining consumption rates. Long before they would take measures to avert it precisely by breaking the preconditions thitherto made by depressing worker wages or the value of constant capital, or by capital exports, resulting, however, in slower rates of growth and accumulation and a steadily growing reserve army of unemployed.

Grossmann's theory of breakdown is at the same time a theory of crisis, which function as a purifying "healing process", restoring the conditions for continued accumulation. He (1929: 139f.) expects a series of increasingly severe crises rather than a once and for all collapse of the system – only if and when the countervailing tendencies are slackened or cease to operate, will the basic breakdown-trend have the upper hand and its absolute validity makes itself felt in the 'final crisis'. Counteracting tendencies are factors which operate to raise the rate of profit in the downswing of the business cycle, thus permitting an upturn in the level of activity rather than complete collapse. These are considered first with regard to a closed system, operating in the internal market, and then with regard to a system which is open to trade with the external world. The tendency towards crisis becomes ever stronger and more acute with the extent of capital accumulation, and the deepest roots of imperialism lie in this parallel tendency; they are merely two sides of the same complex (*ibid.*: 396f.; cf. 300). He is severely critical of all preceding theories of imperialism, which neglected and completely misunderstood the significance of capitalist expansion and overaccumulation. Kautsky and Luxemburg erroneously restricted imperialism to conquests of agrarian, non-capitalist areas, and in actual fact it had nothing to do with problems of realisation, as Luxemburg thought, which were only the surface appearance of the problem of lacking investment opportunities (*ibid.*: 528). Hilferding mistook one finance-dominated phase of capitalism for the general trend, and also could not explain why the export of capital was so recent (*ibid.*: 574). Even

Lenin had mistaken a mere means of counteracting the falling rate of profit, the growth of monopoly, for the underlying cause.

According to Grossmann (1929: 301-415; 308-15, 317-22, 368; 308, 316; 345, 354-61), there are three types of internal factors: are (1) those which work against the increase in organic composition of capital, such as technical progress in the production of means of production, which cheapens the elements of constant capital, and improvements in transport and communications, speeding up circulation; (2) those which increase the production of surplus value, such as technical progress in the production of consumption goods, thus lowering the value of labour power, alternatively the intensification of labour and lowering wages below this value;¹⁸ (3) the tendency for rent and commercial profit to occupy a proportionately smaller part of surplus value, itself partly offset by increasing costs of supporting new unproductive middle classes.

Turning to the counteracting factors which opened up on the world market, and their implications for a theory of imperialism, Grossmann became more elaborate. He saw three basic ways in which access to the world market might counteract the falling trend in the rate of profit, including (1) monopoly control over raw materials, in which capitalists used the state in a neomercantilist fashion to weaken the breakdown tendencies at the expense of others by cheapening the constant capital element (*ibid.*: 450-90, 458, 460); (2) the export of capital, where he criticised his predecessors for disregarding both the tendency towards international equalisation of the rate of profit, relying to the point of exclusion as they did on differences in rates between backward and advanced countries, and the possibility that the organic composition of capital might actually be higher in the colonies because they benefited from the latest technology – subject to ‘the merits of borrowing’, in Veblen’s expression: “Not the higher profits abroad, but the lack of investment opportunities at home is the *ultimate basis of capital exports*” (*ibid.*: 490-579; quotation on p. 561); (3) a non-equivalent exchange in value terms, appearing with the international equalisation of profit.

Grossmann’s aim was to show how international transfers of value could counteract the fall of the rate of profit. In Andersson’s (1972b: 92; 1972d: 13) summary: “As a consequence of the internationalisation of capital and the redistribution of surplus value between the countries through world trade, the tendencies which Marx showed for a closed and pure capitalist economy has not been manifested within an individual country but only on a world scale.” Grossmann (1929: 431) borrowed a numerical example where Marx had compared a European and an Asiatic country with different organic compositions of capital (84% and 16% respectively), but used it to illustrate how prices of production changes on the world market. Real wages are assumed to be equal, but since European productivity is higher its workers produce their means of subsistence in shorter time the rate of exploitation (or the rate of surplus value), can reach 100% in the European country and 25% in the Asiatic. Without equalisation of the rates of profit, 16% and 21% respectively, prices of production equal values at 116 and 121, as in Marx’s example (Table 5).

Table 5. Marx’s price of production schema for Europe and Asia (without equalisation of r)

Region	K Total capital (here= $c + v$)	c Constant capital	v Variable capital	q Organic composition c/K	m Surplus value	m' Rate of surplus m/v	V Value $c + v + m$	r Rate of profit $\frac{\Sigma m}{\Sigma K}$	p Profit rK	L Price of - production $c + v + p$
Europe	100	84	16	84%	16	100%	116	16%	16	116
Asia	100	16	84	16%	21	25%	121	21%	21	121
	200				37		237		37	237

¹⁸ Howard & King (1989: 327) observe: “This is Grossmann’s first mention of a rising rate of exploitation; it comes halfway through the book, occupies barely a page, and impinges not at all on any of his numerical examples.”

Now, introducing capital exports (international mobility of capital) profit rates can be taken as internationally equalised at 18.5%, and prices of production alter accordingly (and it so happens that they are the same at 118.5) (Table 6) (Grossmann 1929: 432).

Table 6. Grossmann's modified price of production schema for Europe and Asia (with equalisation of r)

Region	K Total capital (here= $c + v$)	c Constant capital	v Variable capital	q Organic composition c/K	m Surplus value	m' Rate of surplus m/v	V Value $c + v + m$	r Rate of profit $\frac{\Sigma m}{\Sigma K}$	p Profit rK	L Price of - production $c + v + p$
Europe	100	84	16	84%	16	100%	116		18.5	118.5
Asia	100	16	84	16%	21	25%	121	18.5%	18.5	118.5
	200				37		237		37	237

The country with a higher than average organic composition (capital intensity), *i.e.*, the European country where $V < L$, will gain as compared with a situation without international equalisation of profit rates, and vice versa for the country with a lower than average organic composition. In this case the equilibrium price of European goods has increased from 116 to 118.5, whereas that of Asian goods decrease from 121 to 118.5, thus in this comparison corresponding to a (hypothetical) amelioration of the terms of trade for European goods. The rate of profit has risen in Europe from 16% to 18.5%, while in Asia it has declined from 21%, and there has been a 'transfer of value' from the Asia to Europe compared with the (hypothetical) state where no equalisation of the profit rates take place. In Marxist essence, then, the technically and economically more highly-developed country appropriates excess surplus value at the expense of the backward country (Grossmann 1929: 438; cf. 431f.).

Andersson (1972b: 93; 1972d: 14) concentrates on the net 'transfer' of (surplus) value – in the above case of $121 - 118.5 = 2.5$ units from the Asian country to the European – but demonstrates that with slightly different inputs this transfer can easily be reversed. It all depends on whether the ratio between the organic compositions of capital is greater than, lesser than, or equal to that of the rates of surplus value – in the above case $84/16 > 100/25$, and draws the following conclusion: "A country A, with higher organic composition of capital, obtains in exchange with another country B, with a lower organic composition of capital, but with the same rate of profit, a greater value than it gives, even in the case where the rate of surplus value in A is greater than in B, only if the ratio between the rates of profit is greater than or equal to the ratio between the organic compositions of capital." For Andersson (1976: 40) it is of essence that the comparison be made with values, since he believes Marx's important contribution lies in his "clear separation of surplus value and profits", which was "the necessary precondition for an elaboration of a theory of international value transfers in connection with foreign trade." "Without a conceptual separation of profits from surplus value, it would not be possible to understand how (surplus) value, which is produced in one country, is transferred to another through the mechanism of market price formation." However, it is not evident that this net 'transfer of values' is the main point of comparison for Grossmann. As noted by Andersson (1976: 41) himself: "Grossman discussed it [non-equivalent exchange] as a method of counteracting the tendency of the rate of profit to fall", *i.e.*, in the country with higher organic composition of capital. It functioned as such in comparison with a (possibly hypothetical) situation with no capital mobility, irrespective of the net direction of value transfer.

Thus, just as he built his case for the inherent tendency towards breakdown of the capitalist system by elaborating on Bauer's reproduction scheme, Grossmann also picked up and linked it to Bauer's demonstration of non-equivalent exchange as one of the countervailing tendencies. To be sure, in this case he referred to first of all to the relevant passages in Marx's work, and chose his numerical example from *Capital*, but he pointed out that the international

dimension to the transformation of values into prices of production had been neglected until Bauer, as it was, indeed, to remain for some time after Grossmann's work. In a sense, his overall framework is rather similar to that later informing the work of Emmanuel (1979), who was at the time studying economics in Athens, particularly as presented in his dynamic version of unequal exchange, where the falling rate of profit, due in this case to worker organisation, was offset by unequal exchange with the low-wage periphery. As to the details, however, there are not so many similarities after all: Grossmann's basic idea of a general law of the falling rate of profit is given scant reference, and the transformation of values into prices of production had nothing to do with unequal exchange in the perspective of Emmanuel. But as Howard & King (1989: 316) noted on another aspect of his theory: "Deeply flawed, it nevertheless proved to be (in the long run) extremely influential." Loxley's (1990: 717) review of Howard & King's history of Marxist economics notes:

Grossman's crisis model, which allowed for the possibility of declining rates of profit in industrialized countries to be offset through international transfers of value from less developed countries, anticipated Emmanuel's imperialism of trade' approach by some forty years, although, surprisingly, the authors do not make this connection. True, Grossman located the origin of unequal exchange in different organic compositions of capital, while Emmanuel, who recognized the validity of this form but dismissed it out of hand as being not particularly interesting, concentrated instead on differential wage rates; but the methodology and the conclusions about the role of trade in propagating underdevelopment are remarkably similar to those of Emmanuel.

It is certainly possible that Emmanuel came across the problem set out so incompletely by Grossmann on the eve of the Great Depression, lingering on in his mind, only to reappear some three decades later, but there is not very much more to build this proposal on.

The reception of Grossmann's book was merciless, and only few reviewers were at all favourable. Critics seem to have concentrated on the argument on breakdown, the rigid, unrealistic assumptions necessary for it to hold, his assumption that the goods exchange at their labour values, empirical difficulties, and his interpretation of Marx. They touched on the counteracting tendencies only to argue that these ought to have been included in the main trend, not attached at the end – perhaps an odd point to make for an argument extended over the latter half of a more than 600-page book.

But at least one critic, Paul Sweezy, objected against the transfers of value in both Bauer's and Grossmann's arguments. Asking to what extent the laws governing value, the rate of surplus value, and the rate of profit apply to the world economy, Sweezy (1942: 289) conducted his examination under the assumption of only domestic, no international, mobility of capital: "Let us first consider the case of trade alone, leaving capital export for subsequent treatment." Domestically, competition and mobility of labour and capital will ensure the equalisation of surplus value and profit respectively, between different lines of industry, so that commodities will sell "at their values or prices of production".¹⁹ Since he assumed the conventional Ricardian restrictions, he reached the conventional conclusions: "As between different countries, however, no such equilibration can be effected by trade alone", he continued, though adherents of the Heckscher-Ohlin theorem would perhaps disagree. "Trade must in any case increase the mass of use values at the disposal of all the countries concerned, and it may influence the height of both the rate of surplus value and the rate of profit in one or more of them." If, for example, wage goods could be had more cheaply through international trade, and if real wages would remain the same, then the rate of surplus value (rate of

¹⁹ Here Sweezy explains that "this qualification will not be repeated"; he apparently saw no distinction necessary, and since we do not wish to get into the Marxian doctrine of transubstantiation, we will have to let it pass. "The commodities exchanged between two countries on equal terms need not contain equal quantities of labor; indeed, it would be purely accidental if they did. Exactly the same would be true of the products of two industries within a country if transfer of labor from one to the other were impossible." Sweezy of course believes that else this *would* be the case, but reasserts that it is not so between countries.

exploitation) would increase, explaining, incidentally, why British capitalists (not landowners) were so against the Corn Laws. As Marx and Grossmann pointed out, “cheapening of the elements of constant capital” was one of the counteracting factors to the falling rate of profit, whether by trade or any other means.

Sweezy (1942: 290) now made an odd turn to criticism, denying international transfers of value though trade altogether: “It should be particularly noted that trade between two countries can affect the distribution of the value produced within either one or both of them [...] but that it cannot transfer value from one to the other. A more advanced country, for example, cannot extract value from a less advanced country by trade alone; it can do so only through the ownership of capital in the latter.” He (*ibid.*: 291) pointed out that several Marxian writers, such as Bauer and Grossmann had mistakenly argued to the contrary “that trade does constitute a method whereby value is transferred from backward lands to more highly industrialized countries.” What is odd about Sweezy’s criticism is that he apparently believed them to assume no capital exports, and that profit rates were equalised between countries through exchange alone. No such claim was ever made by them, but having made this criticism he (*loc. cit.*) went on to say: “The situation changes, of course, as soon as we drop the assumption excluding capital exports.” As pointed out by Emmanuel (1972: 43), this means that Bauer’s and Grossman’s theses do become well-founded under the assumption of mobile capital, and that for Sweezy’s criticism to be correct he would consequently have to deny international transfers of capital altogether. It seems, however, that Sweezy’s reasons were that he took for granted that transfer of capital would go in the opposite direction, towards the least developed areas, because these were presumably to be the high-profit areas. In addition, Sweezy (1942: 292) entirely missed the point when he argued for the non-equalisation of the rate of *surplus value*: “It should be noted that international equality of profit rates does not imply international equality of rates of surplus value. So long as free mobility of labor across national borders is restricted, for whatever reason, the workers of some countries will continue to be more exploited than others even if the rate of profit obtainable by capital should be everywhere the same.” This is indeed the very same conditions which were for Emmanuel to *constitute* unequal exchange, and certainly could not be advanced against the idea of a transfer of value. To Sweezy (1942: 292), who did not consider this possibility, movements of capital only expressed “the tendency for the rate of development of capitalism in the various parts of [the] world economy to be evened out”. He is careful not to present any arguments to support this opinion, and in all probability did not hold on to it. The reversal of his stance on the equalising tendencies of capitalism was in all probability mediated by one of his closest associates, Paul Baran (Chapter 12), but the negative evaluation of attempts to apply or adopt the Marxian theory of value to the international economy is evidenced in the works of both.

Chapter 6. Non-equivalent exchange in the Soviet transition debate

In Russia, the October revolution placed the transition to socialism on the agenda. The uncertainty surrounding Bolshevik policy can partly be traced to the circumstance that there was little guidance to be found either in the writings of Marx and Engels, or in the work of theorists of the Second International.

Preoccupied as he was with other matters, Marx’ early and middle aged views on Russia had not been well-informed, certainly not based on materialist analysis, emphasising instead

its barbarian and 'semi-Asiatic' mode of production.²⁰ In underlining its non-Western character he was nevertheless followed by major Russian and Soviet theorists, until the very notion of an Asiatic social formation was repudiated under Stalin's dictatorship: "its apparent similarity with Soviet reality was altogether too close for comfort" (Howard & King 1989: 135). Avineri (quoted in Arndt 1973: 15f.) has pointed out Marx's undifferentiated references to 'barbarians', 'semi-barbarians', 'nations of peasants', 'the East' in the *Manifesto*, surprising in view of its universal claims. Marx's view seemed an uneasy combination of "a sophisticated, carefully worked out schema describing the historical dynamism of European societies, rather simple-mindedly grafted upon a dismissal of all non-European forms" under the static, unchanging, and totally non-dialectical presentation of the 'Asiatic mode of production'. This lack of internal development made colonial expansion a brutal but necessary step towards the victory of socialism, without which Asia and Africa would not emancipate themselves from their stagnant backwardness. This faith shows up clearly in Marx's writings on India, where, for all its evils, British rule had at least helped destroy pre-capitalist peasant attitudes and Oriental despotism. The independent and self-supportive Hindu village system based on domestic manufactures and hand-tilling agriculture, had been dissolved through the social revolution unconsciously brought about by free-trade. "Sickening" as it was to see them "thrown into a sea of woes" it was not to be regretted, Marx informed Mosaically, since their "barbarian egotism which, concentrating on some miserable patch of land, had quietly witnessed the ruin of empires, the perpetration of unspeakable cruelties, the massacre of the population of large towns," their "undignified, stationary, and vegetative life" which "rendered murder itself a religious rite", their castes and slavery, had to be undone along with their "brutalizing worship of nature, exhibiting its degradation in the fact that man, the sovereign of nature, fell down on his knees in adoration of Hanuman, the monkey, and Sabbala, the cow" (Marx 1853a: 40f.). In India, the railway system was the forerunner of modern industry, exemplifying how the "bourgeois period of history had to create the material basis of the new world", the means of universal intercourse and mutual economic dependency, along with the development of man's productive powers transforming material production into a scientific domination of natural agencies. "Bourgeois industry and commerce create these material conditions of a new world in the same way as geological revolutions have created the surface of the earth" (Marx 1853b: 86f.). In line with his views of colonialism, Marx's ecological awareness was 'more Benedictine than Franciscan', as Vaillancourt (1996: 60f.) put it: "For Marx and Engels, indeed, nature must be put to the service of man. They wanted to organize and develop production to satisfy human needs, while at the same time conserving the regenerative capacity of nature. [...] They anticipated the damage that capitalism could inflict on mankind and on the planet, but they nonetheless remained fascinated with this system". The scientific domination of the earth was to be accomplished not least through chemical fertilisation expounded by Justus Liebig, from whom Marx borrowed the concept of a 'metabolism [*Stoffwechsel*] between man and nature' (Foster 2000: 161f., 164; he [139] has understandable trouble explaining away the *Manifesto*'s panegyric over the "subjection of nature's forces to man" and the "clearing of whole continents for cultivation"). The fullest development of the individual's creative capacities was seen as inseparable from the advanced stage of mastery and control over nature in all its forms, which itself was the product of the techno-economic achievements and momentum created by bourgeois society (cf. Warren 1980: 24f.).

Marx first encountered Russian populism when it was still Slavophilic, provoking a negative response. Later, his sympathy for opponents to Russian autocracy, the economics of

²⁰ Howard & King (1989: 134) comment: "Even Stalin, never noted for sensitivity in matters of theory, was moved to criticise the absence of a materialist analysis. [...] The view that it had experienced no 'internal history' prior to the late 1850s borders on the absurd."

Chernushevsky, emphasising the possibility to duplicate the industrial achievements of the West without its costs, and the rehabilitation of primitive communal forms in the anthropology of Morgan stimulated Marx, in what Edmund Wilson (1940: 344) described as the “last vital flicker of his mind”, to allow for the possibilities for which the populists strove. If the ‘Mature Marx’ formed the intellectual nucleus of the Second International, and the more Hegelian ‘Young Marx’ had a profound influence on Western Marxism after the First World War, this ‘Late Marx’ has of late re-emerged in the neopopulism or neo-Narodnism of certain leftists of a more agricultural or ecological bent. It must be admitted, however, that this Late Marx produced no texts comparable to those of the other two Marxes, merely cryptic remarks appended to earlier works, letters sent, and drafts of letters never sent, to Russians. Howard & King (1989: 138) rightly conclude: “By no stretch of the modern imagination can all this be constructed as a ‘system’.” The late concessions to the Russian village also stand against his major lifetime achievements and legacy, in which the self-centred idiocy of rural life, the barbarism of peasants, and their political unreliability, fitted in all too often and all too well. In any case, the late Marx provided no theoretical grounds for refuting his technocrat, anti-peasantry followers, which emerged as his strongest proponents also in Russia at about the same time.

After defeat in the Crimean War of 1856, the Tsarist autocracy engaged in modernisation on a more extended scale, with the abolition of serfdom in the 1860s and rapid industrialisation, particularly from the 1880s. The former facilitated transfer of labour from village to town, and reduced the constraints on the state’s ability to pump resources from the country to finance industry. Growth exceeded that of any other, and by 1914 Russia was the fifth largest industrial power in the world. Howard & King (1989: 133) write: “A highly developed industrial capitalism was thus constructed within the *ancien regime*. Coupled with it was its ultimate gravedigger, a small but highly concentrated urban proletariat linked in a multitude of relations with a peasantry whose augmented exploitation had been the principal means through which the process had been accomplished.” In a very real sense, the Russian Revolution was not only the product of this tsarist modernisation, but also its continuation.

Similarly, a deeper understanding of Marxist economic thought in Russia, would require examining the links with and themes of its predecessors. These predecessors are more interesting than the term ‘mercantilism’ could evoke, although both doctrinal similarities and likeness in concrete policy can be found under Peter I. The economic role of the state was, however, much more pronounced than in the writings of English mercantilists, probably even more than in the state activities of statesmen such as Cromwell or Colbert. Nevertheless, the progressive policies of Peter I on industrial protectionism, fiscal policies and the inflow of specie resembling those in Western Europe still functioned in the presence of serfdom, giving a different impression of the totality. Under the circumstances it is more evocative to remind of Stalin’s liking for him: “When Peter the Great, having relations with the more developed countries in the West, feverishly built mills and factories for the supply of the army and the strengthening of the country’s defense, this was an original attempt to escape from the framework of backwardness” (quoted in Letiche 1964: 249f.).

With minor exceptions, Marx (cf. 1843: 343ff.) had foresworn any attempt to give a precise account either of the communist society or of the transitional stage necessarily preceding it. The details would remain unforeseeable, subject to “infinite variations and gradations in appearance”, which would be transcended only through universalisation of the new mode of social being. This “realm of freedom” presupposed transcendence also of the economic problem, making possible “that development of human energy which is an end in itself” (Marx 1959: 792, 820; cf. Day 1975: 196f.). “Industrialization was expected to reach such intensity that men would be all but displaced by machines,” Day (1975: 197) explains, quoting Marx’s *Grundrisse*, “reducing the necessary labour of society to the minimum”, and

transforming economic life into “a technological application of science”. The counterpart of this reduction, Marx (quoted in *loc. cit.*) adds, “is that all members of society can develop their education in the arts, sciences, etc., thanks to the free time and means available to all”. The contrast between ‘Mature Marx’s’ ultimate expectations and the immediate outcome of the revolution could hardly have been starker.

In the first eight months after the revolution the peasants seized the land and redistributed it on traditional communal principles, rendering redundant the decreed nationalisation, and reducing the previous degree of internal differentiation, as well as productivity. There were few nationalisations even in industry, but private capitalists were subjected to supervision by factory committees and local Bolshevik officials. Lenin defended this system, which he called ‘state capitalism’, as the principal mode for the transition, at least in the earliest stage. The transition period itself was seen as a unity of opposites, with plan and market elements coexisting and interacting for a time sufficient to re-establish production and distribution, until international revolution provided an environment in which more systematic construction of socialism could be made. His position was based on the presuppositions that the seizure of power on a programme popular with the masses would eliminate the risk of civil war, and that democratisation would revitalise the economy and the armed forces enough to resist Germany and even fight revolutionary wars if necessary.

When the Bolsheviks then seized power in the October Revolution of 1917, in the midst of world war, they believed that it would be crushed if they did not sue for peace, consolidate their victory at home, and spark the revolution abroad. Envisioning a classless society in a warless world, expansion of democracy to the poor and powerless, abolishment of private property, worker control of the workplace, peasant control of the land, and a fair distribution of the fruits of production, they summoned “workers of all countries” to join their struggle and revolt (Leffler 1994: 3f.). But since this call was not followed by immediate revolutionary upheaval, they had to decide whether to sign a humiliating peace that made them accomplices of German imperialism, or to sustain the deadly struggle. Lenin was the decisive voice in support of signing a separate treaty with Germany, the Treaty of Brest-Litovsk, in March 1918, where they relinquished the Ukraine, Kars (along the border with Turkey), Poland, Finland, Estonia, Latvia, and Lithuania. These areas contained substantial parts of Russia’s raw materials and industrial infrastructure – perhaps three-quarters of its iron and steel, a quarter of its railway network and population, and a large share of its most fertile soil (*ibid.*).

By this time, Lenin was “rapidly back-peddalling, and the subordination of autonomous working-class organisations to hierarchical control in the name of economic necessity soon took over from the theories enunciated in the *State and Revolution*” (Howard & King 1989: 291). The alliance with the peasantry became strained as the regime applied coercive measures to secure urban food supplies. The Bolsheviks, like their domestic opponents, were ready to take aid where they could find it, including both asking for formal diplomatic recognition, food, military supplies, technical assistance and credit, from the Allied, and using indoctrinated and liberated German and Austrian prisoners of war against domestic enemies. (The danger of a German-Soviet collaboration was a recurrent nightmare for western powers over the following decades, propagated also in the 1920s, *e.g.*, by Preobrazhensky; cf. Leffler 1994: 8.) Lenin’s model of the transition period was seriously weakened and finally abolished.

When Lenin’s ‘state capitalist’ model of the transition proved fallacious, room was made for his leftist critics, at the time including Bukharin, arguing for more radical measures. The policy known as War Communism represented a crude form of command economy that was operative for nearly three years, starting (within months after Brest-Litovsk) with the onset of civil war after June 1918, which provoked an immediate wave of nationalisations of virtually all industries. The economic atmosphere is best characterised by Trotsky’s demand in 1920

for the “mobilisation” and “militarisation” of labour, including “a planned, systematic, steady and stern struggle with labour desertion, [...] the creation of a penal work command out of deserters, and their internment in concentration camps” (quoted in Day 1975: 197). Attempts were made to administrate the allocation of resources, to suppress private trade and monetary relations, and to commandeer the entire agricultural surplus, leaving peasants enough only for subsistence and sowing. To relieve starvation in cities the Bolsheviks relied upon an inflationary expansion of the money supply, and outright requisitioning of foodstuffs, through the use of committees of poor peasants and armed detachments sent out from urban centres. Continuing inflation soon created the need for rationing. Agricultural products were seized from the peasants by the security police and the Red Army and distributed freely to industry and in rations to designated groups. Unprecedented scarcities caused acute problems in the allocation of goods and resources, reinforcing authoritarianism in ways not foreseen by any socialist. Democracy within the soviets was suppressed, and the ‘red terror’ was launched against former allies who opposed Bolshevik party dictatorship. Unsurprisingly, they themselves now regarded this as the appropriate mode of transition (Howard & King 1989: 287, 292).

Nikolai Bukharin (1888–1938) belonged to the group on the left which was against signing the treaty of Brest-Litovsk, but was called by Lenin “the golden boy of the revolution”, “the favourite of the entire party”, and its “biggest theorist” (cf. Foster 2000: 226). His ‘economic theory of the transition period’ (1979) was the theoretical manifesto of War Communism, and its most sophisticated theoretical expression. In Erlich’s (1960: 9) words he was “undoubtedly the best-educated economist not only of his group, but of the whole party as well, with a truly astounding facility for the rationalization, in terms of theory, of any political viewpoints he happened to embrace, and for pushing them toward the furthest logical consequences.” Part of his objective was to counter criticisms made by Western anarchists and social democrats of the party dictatorship, thus complementing Lenin’s *The Proletarian Revolution and the Renegade Kautsky* (1965b) and Trotsky’s *Terrorism and Communism* (1922). Bukharin argued for the necessity of authoritarian dictatorship of the proletariat and state socialism. They were certainly necessary to win the civil war, but also the universally relevant paradigm for the transition to socialism. Representing modern capitalism ‘turned upside down’, the dictatorship of the proletariat had overthrown the domain of economic laws. He believed capitalism to be ruled by ‘negative extended reproduction’, with unproductive utilisation of resources, which would initially continue, until the counter-revolutionary forces were crushed (Howard & King 1989: 292f.). With a successful conclusion to the war, he believed, modifications and reconstruction would occur, but the ‘voluntary self-discipline’ of the proletariat under party rule was still the most perfect manifestation of the transition period.

Transactions between town and country, administered by the centralised proletarian state, would in time replace forcible confiscation of peasant surplus as the productive capacity of industry was restored. “Ultimately the rural economy would be socialised, class divisions fade, inequalities decline and the state wither away as participatory democracy and a harmoniously planned economy became established, although Bukharin never specified exactly how all this would occur” (*ibid.*: 293). The relationship between town and countryside became the critical problem in the ensuing period of New Economic Policy.

Even after three full years, L. Kriksman could argue that “[i]n reality, so-called ‘War Communism’ constituted the first great experience of a proletarian-natural economy, an experience of the first steps in the transition to socialism” (quoted in Day 1975: 197). In the reference to the ‘natural’, or non-monetary economy with socialised production, Day (*loc. cit.*) finds “a major key for understanding the mystique of these years”, and also for the understanding of left oppositionists in the following years.

The collapse of the Russian economy during the First World War, Revolution, and civil war

is probably unprecedented. Foreign trade had ceased altogether under the blockade of the Western powers during the civil war. In 1917, industrial output had fallen to three quarters its 1913 level, and by 1921 to less than a third. Agricultural output decreased by a tenth in 1917, and two fifth in 1921 (Howard & King 1989: 294). Money lost virtually all value, but the left wing among Bolshevik intellectuals interpreted the collapse of the economy and of the rouble as a necessary part of the leap into socialism, where the proletariat would control all transactions without the use of money. While War Communism might have had some rationale to a state at war, it proved more difficult to motivate it once the civil war was over. Peasant riots, workers' strikes, and finally the mutiny of the sailors at Kronstadt, compelled Lenin to retreat and adopt the New Economic Policy (NEP). Early in 1921 peasant requisitions were replaced by a new tax in kind on agricultural products, and the peasants recovered their right to trade in the residual surplus and to hire wage labour. Private trade and small-scale private manufacture were legalised (*ibid.*: 287; Nove 1965: ix). The 'retreat' to New Economic Policy meant a new start for the debate on the transition to socialism.

To Lenin this perhaps represented less of a retreat than to most of his collaborators, and he could point out that he had advocated a similar setting already in early 1918, although on a later occasion he (quoted in Erlich 1960: 4f.) admitted to having been caught in the general "wave of enthusiasm" for the War Communist policies. Experience had proved them wrong. The important task, as he now saw it, was "to improve the conditions of the peasantry and to improve their productive forces." To improve the conditions of the workers, grain and fuel was required, and "it is impossible to increase the production and collection of grain and delivery of fuel except by improving the conditions of the peasantry, by raising their productive forces." "The correct policy of the proletariat which is exercising its dictatorship in a small-peasant country", he continued, "is to obtain grain in exchange for the manufactured goods the peasant requires" (quoted in *loc. cit.*). He even admitted, fairly and squarely, that the effect of restoring foreign investment, small industry and peasants, "will be the revival of the petty bourgeoisie and of capitalism on the basis of a certain amount of free trade", that it would be ridiculous to deny this, and foolish and suicidal to oppose it. "*We must do everything possible to develop trade at all costs*, without being afraid of capitalism [...]. This is the fundamental idea of the tax in kind" (quoted in *ibid.*: 6).

From the latter part of 1922, Lenin became disturbed by the regime's bureaucratism, which seemed to replicate the administrative abuses of tsarism. In his last article (quoted in Erlich 1960: 8), he advised scepticism toward building the state apparatus faster than the supply of skilled and responsible civil servants. This was even more true of progress in the economic field, which could not be achieved as rapidly as in the political and military sphere. The aim was to "prove to the peasant by deeds that we are beginning with what is intelligible, familiar and immediately accessible to him in spite of his poverty, and not with something remote and fantastic from the peasant's point of view". Success was possible only if one could link up "with the rank-and-file toiling peasants, and begin to move forward immeasurably, infinitely more slowly than we expected but in such a way that the entire mass will actually move forward with us." The retreat was turned into an advance by securing a proletarian-peasant alliance (*smychka*).

Bukharin's took some time to follow suit, but when he did in 1923, the reversal was the more complete. If *The Economic Theory of the Transition* had made some of his friends "shudder at the extremism of its assumptions and conclusions, so did his swing to the opposite direction" (Erlich 1960: 9). His economic schooling was originally in Austrian marginalism, which he had attacked in a former book. In a 1920 article, Ludvig von Mises had argued that a socialist government could not make the economic calculations required to organize a complex economy efficiently. Mises's objections were elaborated in a 1922 book, *Socialism: An Economic and Sociological Analysis* (Mises 1981), and from his War Communist

experience Bukharin now felt that Mises's strictures against mismanagement under socialism were largely justified. This second, NEP model of transition retained some features of the old, however. As before, he accepted Bolshevik vanguardism during transition, and the long-term goal was still a fully socialised economy, including agriculture and the elimination of market relations. The major change, in his view, had been in circumstances, but, as Lenin, he now believed a longer time-scale would be needed (Erich 1960: 10).

Like virtually all Bolsheviks by this time, notably Trotsky and Preobrazhensky, he presumed that the expansion of the state sector was synonymous with the expansion of socialist relations. Like them, he advocated the expansion of industry and the development of cooperatives, which it was believed would undermine peasant individualism and squeeze out private capital. Instead conflict arose on *how* industry could expand and co-operations socialise agriculture. Here, Bukharin revealed what appears an almost narodnik belief that state industry depended upon the growth of peasant demand, which was ultimately a market for consumption demand, attacking Tugan-Baranovsky's treatment of expanded reproduction, where industrial investment provided the market for industrial products. It was the political sphere that made a difference, with the dictatorship of the proletariat assuring the incorporation of petit-bourgeois agriculture, and co-operatives, in the socialist complex. "Consequently, there was a basis for a long-term *smychka* between the proletariat and the peasantry," Howard and King explain, but it required a delicate proportionality to avoid a "sales crisis" in the state sector (Howard & King 1989: 296).

Bukharin believed in a predetermined order of economic development, starting with increased agricultural output enhancing peasant purchasing power, subsequently carrying light industry with it, which in turn generated demand for heavy industry. This specific and necessary order was, in his own view not simply a generalisation of past experience but a universal principle, and he dismissed any other growth scenario as "applied Tuganism" (Howard & King 1989: 302). Bukharin's strictures on Tugan-Baranovsky was based on the hypothesis that production of means of production, being nothing more than a preparatory stage for the production of consumption goods, cannot be dissociated from final consumption. However, what is impossible for a capitalist market economy, may be possible for a planned socialist one, as Erlich (1960: 18f.) sees:

Bukharin was on the wrong track when he kept insisting that today's investment cannot mature into anything else but the increased consumption of the future. He did not notice that the crucial issue at stake was not the technological possibility of "building mills that should make more mills forever" (to borrow J. B. Clark's famous phrase), but the economic rationale of the staggering rate of increase in capital stock which such a policy would entail. In other words, he lacked the notion of declining investment opportunity just as much as his opponents did. It was therefore not surprising that he did not stop to inquire to what extent planned and unplanned economies differ in this respect.

Thus, Emmanuel (1984: 161) sums up in agreement with Erlich, "in unplanned economies, the lack of opportunities for investment prevents the means of production from becoming independent of consumption, while this obstacle does not exist in planned economies". As Tugan-Baranovsky (and Bauer) had demonstrated, there was no *technical* impossibility to investors investing in investment goods – a 'carousel' denounced as 'absurd' by Luxemburg and Amin. "If the goods in question were capital goods," Erlich (1960: 19) continues,

Tugan Baranovski's economy would always have ready outlet for them; and should they be consumers goods as Bukharin apparently assumed, the increase in the output per man could be entirely compatible with constancy or even with decline in the total output of the industry affected by the innovation, and with the continual shift of resources toward a self-expanding capital-goods sector. Here, once again, the thing to do was to probe into the basic assumption that this sector could always be relied upon to expand whenever consumption would decline – but this was precisely what neither Bukharin nor other critics of Tugan Baranovski ever attempted.

In spite of his condemnation of the underconsumptionism of the Populists/Narodniks, he had evident problems in protecting his argument from falling into their line (*ibid.*: 20).

Stalin and Bukharin had good reason to believe that Preobrazhensky's economics was affiliated with Trotsky's 'unorthodox', theory of permanent revolution, which in their view conflicted with pure Leninism. The Left Opposition had equally good reason to fear official policy, and Bukharin's new theory of the transition, as a politically and economically dangerous form of revisionism, which generated seeds of a major economic crisis and potentially leading to the restoration of capitalism. Trotsky was the most articulated overall critic of the Opposition and Preobrazhensky its most original economist. The weakness of their stance was underestimating the strength of the peasantry and not addressing the question of how they could be enticed into collaboration. Stalin's view shifted away from Bukharin's after 1926, and definitively in 1928, usually referred to as his 'turn to the left'. He was much 'clearer' on the issue of peasant coercion, and violently demonstrated the possibility of 'socialism in one country'.

The son of a priest in the province of Orel, Evgenii Alexeyevich Preobrazhensky (1886–1937) joined the Russian Social Democratic Worker's Party in 1903, allied with Lenin in the split the same year, and became a professional revolutionary. He was arrested twice and subject to internal exile, had a leading position in the Urals during the October revolution and was part of the Left Communist group opposing the treaty of Brest-Litovsk. He played an active role in the civil war and like Bukharin was a fervent supporter of War Communism, being a full member of the Central Committee, and one of its three secretaries in 1920-21 (followed by Molotov). Despite his long commitment he did not become an intellectual prominent until he co-authored with Bukharin *The ABC of Communism* in 1919 (Ellman 1987: 945).

In the 1920s, he became the leading economic theorist of the Left Opposition headed by Trotsky, who was himself more of a political theorist than an economist. In 1921-22, most elaborately summed up in his book on the transition from NEP to socialism (*Ot NEPa k sotsializmu*), Preobrazhensky was critical of the New Economic Policy, and worried about concessions to the peasantry, believing them to preserve or reinstall rural stratification and impede Soviet power. In the 1920s, the Bolsheviks found themselves in power in a backward, predominantly agrarian country, and the most important and original of Preobrazhensky's extensive work concerned the problem of how to build socialism under these circumstances (*loc. cit.*). He nonetheless accepted that War Communism could not be a valid long-term model for the transition, and became committed to the belief that NEP constituted such a general paradigm.

The expansion of the state sector, and its relative rate of development to the non-state economy, was a key variable. He accepted that it was possible to form an alliance between the peasantry and proletariat, but only through strengthening proletarian hegemony over the peasant masses, and by hindering foreign bourgeois forces from forming an alliance with the domestic bourgeoisie and peasantry. Therefore the state sector must directly and indirectly strengthen socialist production relations. "Here lay the nub of the economic problem. What Bukharin regarded as socialist accumulation – that is, reliance upon the internally generated surplus of the state sector – could not possibly provide sufficient resources for industrial development at the rate required" (Howard & King 1989: 300). The resources for the expansion of socialist accumulation had to be extracted from the non-socialist economy, meaning above all the peasant sector, but also foreign trade, through expropriation if necessary, but preferably, under NEP conditions, through non-equivalent exchange between sectors or countries. These conclusions were arrived at in lectures leading up to a 1924 article on "The Fundamental Law of Socialist Accumulation", which was included as a main chapter in his principal book *The New Economics* (*Novaya ekonomika*; 1926). His earlier book had

portrayed the Soviet economy as a dialectical unity of plan and market elements, and had proposed to control the reckless spontaneity of a market economy by planned manipulations of agricultural prices (cf. Day 1975: 210), but now he drew the necessary conclusions further:

If *Novaya ekonomika* took over the methodology of *Ot NEPa k sotsializmu*, the same cannot be said of the central theme. Now it was argued most emphatically that the transition period could not be completed unless the existing imbalance between industry and agriculture were negated through a system of *unequal exchange* between the two sectors. A *significant net transfer of values* would have to flow from agriculture into industry in compliance with the law of primitive socialist accumulation. This part of his analysis Preobrazhensky presented in a way closely resembling Marx's exposition of foreign trade between industrialized and backward countries. Marx, it will be remembered, had maintained that a backward country sells labour-intensive commodities in exchange for industrial goods. Because labour content is the measure of value, international trade effects a net transfer of values into the more developed economy. Quoting Marx's conclusion that 'the favoured country recovers more labour in exchange for less labour', Preobrazhensky declared that the Soviet foreign trade monopoly should be used in order deliberately to preserve a similar inequality between industry and agriculture. (Day 1975: 215)

Linking up with the debates of his times, Day here adopts the term 'unequal exchange', but as suggested by Andersson (1972b), Preobrazhensky was perhaps the first to use the expression 'non-equivalent exchange' in connection with a 'transfer of labour values', whether under capitalism or socialism, and we shall try to stick with this terminology. Preobrazhensky spoke of these non-equivalences as a 'law' of primitive socialist accumulation, analogous with the capitalist 'primitive accumulation' spoken of by Marx, which was in constant tension with the law of value. In a socialist economy, exchange between industry and agriculture could not follow the law of value any more than foreign trade, which had to be channelled through the state monopoly: "internal and external capitalist forces pressed for equivalent exchange and freer international trade, while the survival of socialism necessitated the suspension of both." (Howard & King 1989: 301; cf. Preobrazhensky 1965: 3f., 24, 54, 57ff., 64, 70, 77ff., 110, 139, 142-7, 195, 208, 262; 1980: 5, 62ff., 196)

The period from Lenin's death in 1924 to 1928 was perhaps unique in the history of Soviet economic thinking both for its candour and in its high theoretical level. Preobrazhensky's article on "The Fundamental Law of Socialist Accumulation", published in 1924, is considered by Erlich as the opening gun in the debate, and according to Domar (1966: 252) the first part of his unfinished *magnum opus*, *Novaia ekonomika* (two editions in 1926), assures his reputation as "one of the brightest lights of the Golden Age of Soviet economic thought in the nineteen-twenties". His approach to problems was coloured by the dramatic circumstances of political struggle in which they were written. It was not that of a balanced and systematic presentation of well-defined concepts, Erlich reminds (1950: 58) but rather "in the nature of shock treatment." "But with the heat there was also light", he continues, "the light of a keen and vigorous mind wrestling desperately with issues which others ignored or tried to circumvent." The sensitive political situation balanced on a compromise between the Bolsheviks and the peasantry. Bukharin (and in principle the official New Economic Policy) recommended peasants to enrich themselves – in the spirit of Guizot's *enrichissez-vous* –, and Preobrazhensky was heavily criticised, particularly after his 1926 book, for speaking, and recommending non-equivalent exchange between the state and the peasantry, although he admitted the political necessity to call it something else. The ominous simile with primitive accumulation called up memories of the expropriations of War Communism. All this was probably more important factors in limiting his influence than theoretical shortcomings.

In Erlich's (*loc. cit.*) opinion, "no other viewpoint developed during these years was so violently repudiated at the beginning only to be implemented ultimately on a scale surpassing anything its author had even thought possible." The final outcome of the debate was, so Erlich argues, the program of Five Year Plans. Thus, Preobrazhensky's work had a significant, if disputed, impact in the USSR in the 1920s. After a period (1924-27) as active oppositionist,

he was expelled from the party in December and deported to Siberia. After Stalin's turn to the left, Preobrazhensky in 1929 renounced his old ideas, and accepted the former's leadership, but after a few arrests he was nevertheless shot in 1937. Later Eastern bloc theories on non-equivalent exchange seem to have been more concerned with trade between developed and underdeveloped *capitalist* countries, indicating that the subject was still too sensitive in the post-Stalinist period, but perhaps reflecting the more general debate on the application of 'world prices' to exchange within the socialist bloc. As to his theory of non-equivalent exchange Andersson's (1972b: 96) concluding judgement is that it remained "too weak to give it a generally accepted position in economic theory." It seems nevertheless to have played a role in Third World theoretical and policy discussions.

The term 'primitive socialist accumulation' was originated by the Soviet economist V. M. Smirnov, and Preobrazhensky, with whom the expression has become connected, used several interchangeable expressions. Thus, 'primitive', 'primary', or 'preliminary' socialist accumulation, in his view only began after the conquest of power of the proletariat. The nationalisation of large-scale production, concentrating the minimum resources required for the proletarian state, was only its first step on the way to true socialism (Preobrazhensky 1965: 81). Through the revolution, the working class acquired only that which capitalism already possessed in the institution of private property: "nationalization of what has been accumulated by capitalism does not conclude the period of socialist primary accumulation but, on the contrary, begins it" (*ibid.*: 83). It was a necessary step enabling socialist production to achieve the same high level of technique as capitalism, to organise labour, the state economy and administration scientifically, and, not least, to coordinate with a view to the entire social complex, what capitalism failed to do because of its uncoordinated 'guerrilla' methods.

Socialist accumulation meant an expanded reproduction based on a surplus product created within the socialist economy, whereas primitive socialist accumulation meant "accumulation in the hands of the state of material resources mainly or partly from sources lying outside the complex of the state economy", which, he (*ibid.*: 84) continued, "must play an extremely important part in a backward peasant country, hastening to a very great extent the arrival of the moment when the technical and scientific reconstruction of the state economy begins and when this economy at last achieves purely economic superiority over capitalism." Although both 'socialist accumulation' and 'primitive socialist accumulation' were occurring in the Soviet Union of his day, the latter was the more important, characterising the whole transition period and already partly doing away with the law of value. Thus, he said (*ibid.*: 84f),

not only can we speak of primitive socialist accumulation, we can understand nothing of the essence of the Soviet economy if we do not discover the central role which is played in this economy by the law of primitive socialist accumulation, which determines, in conflict with the law of value, both the distribution of labour power, and also the amount of the country's surplus product which is alienated for expanded socialist reproduction.

Preobrazhensky divided the means of primitive socialist accumulation into non-economic, or political, and economic. The former included taxation, loans, and money debasement politics. The forms used by capitalist primitive accumulation, colonial plundering and plundering of and non-economic pressure on small-scale production, were repudiated on principle in a socialist state. Instead, taxation or alienation of part of the surplus in non- or pre-socialist forms of production must take on a directly decisive role. The very transition of society from the petty-bourgeois system of production to the capitalist, presumed "an exchange of values between large-scale and petty production under which the latter gives more to the former than it receives" (*ibid.*: 88). In the same manner, the socialist state economy must alienate part of the surplus product of the peasantry and the handicraftsmen. In a backward country such as the Soviet Union these sources must be "drawn upon very freely". More must be taken than capitalism had, since the incomes had become larger by the

rationalisation of the whole economy, including petty production, through industrialisation and intensified agriculture (*ibid.*: 89). Systematic transfers from capitalist accumulation to socialist could also be achieved through taxation of capitalist private profit. State loans could serve socialist accumulation, as could the issuing of paper money, which served as a sort of taxation of the whole population, both petty bourgeois and capitalist elements and the state's workers and employees.

Turning to the economic methods of primitive accumulation, he distinguishes between that taking place in production, and that in circulation – “the exchange of a smaller quantity of labour by one system of economy or one country for a larger quantity of labour furnished by another system of economy or another country” (*ibid.*: 91). This second subdivision referred to price policy and what he (elsewhere) called ‘non-equivalent exchange’. Continuing his comparison with primitive accumulation in capitalism, he regretted the insufficient use made of a passage in Marx to understand exploitation of colonies and pre-capitalist production:

The favoured country recovers more labour in exchange for less labour, although this difference, this excess, is pocketed, as in any exchange between labour and capital, by a certain class. Since the rate of profit is higher, therefore, because it is generally higher in a colonial country, it may, provided natural conditions are favourable, go hand in hand with low commodity prices. (Marx 1959: 238f.)

Looking at British colonial trade, Preobrazhensky (*ibid.*: 92) explained, imports from and exports to the colonies would, even in ‘normal’ trade, “show an inequality in the expenditure of labour on the two masses of goods exchanged as equivalents.” He considered two factors in this non-equivalent exchange. The first had to do with differences in labour productivity for similar goods, whereby the sector with the highest productivity, given equal wages, obtains a differential rent or a superprofit. The second apparently had to do with differences in the values of labour power, *i.e.*, normal wages and living standards, which tended to equalise within but not between colonial and metropolitan countries. Given the same technical level, an enterprise would thereby make an extra profit in the colonial country. The point is not entirely clear, since for similar enterprises this would appear to be an advantage for the colonial country rather than the opposite, but if the higher average wages are in dissimilar branches this would certainly be to the disadvantage of the colonial country.²¹ He spoke only of a composite country with both “a higher technique and higher wages, and at the same time lower prices”, as being in more favourable conditions for exchange. Consequently, higher productivity outweighed higher wages, as in British trade with India.

Capital invested in the colonies receives a higher rate of profit, which “is essentially profit arising from the transition from one system of technique to another, from one system of economy to another, higher system.” It would thus seem to be an example of primitive accumulation in capitalism through price policy, but in principle, as Preobrazhensky (*ibid.*: 93) explained it is not different from the extra profit (sometimes referred to as ‘Schumpeterian’) obtained by any innovative reduction of costs of production. But since “capital is generally a movement”, from one system or technique to another, which “never ceases”, this exploitation “is a constant phenomenon throughout the whole period of capitalist development.” It thus becomes a ‘tax’ levied by the capitalist class on both less advanced, petty-bourgeois producers of the metropolitan countries and on less advanced colonial and

²¹ Preobrazhensky (1965: 92) explained: “a country with a lower level of technique expends, on the average, more labour on one commodity unit than a country with a higher level of technique. Linked with this is the low standard of living of the working population in the colonies or the economically backward countries. Given the same level of technique, an enterprise belonging to a certain branch of production will make extra profit in a colony as compared with a similar enterprise in a metropolitan country.” This is only because according to the normal workings of the law of value regulating prices within a country “the value and price of labour power are lower than in the metropolitan country, all along the labour front,” *i.e.*, through the intra-national mobility of the workforce (cf. Andersson 1972b: 94 f.).

semi-colonial countries, “taking their economy as a whole”.

As did Marx in the case of India, Preobrazhensky saw this situation as transitory, belonging to earlier stages which the developed capitalist world had already left behind. Non-equivalent exchange was thus most important during the ‘mercantilist’ era of primitive accumulation, and tended to give way to other kinds of transfers. The era of free trade did not suppress this form of exploitation but placed it under conditions of a certain equilibrium. In the period of monopoly capitalism, protectionist barriers again revived exploitation of petty producers within the country. As to the corresponding exploitation of the colonies, he (*ibid.*: 94) saw, on the one hand, attempts to guard these as internal markets, and on the other, how “thanks to the export of capital to the colonies, surplus profit from the colonies more or less takes the form of surplus profit from enterprises with the same level of technique but lower wages.” At the same time, this gradual shift from one type of exploitation to another led to “a certain levelling up of the conditions of the colonial economy to those of the metropolitan country”.

Summing up, for Preobrazhensky (*ibid.*: 94) non-equivalent exchange was not an evil, but a constitutive element in primitive accumulation, and as such a condition for capitalist accumulation:

[P]rimitive capitalist accumulation was based not only on the exploitation of petty production by taxes, not only on feudal exploitation, [...] but was also marked by a system of market exchange of quasi-equivalents, behind which was hidden the exchange of smaller for a larger quantity of labour. In this case the peasant and the craftsman are exploited by capital in the same way as the workers are exploited who receive wages, in the form of the market price of their labour-power, only part of the newly-created product of their labour.

If non-equivalent exchange was fading away or even absent in the capitalism of his day, this did not imply that socialism had only to accept world prices. Quite the contrary.

Just as capitalist accumulation had required an earlier period of original accumulation, so socialist accumulation would require an initial phase of original *socialist* accumulation (cf. Dobb 1929, for an early Western exposition). That is, Ellman (1987: 945) explains, “economic growth on the basis of investment generated within industry would have to be preceded, in backward Russia with its limited industrial apparatus, by a period of economic growth on the basis of investment resources obtained from outside the state sector.” Preobrazhensky (1965: 95ff.) recommended a state monopoly of the railway, tariffs, and a monopoly of foreign trade, which he (*ibid.*: 103f.) found to be of quite exceptional importance as an organ of socialist accumulation and in the protection of this accumulation, borrowing the expression ‘socialist protectionism’ from Trotsky, in addition to being one of the main instruments for regulating the whole Soviet economy. One highly important instrument for socialist accumulation and production, for the peasant economy and the political relations between the proletariat and the peasantry, was price policy, which was preferential to coercion.

The fundamental question here was whether equivalent exchange between the state economy and the non-socialist milieu was possible in general (he identified the socialist economy with that of the state). If the state economy receives less value than it gives, there would be a steady decomposition of large-scale socialist production and a gradual selling-off of its products below costs, involving selling for a song both the fixed capital and the labour power of the proletariat. An exchange of equivalents so that neither economic system exploits the other was possible only for a brief episode. Either the capitalist form would rapidly erode the state economy or the socialist form would develop at the expense of the non-socialist milieu, but also due to its own accumulation:

If capitalism is motion, socialism is *still more rapid motion*. And what it loses in speed in the period of primitive accumulation, in the sense of development of its technical economic base, it is *obliged* to make up for by

intensified accumulation at the expense of the non-socialist milieu. On of the most important means of this accumulation [...] is non-equivalent exchange with the non-socialist milieu. (Preobrazhensky 1965: 110)

This was possible only with an appropriate price policy, so non-equivalent exchange was not only possible, but under the circumstances necessary. The main economic difficulties to this policy were the need to combine it with a policy of reducing prices, which could be achieved only if the reduction of costs of production went forward even faster,²² and the problem that the state did not have a monopoly in all branches of industry. On the political difficulties between peasantry and proletariat, he (*ibid.*: 111) was brief yet quite outspoken: they “compel us to talk about equivalent exchange, though this is, under socialization of large-scale industry, an even greater utopia than under the rule of monopoly capitalism.” Price policy had many advantages over other forms of direct and indirect taxation of the petty economy, he explained, the most important being the extreme facility of collection. In an earlier period he went on record as an ardent advocate of taxation by inflationary money printing, lauding the printing press as “that machine gun which attacked the bourgeois regime in the rear”, but now he was more reserved and later warned that it risked causing a massive peasant withdrawal from the market (Erlich 1950: 74f., n. 6).

Preobrazhensky (*ibid.*: 124) attempted to give his observations concerning primary socialist accumulation general form, observing that the length or extent of this phase depended on how far the country had gone in capital accumulation on the eve of its socialist revolution. He summed up what he calls the fundamental law of primitive socialist accumulation, thought to be the mainspring of the entire Soviet economy and probably of universal significance:

The more backward economically, petty-bourgeois, peasant, a particular country is which has gone over to the socialist organization of production, and the smaller the inheritance received by the socialist accumulation fund of the proletariat of this country when the social revolution takes place, by so much the more, in proportion, will socialist accumulation be obliged to rely on alienating part of the surplus product of pre-socialist forms of economy and the smaller will be the relative weight of accumulation on its own production basis, that is the less will it be nourished by the surplus product of the workers of socialist industry. Conversely, the more developed economically and industrially a country is, in which the social revolution triumphs, and the greater the material inheritance, in the form of highly developed industry and capitalistically organized agriculture, which the proletariat of this country receives from the bourgeoisie on nationalization, by so much the smaller will be the relative weight of pre-capitalist forms in the particular country; and the greater the need for the proletariat of this country to reduce non-equivalent exchange of its products for the products of the former colonies, by so much the more will the centre of gravity of socialist accumulation shift to the production basis of the socialist forms, that is, the more will it rely on the surplus product of its own industry and its own agriculture.

Thus, non-equivalent exchange was inevitable even under socialism, during this phase of primitive socialist accumulation, when peasants were unavoidably cut through the price scissors. As he (*ibid.*: 5) pointed out already from the start: “as long as we have not caught up with capitalism nor completed the period of primitive socialist accumulation we shall inevitably have non-equivalent exchange with the countryside.”

In reply to one of his critics, reprinted in the book’s appendix, Preobrazhensky elaborated his argument on non-equivalent exchange by giving a numerical example. He first observed that the prices of Soviet industrial products were considerably higher than foreign prices, while grain prices generally gravitated towards the level of world prices. Therefore, it could be agreed upon that exchange between agriculture and industry in world economy was equivalent in character – “which has not and cannot be proved”, as he observed – then

²² If the cheapening of production costs, by which Preobrazhensky must have meant technological or organisational advance, resulted in a proportionately smaller reduction of prices, the difference went into the socialist accumulation fund and wage increases. On the other hand, Preobrazhensky (1965: 114) was quite aware that wages had decreased in comparison with the pre-revolutionary and pre-war period, but defended this by comparing it with the same phenomena under early capitalism.

exchange between Soviet industry and Soviet agriculture could not in any case be equivalent. Following the suggestions of those advocating equivalence according to free trade and world trade prices would mean eliminating two-thirds or three-quarters of Soviet industry. “It is sustained and is developing at present *on the basis of non-equivalent exchange*, protected from the law of value operating in world economy by socialist protectionism and the monopoly of foreign trade” (*ibid.*: 271). The current non-equivalence was based above all on Soviet technological backwardness, and would be reduced in proportion to the advancement of industry to world levels. A brief numerical example using cotton textiles to stand for industrial production and grain for agriculture, served to illustrate his point (*loc. cit.*):

<i>Industry</i>	<i>Agriculture</i>
100 hours	150 hours
100 <i>arshins</i> [i.e., ‘units’]	100 <i>poods</i> [or, again, ‘units’]
100 roubles	100 roubles

As noted, this situation, where 100 units of textiles exchange for 100 units of grain, already contained an inequality in the fact that 150 hours of agricultural labour have been exchanged for only 100 hours of agricultural labour. According to Preobrazhensky’s argument, it might be expected that under free trade or in the world economy 150 hours of agricultural labour would purchase a substantially larger volume of textiles. The state monopoly of trade provided insulation against the disruptive effects of world-market prices. But as domestic industrial productivity increased and unit production costs consequently decreased, the original non-equivalence would gradually be reduced to the benefit of peasant consumers, or, alternatively, the terms of trade for grain would ameliorate:

<i>Industry</i>	<i>Agriculture</i>
100 hours	150 hours
120 <i>arshins</i>	100 <i>poods</i>
100 roubles	100 roubles ²³

Although non-equivalence remained in terms of hours, the well-being of the peasants visibly improved. Where an hour of industrial labour still buys one unit of grain, an hour of agricultural labour now buys four-fifth instead of two-third units of textiles.

With the growth of labour productivity in cooperative socialist farming, so that one hour of industrial labour now exchanges for one and one-fifth units of grain, the non-equivalence of exchange would increase for *private* farming: “It is quite clear”, he (*ibid.*: 272) goes on, “that the entire problem [of non-equivalent exchange] will remain *only* for private small-scale farming, since it is only in the relations between this section of farming and industry that *exchange* will exist. Relations between large-scale socialist and co-operative farming on the one hand and state industry on the other will be organized as a single composite entity, with gradual abolition of the market character of the ties between them.” In Day’s reading, Preobrazhensky also assumed here that one hour of agricultural labour would, conversely, exchange for one and one-fifth units of cotton textiles, and that the disappearance of non-equivalent exchange between the two state sectors was somehow related to money no longer being “required to mediate the act of exchange”: “Equal exchange would therefore constitute the final unity of industry and agriculture, or their synthesis on the basis of universalised

²³ Preobrazhensky 1965: 271. Or, alternatively p. 272, where the inequality in terms of hours is still 1:1.5, but where Preobrazhensky for some reason lets the productivity differential be 1.25:1 instead of 1.2:1:

<i>Industry</i>	<i>Agriculture</i>
80 hours	120 hours
100 <i>arshins</i>	80 <i>poods</i>
80 roubles	80 roubles

socialist economic forms” (Day 1975: 216). Day has a point in the absence of money, but Preobrazhensky’s argument seems merely to be that there is simply *no exchange at all* in the market sense, as in two departments within the same enterprise. It does not require equality of exchange in the sense that one hour of labour is equal also in some arbitrary unit of the goods produced. What would determine the quantities produced within the socialist economy and in socialist accumulation, was hardly the goal of equivalent exchange but the quantities needed for the planned accumulation and consumption. An increase in productivity would have to be considered something beneficial under any circumstances. Of course, the balanced development of sectors and output, which ‘haunted’ Preobrazhensky, would also have to be kept in mind of planners.

Preobrazhensky’s law of ‘primitive socialist accumulation’ was a drastic illustration of his idea of the necessary suppression of the law of value, which governed the competitive market and made exchange ratios between goods depend on the relative amounts of ‘socially necessary labour’ contained in them. It stated that a smaller quantum of labour of the socialist economic system must exchange for a greater quantum of labour of the capitalist economic system, and “stood for the whole set of devices which in various ways served one purpose – to bring about “within the limits of what is economically possible and technically feasible” a shift of productive resources from the private to the socialized sector over and above the share the latter could obtain as a result of the operation of the law of value in a competitive market” (Erlich 1950: 70). The necessity for counteracting the law of value was most important in foreign relations.

Half of the long appendix was devoted to Bukharin and half to other opponents, whose number, Preobrazhensky (1965: 285) said, stood in inverse proportion to the theoretical quality of their criticism. The first point in Bukharin’s attack concerned something quite outrageous from the Bolshevik point of view: “There can be no doubt that Comrade Preobrazhensky sees the workers’ state as possessing colonies” (quoted in *ibid.*: 227). Preobrazhensky (*ibid.*: 227f.) retorted by referring to the same passages of his book that Bukharin had quoted, summing up:

[A]fter the social revolution in the capitalist countries the victorious proletariat will have to reduce the non-equivalence of exchange with those countries which were colonies of capitalist states and with which they must now establish relations on fresh foundations. That is, colonial slavery, national inequality and the whole system of capitalist colonial plundering will be abolished [...], and non-equivalence of exchange will be abolished in so far as it was connected with the specific capitalist system of exploiting colonies; but non-equivalence of exchange will remain in so far as it is connected with the general relations between socialism and pre-socialist forms of economy. *In other words, it is not that a peasant economy finds itself in the position of a colony, but that all colonies find themselves in the position of a peasant economy and petty-bourgeois economy generally*, in so far as the structure of a colony’s economy is identical with that type of economy, in that it is economically backward.

So, it was not ‘colonies’ but ‘former colonies’, which to the extent that they were economically backward and non-socialist would have to continue. Bukharin also flinched from the term ‘exploitation’, but as Preobrazhensky (*ibid.*: 228) observed, he simultaneously recognised that socialist industry received and had to receive ‘surplus value from the petty producers in its accumulation fund’, and thus “admitted both the fact and the inevitability of non-equivalent exchange with private economy, the balance in every case being in favour of the state economy”. Having admitted the fundamental proposition, only one thing was left to him, Preobrazhensky (*loc. cit.*) concluded: “to stretch up on to the heights of principle a dispute about terms”. He admitted to having used the term ‘exploitation’ to describe the relation between economic forms, though not between the proletariat and the peasantry, and (*ibid.*: 229) understood very well the political considerations influencing Comrade Bukharin. From the scientific point of view these objections were without substance, but he (*ibid.*: 228)

would not object if Bukharin could think up some other suitable term, expressing “the essence of the matter [...] that the balance of exchange of material (which is not the same as the balance of exchange of the *commercial* exchange between the systems) between the private and socialist economies is in favour of the latter.”

Compared with much Marxist literature, the debates in the 1920s, and in particular perhaps Preobrazhensky’s contribution, has a liberating freshness and absence of metaphysics. This is presumably related to the fact that they were passionately engaged in real problems of a state economy over which they, in contrast with most Western and later Eastern bloc Marxist theorists, had an actual possibility of influencing. There was an unfortunately declining point in trying to make one’s points clear to one another in an attempt not only to win debates but to win debaters who were also decision-makers. In the U.S.S.R., certainly, the freshness of debate was proportional to the malleability, or at least perceived malleability, of the state apparatus and one’s Bolshevik colleagues.

It seems fair to say with Howard & King (1989: 304) that as an economist Preobrazhensky was “far superior” to Bukharin, although he was also a more specialised thinker, relying on Trotsky to provide the overall political perspective. Bukharin and Preobrazhensky had opposite views on how Soviet industry could develop. For Bukharin industrial expansion depended on the growth of peasant demand, particularly on the market for consumer goods. He dismissed Luxemburg’s chronic underconsumptionism as nonsense, along with Tugan-Baranovsky’s belief, though seriously misrepresented, that industry could advance independently of final consumer demand. Criticising Preobrazhensky’s economics on this basis was perhaps of dubious relevance anyway. As we have seen, Preobrazhensky’s primitive socialist accumulation envisaged only the faster *relative* growth of the state sector, not an absolute decline in consumption, even of the peasants, while he was adamant that the living standards of the *working* class would rise. Like Tugan-Baranovsky, he emphasised the importance of maintaining disproportionality between sectors within manageable bounds; he was indeed ‘haunted’ by it (Howard & King 1989: 302). The revolution had fundamentally altered the relation between demand and supply, resulting in increased demand and falling supplies. In contrast to the problems haunting capitalist economies and countries connected to the overproduction of goods, in the early Soviet state there was a deeply felt starvation of goods. The major difficulty lay not in a deficiency in purchasing power, as Bukharin imagined, but in a ‘famine of goods’. The problems were thus curiously inverse to those envisioned by Heckscher’s standard mercantilist.

Preobrazhensky’s recognition of capacity-extending investment (the possibility of ‘intensive expanded reproduction’) reversed Bukharin’s whole analysis, letting heavy industry grow faster than light industry agriculture and in the long term eliminating the goods famine. To Preobrazhensky (1980: 72ff. cf. Howard & King 1989: 303), this was only a matter of technical economics, and he accordingly underlined the immediate need for systematic economic planning. It was indispensable not only for future socialism but already in the transition period, allowing disproportions to be anticipated and corrected before leading to crises. Their different perspectives amount to nothing less than those between the basically planned economy of Preobrazhensky, and the autonomous market of Bukharin. “This in fact was the economic root of his opposition to non-equivalent exchange between industry and agriculture. Bukharin seems to have completely misunderstood Preobrazhensky’s theoretical argument on the need to limit the sway of the law of value. He also failed to appreciate that Preobrazhensky’s proposal to increase industrial wholesale prices did not imply the onset of a new ‘scissors crisis’ in which the terms of trade would turn against the peasant and reduce the incentive to market grain” (Howard & King 1989: 303; cf. Preobrazhensky 1980: 77ff.).

Preobrazhensky realised, in 1925, that the recovery of industry until then had been based on restoring full utilisation of existing capacity. Future growth would require large fixed

investments to increase capacity, meaning that in the short run unproductive consumption would have to go down, *i.e.*, the ‘goods famine’ intensify. In the long run, however, underinvestment would make problems insurmountable, breaking the fragile peasant-worker alliance. In Erlich’s (1950: 81) words: “Subsequent developments in Soviet economic policy, if considered under the head of a “history of ideas,” can be conveniently viewed as alternative attempts to solve what one might call the “Preobrazhenski dilemma.” Problems could be alleviated by the importation of consumers goods, and the influx of foreign equipment could satisfy capital requirements. Preobrazhensky thus advocated great efforts to attract foreign investment, even at interest rates above normal. The burden of payment “would certainly be much less than the values which would be added to the fund of socialist accumulation” (*ibid.*: 70). Foreign trade monopoly had to be used to secure that capital goods flowed into the country. “The re-integration of the Soviet economy in the system of world division of labor would then be secured and a shift of resources from western capitalism toward Soviet socialism would be achieved” (*ibid.*: 71).

Initially, Preobrazhensky had thought that economic planning gave the advantage to the Soviet economy over modern capitalism. If properly used, it basically eliminated any reason why the Soviet economy could not move ahead. Subsequently, when examining the concrete state of the Soviet economy in the second half of the 1920s, he became more pessimistic. Inspired by Luxemburg, he formally adapted Marx’s schemes of reproduction to his empirical situations, where more than one mode of production prevailed. All this required that proper attention be given to principles of division and unproductive consumption, and to the importance of private capital in circulation. He deduced that primitive socialist accumulation was an insoluble problem in Russian isolation, and required an extension of the revolution internationally (Howard & King 1989: 301).

Not severing the link with the peasantry was common ground in the debates, not as an expression of sentimentality, but of harsh necessity not to reopen civil war. Initially, Preobrazhensky found an opening for accumulation in foreign relations, but when the world revolution did not occur he was left without alternatives. By the end of the decade, Stalin apparently no longer worried about the peasantry, reinstalling the methods of War Communism, thereby cutting through the Gordian knot of Preobrazhensky’s dilemma.

Chapter 7. The socialist scene after Stalin

During the 1930s, Stalin’s planning model developed into a system sometimes known as a command economy, based on stern centralisation, whose essentials were to remain those of the Soviet Union for several decades. Its characteristic features were (Nove 1988: 264-6):

(1) State enterprises and their respective directors were placed under the direct orders of the appropriate People’s Commissariat (Ministry), and much of their output and activity was generally allocated and regulated by the centre.

(2) Plans had the force of a binding order given by a superior. They covered questions such as the quantity and assortment of output, purchases of inputs, delivery obligations, prices, wages, and much else. In the case of conflicts between various goals, gross-output was usually given priority.

(3) The plans devised by the People’s Commissariats were subject to the authority of the party and government, which laid down the general policy objectives and key targets. The coordinating and advisory body, the state planning commission called the Gosplan, worked out the logical consequences of policies, reconciled them with proposals and representations received from below, and tried to achieve consistency.

(4) The Gosplan's chief methodological tool was a system of 'material balances', in quantitative terms drawn up for the plan period. Available steel, cement, cotton, etc. (production, less exports, plus imports, plus or minus changes in stocks) was balanced against utilisation estimates, often implying a reduction of demands, endeavours to increase supply and productive capacity through investment decisions. As Nove (1988: 265) observes: "Any change in the plan required hundreds, even thousands, of changes in material balances."

(5) The plan embodied the economic will of the party and government, and was not based on considerations of profit or loss, but on politically determined priorities, leaving very little room for the price mechanism to relate scarcity to demand.

(6) The breakdown of aggregate material balances and output targets required detailed production and delivery plans for every major item of input and output for every enterprise. The most burdensome task was that of material allocation, *i.e.*, the planned distribution of all important outputs between enterprises which require them and at the right time.

The number of People's Commissariats in the economic field grew rapidly through subdivisions. In 1934, there were four covering heavy industry, light industry, timber, and food, but by 1939, there were twenty-one in industry alone. Though the system was under the control of a nominally rational government and plan, it was subject to much arbitrariness and unofficial links, sometimes illegal, which served on the one hand to enhance particular individuals and branches, particularly those favoured by Stalin, and on the other to make the system at all operational in every-day life, overcoming deficiencies and gaps in the plan. After the war there was again a great wave of creating new people's commissariats by sub-division, the name was changed to 'ministry', and ministers were more often non-political specialist heads of nationalised industries, with a party leader supervising them from Kremlin (*ibid.*: 296f.).

The system worked well for making quantitative gains, but quality and technical progress suffered. Since the basic philosophy was to produce more of everything, there was a tendency to go on producing the same designs and obsolete equipment, to neglect innovations and reorganising the *pattern* of production. Planning by material balances had to be made on past experience, and therefore tended to be conservative. Competition between ministries for investment resources tended to benefit branches with political influence and which were already strong, rather than weak ones with great possibilities (such as the chemical industry). A further hindrance to curiosity was the 'anti-cosmopolitan' campaign, which claimed that everything had been invented in Russia and that there was nothing to learn from the decadent West (*ibid.*: 318). Top bureaucrats became increasingly lustreless, and though the mass purges were not repeated, many eminent people remained in camps, arrests were still common, and fear of responsibility was a great cause of waste, as was the tendency to please Stalin by spectacular rather than sensible methods. Attempts were made to establish 'little Stalins' at the head of each branch of science and technology and it was in this context that Lysenko was allowed or encouraged to destroy genetics. Contacts with world science were broken off, but in most natural sciences and mathematics top scientists (of eminent quality) managed to preserve their disciplines from serious damage.

This was not so with economics, which lay far too close for comfort to politics, and serious discussion of economic issues or objective criteria went counter to the political arbitrariness which peaked in the period 1947-1953. These last years of Stalin's life were dominated by reconstruction and rebuilding after the war, with priorities increasingly affected by the cold war and the resultant arms race. Achievements in these practical matters, presents a striking contrast with the dreary intellectual scene. Economic policy, organisation, ideas, rapidly became frozen into their pre-war mode. Stalin himself seldom spoke, party congresses were not called, and even central committee meetings were rare. An oppressive censorship made public discussion of serious matters impossible. Central control was maintained, as well as the

policy of imposing disproportionate burdens on the peasantry, “but the issues involved in such policies were submerged beneath evasive formulae or self-congratulatory clichés. At no time, before or since, were Soviet publications more empty of real matter” (Nove 1988: 289; cf. Howard & King 1992: 8). Unofficial discussion was obstructed by the ending of publication of statistics. “Even the word ‘statistics’ was replaced by ‘accounting’, because ‘statistics’ suggested random and uncontrolled events” (Nove 1977: 320, 334).

No one but Stalin was allowed any intellectual innovation. In 1950 the philosopher-king had published a work on linguistics, and in 1952, in what was to become his last published work, it was time for political economy. Here, among many things, he warned officialdom that they must take economic ‘laws’ into account, keeping his readers dangling as to how they were to be identified and explaining that transfer prices within the state sector were outside the ‘law of value’. Economists were ordered to keep out of practical affairs and not to confuse the provinces of political economy and economic policy. In a reversion to the ideas and ideals of the 1920s and 1930s of a non-monetary economy, he also expressed the need “gradually to raise kolkhoz property to the status of state property” and “to replace commodity circulation [*i.e.*, their sales and purchases] by a system of products exchange” (Stalin 1952: 75, 81; Nove 1988: 320). In actual policy, however, no such efforts were made, and at the same time price policy was the reverse of that of these earlier decades. State retail prices were cut by a total of 14 percent in 1951 and 1952, with free-market prices already 10 percent above official prices in 1950, and the divergence increasing steadily to 17 percent in 1951 and 20 percent in 1952. Through an ironic turn of events the state was now promoting a ‘non-equivalent exchange’ in favour of the non-state sector (Nove 1988: 321).

Soviet foreign trade had diminished in the mid-1930s, and a substantial reduction of imports of machinery made possible the emergence of a surplus in the balance of payments, which enabled repayments of debts incurred during the first five-year plan period. The hostility of the Nazi regime brought a lowering of the trade with Germany, but the outbreak of war in 1939 and the German-Soviet pact caused a reversal and especially a large increase of exports, which Stalin, with exaggerated hopes, continued until the eve of attack in 1941 (Nove 1988: 260f., 269). The Soviet Union which emerged from the war was no longer isolated and no longer the world’s only state under communist rule. The policy in the first years after the war was to dismantle and acquire anything that could be taken from an ex-enemy, even if it had now become an ally. The Soviet Union, represented by Molotov, turned down the Marshall Plan, and exerted pressure to ensure that their allies did likewise, thus saving the American government from the embarrassment of offering them what would be presented at Congress as a measure to combat communism. Moscow reacted to this and other elements of the cold war situation by tightening its grip on the political systems of subservient countries. “Since there was no precedent for a theory covering trade policy between socialist countries, and since the priority of the Soviet Union’s interest had become an article of faith among communists at this time, there were unequal trade treaties from the U.S.S.R. benefited somewhat one-sidedly” (Nove 1988: 315f.) These benefits have been exaggerated by propagandists, but “the fact that two ministers of foreign trade (in Bulgaria and Czechoslovakia) were executed quite specifically for bargaining too hard with the Soviet Union suggests that bargaining was not really equal. After Yugoslavia’s defection (1948), Stalin became deeply suspicious of nationalist deviations, and a great many communists in all East European countries were shot or imprisoned for giving too great weight to their countries’ national interests” (Nove 1988: 316; cf. Prior 1963).

It is revealing that the military independence of Yugoslavia permitted them to take an independent, or at times even anti-Soviet, line of policy. Thus, the Yugoslav communists evolved their own version of non-equivalent exchange, on the lines of Bauer, Grossmann, Preobrazhensky and Dobb, as a transfer of value between more and less developed areas, *i.e.*,

with high and low organic compositions. In 1949, Milentije Popović, the Minister of Foreign Trade at the time of the break between Tito and Stalin, wrote a polemical pamphlet against Soviet trade practices aimed at justifying certain demands. To support his argument he used a well known passage in Marx's *Capital* on the formation of prices of production:

Owing to the different organic compositions of capitals invested in different lines of production, and, hence, owing to the circumstance that – depending on the different percentage which the variable part makes up in a total capital of a given magnitude – capitals of equal magnitude put into motion very different quantities of surplus labour, they also appropriate very different quantities of surplus-value or produce very different quantities of surplus-value. Accordingly, the rates of profit prevailing in the various branches of production are originally very different. These different rates of profit are equalized by competition to a single general rate of profit, which is the average of all these different rates of profit. The profit accruing in accordance with this general rate of profit to any capital of a given magnitude, whatever its organic composition, is called the average profit [...]

Thus, although in selling their commodities the capitalists of the various spheres of production recover the value of the capital consumed in their production, they do not secure the surplus-value, and consequently the profit, created in their own sphere by the production of these commodities. What they secure is only as much surplus-value, and consequently profit, as falls, when uniformly distributed, to the share of every aliquot part of the total social capital from the total social surplus-value, or profit, produced in a given time by the social capital in all spheres of production. (Marx 1959: 157f.)

That is, competition assures that in the long run, branches with different capital intensities receive an equal rate of profit on invested capital, even though they have contributed different amounts in terms of value. Accordingly, Popović (1950: 4) explains, under capitalist conditions, “there is not only the exploitation of labour by capital, but in addition to this basic form of exploitation, there is also the extraction of extra profits from the less developed areas of production for the benefit of the more developed areas of production”. Transposing competition from the domestic field to international trade, this applies also to “the formation of the world rate of profit and the world market price”.²⁴

And considering that countries which place their commodities on the world market possess different national organic composition of capital, *i.e.*, that they are on different levels of technical equipment and economic development, it follows, then, that countries in which the economic [*sic*] composition of capital is above the average world organic composition [...] extract, at the given moment, extra profits at the expense of those countries whose organic composition of capital is on a lower level.

[...] Therefore, capitalist relations in world economy have not only degraded a whole series of countries by reducing them to the state of backwardness and condemned them to a pitiful existence by keeping them perpetually in this unfortunate state, but their practical application has also been such as to intensify these deplorable disproportions still further. (Popović 1950: 5.)

Thus, countries ought to retain their surplus value, each reckoning for itself the world rate of surplus value multiplied by the number of its domestic labour force, meaning an immense transfer of surplus value to the underdeveloped countries, among which Popović includes Yugoslavia.

As late as 1972, Wiles (1972: 254) could not see any shortcomings to the assumptions of Ricardo's theory of comparative costs, and therefore claimed that the “crucial error” in Popović's theory “is obvious to both a Marxist and an orthodox economist: the rate of profit is equalized only by competition [...]. But capital does not flow freely between nations”, or if it does, this “is true only of currency areas”, as if currency should be a substantial hindrance to investments or the equalisation of the rate of profit.

²⁴ “Out of these ‘national’ prices, but now on the basis of world competition, the world average rate of profit and the world price are formed in the mutual competitive struggle on the world market. And it is only on the basis of the world price thus formed that the amount of participation in the world profit by each individual producer and competitor, *i.e.*, by each individual national economy, is determined” (Popović 1950: 4).

More convincingly, Emmanuel (1972a: 176), who still considers Popović's pamphlet to be "written with a virulence equal to his lack of precision", has observed that he "often mixes up the difference in organic compositions between the different branches in which exchanging countries specialize with the difference in productivity in the same branch in two countries". Popović (1950: 7) had written: "For example, the labour of American workers engaged in the production of trucks, while qualitatively exactly the same as the labour of our own workers engaged in the production of trucks, nevertheless is being sold on the world market as labour of a greater specific weight, *i.e.*, as labour of a higher quality." However, Emmanuel (1972a: 176) pointed out, this "is not a transfer of surplus value caused by the transformation of values into prices of production but the simple difference between the individual (national) value and the social (international) value of a certain commodity." Selling its trucks to a third country, Yugoslavia has to bring her prices in line with American, even though the higher productivity of the United States will procure higher wages than in Yugoslavia. Similarly a firm inside a specific country makes a loss, or fails to make a gain, if its individual costs are higher than the average social costs of the branch to which it belongs.

This situation has nothing in common with that of Brazil, for example, which exchanges her coffee, in which she possesses the highest productivity in the world, for American trucks, which come from the source with the highest productivity of trucks in the world, and which nevertheless suffers a disadvantage in exchange due either to the difference in organic composition between coffee production and truck production or to the difference in wages between Brazil and the United States" (Emmanuel 1972a: 177).

Like other theories of non-equivalent exchange, Popović's version "contains one important practical conclusion – viz. that trade between communist countries must be conducted only upon the basis of such prices as will ultimately lead everywhere to equal wages [...], and not upon the basis of world market prices" (Wiles 1972: 255). After Yugoslavia had broken with the Soviet Union, Popović, by contrast to other eastern European authors, dared to draw this conclusion. Indeed, believing Yugoslavia to be an underdeveloped country, he "draws it most gleefully", even claiming that Yugoslavia treated Albania in this way until relations were broken off (Wiles 1972: 255; cf. Popović 1950: 57-60). Asking for such prices amounts in essence to asking for subsidies, although Popović does not call it this and instead claims that Yugoslavia is subsidising the more advanced communist countries (cf. recent attempts to explain the 'environmental debt' owed by the rich countries to Latin America).

As an answer to the Marshall Plan, Soviet credit agreements were negotiated with Yugoslavia (before defection, after which it was subject to a total trade embargo), Bulgaria, Czechoslovakia, and Rumanian, Hungarian, and later East German reparation debts were written off. Finally, the COMECON (Council of Mutual Economic Assistance) was set up in January 1949, but in fact led a sleepy existence until well after Stalin's death, and relations were conducted almost exclusively on a bilateral basis. Trade relations with the West were becoming affected by the political tensions, culminating in the Korean War and the imposition by the West of far-reaching restrictions on trade with communist countries. Compelled to trade with each other, the more developed East Germany and Czechoslovakia became major suppliers of industrial goods. Economic aid in the form of substantial credits, was given to China after the Communist triumph in 1949, supplemented by military aid programmes during the Korean War to China and North Korea. No aid was given to countries outside the Soviet sphere of influence until after Stalin's death. He suspected decolonisation to be some sort of fraud and Nehru probably a Western agent (Nove 1988: 316f.).

Relations with all categories of countries altered radically soon after Stalin's death in March 1953, and the basis of exchanges with other communist states began to be revised. Reparations deliveries from East Germany were to cease in 1954 under an agreement negotiated in August 1953, which also provided for the handing over of Soviet-controlled

enterprises on East German territory. In September 1953 the U.S.S.R. agreed to give more technical aid to China, and a similar agreement, in October 1954, also provided for the handing over of mixed Soviet-Chinese companies and granted a long-term credit of 520 million roubles. In March and September 1954 the U.S.S.R. sold and handed over the Soviet share in nearly all Soviet-Rumanian mixed companies. In 1954, trade relations were resumed with Yugoslavia. In February 1956, a credit at low interest rates was granted to Bulgaria. Hungary had to be given emergency aid, partly as an admitted compensation for previous trade inequalities.

This process of normalizing and regularizing trade relations received a powerful impetus from the troubles in Poland and Hungary. The Soviet leadership even felt it necessary, in the agreement with Poland in November 1956, to cancel Polish indebtedness on past credits as compensation for 'the full value of the coal supplies to the U.S.S.R. from Poland in the years 1946-53', a clear and public admission of past underpayments. [...] Trade henceforth was based on prices ruling at various dates in world (i.e. capitalist) markets" (Nove 1988: 351).

COMECON was revived and sprouted a number of working committees, but trade remained mostly bilateral. If the means to avoid inequalities in bilateral terms of trade was to use capitalist market prices as the norm, this must of course assume that these prices were indeed 'equal'. There was a sharp increase in trade with Western countries. One also began to perceive the political and economic opportunities in dealing with the less developed countries, with Argentina (should it so qualify) in August 1953, but more seriously with India after Khrushchev's visit in 1955.

At Stalin's death, his appointed heir Malenkov, together with Molotov and the security chief Beria, formed a triumvirate, which was manoeuvred out of its position by Khrushchev, who within the month had become the senior of the party secretaries. Significantly, within a few months time, Beria had been arrested and shot by his comrades, which was followed by a drastic curtailment of police powers and the liquidation of the security authorities' economic empire. This helped release the intellectual atmosphere, although the big releases of political prisoners, through the amnesty declared by Stalin's successors, did not occur until 1955. Regarding foreign trade theories, already in 1954, several presentations of non-equivalent exchange were published in Socialist countries, by Lychowski in Poland, Santalov in the U.S.S.R. and Kohlmeier in the GDR. We shall deal with each in turn.

The Jalta Agreement had placed Poland in the Soviet sphere of influence. Along with the recuperation from heavy war damage and human losses, which had not favoured scientific activities, the period from 1945 to 1956 saw the implantation of the Soviet-type economic system in Poland. In the immediate postwar years, Soviet rulers concentrated on gaining full political power and eliminating opposition, economic reconstruction, nationalisation of industry, and agrarian reform, while work proceeded on the first three-year plan for 1947-1949. The principal target were political forces close to the Polish government in exile, and the aim to eliminate the influence of social democrats. The so called 'battle for the trade', waged in periodicals and action in 1947, was aimed at absorbing trade into the state-dominated structures and strengthening the communist Polish Workers' Party, and was directed both against private trade and cooperatives dominated by old-time socialists. It took the form of an attack on the Central Planning Office, which was being accused of using an accounting method which underestimated the share of the working class in national income creation. Authorised publications and official announcements supplied an all-embracing pressure demanding the rejection of earlier Polish non-communist economic thought as well as non-Marxist Western economics. At the first Congress of Polish Science in 1951 it was declared that Polish science had to be rebuilt from scratch according to the Soviet pattern, and that the "fundamentals of economic science are lying in Marxist political economy which is the only true science of economic relations among people". Partisanship was not to be feared,

because “the communist party ideology is the basic source for understanding objective development laws” (quoted in Porwit 1998: 88).

The Congress gave occasion for fierce personal attacks against scholars and academic institutions who were not clever enough to adapt their views and writings to the methodology and vocabulary of Soviet Marxism-Leninism. Academic structures, programmes and textbooks as well as teaching staff were shaped according to these directives. All this exerted a heavy impact on economic science for many years, in the most acute form until 1956. (Porwit 1998: 88.)

This meant that most publications of the early 1950s had to follow the above political instructions to theorise in accordance with accepted dogma, or concern themselves with some safer ground such as historical facts of the distant past. Socialist reconstruction of the Polish economy was taken up in a number of writings and the six-year plan for 1949–1955, but until the loosening of the grip after 1956, and notably the return of Oscar Lange, nothing much of value is thought to have appeared in economics.

Be this how it may, Tadeusz Lychowski, in 1954, set out an orthodox Marxist version of international trade theory under the heading of ‘non-equivalent exchange’. Lychowski was a specialist on Turkey (1924) and a supplement delegate of the League of Nations, who became a representative of the Polish Institute of International Affairs after World War II, proposing the destruction of German hegemony and an even distribution of industrialisation throughout Europe under a politically united Europe (cf. Krieger 1950: 454f.). By the 1960s, his interest in industrialisation included the Third World. Perhaps understandably from Stalin’s warning not to engage in policy, in his 1954 book, nothing appears to have been said on non-equivalent exchange in domestic trade between state and market sectors. According to Wiles, Lychowski may well be the first to have written a Marxist work of international economics, as opposed to monographs on imperialism or on the practical procedures of Soviet trading bodies. The book had even circulated in cyclostyle in incomplete manuscript form since 1951 (Lychowski 1951; Wiles 1968: 2, n. 2). Wiles did not think much, nor that one should ask much, of this book, since “it seems entirely fair to take its great deficiencies as truly representing the deficiencies of Marxism itself.” And so Wiles (1968: 3) continued, thinking of the liberalisation after 1956: “Not long after Lychowski’s pioneering effort rational Westernized economic thought began to make heavy inroads, and precisely and primarily in international economics. Only in Marx’ homeland is the weight of tradition strong enough, and the number of ‘gute Marxkenner’ great enough, for further specifically Marxian development to have occurred in this field.” The genuinely innovating application of Marxism in this field had come from Gunther Kohlmey in the GDR, where intellectual freedom had increased since Stalin’s death, but not enough for economics to be Westernised.

Lychowski (1954: 9; 1951: 9; trans. in Wiles 1968: 10; 1972: 249, 253) began by explaining how, in earlier times, production was directed chiefly towards subsistence only, and “the equivalent form of value (the value of a commodity in which the value of another commodity exchanged for it is expressed in direct exchange) was still simple and undeveloped”. Because of the irregularity of barter these equivalent forms of value varied greatly, and in their generally accepted position as traders, the Phoenicians could benefit from cheating to the extent that large-scale fraud became the order of the day. Later on, Lychowski quoted Marx to the effect that

In every country there is a certain average intensity of labour, below which the labour for the production of a commodity requires more than the socially necessary time, and therefore does not reckon on labour of normal quality. [...] The average intensity of labour changes from country to country; here it is greater, there less. The national averages form a scale, whose unit of measure is the average unit of universal labour. The more intense national labour, therefore, as compared with the less intense, produces in the same time more value, which expresses itself in more money. (Marx 1867: 525.)

“The same idea”, Lychowski (1954: 34; 1951: 9; trans. in Wiles 1968: 10; 1972: 253) explained, “can be expressed differently, namely that *the same international value express on the world market different inputs of labour*, according to their intensity.” He reassures his reader of sticking loyally to Marx, by another quotation referring to trade between industrially more and less developed countries:

In so far as the labour of the more advanced country is here realised as labour of a higher specific weight, the rate of profit rises, because labour which has not been paid as being of a higher quality is sold as such. The same may obtain in relation to the country to which commodities are imported; namely, the latter may offer more materialised labour *in kind* than it receives, and yet thereby receive commodities cheaper than it could produce them. (Marx 1959: 238.)

“These remarks of Marx contain the whole essence of international trade in the period of free-trade capitalism”, Lychowski claimed, drawing from them the following conclusions:

1. Capitalist trade in the free-trade era consists *per se* – even where it is not accompanied by the export of capital – in the exploitation of the non-industrialized by the industrialized country, an exploitation based on the purchase by the latter of a *greater quantity of labour* in the former than *at the same price* the capitalist country gives in exchange.

2. On the other hand, in so far as [...] that trade is accompanied by the export of capital, the exploitation is doubled. For not only does the industrialized country get from the backward country ‘more embodied labour in return’, *but in addition it transfers to itself a part of the surplus value* produced with the help of its capital by the labour of the population of the backward country. (Lychowski 1954: 34f.; 1951: 42-44; trans. in Wiles 1968: 10f.; 1972: 253.)

Wiles believed this doctrine of non-equivalent exchange to be “a somewhat futile and intellectually feeble achievement,” since it implied that anyone exploits everyone else who receives a lower real wage, as long as there is trade between them: “If there were no trade, both parties would be worse off, but there would not be any exploitation” (Wiles 1972: 253). Without the constraint of a dictionary editor he (1968: 12) concluded that whatever Marx may have meant, “the doctrine of non-equivalent exchange is impossibly stupid.” To avoid exploitation, prices would have to be fixed so as to assure the same real wages, and a country satisfying part of its demand for a product from a poor country and part of it from its own or another more efficient one, would have to pay/import the same good at two different prices. Since this non-equivalent exchange is only an unequal sharing of the gains from trade, it also implies that “it would pay a country to allow itself to be exploited by engaging in international trade” (Wiles 1972: 253).

Wiles points to the obvious fact that by the same standard, to the extent that communist countries exchange at world market prices, the more efficient communist countries exploit their less efficient comrades. It was not accepted practice to point out too clearly that they in fact did use world market prices and were indeed signing agreements to do so to avoid previous trade inequalities.²⁵ Lychowski at the same time quotes a work by the Soviet author I. Ivanov (1952: 18; trans. in Wiles 1972: 253; emphasis added by J.B.), explaining how “[t]he trade of the U.S.S.R. with the people’s democracies is concluded on the basis of uniform conditions of delivery and uniform fair prices fixed for a long period. *The possibility of non-equivalent exchange is excluded in the trade of democratic countries.* This trade is

²⁵ “The level of so-called world prices is used only as a guide in the formation of prices for the exchange trade between these countries. When, in his last work, Stalin [cf. 1952: 20] criticized a certain proposal to fix prices for grain and cotton in internal Soviet trade, he pointed out, among other things, the fact that cotton is generally dearer than grain, as is shown *also* by the prices of cotton and grain on the world market. So also in the agreements establishing prices for trade between socialist and ‘capitalist’ countries world prices act to some extent as indicators, whereas the proper basis of price-formation (and of the relative prices of the goods exchanged) is the ‘desire to secure mutual aid and to attain on both sides an expansion of the economy’ that guides each country of this type” (Lychowski 1954: 457f.; trans. in Wiles 1972: 253).

carried out on the basis of long-term agreements which guarantee a country, for considerable periods of time, the machines [...] necessary for its economic development, and guarantee the disposal of its production.” The quotation demonstrates that it was indeed possible to speak openly of non-equivalent exchange under Stalin, if only to deny its existence under communism. Indeed, Wiles (1968: 12) seems to believe that *up to* 1954 the doctrine of non-equivalent exchange was part of the canon, and thereafter tended to disappear. This was perhaps wishful thinking on Wiles’s part, for, from another perspective, 1954 could be seen as the year in which theories of non-equivalent exchange truly began in earnest.

Wiles was rather unusual in at all bothering about socialist economics, but he was highly dismissive. Western and Third World knowledge of and attention to the theoretical discussion in socialist countries appears to have been limited. Tamás Szentes believes that linguistic barriers and lack of translations may partly account for this neglect. This would perhaps explain the relative attention paid the East German economist Gunther Kohlmey (whom Szentes, on the other hand, does not mention). “But it is hardly accountable”, Szentes (1985: 162) reminds us, “and even less justifiable if the lack of information serves as a basis for criticism, and if non-acquaintance with facts is made use of to deny them.” Andersson (1976: 167-79), was an exception bringing some of the postwar Soviet discussion of non-equivalent exchange to more general notice. The estimation of Howard and King (1992: 189; based, it seems, wholly on Andersson) is that this Soviet literature “seems to have been of low quality and to have gone almost unnoticed in the West before the publication of J.-O. Andersson’s survey in 1976.” So, perhaps its poor quality has contributed to its continued neglect, but it should at least be of interest if one wishes to understand self-perception and debate of the socialist world. The presentation below also leans heavily on Andersson’s.²⁶

Generally speaking, depending on how one understood ‘international value’, and whether one regarded exchange carried out at prices corresponding to these as equivalent or not, debaters explained non-equivalent exchange either by the working of the law of value or by its monopolistic violation. In the earliest post-Stalinist variant, the underdeveloped countries, in which productivity is low, are compelled to sell products at prices lower than their own ‘national value’, while the developed capitalist countries, with higher productivity, export goods at prices higher than their national value.

Andersson distinguishes three stances, or roughly decadal phases, beginning after the death of Stalin with a work by A. Santalov (1954), whose concept of non-equivalence was found “rather broad and ambiguous”. Apart from including profits from foreign investments, he “ascribed a large portion of the non-equivalence to monopolistic high and low prices, but the main factor was differences in productivity”, Andersson (1976: 167) explains, quoting Santalov: “In other words, in trade between backward countries, on the one hand, and imperialist powers, on the other, the commodities of the first are sold under their national value, whereas the commodities of the second – over their national value.” In Santalov’s assessment, 70 underdeveloped countries lost 83 million dollars during the period 1948-52, or 15-16 million per annum. Inspired by him, based on U.N. statistics on terms of trade since the 1870s and his own assumptions of the rise in productivity, V. Kollontai (1959) reached a similar annual figure, which lingered on as a fair estimate.

The first thing to notice is perhaps the change both in evaluation and emphasis since Preobrazhensky (to whom Szentes nowhere refers either). Where Preobrazhensky *advocated* non-equivalent exchange to benefit Soviet industry at the expense of its agriculture, Santalov and those succeeding him pointed rather to ‘the exploitative character of *capitalist* foreign trade’, as a title by I. I. Dyumilen reads, than to non-equivalence between socialist countries. This is visible also in Dyumilen’s (1963: 236; trans. in Andersson 1976: 168; cf. 167ff.)

²⁶ Thus, Russian titles are included merely for reference; when quoting translations from Andersson, I have on occasion corrected minor solecisms.

general definition: “Non-equivalent exchange of commodities, in which the industrially more developed capitalist countries receive for a smaller quantity of labour embodied in their products, a greater quantity of labour embodied in the commodities of the economically less developed countries.” Without consulting the original source it is of course impossible to determine the extent to which discussion and criticism of socialist trade relations is present, or whether criticism of capitalist relations entails hidden criticism of socialist ones. The extensive talk of ‘imperialist countries’ in quotations, seems nevertheless to imply nothing radically adverse to Marxist-Leninist dogma, rather bringing it up to date with the Cold War post- or neo-colonial agenda.

Dyumilen had the same conception of non-equivalent exchange, *i.e.*, as a difference between the national and international values of one and the same commodity. The varying productivity between countries, or, in other words, in the socially necessary labour to produce a good, made a less developed country sell below its national price of production on the competitive international market, and *vice versa*, allowing capitalists in more developed countries to receive extra profits: “As a result a part of the value, created in the economically less developed countries, is systematically transferred into the hands of the capitalists of the industrialized countries through international exchange” (trans. in Andersson 1976: 169). This tendency was aggravated by increasing difference in productivities, and by the export of capital and monopolisation of the world market: “The foreign trade of the imperialist countries on the basis of capital exports is turned into a kind of gigantic pump, sucking out material values of the Asian, African and Latin American countries into the safes of the monopolies” (trans. in *loc. cit.*).

That the law of value presupposes the exchange of non-equivalent quantities of national labour follows also from the formulation by the Hungarian Tamás Nagy (1967; quoted in Szentes 1985: 107), according to which “international value is the weighted average of the national values of products marketed in foreign trade” (on the world market). Thus, as Szentes (*loc cit.*) explains, the “exchange of unequal quantities of national labour appears not as a violation of the equivalence of international exchange because in the determination of “international value”, as the weighted average of national inputs, the labour of individual nations is taken into account as units of general labour, depending on the level of their intensity and productivity.”

Andersson’s second phase emerged in the 1960s with Soviet authors such as G. S. Roginsky (1961), V. A. Shildkrut (1963, 1972), and later R. Papayan (1968), criticising the older position. According to their criticism, differences in national values or productivities could not constitute a non-equivalent exchange any more than intra-national differences between individual producers can. Different amounts of ‘embodied labour’ are exchanged between different branches as a matter-of-course. In international exchange it was the international value, or price of production, that counted, and if there was non-equivalent exchange it could only be as a prolonged *monopolistic deviation* between this international value and world market price (Andersson 1976: 169f.).²⁷ The phenomenon seems still mainly to have been

²⁷ Andersson (*loc. cit.*) quotes Roginsky: “In general, from the point of view of Marxist value theory, it would be completely wrong to acknowledge as equivalent an exchange of a certain quantity of embodied labour of one country for exactly the same quantity of more productive and more intense labour, embodied in the commodities of another country. On the contrary, precisely such an exchange would be non-equivalent, even though the advantage was to be received by the less developed country.” He (1976: 170) also quotes Shildkrut’s summary of the new point of view: “Non-equivalence arises, accordingly, when the exchange of commodities is made at prices, which strongly diverge from the international values, the direction of the divergences being opposite not only as a result of the privileged position of the monopolies in the sphere of production, but also in the sphere of circulation. The basic cause of non-equivalent exchange is the domination of monopolies, their influence on the market, their price policy and their methods of implementing this policy.”

spoken of with respect to capitalist foreign trade, but since a huge practical problem was how to relate socialist to *world* prices any such debate was directly relevant for internal issues.

The Czechoslovak economist Josef Mervart (1962a; cf. Andersson 1976: 169) raised similar criticism, but believed monopolies to be of minor importance in the long run: “Even the monopoly price does not last longer than the duration of a cycle (five years): in the long run the world price is governed by the value of the commodity, and so constitutes the fairest price, and the only thing to be done is to secure oneself against the disturbances that may be caused by fluctuations in it” (Mervart 1962b; trans. in Emmanuel 1972a: 94). Andersson refers this kind of scepticism to the third stance, or phase, which in the Soviet union emerged in the 1970s, when there was, in his view, a tendency to belittle non-equivalent exchange, either through omission or direct criticism.

Following Breznjev and the ending of the Prague Spring, N. P. Shmelyev (1970) rejected both the preceding positions (with concessions to the former), and the whole concept of non-equivalent exchange as incompatible with the law of value. His objection to the second was the same as Mervart’s, that monopolies could not make market prices deviate from prices of production for any longer period; they “do not replace competition, do not replace the flow of capital from one branch to another either on a national or an international scale. [...] Be the power of the monopolies ever so strong, competition – not in the short run, but in the long run – will, in the last instance, bring the prices of the commodities in accordance with the movements of the social costs of production” (trans. in Andersson 1976: 172). But the monopoly tradition is strong even in the eastern European Marxism, and I. S. Potapov (1973) could believe that the importance of non-equivalent exchange had been growing with the development of capitalism.

P. I. Khvoynik (1974) seems to have agreed with Shmelyev’s criticism, although he also took great interest in cases where developing countries were forced to sell or buy at prices which deviate from world market prices. His major assault was directed against the belief that evolution of the terms of trade can be associated with non-equivalent exchange. The most important factor in the changes in terms of trade, he claimed, had been the increased quality of industrial goods, whereas the quality of raw materials had remained the same. There was an even stronger will to isolate capitalist exploitation; in Andersson’s (1976: 174) words: “A driving motive for Khvoynik’s criticism of the theories of non-equivalent exchange is the effort to refute any theory which puts the developed socialist and the imperialist countries on a par, making the “rich North” a universal exploiter of the “poor South”. In this spirit he attacks the Indian economist Manubhai Shah, who was prominent at the second UNCTAD-conference in New Dehli, and Arghiri Emmanuel”.

One favourite of Andersson’s is Yuri Olsevitch. Like Shildkrut and others, Olsevitch considers prices of production as the point of gravity also in relation to world-market prices. He further emphasises the necessity “to study the international conditions for the price of production of the commodity-values and their distribution in different countries into revenues”, and maintains that what is characteristic is the practice of monopolistic and state-monopolistic price formation, which involves non-equivalent exchange, and proposed a criteria of equivalence, not in the coincidence of values and prices of production, but in an internationally proportional distribution of incomes, that does not necessarily correspond to the proportions in which the values are produced (Olsevitch 1969, VI: 30, 36f.; cf. Andersson 1976: 178; Szentes 1985: 170). This occurs, in Andersson’s (1976: 176) summary, “when each country receives an income from its exports which approximately corresponds to the sum of internationally necessary outlays of living and objectified labour embodied in its exports.”²⁸ The equivalence of international exchange is ascertained on the grounds of

²⁸ Thus understood, Andersson (1976: 179) continues, Olsevitch’s view of non-equivalence “comes very close to ours, since any deviation of a world market price from its international value will affect the international

whether a proportionate international division of values into incomes is accomplished, Szentes (1985: 108) explains, *i.e.*, “whether the export earnings roughly correspond in each country to the sum of the internationally necessary inputs of live and materialized labour embodied in the export products.”

Not included in Andersson’s overview of the Soviet literature, but treated elsewhere, is L.B. Shaynin (1960) at Moscow State University, who treated different apprehensions of equivalence in an exchange. He rejected what he considered to be Proudhon’s principle that an exchange to be equal must correspond to an equal amount of labour time invested in the product, and instead advocated a principle of equality where both parties received an “equal gain”, measured preferably in days of labour, *i.e.*, where the labour saving was equal (Shaynin 1960: 772; as a supplement, he rejects another four interpretations of equality). According to Shaynin, an early advocate of this view was Adam Smith, to whom a good’s “real price”, did not correspond to the production time but to the time that the buyer would have needed to produce the good himself. Notwithstanding Ricardo had supposedly professed the same principle, Shaynin could easily demonstrate that he did not apply it to his England-Portugal example. Both Shaynin (1960: 778ff.) and Andersson (1976: 37) agree that it was definitely applied by John Stuart Mill. This rather un-Marxian approach to non-equivalence, by means of appraisal of goods in terms of buyer labour, was instead illustrated with the Russian national hero Gogol: “it had its reflection in the gambling with “dead souls,” when Sobakevitch has appraised his unusual goods (dead serfs, still registered as living) exclusively according to the proposed partner’s profit at this operation” (Shaynin 1960: 780).

In Andersson’s terminology this exchange is not ‘non-equivalent’, but ‘asymmetric’. He (1976: 33ff., 44; 1972b: 101ff.) sees an similar argument “implicitly suggested” by Raúl Prebisch (1959) to determine the ‘real outward transfer of income’ in foreign trade, and also in W. A. Lewis’s (1954; in Agarwala & Singh: 449) most famous article. This transfer “is equal to the difference of the productivity ratio and the wage ratio in the exporting industries multiplied by the number of workers employed” (Andersson 1976: 35).²⁹ Andersson objects that the concept cannot be constructed in an unambiguous way (1976: 37f.), and that this way of calculating proceeds from the “totally preposterous principle that the relevant alternatives are trade or no trade”, and that it can easily lead to absurd results, such as that a country can ‘transfer’ several times its own GNP yearly, or that a country can obtain more goods per inhabitant than another but still transfers ‘income’ (1972b: 103f.; 1976: 44).

There has been a rather widespread discussion of non-equivalent exchange also in other Eastern European socialist countries.³⁰ Among non-Soviet economists there are the above mentioned Josef Mervart, Tamás Szentes,³¹ and Gunther Kohlmey.

distribution of incomes, so that it does not correspond to the proportions in which the values are produced internationally.” To both Olsevitch and Andersson, the theory of non-equivalent exchange “must be a theory of international price formation, which again must be included in a theory of international value production and redistribution into different revenues.”

²⁹ The productivity ratio is the ratio between the productivity in the exporting country and the productivity in the corresponding branch in the importing country; the wage ratio is the ratio between wages in the two countries.

³⁰ Slavonic language literature referred to by Andersson (1976: 42), but not mentioned above, include Rymalov & Tygunenko 1969; Koptev & Ochkov 1970; Dvorzhak 1969; and Kamenov & Malhassian 1968.

³¹ The first part of Szentes (1973) book is a critique of conventional theories of underdevelopment, and the second is devoted to its “causes, substance, and the laws of motion”, discussing internal and external factors, and the prospects for overcoming it. In the chapter on external factors, he treats on the one hand economic dependence and on the other income drain, which he subdivides into direct, showing up in the balance of payments or as foreign debts, and indirect forms. Of the seven forms of indirect income drains taken up, two are connected with the manipulations of international monopolies, one with the mechanism of foreign exchange and banking systems, one each with the net balance of shipping freights, the deterioration of the terms of trade, the unequal distribution of the benefits arising from international specialisation, and, first of all, what he calls “the immanent inequality of exchange”. In Marxist terminology, this refers to the exchange of unequal quantities of

One of the most influential authors, at least one of few economists in the eastern bloc to acquire an international reputation even in the West, was the GDR economist Gunther Kohlmey (1913–1999). Since he has been more often commented upon, he has also been subjected to more pungent and a greater variety of Western criticism than his eastern European colleagues, which does not mean that much of it could not be relevant also to them. The son of a teacher, he was born in Berlin, and studied political economy from 1932 to 1936 at the universities of Freiburg and Berlin. According to Adolphi & Schütrumpf (2001: 7), at the end of the Weimar Republic, he belonged politically to a group which sought to bring greater ‘understanding’ between those more nationally inclined who were also critical of capitalism, and the communists. From this link, they explain, sprang his “immunity” to national socialism. With his diploma in *Volkswirtschaft*, he nonetheless joined the Nationalsozialistische Deutsche Arbeiterpartei (NSDAP) in 1937 (cf. *Wer war wer in der DDR?* 1995), and received his doctor’s degree in 1939, with a dissertation on British-Indian and Argentinean industrialisation. In Adolphi’s (n.d.: n.p.; 2000: 138) perhaps unlikely interpretation (judging from circumstances), this was based on Marxist theory. He fought as a lieutenant in the Wehrmacht on the Eastern front, defected to the Red Army on the Kuban peninsula in Southern Russia, in 1943 after the catastrophic Battle of Stalingrad (although Anonymous 2000 claims that his ‘humanist convictions’ made him defect ‘in 1942’). He was held prisoner in Moscow, but was made Assistant at the Antifa-school Krasnogorsk until 1947, when he returned to Berlin. In October 1948, he became dean and founder of the economics faculty of the new German Academy of Administration (DVA) in Forst-Zinna.

This was part of a more general plan to replace the former elite and institutionalise Marxist economic theory, marking the end of the more tolerant and broader approach in the previous postwar years. As Krause (1998: 265) observes, when the GDR mutated into a state rigidly governed by the Socialist Unity Party (SED), “economics could only survive by positively identifying itself with state socialism, its centralist planned economy, its sources of fundamental economic thought (Marx, Engels, Lenin, and for some time, Stalin) and the SED as the ‘leading force’.” It assumed the character of official science, which it retained until

labour, which can assert itself “*even* in the case of the formal equality of exchange”, can “be pointed out only by way of abstraction”, and can be qualified as an income drain “only *under certain conditions*” (p. 200). Szentes formulates it as what he believes to be a questioning of Ricardo’s theory of comparative costs: “if exchange in the trade between the advanced capitalist and the economically backward countries is carried on at world market prices [...], and if the demand for and the supply of these products at the given world market prices are in equilibrium on the world market, how is it possible that the total values of the products exchanged [...] that are socially necessary to reproduce those products are still not the same?” (p. 201). He tries to illuminate this question in terms of the law of value (in a rather cumbersome yet non-formalised language, perhaps not always very successfully – at least not to the present author), both for commodities which are common and unique, finding, more or less, that productivity levels are important for the transfer of value. The point he wishes to make for commodities that are common to both groups is that productivity levels are *lastingly* different (because of innovations and the somehow lastingly problematic transfer of technology and technological know-how), resulting in the usual ‘national values’ of less productive countries higher than average.

Although he as yet makes no references to Emmanuel or the debate awakened by him, Szentes manages to make similar points, such as that under the assumption of “*free flux of capital, part of the surplus value created in the underdeveloped countries, flows through the channels of foreign trade into the advanced countries and partakes there in the equalization of profits*, i.e. of the formation of the average rate of profit.” The point would appear to be that “capital cannot realize in full the higher surplus value created in the underdeveloped country realisation”, but has to sell products at an “‘international price of production’ lower than the [national or international] ‘market value’.” (p. 205) This results, further, in the underdeveloped countries not being able to “enjoy the comparative advantages from natural endowments”. “Ricardo disregarded in his assumptions the international flow of capital and the international equalization of the rates of profit”, meaning of course that he is correct according to his premises. If “the international movement of capital were restricted, the underdeveloped countries would be able in principle, assuming again the equilibrium of demand and supply, to realize the full “international market price”, and in whose relation they have *monopolistic natural advantages*.” (p. 208) As it is, they are not, even for these unique goods.

1989: “Briefly, economics in the GDR was from the very start an integral part of the political structure and instruments serving SED policy. This instrumentalization categorically included treating the economist as a political functionary, party worker at the theoretical front who had to deliver what policy dictated” (*loc. cit.*; the quotation in the text is by G. Schirmer).

Other means by which Marxist theory was made to take root was, in the first place the SED training system introduced in 1946 to teach members the dogmas of Marxist political economy; the SED Party College ‘Karl Marx’ started in June the same year, a training centre for its cadres and institution for the propagation of its teachings; a few Marxist professorships in reopened universities, including those of Jürgen Kuczynski and Fritz Behrens; the establishment by the SED, in collaboration with the Soviet Military Administration in Germany, of faculties of social science at various universities, serving to educate a new intelligentsia of working-class parentage, and to extend the ideological influence of Marxism-Leninism at the universities. Furthermore, these institutions provided suitable platforms for publications. This meant that in the period between 1949 and 1951, most representatives of traditional economics left the GDR for the Federal Republic: “It was in this way that in the GDR Marxist economic theory achieved its monopoly in knowledge, definitions and explanations” (*ibid.*: 281f.). In 1950-51 political economy had been made a mandatory subject at the universities, and in 1955 the first official Soviet textbook was published in the GDR. At the publication of Stalin’s views on economics in 1952, Behrens “declared programmatically that science in the German Democratic Republic must take the socialist science of the Soviet Union as its model.” From the Early 1950s onwards, Soviet economists lectured and published extensively in the GDR, naturally influenced by Stalin’s economic ideas (*ibid.*: 282). Conformity cannot be attributed solely to repression by the SED and state socialism. Another influence, particularly emphasised in the divided Germany, was the necessity to distinguish oneself theoretically from the West (and, of course, the past). To this was added, finally, what Krause refers to as the economists’ “messianic belief in their enlightenment effect within party and government circles”, based on a self-image rooted in Marxism-Leninism and emphasised in party propaganda, that its policies always represented scientific theory. “This legend was underscored by the work of GDR economists. For many years they lived with the notion that their ideas, conceptions and proposals were providing a scientific foundation for SED policies. Ultimately, this notion proved to be self-deceptive” (*ibid.*: 265f.)

The decision in favour of a planned economy and state socialism demanded qualified staff with economic training, and resulted in a strong boost for East German economic institutionalisation. In October 1953, Kohlmei was appointed founding director of the Institute of Economics at the German Academy of Sciences, charged with the commission to make it the GDR’s leading centre of economic research. Major areas of concern were identified, concerning the monetary system, productivity of labour and profitability of the state sector in the GDR, economic ideas in the FRG, and problems of state monopoly capitalism. As part of the institutionalisation of economics, new periodicals were commenced, the most important being *Wirtschaftswissenschaft*, which first appeared as a bi-monthly journal in July-August 1953 with Kohlmei as its first chief editor. Limiting themselves to one theoretical school, its board of editors considered their foremost duty to consist in explaining the theories of Marx, Engels, Lenin and Stalin. A range of other periodicals also appeared in the years from 1955 to 1957, including *Schriften des Instituts für Wirtschaftswissenschaften*, *Probleme der Politischen Ökonomie*, *Wirtschaftswissenschaftliche Informationen*, *Geld und Kredit*, and *Konjunktur und Krise*. In September 1954, the Academy’s ‘Section of Economics’ drew up a research plan, whose top priority was to ensure the sovereignty of Marxist-Leninist economic theory (*ibid.*: 279ff.).

Centralised state planning of social production was considered an essential feature of the socialist economic system, and was introduced with the first five-year plan (1951-55). It was

even referred to as the basic economic ‘law’ of socialism until Stalin shockingly declared that economists must study the objective economic laws of society, though exchanges within the state sector was outside their field. German economists gradually overcame their fears and included commodity-money relations and the law of value. This led up to the so called revisionism debate in which Kohlmey played an important part. The previous opinion was that under socialism humankind and the state could abolish, create, amend, transmute economic laws at will. Following Stalin’s change of heart and as discrepancies became apparent between the projections and execution of the five-year plan – not to mention the increasing emigration to the West and the East German uprising of 1953, early examples of the proletariat rebelling against the dictatorship of the proletariat (cf. Ostermann 2001) – conflicting opinions were raised. In 1954, the Soviet Union granted East Germany formal sovereignty, and the Soviet Control Commission in Berlin was disbanded. Objecting to the practice of trying to ‘administer away’ economic factors and problems by conferences, party projects, and deployment of agitators, Kohlmey expressed his concern in concise form with the formulation: “Socialism is also (national and international) market economy” (quoted in Krause 1998: 288). If the debate was primarily over national prices, Kohlmey became more known, at least in the West, for his contribution to the theory of international trade and prices.

In a famous lecture series at the Academy of Economic Sciences in East Berlin in 1954, published a few years later (1962), Kohlmey tried to integrate the theory of comparative advantages with a Marxist theory of international values. Like Grossman (to whom he did not refer), he vehemently argued against the idea that Marx should not, for lack of time, have developed a theory of foreign trade and therefore left only marginal notes. It is of course also easier to defend a view if one actually believes it, but this was perhaps the only way in which novel theorising could be undertaken at the time. In 1968, he himself made the same argument concerning Marx’s lack of opportunity to develop a theory of foreign trade (Kohlmey 1968: 8). The early lectures identify three areas of exchange in the world – the capitalist, the socialist, and the small trade between the two – as well as corresponding tendencies towards three different international ‘units of value’ (*Wertgrösse*), i.e., “the socially necessary labour expenditures of producers connected through the market” (*idem*: 1967: 1248). Like Sweezy and later Mandel, but unlike Grossman and later Emmanuel (cf. 1972a: 97, n. 13), he (1962: 59) at the time denied the existence of international prices of production, even though he simultaneously observed how export of capital and worldwide trade had expanded drastically since the death of Marx. This was the presentation from which Mandel (1962, 1972) borrowed his theory of ‘unequal exchange’, though in the meantime Kohlmey himself had become more favourable towards the idea. The reasons alleged by Kohlmey in 1954 (1962) are those repeated by Mandel. The first, once again based on Marx’s example of European-Asian trade, concerned the low wages, prices of land, and organic compositions of capital, and high rates of exploitation. This was, as Raffer (1987: 22) has observed, a “rather theoretic” way to go about, and “only suggests” that usually rates of profit will be higher in the periphery. Like Mervart, Kohlmey had no great confidence in monopolies as a factor in international inequalities, not least because the monopoly of the underdeveloped countries in fuels and raw materials was at least as salient as that of developed countries in finished goods (cf. Emmanuel 1972a: 94). Secondly, and in itself theoretically sufficient, the relative immobility of factors of production on the international plane was sufficiently great to undo the formation of an international rate of profit (and thereby international prices of production), and those tendencies which did exist were countervailed by unequal development.

For each of the three areas of international trade sharing market relations, labour of different intensities and productivity formed international values, in homogenised labour value units and determined as an average of the various national values (Kohlmey 1962: 44). Kohlmey’s theory was based on the distinction between absolute and relative advantages of such national

intensities and productivities. Whereas Ricardo had laid emphasis on the relative advantages, Kohlmey concentrated on the absolute. Relative advantages were national labour-savings in international trade, corresponding to Ricardo's comparative advantages. Absolute advantages arose by the more productive country having a national value below the international average (Kohlmey 1962: 45ff.).³² Given that value was inversely proportional to labour productivity, national values were greater for less productive countries (said to be 'underdeveloped') than the international average, and vice versa for the more productive. The whole explanatory value of Kohlmey's model appears to lie in the identification of underdeveloped countries with less productive ones, which even if true would perhaps not be very helpful.

Like many other Eastern European economists (Shaynin, Rakowski, and Kohlmey's Hungarian followers), he saw non-equivalent exchange as an unequal distribution of gains from the comparative advantage, which did not correspond to a real loss, but only a lack of gain. Kohlmey's theory was commented upon several times by Emmanuel, most harshly (1975a: 32) as "not only a rehabilitation of the theory of comparative costs but, moreover, an unskilful one", since what was with Ricardo only an illustrative simplification to reinforce his point (Portugal being absolutely more productive in both wine and cloth), became for Kohlmey the essential element (Portugal therefore producing at national value below world average, gaining an absolute advantage from trade). "Kohlmey's definition of inequality is clearly looking for trouble", Raffer (1987: 23f.) observes: "This absolute disadvantage does not depend on trading. In autarky the less productive country is still less productive though it does not exchange its labour units." If Portugal and England, in Ricardo's example, produces one unit each of wine and/or one unit each of cloth and exchanges these for one another, Portugal (being the more productive country) would gain an absolute advantage. "This sounds funny but nevertheless gives Kohlmey's position quite correctly. Pointedly expressed, his theory of exploitation by trade does in its most important part not depend on the existence of trade" (Raffer 1987: 24; referring to Schmidt 1979: 158). Raffer finds Andersson's criticism that one cannot compare different national labours directly unwarranted (since Kohlmey calculates in internationally homogenous labour units), but his summary adequate: "Non-equivalent exchange in this sense, therefore, is directly connected with the degree of development of the countries involved. The non-equivalence can be rather easily explained, but it does not explain anything itself. It is an indicator of a fact which can be ascertained without it" (Andersson 1976: 66).

If this was Andersson's evaluation of non-equivalent exchange as a divergence between world market prices and national *values*, Raffer (1987: 24f.) reasonably interprets Kohlmey (1962, 1967) as speaking of world market prices and national *prices of production* – one of the types of non-equivalent exchange not included in Andersson's classification, but one which perhaps makes more sense. World market prices then move between national prices of production according to the rules of supply and demand. As Raffer (*loc. cit.*) observes, Kohlmey wavers on the issue whether these world prices display oscillatory movements, which they would logically do if there were not only international values but also international prices of production. He seems, however, to have become more willing to accept the idea over the years. In the early lecture series (Kohlmey 1962: 61), he had denied a centre of oscillation when stating that the sum of world market prices does not equal the sum of international values. Two pages later he claims that world market prices do not oscillate ('*pendeln*') around their market values but around the weighted averages of their national

³² Just as, on the national level, a commodity has different values depending on different circumstances of production, but only one social value, so, on the international level, each good has different national values, but only one international value. This is determined, Andersson (1972: 99) explains, by the socially necessary labour on the international level, being "a weighted average of the national values, in the same way that national values are weighted averages of the 'individual values', the direct and indirect labour spent in the different enterprises."

prices of production. By 1967 (p. 1240), he treats the international value not only as the weighted average of national values, but also the centre of oscillation of world market prices, which he now presents as a discovery made already by Marx. By 1973, when Emmanuel had published on the issue for more than a decade and during which time Mandel defended and continued to defend Kohlmey's original position, Kohlmey (1973: 1303f.) himself explicitly acknowledged the international equalisation of the rate of profit and the consequent formation of international prices of production, though which theoretical consequences to be drawn from this altered position seems to remain uncertain, perhaps because of the difficulty of acknowledging altered positions in the first place. While not mentioning that Kohlmey has in fact changed his perspective, Andersson (1976: 63f.) notes the importance of theoretically recognising this qualitative change in the actual economy. He also quotes Shildkrut (1972: 197f.), who had reached a similar conclusion the year before, and apparently agreed with Emmanuel's criticism of Kohlmey that the significant qualitative change had set in before the 'imperialist' or 'monopoly' phase. Andersson found both Shildkrut and Emmanuel's critic Palloix (1971, I: 128) inconsistent, however, in that they both ascribed large movements of capital precisely to the latter 'monopoly' phase. Potapov's (1973: 249) position, trying to skip international prices of production but still speaking of market prices pendulating around values, is reminiscent of Kohlmey's still wavering one in 1967.

Though Kohlmey was quite elaborate on how exploitation is effected in the capitalist world, one should perhaps remember that the principal problem, for him as for other Eastern bloc theorists, but unlike, *e.g.*, Mandel or Altvater who restricted their analyses to capitalism, was to formulate workable trade and price policies for the socialist world. Furthermore, Kohlmey was primarily interested not in formal equivalence of exchange, but, as Andersson (1972b: 100) observed, in the growth and utility effects of international trade. If absolute advantages in labour productivity resulted in a non-equivalent exchange, its abolition would require an equalisation of development levels. Thus, in order to achieve these lasting non-equivalent exchange, one should adopt non-equivalent exchange favouring the less developed (Kohlmey 1967: 1258). Incidentally, this is the (dented) mirror image of the conclusion arrived at by Preobrazhensky in the 1920s, when the aim was to achieve the highest possible growth rate. Price policy was only one aspect of international socialist relations, which included also technical-scientific cooperation, international investments aids, non-monetary credits at low or no interests, planned specialisation, and long-term supply agreements. Together they should create a rational pattern of exchange and production, which was impossible to arrive at merely by price policy, significantly because socialist economies could not disregard the ruling, though capitalist, world market prices. Kohlmey thus accepted the ruling market prices in East-South trade, but pointed out the quite common necessity to make special arrangements. As it were, capitalism had not fulfilled its role of abolishing underdevelopment and then turning to socialism, which left the latter with the problems of non-equivalent exchange and the equalisation of techno-economical development, but ultimately, socialism would need a new price system (Kohlmey 1962: 81, 96, 109; 1967: 12).

The state of theory in the GDR of the 1960s was probably not in the forefront, compared with the more liberated developments in Hungary, Poland, or the CSSR (Krause 1998: 300f.), so there was presumably much more to be found. The question of non-equivalent or unequal exchange was part and parcel of the East European debates on how and whether to establish correct prices or letting them adapt to market prices. Even debates in the West were influenced, notably so in France, where both Bettelheim and Emmanuel became involved. In fact, Emmanuel's argument on unequal exchange, and related arguments on the possibility of suboptimal specialisation in a market economy, also formed part of an argument in favour of international, even planetary, economic planning. Thus, in his first publication on the issue, he (1962: 7, trans. J.B.) noted that "one can no doubt reasonable hope that the day when

socialism becomes a planetary system, all inequalities will disappear, including that of unequal exchange – which, let it be said in passing, is unfortunately not yet the case for existing socialist countries.” Of course, problems of socialist planning and pricing were some of Bettelheim’s principal concerns, at least from 1946 onwards, including the comments (1962) attached to Emmanuel’s essay. Under Bettelheim’s editorship Emmanuel contributed to the debate in 1966, and the former gave his views on the whole socialist European debate in an important overview and summary the following year (Bettelheim 1967). Here we will concern ourselves merely with Emmanuel’s opinions. International planning was something very much unfulfilled even in existing socialism, Emmanuel noted, which instead, just like the capitalist world tended towards a ‘mixed’ economy. Quoting Jacob Viner’s opinion of the latter, Emmanuel (1966b: 35) agrees that such an economy was likely to give us what there was of the ills in both the worlds, lacking the merits either of an entirely planned authoritarian regime or of a regime without any direct control whatever.

Commenting on the possible advantages of international economic planning over a market economy to achieve optimal economic specialisation, Emmanuel (*ibid.*: 11f.) noted the possibilities (1) of calculating the expenses directly in quantities of productive factors, not having to go via the market prices of these factors, (2) of calculating these quantities not as a function of the volume of production *before* specialisations, but instead when and where they will be produced after specialisation (thereby avoiding falling victim to Graham’s theorem on disadvantageous specialisation for both countries under certain combinations of rising and falling costs), (3) of estimating the timing and societal ‘costs of transfer’, or obsolescence, which in a market economy might take place in different enterprises, when changing from one branch or line of production to another, and finally (4) of taking account of the supplementary costs of transportation occasioned by specialisation, not only based on the costs before specialisation but based on the increase of transport after it. Historical factors contributed to explaining why, in spite of these advantages, it was the western capitalist economy which had in fact gone the furthest in international specialisation, but then there were the obvious problems of cooperation and, indeed, of theoretical clarity, exemplified, among other things, in the current vogue to base exchanges in the socialist block on capitalist ‘world prices’.

There could be only one or the other of these systems, and the attempts currently favoured in the socialist block at intranational planning combined with an unplanned international market economy between independent states was contradictory and bound to prove a failure. An integrated planning of the whole international or socialist economy had never been attempted, and there were many unsolved problems to it, among the most important of which were the different levels of development and the autonomous and independent organisation of the participating countries. Only an organic fusion of the national economies could form the basis for a truly unified plan, but this possibility being excluded one attempted suboptimal solutions implying a coordination of national plans to obtain some kind of international division of labour in the COMECON (*ibid.*: 15f.). Unable to resolve the inherent contradictions theoreticians proposed, in principle, abandoning the state monopoly of foreign trade that in favour of the reintroduction of a market economy based on world prices. (A state monopoly in foreign trade did not, in Emmanuel’s [*ibid.*: 27] view, imply that each state conduct its business to its own profit – it did not even necessarily imply the existence of a foreign ministry –, but that it was the plan of the whole ensemble which decided the orientation and volume of exportations and importations of each, and not the maximisation of profit of individual enterprises or states.)

A diminishing group of economists (among whom were Csikos-Nagy, G. Graebig, J. Slobin) still proposed specific prices for the socialist system according to a general principle, based on the incorporated socially necessary labour, but although perhaps simple in theory (and perhaps not), actually determining these and accommodating them from national to the

international sphere proved overwhelming. The opposite camp (containing V. Kaigl, A. M. Smirnov, V. Cerniavsky, J. Mervart), holding out for an autonomous price for the international socialist market, based on world prices, ultimately won the game with the adoption of its principle in 1957, and reinforcement in 1962 and 1963, by the COMECON. G. Kohlmey, finally, held something of a middle ground, where in practice one had to search a modified price based on world prices (*ibid.*: 27-34).

Now, according to Emmanuel's own thesis, the phenomenon of unequal exchange demonstrated that applying world prices would not assure the equality of exchange, in terms of the quantities of factors, but would, on the contrary, replicate the disadvantages for regions and branches happening to produce the same goods as the western underdeveloped countries. Furthermore, in exchanges between the socialist world as a whole and the West this would put the former in the position of underdeveloped and low wage regions, instead of allowing it to take advantage of the superior possibilities of a planned economy to profit from rational utilization of comparative advantages, which, although more chimerical in a market economy, were possible between the blocks, where there was no capital mobility. Even at equal exchange and an identical scale of wages, however, it was not indifferent to a region whether it specialised in capital intensive branches or not, or if it consisted of engineers or manufacturers. "As long as everyone is rewarded according to his performance, a man's trade will continue to determine his economic, economic and cultural standing, and regions will continue to call for the factory chimneys which poison the atmosphere" (1966c: 13). The paradoxical absurdities of the world were apparently not limited to the market economy. We shall return at length to Emmanuel's theory of unequal exchange as applicable to capitalism.

The most renowned proponent in the West of Kohlmey's theory is Ernest Mandel (1923–1995; biographical material in Mandel a, b, c). When Mandel was due to be born his parents, Jewish émigrés from Poland, who were exiled to Anwerp, Belgium travelled to Frankfurt. In accordance with Belgian law, their son became stateless. The father was a member of the Spartacus League, which had struggled on the side of Rosa Luxemburg, and in the 1930s actively opposed rising fascism and Stalinism. He was also a diamond dealer who was relatively well off, and could house several refugees during Mandel's youth, emphasising the internationalist environment. In 1938 Mandel joined the PSR (Parti Socialiste Révolutionnaire), the Belgian Section of the Fourth International. Following the German occupation in May 1940, the Germans immediately instituted anti-Jewish laws, confiscating property and businesses, banishing them from certain professions, requiring them to wear a yellow Star of David and beginning deportations to internment camps. During the occupation between 65,000 and 75,000 mostly Polish Jews, who had found refuge after World War I, lived in Belgium, mostly in Antwerp and Brussels. There was still considerable support for resistance, and over 25,000 Jews avoided deportation by hiding from German authorities, partly by refusal of the Belgian civil administration refusing to cooperate, and through the tendency of immigrants to be mistrustful of official appeals (Holocaust 2005). Having graduated in 1941, Mandel enrolled at the Université Libre at Brussels, which was closed a few weeks later by the German forces. In the Autumn he became active in the Trotskyist resistance, maintaining an internationalist point of view even to the point of diffusing revolutionary tracts among German soldiers. He was arrested several times but managed to escape – at the end of the war he was among those in all nearly 25,000 deported to German labour camps but again managed to escape rejoining his comrades in Belgium, as one of less than 2,000 survivors. After the war he became the youngest member of the Fourth International secretariat and a leader of the Belgian Trotskyists, a prolific journalist, mostly under various pseudonyms, publicly defending Marxism during the Cold War. When the Fourth International split in 1953, he developed into a leader of the West European International Secretariat of the Fourth International (ISFI), and, in line with its policy, joined

the Belgian Socialist Party trying to lead it in a more militant direction. In 1963 he led the reunification of the ISFI with the Socialist Workers' Party, and the new regrouping became known as 'Usec' (or the United Secretariat of the Forth International).

In 1962, he published a famous encyclopaedic – rather than innovative – tract on Marxist economic theory in French and in his own name. His well written and popular expositions are more historically padded out, although the literary talent is sometimes thought to hide less well argued points and theoretical weakness, in this respect, too, reminding of Trotsky's economics. To Mandel, pre-capitalist, large-scale trade was limited to foreign trade, and principally to luxury goods. It drew its strength from the different economic development in different parts of the world. With the breakthrough to the capitalist mode of production, international trade grew to unprecedented volumes, but also grew into comprising mostly consumption goods, raw materials, and means of production. Mandel's image of the world market under capitalism on first sight might not appear so different from, for example, Emmanuel's, with unified prices and where the basic transfer of 'wealth' takes place without braking the competitive market code of honour.³³ A unified world market with non-unified world production, must not be interpreted as implying that international equalisation of profit and non-equalisation of wages of which Emmanuel speaks. To Mandel there was only an equalisation of world prices, with retained nationally screened off rates of profit. That self-reinforcing unequal development which he detected, was a reflection of the different productivities of labour, which became a source of extra profits.

He refers particularly to the Marx-interpreter Kohlmey, whom he follows in identifying less productive countries with underdeveloped, for example in agricultural goods:

When they export their goods to backward countries and import from them raw materials, foodstuffs, etc. the industrially advanced countries thus sell goods above their value and buy goods below their value. Behind a seemingly equal exchange "at world market prices", trade between an economically advanced country, possessing an advanced degree of productivity or even a monopoly in the given field, and an economically underdeveloped country, thus represents the exchange of less labour for more labour, or, what comes to the same thing, a transfer of value from the backward country to the advanced country. (Mandel 1962: 200.)

As with Kohlmey, the value of a good is determined by the labour socially necessary to produce it, in its turn depending on average productivity. As soon as there was a difference in productivity, the value (price of production) of a good would differ between these countries.³⁴ Countries with low productivity were forced to sell their goods at world-market prices below national prices of production, whereas industrialised countries received an extra profit:

³³ Mandel (1962: 199) wrote: "The creation of a unified *world* market cut out, right from the start, fraud and trickery as essential sources of commercial profits. The majority of goods were now sold throughout the world at their actual prices of production. Commercial profits were henceforth deducted from the total amount of surplus-value produced by the workers.

This, however, does not mean that the unevenness of economic development, which continues, and is indeed intensified and worsened by the world development of the capitalist mode of production, has ceased to constitute a source of additional profits, and transfers of wealth from one country to another. The capitalist mode of production, the export of industrial commodities produced by the first industrial countries, has indeed unified the *world market*. But it is far from having unified *world production*, its technical and social conditions, its average degree of productivity of labour."

³⁴ Mandel (1962: 200) wrote: "Now, the formation of a world market implies the formation of world prices. As the modern textile industry has not covered from the start, and, in fact, still to this day does not cover, *all* the clothing needs of all the world's inhabitants, part of the human labour expended on making clothes with hand-looms, or by other archaic methods, still constitutes socially-necessary labour on the world market. The value of imported industrial cotton goods will thus be fixed in the backward countries at a higher level than in their countries of origin.

But only *a part*, and a continually shrinking part, of the total human labour expended on making clothes by old-fashioned methods is not socially-wasted labour, that is, actually finds purchasers for its products. This is why the value of cotton goods in the backward countries is fixed well below their local price of production".

When they export their goods to backward countries and import from them raw materials, foodstuffs, etc. the industrially advanced countries thus sell goods above their value and buy goods below their value. Behind a seemingly equal exchange "at world market prices", trade between an economically advanced country, possessing an advanced degree of productivity or even a monopoly in the given field, and an economically underdeveloped country, thus represents the exchange of less labour for more labour, or, what comes to the same thing, a transfer of value from the backward country to the advanced country. (Mandel 1962: 200.)

By contrast, several authors deny or play down differences of productivity, arguing that it is often extremely high (*e.g.*, for coffee, fruits, and sugar) in underdeveloped compared with industrialised countries, just as it is often high in those cases (*e.g.*, oil, iron ore) where they compete with developed countries (cf. Andersson 1972: 112; Amin 1970a). The early Andersson (1972: 113) underlined the oddity in the whole perspective linking non-equivalent exchange to productivity levels in the export sector, commenting that, whereas Mandel sees a high productivity leading to a transfer of value *to* the country, for Prebisch this instead resulted in a transfer of value *from* the country.

Also in 1962, Mandel resumed his study of economics, and in 1967 graduated from the École des Hautes Études in Paris, where he could not very well have avoided coming in contact with Bettelheim and his group, with which he was to dispute on several issues. In the 1968 events (May 68 in France, the Spring of Prague, the Têt Offensive), he became a well-known figure, touring student campuses in Europe and America. The French government forbade him entrance, and he was refused visa for the United States, Australia, New Zealand, Switzerland, and both Germanys, but nevertheless managed to obtain a Ph.D. from the Free University of Berlin in 1972 for a thesis which was published the same year as the much translated *Der Spätkapitalismus* (Mandel 1972a; cf. Mandel d).

The chapter considering 'neo-colonialism and unequal exchange' (Mandel 1975: 343-376) could be considered a contribution to the contemporary French debate, but the French translation appeared only in 1976, when Amin had already declared the debate three years ended. More important in that case was the English revised edition, which added a paragraph (Mandel 1975: 355f.) arguing against Emmanuel's (1972b) article on 'the myth of investment imperialism'. Though commenting on the unequal exchange literature, Mandel's perspective was still rather that of Kohlmey, and perhaps he could more truthfully be regarded as an example of the German debate, together with Bush (1973) and Schöller (1973). Interestingly, Lorenz (1970) could write an article on non-equivalent exchange, international income distribution, and the debate on the terms of trade, treating in particular Kohlmey and Mandel, along with Prebisch, but without mentioning Emmanuel or other contributions in French (cf. Lorenz 1982). For later contributions from the German-speaking area, including Donges (1981) and Schmidt (1981; 1982), see the (merciless) overview by Raffer (1987: 69-72), but also Köhler & Tausch (2002).

Mandel placed great emphasis on what he considered to be structural differences, ensuring different rates of profit on capital invested in the metropolitan countries and the colonies. In the colonies average capital intensities and the value of labour were lower, the rate of surplus value higher. Because of the enormous industrial reserve army wages could lie even below the value of labour power, whereas metropolitan wages tended to increase in prosperity and not decrease in slumps. Finally, in the colonies indirect costs for the functioning of the capitalist system were partly transferred to the pre-capitalist surplus product. In the period of classical imperialism, all of this substantially increased colonial rates of profit, but instead of accelerating development it decelerated capital accumulation because it was "siphoned out" of the colonies (Mandel 1975: 343f.; 44-74).

After the start of the imperialist phase a further mechanism of exploitation was added to these "surplus-profits", namely unequal exchange, which even became the general rule. Mandel (1975: 344) defined it in terms of a non-equivalent exchange of quantities of 'labour':

“The unequal exchange meant that the colonies and semi-colonies tended to exchange increasing quantities of indigenous labour (or products of labour) for a constant amount of metropolitan labour (or products of labour).” The most important *causes* were to be found in the long-term development of the terms of trade and in “monopoly control over markets for raw materials and colonial output of these materials by large imperialist companies from the metropolitan countries”. Even during the interwar period colonial ‘surplus-profits’ were still the chief, and unequal exchange only the secondary, form of exploitation. Arguing thus, with the example of Great Britain, however, Mandel made some odd assumptions and even unwittingly had recourse to yet another definition of unequal exchange, namely as a difference between the actual international values and respective national values. The ‘surplus-profit’ was identified with the annual income from foreign capital investments, amounting to £200 million. Mandel allows that “not all” originated in the ‘colonies and semi-colonies’, but still used this figure in his comparison. Since investments were preferably made in well-to-do regions – the United States, the British Dominions, Argentina –, it is a curious estimation indeed, even should rates of profit have been very much higher in the poorer regions. By contrast, when it comes to foreign trade he was careful to point out that less than half of the total £1,300 million was conducted with ‘colonies and semi-colonies’. Furthermore, allowing for “exports 10% above ‘national’ value and imports 10% below ‘colonial’ value”, he explained that unequal exchange could not have exceeded 20% of the total value of colonial trade, or £130 million, and thus less than income from foreign investments. His conception was clearly expressed in a footnote: “In the case of unequal exchange, in which commodities are sold below the ‘national’ price of production” (Mandel 1975: 349, n. 14). We should at least note that neither the definition nor the calculation has anything to do with the concept of unequal exchange as used by Emmanuel. This is not only because Emmanuel did not argue in terms of a difference between national and international values, but because, as he had by then pointed out in the debate with Bettelheim, unequal exchange was not a *fraction* of the actual, *reduced* value of commodities, but a *multiplicand*. Even more bewildering is that when it comes to the postwar period, Mandel (1975: 345f.) referred to Amin’s (1974, 1: 58f.) estimate, in which, for all one may think of it, unequal exchange *was* estimated by multiplying actual prices by one or another factor. Incidentally, the estimate was not in accordance with either Mandel’s or Kohlmey’s definition, nor Emmanuel’s, or even, some would say, Amin’s own at all places.

Whereas since the Second World War, the ‘colonial surplus-profits’ directly produced in the underdeveloped (and, incidentally, no longer colonial) countries had steadily diminished in relative importance, although he noted several ways in which they tended to be systematically concealed, ‘unequal exchange’ had increased. Having dealt with the definition and relative importance of unequal exchange, Mandel went on to trace its origins, finding that the answer had already been given by Marx. Ultimately, it derived from an exchange of non-equivalent quantities of labour, and within the capitalist world economy there were two sources:

1. The fact that the labour of the industrialized countries counts as more intensive (hence more productive of value) on the world market than that of the underdeveloped lands (or, what amounts to the same thing, by contrast to the situation within a national market, less intensive and productive labour receives normal remuneration, hence more intensive and productive labour receives a higher remuneration).

2. The fact that *no* equalization of the rates of profit occurs on the world market, where different national prices of production (average rates of profit) exist side by side and are articulated with one another (Mandel 1975: 351).

As it turns out, Mandel’s theory of ‘unequal exchange’ was simply a rehashing of the Marx-Kohlmeyian thesis of absolute productivity differences. He even said as much, adding in the footnote, by way of ‘proof’ – since what Marx has said is by nature true –, that “Kohlmey’s summary of Marx’s theory of international production prices (values) [...] is on the whole

correct” (Mandel 1975: 351, n. 21.). De Janvry & Kramer (1979: 9) observed that, contrary to the theories of Emmanuel and Amin, what lay at the basis of unequal exchange in Mandel’s theory was the *lack* of international capital mobility. His explanation of underdevelopment was that the uneven development of capitalism on a world scale had established different concentrations of capital between centre and periphery, and the lack of capital in the periphery – apparently in spite of the continual flow of investment capital there in search of higher profits – maintained the development, productivity and wage differential. De Janvry & Kramer (*loc. cit.*) had no quarrel with this scenario; however: “We do feel that it is confusing to involve the notion of unequal exchange in this approach when the term has been used to characterize a distinctly different theory of underdevelopment and when the term adds nothing to Mandel’s basic theory.”

Thus, though starting his chapter by explaining how international movements of capital “constantly reproduce and extend the international productivity differential”, Mandel’s theory was one in the long line in which there was international exchange of goods and homogenisation of price, but technically speaking *no* international mobility of capital, *i.e.*, no tendency towards international equalisation of the rate of profits. Perhaps trying harder to be faithful to Marx than is intellectually warranted or useful on this question, he thus proceeded to criticise Emmanuel and Amin on this very point, finding that only by reverting to Marx’s theory of value and surplus-value could they be disentangled from ‘their’ “eclectic theory” (in the singular) and “numerous contradictions” (Mandel 1975: 351f.). Like many others, Mandel did find some such contradictions in Amin’s writings, but one is lead to suspect that this is a case of not seeing the beam for the fly in ones eye. Brewer (1990: 201) has observed that the term ‘unequal exchange’ is not new and often has been used by other writers than Emmanuel, “usually very loosely”:

Unequal exchange, so called, may be ascribed to monopoly pricing, to ‘transfer prices’ used to evade tax, and so on. Alternatively, it may be argued, following Marx, that high productivity labour in an advanced country produces more ‘value’ (in the terms of the labour theory of value) than lower productivity labour in more backward areas. The product of an hour’s labour in an advanced country will then exchange for the product of a great deal more labour in an underdeveloped country. In this case ‘unequal exchange’ is merely a reflection of divergences in productivity that have other causes. Mandel [...] seems to combine all of these arguments at once in an account which is both eclectic and lacking in rigour.

Because of Mandel’s relatively extended readership this stew has had rather widespread currency as a theory of unequal exchange. Basically, he took the opportunity, at least in his more theoretical moments, to popularise and reaffirm his established belief in Kihlmeier’s presentation of Marx, and in doing so probably added to the general confusion of the debate on unequal exchange.³⁵

The reason for their problems, Mandel explained was that both Emmanuel and Amin had supported theories – Palloix (1969: 100) had even mistaken it for Marx’s position – in which there was international mobility of capital. Were this so, Mandel (1975: 352) unveiled, it would, precisely the opposite to what its exponents thought, prove “the *impossibility of underdevelopment*”, because “under such conditions capital would normally stream into those countries with lowest wages.” This was an interesting turn to what has become one of the most common objections raised against Emmanuel’s theory, but which in Mandel’s view

³⁵ When in his posthumous critique of Marxian theories of imperialism, Warren (1980: 141) speaks of ‘unequal exchange’, he refers exclusively to Mandel, for some reason avoiding any comment on Emmanuel, although the latter had exchanged views with Warren (1973) in *The New Left Review*. The unfinished character of the book might be a partial explanation, but as was evident from Emmanuel’s response (1974b), he apparently did not fit with Warren’s ideal type. Bunker (1985) does not particularly distinguish the views of Mandel, Amin, or Emmanuel, and, like most who have an ambition to ‘ecologise’ unequal exchange, apparently believes that Emmanuel’s theory, like Mandel’s, is basically about a non-equivalent exchange of ‘embodied’ labour hours.

would thus implicate many of these same critics. However, by then Emmanuel (cf 1972a, App. 2, 4, 5) had already furnished his reply that prices are specific to countries not to type of commodities, that capital is governed by the general rate of profit, not lower cost of production, and that, more dynamically, capital in constant search for outlets is summoned by rising markets and expansively reproduced so long as the incentives to invest are sufficient to incite overtrading. Indeed, Mandel (1975: 353), too, saw how the extension to the problem of why capital did not flow to the low cost areas, posed a ‘riddle’: “how does it come about that prospects for valorization of capital are *not* most advantageous where wages are lowest, and that for a hundred years capital has not decamped on a massive scale from countries with high wages to countries with low wages?” The answer to this question, Mandel affirmed, would take us back, among other things, to the problem of the ‘domestic market’. Mandel’s route to this discovery is an odd way of rewriting the history of ideas. In fact, as is well known, the prediction that capital would flow to the less developed regions and bring them the blessings and horrors of capitalist development was the prediction made by Marx, along with the rest of political economy, from the position which Mandel wants to defend. By contrast, Emmanuel introduced the assumption of international capital mobility and equalisation of profits, along with the institutional determination of wages, precisely to cope with the anomalous situation of underdevelopment. Mandel’s historical backwardness is revealed by the very words of his own explanation (*loc. cit.*), that wages are lower because ‘the *industrial* reserve army’ is somehow larger in the *non-industrialised* countries.

On the crucial issue of the international mobility of capital Kohlmey was in fact less dogmatic than Mandel, who for his part maintained, in the original German edition (1972b, II: 96, n. 28) and earliest translations, that rates of profit varying from 7.4% in Europe to 19.7% in Africa – a differential of merely 2.7, as compared to the wage differential of 10 to 20 or even 40 times – argues against it (cf. 1975: 353f., where a general difference between actual and officially reported profits is added as proof, although it is unclear if he would seriously claim, as his figures suggest, that actual rates, and then only in ‘colonial’ economies, were 20 times above the official). Mandel had forgotten that to be an argument against Emmanuel’s (1972a: 79; also p. 71 for risk premiums and monopolistic pricing) theory he would also have had to show an inverse and proportional wage differential.

As to political conclusions there were evident similarities between some of Emmanuel’s ideas and Mandel’s Trotskyist position, where the “building of a socialist economy can [...] only be completed on world scale.” With his life-long belief in and commitment to international worker solidarity, bravely demonstrated during the war, Mandel could hardly accept Emmanuel’s idea that the working class of the rich countries had become counter-revolutionary. He (1975: 507, n. 20) also charged Marcuse, until May 1968, with being stuck in a dead end, along with the Frankfurt School, as a consequence of the thesis “that the ‘integrated’ working-class is ultimately incapable of socialist consciousness and action.” Perhaps because of his journalistic and eclectic approach, Mandel (1975: 503f.) was able to associate with some of the ecological trends, favourably confronting Barry Commoner with Jürgen Habermas: “Commoner, in contrast to Habermas, has persuasively shown from the examples of misuse of chemical fertilizers, spread of detergents, and air pollution, that threats to the environment are not due to any ‘technical necessity’ but to harmful technological decisions determined by private interests – harmful from the standpoint of the interests of humanity.” Not acknowledging any problem of ‘population’, but still more open minded about ecology than most Marxists in the early 1970s, he was naturally more attracted to Commoner’s approach than those neo-Malthusians who focussed on there being ‘too many’.

Having looked at the East European debates (with certain following in the West), we shall now turn briefly to some of the East Asian. Already in the 1930s the Marxist debate on

international values had reached Japan, where the problem of industrialisation in an agricultural country had encouraged Marxist development economics to an advanced stage already by the 1920s. Touichi Nawa (1906–????) raised the issue of non-equivalent or unequal exchange (*futouka koukan*) in an article from 1936, but levelled similar criticism to Sweezy's against Bauer (Nawa 1936; 1949: 266-80; cf. Negishi 1999: 117). As in Germany and the Soviet Union, the political situation did not allow any progression, so further debate was adjourned until after the Pacific War when Marxism again made headway. By then, Nawa (1948: 20f.; cf. Morris-Suzuki 1989: 114f.) argued that differences in productivity between industrialised and agricultural nations implied a non-equivalent exchange in value terms. While accepting that international trade could be exploitative Kaname Akamatsu (1950, Ch. 5) criticised this view. He argued instead that trade would only be exploitative in the Marxian sense if the terms of trade artificially undervalued the products of one of the trading parties, or else, higher prices for developed country products would only reflect the greater complexity and intensity of labour. Nawa (1950) retorted by distinguishing between 'genuinely complex labour' and artificially complex labour, and arguing that the gap in productivity between developed and less developed countries did not reflect an inequality of worker skills, but was the result of more advanced technology. "As a result", Morris-Suzuki (1989: 115) sums this argument up, "labour in these countries was artificially valued as being more complex than the labour of less developed nations." The debate continued and in the Japanese post-war context where both productivity and wages were substantially lower than they were in industrial countries the problem of unequal exchange attracted more participants (Akamatsu 1951, Nawa 1951, Ikuzawa 1957; Keiou Gijyuku Daigaku Keizai Gakkai 1959: 412-20, Kinoshita 1960a, 1960b, Matsui 1963). With the rapid growth of the Japanese economy from the 1960s onwards, the interest in, and debate on, unequal exchange seems to have abated considerably. The East German debates occasioned a rehearsal of the views of Marx and Kohlmey (Matsui 1970, who also refers to a certain Puk Ku Che).

The intellectually lively character of Japanese Marxism has assured even later contributions trying, *e.g.*, to measure non-equivalent exchange based on his or some similar system (*e.g.*, Nakajima 1993; Nakajima & Izumi 1995). In the 1980s and 1990s, partly, it appears, in an effort to overcome a seemingly unbridgeable communications gap between Marxist and neoclassical economists in Japan, Takashi Negishi (1989, 1991, 1993, 1999a, 1999b; cf. also Nakatani 1999) discovered and presented Emmanuel's theory of unequal exchange along with some of his successors and predecessors. With the help of David Evans for its correct interpretation, he (1989: 24) is one of few who has observed that "Emmanuel did not mean the exchange of unequal exchange of labor", but instead the unfavourable terms of trade for countries where wages are determined exogenously at a low level by social and historical factors. As such it differs from its Japanese and Marxist predecessors and successors (something which is not evident from the comparison in Morris-Suzuki 1989: 115f.). It also differed substantially from the standard neo-classical theory in which Negishi was schooled, and he underlined that "[w]e have to admit that Emmanuel's arguments do fit present day reality much more than the so-called Heckscher-Ohlin model", which excluded international capital mobility and predicted international equalisation of wages (Negishi 1989: 24). We shall (in Part IV) return to this argument at length, and to some of those of its successors, which did not fare as well in Negishi's treatment.

Finally, we shall have a brief look at some of the debates in China. When the Chinese Communist Party achieved full control in 1949, the country had been subject to over a century of increasing foreign interventions linked to opening up China to foreign trade and investment, and decades of war and civil war. Industrial production in this already heavily populated and agrarian country had decreased to about 30 percent of previous peak levels, hyperinflation had ruined the currency, the transportation system was in ruins, and irrigation

and drainage systems badly damaged. Chinese leadership initially turned to the Soviet Union for support and methods. There was thus a similar preference for investment in heavy industry with funds drawn from agriculture, through the use of compulsory state buying quotas and manipulation of the terms of trade. The evolving Maoist program retained significant aspects of the Soviet model, but no longer dared continue to model of primitive accumulation in agriculture (cf. Hunt 1989: 227f.). This may explain why, in 1968, Wiles could maintain that “[t]he Chinese have never used the argument of non-equivalent exchange, it seems.” (Wiles 1968: 29; we shall base our presentation here on Ma 1986 and Woo & Tsang 1988; as with the Slavonic and Japanese literature, works in Chinese will be included only for reference). By 1973, at any rate, a group of Chinese foreign trade theorists defined unequal trade as “an exchange of goods under terms in which the values are not equal” (Writers Group 1974-5: 9f.). Without elaborating the meaning of ‘value’, what they had in mind was the long-term fall in the terms of trade for primary goods, under what they referred to as “imperialist monopolization and manipulation”, which had brought “an increasingly strong tendency for trade between imperialist nations and the nations of Asia, Africa and Latin America to be unequal.” The ‘gang of four’ used this conception to attack the export of natural resources to capitalists, certain followers going to the extent of ‘hijacking’ 13 tankers carrying 200,000 tons of oil on the Yangtze River (cf. Ma 1986: 296). In 1976, shortly after their downfall and inspired by the theory of comparative costs, some economists argued that China’s wealth in natural resources made it suitable for such exports. The official line now limited itself to the trade balance as sole indicator: “a trade deficit or a surplus indicates benefits to one party and losses to the other, and thus the existence of a trade deficit or trade surplus indicates that the trade relationship is unequal. Equality and mutual-beneficiality of trade exist only when the amount of imports equals exports” (Ma 1986: 297). No theoretical justification was provided for this arch-mercantilist stance. Judging from Ma’s presentation, there appears to have been a common agreement among Chinese economists that trade was mutually beneficial, though the problem perhaps remained of how the gains should be divided.

In 1979, China set out on a policy of trade liberalisation, which started or lifted the curtain for a more active debate among Chinese scholars as to the comparative advantages supposedly arising from free trade and the applicability of Ricardo’s theory. The changes in policy seem not to have been affected by these debates, but these were on the other hand likelier to be favourable towards theories in line with official policy. One set of questions concerned the justification of the open-door policy towards the West – if it would bring more benefit than harm, be consistent with the goal of building socialism –, and another related to the optimal strategy of opening (Woo & Tsang 1988: 22). In 1980, important articles by Yuan Wenqi and others appeared in the journals *Social Sciences in China* and *Shijie jingji* (‘World Economy’), where most of the debates would be conducted (Yuan 1980, Yuan *et al.*, 1980). Yuan asserted that Ricardo’s theory, long seen as bourgeois apologetics, had a “rational kernel” because it explained the possibility of saving social labour through international division of labour. In June 1981, Ji Chongwei, an influential economist and a member of the National Import-Export Committee, went further along these lines when he argued that Chinese foreign policy should be *guided* by the theory of comparative costs (Woo & Tsang 1988: 24; Ji 1981). In a symposium later that year many held that Ricardo’s theory of comparative advantage “in itself does not possess the nature of oppressing and enslaving other countries. As regarding its being made use of by imperialism, this is not the fault of the theory, just like in the case of a murderer who uses a knife to kill, the murderer is guilty, not the knife” (quoted in Ma 1986: 293). Wu Dakun was Ji’s most explicit critic, directly disputing the idea that backward countries would benefit from comparative advantage, pointing out that Marx had revealed the possibility for advanced countries “to exchange with less labour for more labour in trade”, and referring with approval to the ideas of Emmanuel

and Amin (Woo & Tsang 1988: 24; Waimao Jiaohue Yu Yanjiu 1981: 3f.). At a symposium in 1983 it was concluded that both the view that only gains were possible and Amin's theory of unequal exchange were too extreme and one-sided. The debate, which continued until 1984-85, now shifted emphasis to the problem of the theory of international value. At the same symposium it was suggested that the phenomena of 'rich countries exploiting the poor' and 'poor countries possibly gaining from exchange' were not incompatible. This was apparently the general view. In one view, exchange in terms of use value may benefit both, but in terms of labour value mutual gains were not, and since the total amount of value could not be augmented the gain of one was the loss of another. Another view, emphasising the labour-saving effect of trade argued that in international trade both use value and labour value could be increased. On the policy plane this meant that a good should be imported if it could save domestic labour to be used in produce more value (Ma 1986: 293-6).

Reactions to Emmanuel appears to have been scant and negative, following a more traditional Marxist line of reasoning. Emmanuel was criticised by Yao (1983b) on four grounds: First, the assumption of equalisation of rates of profit and the formation of international prices of production was said to be jeopardised by the international immobility of labour and capital. Secondly, he paid no regard to the difference in productivity and organic composition among countries. Thirdly, whereas for Emmanuel, the wages was an exogenous variable and wage differentials gave rise to differences in productivity, for Marx the wage was an endogenous variable determined by capital accumulation. Finally, it was held that "Emmanuel's attribution of unequal trade to political and union activities by workers in developed countries will undermine the international solidarity of workers" (cf. Ma 1986: 297f.). Thus, and perhaps not so differently from the reaction in the West after all, Emmanuel was blamed for what he wanted to explain. A similar assessment, based on the rejection of international prices of production and the requirement for an international equalisation of rates of profit, was given by Hu (1984), and a more positive one by Chen (1984), but Woo & Tsang (1988: 47, n. 1) affirm that discussions of this aspect of Marxian economics did not arouse much attention within China.

The starting point of the debates in the early 1980s was instead Marx's criticism of Ricardo's failure to apply the labour theory of value in his analysis of foreign trade. This was seized upon to criticise advocates of comparative costs thereby obliging them to respond. There were all shades of opinion, some denying the existence of international values on grounds of the relative isolation of national labours, capitals and technologies, others maintaining that they did exist and were equal, and yet others arguing that even exchange at international values were unequal. If some argued that an all-encompassing world-market had already been formed by the late 19th century, even they restrained their argument to the formation of international 'values', as being less stringent than the formation of international prices of production. Concern was thus rather over the problem whether exchange at different levels of productivity should be considered unequal or not, and whether what is transferred is 'value' or merely 'labour'. Ma's overview has found four basic groups, most of which are recognisable from earlier debates elsewhere. According to the first, trade was unequal if the international law of value was not observed, *i.e.*, if the goods exchanged did not carry the same amount of internationally necessary labour time. In their view the contemporary world pattern was not equal due to a discrepancy between international prices and international values, caused by imperfect competition on the international market and to factor immobility (Ma 1986: 298; cf. Yuan 1980: 13; Yao 1983a: 33; Gao 1983: 18; Tao 1983: 10). In the opinion of the second group, trade could be unequal and value transferred even when the international law of value was observed, given that the labour productivity of the less developed countries was lower than that of developed countries. Value would be lost if the nationally necessary labour time was higher than the average international (Ma 1986: 298f.;

cf. Zhu 1981; Chen 1983). This position was criticised as ‘unscientific’ by a third group, who maintained that once the international law of value was determined the nationally necessary labour time was irrelevant, or rather “what is transferred is labour but not value.” Though developed countries can obtain extra surplus value from international trade by raising productivity, no surplus value is transferred from less underdeveloped countries but is rather created by the workers in developed countries (Ma 1986: 298f.; quotation by Qui 1984: 11; cf. Zu & He 1982: 14f.; Yuan 1982: 43; Lin 1983: 28-30; Wang 1983: 5-7; Lin 1984: 48). Whereas these three groups merely debate whether trade according to international value is equal or not, the forth position was more original in pointing out that non-equivalent and unequal exchange are two different things and that an equivalent exchange did not necessarily imply that it is equal. The author (He 1984: 23; quoted in Ma 1986: 298f.) agreed with the third group that no value would be transferred, but still maintained that exchange was unequal because of technological monopolies: “Improvement of the quality of a good is the result of technological revolution, the fruit of which should be shared among all mankind because it is the common achievement of them. But now the fruit of technological revolution is controlled by capitalist developed countries”, thus leading to unequal exchange. Ma objects to this view that the property right of technological innovation is necessary for technological progress, and that this view has been adopted both in the West and by 1984 in China.

Compared with the East European debates of the 1950s, to which some of the Chinese referred, Ma notes that they “failed to make any further advances”, even though in his opinion they had placed relatively greater emphasis on the problem of unequal trade. Behind the heated discussions (some more of which are reviewed by Woo & Tsang 1988: 24-8) lay the question how one should view the productivity differentials among national economies in a dynamic context. Some thought that those differences leading to unequal exchange were in themselves the result of previous unequal exchange, though colonial plundering and monopoly of advanced technology were also mentioned. As a consequence of such cumulative causation, further exchange, even at international value, would only reinforce current inequalities. Others pointed out that not all productivity differentials did in fact result from previous unequal exchange, but that ‘natural and social factors’ also mattered. Even for those accepting the existence of unequal exchange, the aim was never for China to remain an autarchy, but to fully use one’s advantages and minimize unfavourable effects. On the other hand, those arguing that exchange at international value was equal, consistently stressed that political inequality and monopoly could cause distortions in the terms of trade and lead to unequal exchange and exploitation. The practical implications of antithetical positions were thereby diminished, and debates seem to have abated (Woo & Tsang 1988: 29-32; for a more recent contribution on unequal exchange, see Luo 2000.)

Summing up Part II, we have traced the Central and East European Marxist debates on non-equivalent exchange from their two main traditions in the pre- and interwar period – the German (Austrian) involving Bauer and Grossmann, and the Russian (Soviet), involving Preobrazhensky and his dispute with Bukharin – to its postwar (post-Stalinist) East European continuance in Yugoslavia (Popović), Poland (Lychowski), the Soviet Union (*e.g.*, Santalov) and Germany (Kohlmey), with minor references to Hungarian (Nagy; Szentes) and Czechoslovaks (Mervart), as well as some East Asian debates from Japan (Nawa; Negishi) and China (*e.g.*, Yuan). The presentation makes no pretense to be complete and for the postwar period has largely been based on secondary sources. If much of the strengths of Marxism springs from the intellectual heritage found in the work of Marx, this dependence has a backside in little true innovation, which in connection with fierce political disputes verges on theology, as well as strikes a discordant note with the simultaneous claims to radical questioning. With respect to theories of unequal or rather non-equivalent exchange,

the common proposition in most of these debates relates to inequalities due to different organic compositions of capital. It has reappeared in many forms under varying circumstances, which often seem more interesting than the bare theoretical statements. Some have also involved true innovation.

Thus, non-equivalent exchange in the work of Bauer figured as part of his explanation of national hatreds between Czechs and Germans in the multinational Austrian state. Applying Marx's prices of production to this multinational situation, involved, unknown to himself, the theoretical innovation of international capital mobility equalising the rate of profit. Jointly with the differential in organic composition between the highly developed German region and the less highly developed Czech region, this implied a 'transfer of value' between them through mere exchange. In fact, as Bauer saw, the same idea was implied in Marx's original formulation of prices of production, which, in the process of equalising profits between branches, transferred value from less to more capital intense ones. Writing on Austria before the First World War his argument was strictly within the confines of traditional Marxism, but with the break-up of these regions after the war, the same argument suddenly appeared as a theoretical novelty. It was only in Grossmann's work that the same idea of a value transfer was explicitly applied to an undisputedly international case, involving 'Europe' and 'Asia'. What made Bauer's argument interesting in itself, was rather the implications it had for the understanding of nationalist antagonism among workers. As he observed, it was not only technical development which differed between the regions, but also standards of living. According to the normal formation of prices of production, workers move so as to 'equalise' wage levels and standards of living throughout the system. It was *this* process, rather than the differential in technical level of development (whose connection with wage-levels remained unexplored), that *directly* occasioned hostility from German workers and their unions, seeing immigrating Czechs in the same light as strike-breakers undercutting wage-demands. This *genuine* conflict of interest was overcome only by necessity, with the impossibility of hindering these invaders finally forced Germans to 'realise' their international solidarity, and thereby include the Czechs in their demands. Bauer was saved from further questioning by the fact that the Czechs were, as he himself pointed out, the *second* most developed region, and his apparent belief in a necessary progression through such development before the will to emigrate would make itself felt. He seems to have had no conception of the contemporary migrations from India and China, and the exactly similar conflicts awakened, *e.g.*, in the Anglo-Saxon world, where, as it turned out, workers were *not* forced by necessity to realise their solidarity.

Contrary to Bauer, Grossmann referred explicitly to the divergence between Europe and Asia, but unfortunately he, too, did not refer to the conflicts involved between workers – an argument which in the context of unequal exchange had to await Emmanuel and Lewis. Instead, he linked the argument to another of Bauer's demonstrations, in disputing Luxemburg's idea that capitalism was formally incapable of reproducing without continuous geographical extension. In showing that this was indeed formally possible, Bauer had created an example which, when followed through, seemed to indicate that the system would break down, nonetheless, not through lack of space as implied by Luxemburg's theory, but through the continuous decline in the rate of profit. Of course, Grossmann's argument incorrectly presumed that no other schema could be drawn which avoided a decline in the rate of profit, but his point that non-equivalent or unequal exchange with an external (less developed, poor) region could function as a counteracting factor was basically correct, in spite of, *e.g.*, Sweezy's even orthodoxer Marxist claim to the effect that international transfers of value were impossible.

Russian debate focussed directly on the problems of a lesser developed region facing, either capitalist or socialist development. The former related to the appropriate ideological and

practical approach of socialist peasants, and the confusing implication of Marx's theory that their traditional village community ideals and practices should be abandoned in favour of capitalist development, only in order to eventually, in a far away future when all would be dead, return to these ideals and practices, on some dialectically higher level on which nothing concrete should be said. After the revolution had nevertheless taken place, the problem of transition to socialism remained, but now by socialist means. Whereas Bukharin came to propose what was still basically a capitalist path, based on increasing the purchasing power of the peasantry, Preobrazhensky advanced the idea that the original or primary accumulation preceding capitalist development should be repeated under controlled socialist conditions. The principal tool was to be a non-equivalent exchange between the agricultural/private and the state/industrial sectors conducted through price policy. The point was not to lower the standard of living for the peasantry, but to see to it that the gains from productivity increases went to further productivity increases, which would eventually benefit everyone. He demonstrated that non-equivalent exchange in terms of labour values did not necessarily correspond to worsened terms of trade or living standards for the peasantry. He nevertheless agreed that if investments (productive consumption) were to be increased, as they had to, this would be at the short-term expense of unproductive consumption, which under the circumstances did imply such a decrease in living standards. There seemed to be no way out of Preobrazhensky's dilemma of increasing industrial investments without severing the political ties with the peasantry, and he himself probably hoped too much for international investments. Stalin, who at first had opted for Bukharin's position, then manoeuvred out of the problem by no longer worrying about the peasantry.

With Hitler coming to power in Germany, Stalin in the Soviet Union, and with the emperor Hirohito tightening the grip in Japan, the interwar Marxist legacy came to an intellectual end in the 1930s. Stalin organised a command economy, which extended over intellectual production. It is thus unsurprising that the first postwar formulation of non-equivalent exchange came through the hands of Tito's Minister of Foreign Trade, Popović, during the break with Stalin, nor that Ivanov at the same time should proclaim that non-equivalent exchange was unthinkable among socialist countries. The idea appears not to have been touched upon in the next treatise to appear by Lychowski, published in the rejuvenation after Stalin's death but written some years previously. Apart from Poland, in 1954, presentations appeared also in East Germany and the Soviet Union itself. Debaters in the latter explained non-equivalent exchange either by the working of the law of value or by its monopolistic violation, depending on how one understood 'international value', and whether one regarded exchange carried out at prices corresponding to these as equivalent or not. If arguments focussed on discussion of non-equivalent exchange under contemporary capitalism, they were nevertheless of direct relevance to policy among socialist countries, in which capitalist market prices functioned as indicators for socialist economies – even to the point where someone suggested that if socialism would one day prove globally victorious, it would be necessary to retain capitalism in at least one region so as to know how to set prices. The East German Kohnmeyer came to prominence as part of reorganising the university along Marxist lines after the war. His theory based on absolute productivity advantages, as contrasted with Ricardo's relative, was, and under the circumstances perhaps had to be, presented as the correct interpretation of Marx, in which form it filtered through to the West as a theory of unequal exchange in the hands of Mandel.

The Japanese economic tradition which reemerged after the war has been divided into one neoclassical and another Marxist strand, with heated debates among rather than between themselves. Some of the Marxists have involved unequal or non-equivalent exchange, starting with Nawa and Akamatsu, while the former arrived at the problem only in Negishi's efforts to bridge the conversation gap between schools with the help of Emmanuel (and Evans).

Chinese debate on non-equivalent and unequal exchange followed, rather than influenced, the change in policy in the late 1970s, in trying to decide on how to relate the opening towards foreign trade to Marxist theory.

At least some of the contributions and debates reviewed above have a certain liveliness to them, which relates a profound involvement with real problems and the possibilities and limitations invoked by a certain Marxist language and the labour theory of value. The problems include the ‘paradox’ of nationalist struggle and hostility among the working classes, the possible avoidance of capitalist crises and breakdown through a fall in the rate of profit, how to industrialise an agrarian economy under socialism without upsetting the populace, and how to formulate international price policy among socialist planned economies.

In the Western hemisphere, problems and their formulation have most often appeared in a different guise, even when based on a similar labour theory of value. We shall now turn to some of these, pertaining to the problematic centre–periphery relation as it has appeared in different contexts and epochs. Since the centre of the world economy in the 19th century was Britain, supplanted by the United States, this has also appeared as a unifying theme, whether in mid-19th-century Virginia, inter- and postwar Canada, Argentina or the Caribbean. Another common theme concerns industrialisation, but otherwise there is great heterogeneity, spanning from a labour theory interpretation along the lines of the Ricardian socialists in order to justify slavery over industrial commercialism, a Veblenian historical economist trying to advance self-reflection on the side-effects of an industrialism which had gone out of hand, reflection brought about by falling terms of trade for agricultural goods along with attempts to *advance* industrialisation, or a reflection on the relation between industrialisation and differential migration, relative agricultural and industrial productivities and the terms of trade. In addition, Marxism has to large extents come to embrace the idea of an industrially advanced centre profiting from its less fortunate fellow capitalist or pre-capitalist peripheries, or even, contrary to the traditional perspective, occasioning their underdevelopment. These will be the main questions of the following Part III, before turning in Part IV to the theory of Emmanuel in whose work many of the themes in both Parts I and II above, and in Part III below, will reappear.

Part III

Centre on the Transatlantic Periphery

If the former Marxist traditions were pushed towards the eastern ‘periphery’, we shall now turn to a rather heterogeneous and often non-Marxist set of traditions on the western, transatlantic ‘periphery’, which emphasises the disadvantages suffered by geographical peripheries in a ‘centre–periphery’ relation. For those increasingly important elements whose aim in the 19th century was to catch up with the more developed regions, first in the northern American states and Europe, the mainstream alternative to standard theory was characterised by their protectionism and will to industrialise. The central figures include Alexander Hamilton, Henry Carey and the German-born American citizen Friedrich List inspired by them. Intellectually, this tradition is a continuance of the mercantilist one, which, to the dismay and incomprehension of political economists has been ‘revived’ on numerous such occasions. In this alternative or peripheral mainstream, the inequality between periphery and centre is thus often interpreted in terms of an exchange of raw materials for manufactures.

Instead of elaborating on this trend we shall look at some illustrious exemplars from different geographical areas, who demonstrate rather the heterogeneity of perspectives allowed, but who have in one way or another been linked to theories of unequal exchange. They have often, as in the case of George Fitzhugh in the American South, Harold Innis in Canada, and Raúl Prebisch in Argentina, which will each be afforded chapters of their own, discovered the exposed position of peripheries through the change of perceived centre from the British metropolis to the American. We shall then turn to the West-Indian Arthur Lewis, whose inspiration came rather from the classical tradition and the attempt to understand why the industrial revolution had not realised in the underdeveloped countries, but who was also observant on racist impediments to labour mobility. Finally, we shall return to Marxist tradition, but now in the ultimately Western or American form of Paul Baran, who was a great inspiration for the dependency tradition, but through his reinterpretation of the relation between capitalism and underdevelopment also for subsequent debate on unequal exchange.

Chapter 8. George Fitzhugh and the unequal exchange of the Southern slave society

An antebellum southern contemporary of Carey, the Virginian George Fitzhugh (1806–1881), has received considerable attention as a proto-fascist ‘propagandist of the old South’ for his defence of slavery as a neo-feudal organisation (Wish 1943; cf. the numerous reviews of Wish’s book). More recently, his views on the dependence and the non-equivalent or unequal exchange suffered by an agrarian region has been noticed (Persky 1992; for biographical information see Wish 1943 and its reviewers).

His family’s plantation had been sold by auction in 1825, and, receiving only skimpy formal education, he became essentially self-educated, with the additional limitations imposed by

private finance and rural surrounding. He himself admitted that his “pseudo-learning is all gathered from Reviews”, newspapers and novels (quoted in Wish 1943: 20), occasioning Genovese 1988: 188) to reflect that he was a man “who wrote too much and read too little”. With an unsuccessful law practice and dependent on the property of his wife, he was always poor and ill paid for his propaganda, only twice being rewarded with political office for brief periods (the Buchanan’s and Johnson’s administrations). It was after the sectional crises of the late 1840s, and the political revolutions in Europe of 1848-9, that his thinking turned to the defence of slavery and southern nationalism in an anonymous pamphlet, “Slavery Justified” (1849), continuing his prolific publishing until 1872. Having become contributing editor to the widely circulated *Examiner* (1854–56), and having secured an editorial position on the powerful *Enquirer* for the presidential campaign (1855–57), he wrote perhaps hundreds of unsigned editorials in these Richmond papers, and between 1855 and 1867 contributed well over a hundred articles to *De Bow’s Review*, published in New Orleans. The outbreak of Civil War took away his sounding board, and although he tried to conform as best he could when the conflict ended, he soon developed a violent hatred of the freed slave that contrasts with his seemingly kindlier antebellum paternalism. His defence of slavery, finding support in Christian charity, of conservatism based on morality and religion, was spiced with a praise of war as a builder of loyalty and community spirit, and an unabashed imperialism. In this he was certainly not unique in American history, and neither was his advocacy of the acquisition of Mexico as a potential area of expansion of the slave states (Leavelle & Cook 1945: 159).

Pioneered by Thomas Dew, the chief contributor to the dream of a southern civilisation modelled after Greek democracy was perhaps John C. Calhoun, but his interest was mainly constitutional and he made no extended effort to deal with the theoretical and practical problems involved in erecting a modern state on ancient ideals. It never became the master image of Southern white society (cf. Parrington 1927: 68, Leavelle & Cook 1945: 147f., Merriam 1902: 587, Wish 1943: 45ff., 1949: 257, 259, Hartz 1952: 34). According to Wish (1949: 262), Fitzhugh’s views on this issue so resembled George F. Holmes, an early sociologist and the most creative of the proslavery writers, as to suggest collaboration. Fitzhugh attempted to consider the questions of the relation of the political state and economic organisation, and his method, following the ‘cult of objectivity’ established by August Comte, was that of the ‘sociologist’, but consisted mainly in contrasting southern slave institutions with the immoral and rapacious industrial societies of the North. His reputation rests on two books, summarising his ideas on economics and sociology: *A Sociology for the South; or, the Failure of Free Society* (1854) and *Cannibals All! or Slaves without Masters* (1857), which was “largely a commentary on the first” (Wish 1943: 343). Together, they constituted an attack on the soundness of the free, competitive society as then evolving in England and America.

Drawing both on Carlyle’s conservative attack on laissez-faire (as well as other Victorian critics of democracy), and radical versions of a labour theory of value propounded by Ricardian socialists and some of the northern abolitionists themselves, Fitzhugh concluded that the relation of an industrial power and an agricultural one was necessarily exploitative. Fitzhugh’s central idea was that “*labour makes values, and wit exploits and accumulates them.*” Laissez-faire meant only that the devil takes the hindmost and that free enterprise sets labour competing with itself to the point of bare subsistence wages. Thus, all free societies tended toward ‘robber barons’ and ‘pauper slavery’. Interest is wrong “because the principal represents the labour of the man who accumulates it and should be exchanged for other people’s labour. Hence Rents and Interest are the means by which Capital masters Labour” (quoted in Craven 1944: 74). The worlds of capital and labour thereby grew increasingly apart, until the worker was only a slave without a master to give him shelter, sustenance, and protection, having to confide in impersonal public charity in sickness, unemployment, and old

age. By contrast, in slave society the superior few, although they too exploited labour as all employers were doing, accepted the responsibility of securing and caring for their workers, resulting in a society without labour problems, unrest and revolution. Fitzhugh soon broadened the concept of slavery to incorporate all dependents, including white men. Posing the alternatives of enlightened slavery and despotic socialism (Mayes 1980: 89), his ultimate conclusion was that slave society is the permanent order to which all civilised groups tend, while free society is a temporary affair which will be dispersed by revolutionary movements when the empty lands of the West no longer provided an escape from the poor. The twist that black slavery would inevitably lead to white slavery was seized upon by Lincoln to stir up the common folk of the North to the dangers in Southern aggression, so that, in the end, Fitzhugh unwittingly helped to defeat the cause he sought to defend (Craven 1944: 74). This may well be considered his most important contribution.

Free trade had traditionally dominated southern economic thinking, holding that if only tariffs and other barriers to open commerce could be overcome, international markets could be trusted to accordingly remunerate the labour of the region. This was the position of Jacob Cardozo, Thomas Dew, and Thomas Cooper, as well as the policy of John Taylor, and a central item of the Jeffersonian agrarian program.³⁶ However, in the ten years before the Civil War, the spread of Southern nationalism and sensitivity to reliance on goods from the north stimulated a rethinking of these arguments. “Always suspicious of northern industry, Southerners were increasingly prone to view their commerce with the North as somehow unfair and exploitative”, Persky (1992: 117f.) observes, continuing: “More clearly than any of the northern opponents of free trade, Fitzhugh developed the notion that the very advantages that recommended free trade in the short run, were the seeds of long-run dependency.” While Southerners for years had equated Northern tariffs and financial manipulations with direct robbery, Fitzhugh, more subtly, saw and formalised how voluntary and mutually beneficial exchanges could lead to uneven development. Persky (1992: 118) considers this argument to be “largely separable” from his views on slavery, but surely Fitzhugh’s translation of the sectional conflict between the North and South into a clash between radicalism, or ‘rationalism’, and conservatism, fits nicely in the overall framework (Leavelle & Cook 1945: 148f.). His defence of, and belief in, the latter would provide interesting points of comparison not only with later conservatives and national socialists, but also with ‘ecological’ versions of unequal exchange and dependency. As Persky (1992: 120) notes, Fitzhugh set out from the romanticist philosophy of Thomas Carlyle, denouncing the “cash nexus” and the “dismal science”. Carlyle had considerable appeal in contemporary Tory England and, as many Southerners noticed, showed sympathy for the slave system.³⁷

In fact, the economic contrast between a ‘free nation’, or the ‘free society’ of an exchange economy, and a slave or command economy such as the military communism of ancient Sparta, was first drawn by Sir James Steuart (1767, I: 250-60 & Ch. 9; cf. Sen 1957: 33-5). This he did with much more sophistication than Fitzhugh, or indeed anyone else before the 20th century. According to this view, in a ‘free society’ there were self-reinforcing connections between the production of foodstuff and the ‘effectual demand’ for it, more people concentrating on producing luxuries so as to procure food, in turn stimulating increased food

³⁶ On southern economic thought see Dorfman 1946-59. John Taylor was a republican essayist and Fitzhugh’s neighbour in Caroline County, who saw a basic antithesis between centralised agrarianism and centralised capitalism. Fitzhugh had nothing against centralism as such but favoured a balanced economy under governmental direction, and resisted the argument of secession until the last moment (Leavelle & Cook 1945: 148f.).

³⁷ Persky (*loc. cit.*) continues: “Most significantly, Carlyle had coupled his assault on the political philosophy of liberalism with a vituperative attack on the political economy of laissez-faire. Carlyle, with his Tory radicalism, challenged not only John Stuart Mill’s criticism of slavery, but also Mill’s defense of laissez-faire markets.” (For Carlyle’s appeal to Southerners, see Hartz 1952, 1955: Ch. 6, on ‘the reactionary Enlightenment’.)

production, while the division of labour increased total output. The whole process depended on exchange, leading to the introduction of money (followed by luxury), the want of which made mankind industrious: “The allurements of gain will soon engage every one to pursue that branch of industry which succeeds best in his hands” (Steuart 1767, I: 85, cf. 33; & Sen 1957: 36). Sparta was a familiar topic in 18th century philosophy, but Steuart was perhaps the only writer to discuss the economics of Spartan communism. Contrary to the great concern of free society, there was no unemployment, and superfluity was neither necessary, because free enterprise was not needed to provide everyone with bread, nor permitted, since once the degree of necessity was transgressed there was no telling where the limits should be drawn (Steuart 1767, I: 250-8). Strength and security was the virtue of the Spartan planned and compulsory form of society, but in his opinion, and though he was fiercely condemned by contemporary English as its defender, it was nevertheless unsuitable for modern times, not only because it was based on slavery, but because all incentive to progress had disappeared, and no workman would try to improve his method. This was in sharp contrast to the free society, where a man when hired by the piece would find a thousand expedients to extend his industry. Unlike Rousseau, then, with his great admiration for the republican spirit of the Spartans, and like Smith and, presumably, Mandeville, but after more serious discussion, Steuart ultimately came out in favour of the free society – not, however, in its unchecked and unregulated state. The utopians of the early 18th century were often as critical of free society, but less inclined to analyse their proposed contrary state from an economic point of view. This was true also of the Ricardian socialists who inspired Fitzhugh.

Fitzhugh’s analysis proceeded with spelling out his version of the labour theory of value, with his seemingly odd mixture of intellectual inspirations based especially on the writings of Stephen Pearl Andrews, in the lineage of Ricardian socialists such as Richard Owen and William Thompson. Andrews had described the “value principle” as the “commercial embodiment of the essential element of conquest and war – war transferred from the battlefield to the counter”, and concluded: “If, in any transaction, I get from you some portion of your earnings without an equivalent, I begin to make you my slave [...] if I obtain the whole of your services without an equivalent – except the means of keeping you in working condition for my own sake, I make you completely my slave” (quoted in Fitzhugh 1859b; and Persky 1992: 121). Fitzhugh rejected the socialists’ egalitarian conclusions for individuals, but his sociological imagination suggested that they might be very true on average for two sizeable sample’s of people in a community, region, or nation. On average, therefore, the South’s labour was the equivalent of the that in the North and Britain. An hour’s worth of southern labour should exchange for an hour’s worth of northern labour, but Fitzhugh was convinced that this was not the case in free trade, even admitting the reality of short-run mutual advantage.

The South was exploited quite simply because of its agrarian basis. Agricultural labour was basically unskilled and uneducated “hand-work”, in abundant supply and whose price would always be determined by the cost of subsistence. The products and labour of an industrial region was, on the contrary, “head-work”. Merchants and manufacturers could command high premiums that did not reflect costs of production but scarcity in the market:

Peoples and individuals must live by hand-work or head-work, and those who live by head-work are always *in fact*, the masters of those who live by hand-work. They take the products of their labor without paying an equivalent in equal labor. The hand-work men and nations are slaves in fact, because they do not get paid for more than one-fourth of their labor. [...] The South has, heretofore, worked three hours for Europe and the North, and one for herself. It is one of the beautiful results of free trade (Fitzhugh 1954: 173f.).

Quoting this, Persky (1992: 123) finds it particularly impressive that Fitzhugh “never denied that trade implied mutual advantage in the short run”, but on the contrary, “it was just this gain from trade that seduced the agricultural region of country into a dependent position”:

The more primitive partner traded with the more developed precisely because in the short run this was far cheaper than making do for itself. But the very process of exchange between an agricultural partner and a non-agricultural one reduced the capacity of the former to participate in the ongoing advance of technology and skill. The process left them dependent, and an agrarian strategy was an invitation to an ever more unequal exchange.

Fitzhugh shared the conviction of Josiah Tucker and Thomas Cooper that the education and experience of cities, or at least towns, were crucial to invention and raised productivity. Persky (1992: 124) underlines the connections with 20th century dependency theorists (*e.g.*, Frank 1972); like them Fitzhugh “saw rich natural resources as something of a curse”, because they reduced the need for initiative and encouraged passive reliance on trade, which “will supply everything they need, except the products of the soil” (Fitzhugh 1954: 151).³⁸ Persky could equally well, or better, have referred backwards to the mercantilists who found great dangers in too much ‘natural wealth’, as exemplified in the case of sluggish Spain, and contrasted with the ‘artificial wealth’ of the docile Dutch. In a passage that Persky (1992: 124) finds to be a most cogent statement of dependency, Fitzhugh (1854: 152) spells out the consequences for an agricultural people:

As they are unskilled in mechanic arts, have few town, little accumulated capital and a sparse population they produce with great labor and expense all manufactured articles. To them it is cheaper at present, to exchange their crops for manufactures than to make them. They begin the exchange, and they learn to rely more and more on others to produce articles, some of which they formerly manufactured, and their ignorance of all, save agriculture, is thus daily increasing.

Other similarities with mercantilist and later thought are his strictures on private luxury; only public luxury in the form of expenditures for public works and cultural monuments can permanently benefit society (Leavelle & Cook 1945: 163). Fitzhugh’s policy prescriptions of ‘import substitution’ also have their predecessors and modern exponents, as do the ‘infant industry’ aspects, but neither are they all that different from contemporary protectionist economists in the American tradition, such as Henry Charles Carey or Friedrich List (although the mercantilist aspect noted above made Persky [1992: 125] believe the argument to be “much more dynamic”). Fitzhugh’s advocacy of self-sufficiency also had many interesting predecessors and descendants, notably among dependency or ecologist advocates of autarchy. His belief that this was needed to raise productivity seems almost to have gotten the better of his racism, when arguing that the necessity that alone could beget civilization among savages was undermined by free trade (Fitzhugh: 1854: 19).

Although understandable against the background of the industrial revolution, a fundamental weakness in Fitzhugh’s theory is precisely the identification of manufacture and agriculture with high and low productivity respectively. A common idea even today, this neglected the possibility of raising productivity in agriculture. Even more, it neglected the *fact* of such a rise, which could have been observable already in the antebellum era. Not in the South, however, but in the West. If somewhat idealised, the general pattern of interregional trade in the United States has long been familiar, and though modern debate on the issue is perhaps not conclusive and the data incomplete, this pattern is nevertheless instructive of the problems faced when identifying the South with the ‘agrarian’ region.

³⁸ He continues (1954: 151f.): “Necessity compels people in poor regions, to cultivate commerce and the mechanic arts, and for that purpose to build ships and cities. They soon acquire skill in manufactures, and all the advantages necessary to produce them with cheapness and facility.”

In 1909, G. S. Callender commented that the significance of the commerce between western farmers and southern planters had been slighted by economic historians. This commerce between different kinds of agricultural communities began in colonial times in the trade on the Atlantic coast between the Northern Colonies and the West Indies, and appeared again in the first part of the nineteenth century when a trade grew up on our western rivers between the new states of the West and the lower South:

It was in both cases a trade between a community of planters using slave labor to produce a few valuable staples which found a ready sale in the markets of the world on the one hand, and a community of small farmers (who in many cases were partly fishermen) producing food and crude supplies on the other. The basis of the trade in both cases was the fact that the planter found it more profitable to devote his slave labor to the production of valuable staples [...] than to use it in producing the food and other agricultural supplies which he needed. (Callender 1909: 300f..)

Perhaps inspired by the success of the staple thesis in Canadian historiography, Schmidt (1939) and later North (1966) used this scheme to find a tripartite geographical pattern. With the innovation of the steamboat on the Mississippi in 1816, the West began shipping foodstuffs downstream to the South, who continued selling of cotton, sugar, tobacco, and rice on foreign markets, as well as in the Northeast and to a lesser extent upriver to the West, while the Northeast provided banking, insurance, brokerage, and transport services to both. The trade between the West and East was either overland, when it involved valuable manufactured goods, or coastwise to New Orleans and thence upriver, when involving bulk products. With the completion of the Ohio canals in the mid 1830s, there was a gradual redirection of western produce to the eastern seaboard. "When, in addition to the Erie and Pennsylvania Canals, East-West railroads were completed in the early 1850's, the nature of the internal trade had been fundamentally changed", North (1966: 103) explains, at least in the relative decline in importance of the South, and the increased importance of the East-West commerce. Schmidt's (1939: 811) oft quoted summary of the mutual independence reads:

The rise of internal commerce after 1815 made possible a territorial division of labor between three great sections of the Union – the West, the South, and the East. [...] The South was thereby enabled to devote itself in particular to the production of a few plantation staples contributing a large and growing surplus for the foreign markets and depending on the West for a large part of its food supply and on the East for the bulk of its manufactured goods and very largely for the conduct of its commerce and banking. The East was devoted chiefly to manufacturing and commerce, supplying the products of its industries as well as the imports and much of the capital for the West and South while it became to an increasing extent dependent on the food and the fibres of these two sections. The West became a surplus grain- and livestock-producing kingdom, supplying the growing deficits of the South and the East. (Cf. North 1966: 103; Fishlow 1964: 187.)

Fishlow has downplayed the importance of interdependence, and questioned the extent of trade between the West and South, instead emphasising the trade between East and West, but the traditional view was again defended by Fogel (cf. the exchange of views in Andreano 1965: 187-224). Later discussion indicates that US slave plantations were indeed self-sufficient through the masters' and slaves' independent production of vegetables, poultry and other foodstuffs on small garden plots, undertaken or organised during the slack-season of staple production – in fact, the slave economy itself impelled masters to organise their slaves in such activities, thereby limiting the growth of consumer goods industries (Post 2003: also 301f., 318-20, 322f., 325). What happened in the 1840s and 1850s, Post (2003: 326) suggests, seems rather to have been that a Western/Northern "shift from independent household ('subsistence') to petty commodity ('commercial') production unleashed a dynamic of productive specialization, technical innovation and accumulation that made Northern agriculture the growing home market for Northern industrial capitalists. Thus, after 1840, the expansion of Northern family farming stimulated the activities of industrial capitalists, which

increasingly bound together the different forms of production in the USA.” Since the internal ‘home’ market of the slave economy was not significant, its geographical expansion thus became a major obstacle to the further development of capitalism in the rest of the USA. Whichever position one holds, the declining relative importance of the South illuminates the increasing desperation of southerners such as Fitzhugh in the 1850s. The mere fact that there is a debate on the importance of southern *imports* of foodstuffs and other agricultural products is sufficient demonstration that his identification of South with agriculture and North with manufactures was insufficient. Was the problem rather, as might have been divined from Steuart’s (1767) presentation, one of low productivity in a plantation economy – due to the slavery he wished to defend?

According to one school of interpreters, most notably Fogel and Engerman, the plantations were highly efficient capitalist enterprises, despite the unfree legal status of slaves. This ‘planter capitalism’ line recognises that slaveholding planters of the Americas faced market imperatives. “Despite attempts to make the plantation ‘self-sufficient’ in food and some tools, staple-producing planters had to accrue debts to purchase land and slaves. Unlike the grain-exporting lords of Eastern Europe in the sixteenth and seventeenth centuries, whose possession of land rested on non-market power, the master classes of the ‘New World’ did not have the option of withdrawing from the world market when prices fell below their costs of production” (Post 2003: 292). To meet debts and void loss of their land and slaves, planters were compelled to become competitive in the world markets for sugar, rice, indigo, coffee and cotton through reduction of costs. The profitability of these enterprises can no longer be doubted, but Fogel and Engerman assert also that it promoted rapid economic growth in the Caribbean and Southern United States, with slightly higher per capita income growth than in the Northern States. Although average income was still lower than in the North, it was still higher than in any other independent nations excepting Australia and Great Britain. However, another tradition has, successfully it seems (cf. Post 2003: 293-5), contested attributing these growths to the ‘capitalist’ character of plantations, instead pointing to the ‘efficient’ organisation, the South’s near monopoly, and the enormous growth of demand on the part of industrial capitalists in Great Britain and the US North. As Post explains (2003: 302): “Economic growth tended to be *extensive*, the addition of more slaves and more land in a process of geographic expansion, rather than *intensive*, with the introduction of labour-saving tools, implements and machinery.” The absence, which Fitzhugh grieved, of large-scale industry and manufacturing can thus largely be explained by the plantation economy’s stifling any considerable home market for industrially produced capital and consumer goods, and ultimately, as Genovese (1989) argues, by the absence of an ‘agricultural revolution’, or rather capitalist agriculture. A further anomaly, argues Post (2003: 302), was the tendency of slave-owning planters to increase, rather than decrease output over the medium term in the face of falling commodity prices. But in that case it would seem that the contemporary British textile industry was also anomalous.

Following Rostow (1960), Hobsbawm (cf. 1969: 69) calls the cotton industry the incomparably most important ‘leading sector’ during the early stages of British industrialisation, setting the pace of the economy as a whole. However this may be, the enormous rise in output and productivity, and the incipient saturation of the market, was beginning to show in lower prices. In 1784, the cost of raw materials for 1 *lb.* of wrought cotton 2s., and was sold at 10s. 11d., with a marginal for other costs of 8s. 11d.. Corresponding figures for 1812 are 1s. 6d. for raw materials, selling price at 2s. 6d., and a margin of 1s., which was to decrease even more (Hobsbawm 1969: 76). Lower margins were compensated for by increased volumes, which reverberated through the Southern slave economy in the transition from tobacco to cotton as the main export staple, and in a profound transformation in the slave labour process – comprising a shift from task to gang labour, the

introduction in the 1820s of the horse- or mule-drawn 'sweeper' plough, and new seeds – which by the late 1830s had raised the ratio of slave labour to land and tools from three acres per slave in tobacco production to nine or ten in cotton (Post 2003: 316).

The raw materials of the cotton industry came substantially from the American South (plus Egypt). The mode of production was very labour intensive, with a more or less fixed ratio of labour to land once the above transition had been made. Notwithstanding an even 'factory like' organisation ("as on an assembly line") generating pressure to keep up the pace, the tools used were simple and virtually unchanged, and there was certainly nothing like a systematic and continuous process of replacement of human labour through mechanisation, which according to Brenner (*e.g.*, 1976, 1982) and others characterises capitalist agriculture and industry (cf. Fogel & Engerman, 1974: 572; Post 2003: 292, 293, 296). The minimum amount of slaves needed for efficient production was 50 per acre on the soils of Alabama and Texas, and more than 200 around the Mississippi river. Costs have been estimated to half of what they would have been without coercion. The possibilities to increase output per slave were limited, except through increasing the pace or the number of slaves, by tapping the 'unused capacity' of juveniles or women, increasing acreage, or moving to more fertile soil. Under the limitations imposed by the social relations of slavery, the most rational way for planters to increase output, given the fixed ratio of labour to land and tools, was geographic expansion and the addition of more slaves. During the period from 1790 to 1810, production rose from 3,000 to 178,000 bales, in a violent westward expansion, accompanied by means of communication connecting the new areas with the coasts and in its turn encouraged new investments in steamboats and railways.

The consequences for the indigenous population was perhaps even more ominous than for the slaves. The Cherokees, Creek, Choctaw, Chickasaw and Seminoles in current Alabama, Georgia, Florida, Mississippi and North Carolina, all had to be expelled from the Jeffersonian democracy's "land without people for a people without land" (Wolf 1982: 278 ff.). The consequences for the environment were no less serious, as summarised by Earle (1988: 201):

The erosional cycle (1780–1840) that plagued the upper South also swept across the emerging cotton belt. Following the invention of the cotton gin, a sharp rise in cotton prices ignited a half century of destructive occupance. The vicious cycle of clearing, planting, abandoning, and migrating to virgin frontier lands was extended from coastal Georgia and South Carolina to the Mississippi. The legendary profits from cotton made planters oblivious to the landscape they left in their wake. In this macrohistorical cycle, the myth and the reality of the southern soil miner were one. (Cf. Cash 1941.)

Against this background it is perhaps not so surprising that a conservative, 'proto-fascist' admirer of Carlyle, and propagandist for a feudal slave society could show similar distrust of 'free society' and 'free trade' as do many 20th century ecologists and dependency theorists. With his neighbour John Taylor, whose treatises on practical agriculture Fitzhugh praised highly, "he condemned the one-crop system and argued for rotation and the use of fertilizer." Instead, he advocated "local departments of agriculture so that scientific knowledge and regional experience might be combined" (Leavelle & Cook 1945: 165; cf. Wish 1943: 14). Small was already beautiful, and sound agriculture would lead to sound and appropriate local manufacture:

The balance of manure is the true balance of trade, and the great secret of national growth, wealth, prosperity, and strength. State governments are now active in advancing all industrial interests. State protection is the order of the day [...]. Federal protection, a protective tariff, would but rivet our chains, and continue our dependence. We must take care of ourselves. (Fitzhugh 1859a: 666.)

Fitzhugh summed up his ideal economic organisation as an 'association of labour', in contrast to the division of labour. The latter made labour more helpless in the hands of irresponsible management, whereas the former, so he believed, ensured the benevolence of the master by

directly relating the welfare of the workers to the master's own economic interest. Although primarily meaningful in Fitzhugh's agrarian slave society, the concept could also be applied to industrial organisation, in some kind of paternalistic management theory – and so it seems it has.

Fitzhugh saw no possibility of playing off the North against Britain, or choosing the lesser evil. The problem lay in that free trade itself would ensure the South an exploited position. He searched to diversify the economy even if it meant reducing commerce: "It was for this reason that Fitzhugh was endorsed by J. B. DeBow, the fervent crusader for southern industrialization. For Fitzhugh, as for DeBow, the basic problems of the South originated in the region's exaggerated dependence on staple crops" (Persky 1992: 126). Theorists of exploitative trade or dependency are obviously easier to find in regions that are marginal to expansive economies, yet also highly vocal. This is exemplified not only in the *dependistas*, but in a sense also in the Canadian political economy tradition. As we shall now see, the importance of Harold Innis, however, is not limited to being the originator of the 'staple thesis' in Canadian historiography, but lies more substantially in his sustained search for, and avoidance of, the 'biases' of the world, which conducted him through the preconceived ideas of the economic and historical professions, *e.g.*, on mercantilism.

Chapter 9. Staples and Communication in the peripheral vortex of Harold Innis

Harold Adams Innis (1894–1952) is known in different intellectual communities either as the originator of the Canadian 'staple thesis' or as a theorist of communication. The first has become a bone of contention among scholars as either a theory of growth or as a dependency/ecological unequal exchange theory. In truth, for Innis it was neither, although he was very sensitive to the often disruptive repercussions of seemingly insignificant changes in an extensive metropolis–hinterland communications system. I shall try to indicate some common concerns between the two Innises,³⁹ and also some lessons that may be learnt from this perspective for interpreters focusing on the global problematic of underdevelopment and ecology. The principal one is merely pointing out Innis's involvement with the common and ultimate concerns and wellbeing of societies (*'res publica'*, or 'commonweal'), which was introduced via defunct imperial traditions and had to be updated. Another, which will not be overly extended upon, is the methodological lesson of the sheer exertion required in acquiring the necessary familiarity with ecological and technological detail if progress of interpretation is to be made from an ecological perspective. In addition, there is the insight that advancement of learning will proceed from a further integration of basic approaches. History was the irreplaceable subject of Innis's all-inclusive approach and for the understanding of which theoretical insights function as tools. As has already been suggested (Chapter 5; cf. also Chapters 11, 23, & Part IV), for a theory of unequal exchange as a tool in the interpretation of history, the most relevant lesson may well relate to the problem of nationalism and its transformation in the postwar era.

In Canada political economy was already from the start historically bent, and characterised by certain specific problems which were shared by general historians and society. From its

³⁹ An approach which has profitted from Berger 1986, Patterson 1990. This chapter largely builds on work undertaken from 1994–1997 for a M.A.. Even recent discussion often shows familiarity or interest primarily with one or the other Innises, or with concerns which were of more peripheral concern in his own work. More important recent works are Bonnett 2001 and Watson 2006.

birth the subject had a particularly low status as a boring subdivision of moral philosophy, appropriate for busy administrators, and the traditional fixation on *laissez-faire* gave it a disadvantageous air to important Canadian interests. From the 1880s and 1890s, agricultural sales to Europe, linked with westward expansion, industrialisation, and an upsurge of national consciousness, coincided with the advance of the historical school of economics and the growth of marginal utility theory. Arguments against trade unions and government intervention were substituted for those against tariff protection (Goodwin 1961: 173 f.). The first political economy professors were educated either in Europe (England and Scotland; Quebecois in France), or in the United States, representing most of the important schools of the day, but contributing little to the understanding of the specific Canadian situation.

The appointment of the foremost representative of the English historical economists, William James Ashley, to the first chair in political economy “was not accidental”, Goodwin (1961: 176) remarks, since by then economic theory, and particularly policy, had been a source of bitter controversy for almost half a century, and it was undoubtedly hoped that “he would not assume any doctrinaire theoretical position”, meaning a belief in free trade. Ashley’s inaugural address in 1888 (quoted in Goodwin 1961: 177) quickly made his stand clear on this matter, arguing that economics as a science really began in the 1870s with the revolution set off by the historical economists and “what has been the great achievement of German thought in the last fifty years – the discovery and application of the Historical Method.” He praised the German historical school for teaching without “the great prejudice against Government action which was natural to an English or French liberal”, and the English historical economists (Leslie, Ingram and Toynbee) for accompanying the Germans in this discovery of a political economy “of real value to society”, in which “the old doctrines will be shown not to be untrue, but to have only a relative truth, and to deserve a much less important place than has been assigned to them”. Although not personally contributing to Canadian historiography, he set political economy in Toronto on the path it would follow for generations, explaining that “the direction for fruitful work” was “no longer in the pursuit of the abstract deductive method which has done so much service as it is capable of, but in the following new methods of investigation – historical, statistical, inductive” Thus, in his view, as Goodwin (*loc. cit.*) observed, only “a careful student of Canadian economic history, and not a mere expert in theory [...], could qualify as an advisor on public policy.”

In addition to its emphasis on historical study, as an imperialist, Ashley indicated and promoted the close connections between the Toronto-department and the British mother country. His Scottish successor, James Mavor, gave Innis admission to European intellectual circles in the 1920s, notably economic historians, J. M. Keynes, Graham Wallas, and the Shaws. Following Mavor came R. M. MacIver, E. J. Urwick, and finally Innis, who was the first Canadian-born Professor of Political Economy at Toronto. Another Brit, C. R. Fay was Professor from 1921 to 1930 and a good friend with Innis. For both Ashley and Fay the stay in Canada meant a widening of perspectives, the latter coming under the influence of what he dubbed the ‘Toronto school’ of political economy, meaning Innis (Fay 1932, 1934). The problem of the union of the British Commonwealth and its division into independent nation states or dominions under responsible government, as well as economic means of counteracting the increased influence of the United States, were questions which completely absorbed all of the early Professors. They were also of great importance to Innis (cf. Patterson 1990), both in the early studies on Canadian waterways and staples and in the later on the biases of communications in general and their relevance for empires in particular.

Starting about the time of the First World War universities saw a large influx of students with a Canadian background. The efforts of Adam Shortt to collect documents widened Canadian historiography outside the political and into the economic sphere, and in Innis’s view qualified him as the founder of Canadian economic history (Goodwin 1961: 185ff.;

Berger 1986: 26). In the 1920s, future historians and economists from all over Canada made for the Archives, and the perceptive eye could “see the actual renaissance of Canadian history in the course of preparation” and that “a revolution is bound to come about as a result” (A. L. Burt to his wife in 1926; quoted in Berger 1986: 30). Cook (1977: 126) could later speak of it as an “Innis revolution” in Canadian historiography, noting that the “necessary starting point for any clear understanding of the outlook of contemporary English-Canadian historians is Harold Adams Innis”.

Innis’s road to Canadian economic history began shortly before the First World War, when studying at McMaster, under the inspiring and devoted ‘radicalism’ of William J.A. Donald. Donald had himself graduated from McMaster in 1909, gone on to post-graduate studies at the University of Chicago under Chester W. Wright, and in 1913 returned to Canada with a Canadian topic for his Ph.D. dissertation and a lectureship at his alma mater. Within two years, while Innis was his student, Donald published four articles and his only book, on *The Canadian Iron and Steel Industry*, which was based on his dissertation and proved the assumption false that this industry had been a necessary for Canadian economic development. The ‘radicalism’ shown by him and Innis in early years, seem to mean rather a Smithian outcry against ‘mercantilist’ corruption (cf. Neill 1972: 10 f.). Innis’s innocent Baptist upbringing is indicated by his dismay, as late as the second term, at students “who tend towards materialism and believe there is no God” (quoted in Berger 1986: 86). His studies were interrupted by the war where he was seriously wounded at Vimy Ridge. Having learnt from the trenches to despise the stupidity of British supreme command, and a solidarity with the rank and file, he returned to complete his master’s degree at McMasters in 1918. Through Donald’s agency, and like many other Baptists of Scottish descent, Innis chose the University of Chicago for his continued studies under Wright who suggested and supervised Innis’s dissertation, *A History of the Canadian Pacific Railway* (1923), as a better departure for understating Canadian economic development (Neill 1972: 11). The sojourn in Chicago was relatively brief, but was of great significance for his subsequent methodology, notably, the exposure to the ideas of Thorstein Veblen, the father of ‘institutionalist economics’, whom he was induced by the general stir (and with some help from Frank Knight) to “read intensively” (Innis n.d., quoted in Neill 1972: 35). He returned to Canada in 1920, accepting a position at Toronto University’s Department of Political Economy, where he remained, becoming head of the department in 1937 and serving as dean of the graduate school from 1947 until his death in 1952.

The return to Canada from Chicago meant not only the abandonment of an intellectually livelier environment – and at the University of Toronto there was no equivalent interest in Veblen – but also the entry into the elementary state of economic-historic research on Canada, and the formative stage of the discipline of Canadian political economy itself. The challenge facing scholarship, to which Innis responded, was not only undertaking the basic research necessary to establish a general interpretative framework, but also to articulate a method or approach in order to tackle the task at hand. The continued engagement with such problems is evidenced by his expanding administrative duties as well as his writings on the universities and education. As Barager (1996) points out, it is also evident in his compiling bibliographies of research in Canadian economics and economic history, in editing documents in Canadian economic history, and in an essay on “The Teaching of Economic History in Canada” (Innis 1928a-b; 1929a-b; 1929-1933). Here he acknowledged the important and “central position” accorded to theory, but stressed the indispensability of economic history (Innis 1929b). Easterbrook (1953: 291) observed: “Over the three decades of teaching and research allotted Harold Innis, no subject concerned him more than the state of economics.” A paper published the same year (Innis 1929c) dealt more explicitly with theoretical issues, and demonstrates the continued involvement with the work of Veblen – the only economist with whom he engaged

in an extended assessment. Here, Innis set out to restore and restate those substantial contributions of Veblen's which had tended to become distorted by violent controversy. Baragar (1996) argues that insofar as this restatement coincided with Innis's aforementioned efforts to shape the direction of future economic research in Canada, Veblen's contributions can be viewed as an integral aspect of Innis's conceptualization of the path that lay ahead.

As outlined by Innis, Veblen's work had both destructive and constructive parts. The former comprised Veblen's well-known critique of the classical and marginalist economic approach 'from the standpoint of consumption', as Innis termed it, summarised in his brilliant attack on economic hedonism, which had secured its place at least since the days of Jeremy Bentham (cf. Veblen 1919: 73f.). Veblen (*e.g.*, 1899) outlined an alternative approach to consumption in which both the agent and his environment had to be taken into account to understand economic motivations and cumulative economic change. He even criticised Marx and Marxism for simply having transferred hedonism from the individual to the class – a stance repeated without acknowledgment in Keynes's (1972: 445f.; 1949: 96f.) claim to have belonged to the first generation "to have thrown hedonism out the window", along with the Benthamite calculus, and therefore to have been saved from "the final *reductio ad absurdum* of Benthamism known as Marxism."

Innis's dissertation (1923) was an inadequate reflection of what he was seeking to achieve, and deserves mention perhaps mostly because of its first hundred odd pages, presenting a first overall picture of Canada's economic development, starting with how the essential geographical features through the agency of fur traders divided the country into three relatively distinct regions – the Pacific coastal area (British Columbia) in the west, the Hudson Bay drainage basin in the north, and the St. Lawrence river penetrating the land from the east, to which were added the easternmost fishing regions and the agricultural prairies west of the Great Lakes. The main achievement of the railway building was its conquest of geographical barriers (Innis 1923: 287) unifying these regions, and seen as the transformation of a politically forced national union to an economic one, in line with a widely shared opinion of Canadian lack of conformity (Westfall 1981: 40). This overcoming of nature was a shared Christian and national mission, expressing (as Innis repeated 3 times on the first 12 lines of his conclusion) "the strength and character of Western Civilization". The great 'overhead costs' of construction forced a monopolistic rule, localised in the more established eastern regions. At the time of publication, the Progressive Party was subjecting national policy to penetrating scrutiny, but though Innis's economic argument could be seen as a defence of the government, he (as a one-time teacher in a rural Alberta school during the summer of 1915) could not help but expressing the prairie indignation towards the C.P.R.: "Western Canada has paid for the development of Canadian nationality, and it would appear that it must continue to pay. The acquisitiveness of Eastern Canada shows little sign of abatement" (Innis 1923: 294).

The book's principal importance is perhaps that it occasioned a reevaluation in order to overcome its shortcomings. The uneasy feeling he had that his thesis was inadequate was reinforced by some reviewers, obliging him to satisfy his uneasy conscience "by continuing along lines which would offset its defects" (Innis n.d., quoted in Neill 1972: 35). He had gradually come to realize that the C.P.R. had not so much created Canadian unity as linked up a land unit which was basically dependent, at an earlier stage, on water navigation. He started looking for maps showing how the rivers interlinked Eastern Canada and the Pacific coast. If maps related to the railroad had destroyed the idea of unity, the railroad itself reinforced or was a reenactment of this older entity. He set out to acquire familiarity with previous work, resulting in numerous bibliographies of published materials, and on a thorough inventory of the archives in Ottawa and elsewhere. These documents were chiefly concerned with political activities and much less satisfactory in describing economic and social conditions of different periods, so another consequence of going through them was the editing, in co-operation with

Arthur Lower, of two by now standard volumes of documents on economic history. He began enlisting students to write on some aspect of the staple industries, and was instrumental in setting up the periodical *Contributions to Canadian Economics* (Berger 1976: 89). “My immediate task was offsetting the limitations of my thesis by attempting to show the inherent unity of Canada as it developed before the railroad in relation to lakes and rivers. For this reason I concentrated in the beginning on the fur trade as the oldest staple trade of the continent” (Innis n.d., quoted in Neill 1972: 36). Two things can already be detected with respect to Innis’s methodology: the first is the obvious concern with media of communication, whether railways or waterways, for the understanding of socio-economic organisation; the second is the ambition to detect biases shared by his surroundings, and to escape their effects.

Innis’s second book, *The Fur Trade in Canada* (1930), constituted the centre-piece in the Canadian historiographical revolution of the 1930s. It was a study of the dynamics behind the expansion of the fur trade from 1497 to 1929, contrasting to previous studies in not accentuating heroic figures and the adventure of expansion, which were instead depicted as reflections of inescapable and anonymous geographical, technological, and economic forces. It was ‘an introduction to Canadian economic history’, as its subtitle read, “in that the patterns revealed in the economic history of the Old Régime and in the fur trade were persistent and cumulative and were connected directly to the Canadian economy of his own day” (Berger 1976: 94).

The main determinants of expansion were European demand for beaver pelt, increasing Indian dependence on the manufactured goods of a more technologically advanced society, and the rapid extermination of a non-migratory animal. The interconnected system of rivers and lakes, and the Indian mastery of the canoe, directed extension along the southern edge of the Pre-Cambrian Shield. The inward thrust increased transportation costs, brought the competition of the Iroquois to the south and later the Hudson’s Bay Company in the north, which was most severe on the uplands separating the three major drainage basins of north-eastern America. The French responded by military aggression and vast encircling movements. Innis argues that the fur trade severely weakened New France and ultimately accounted for its collapse. Carrying on trade over longer distances drew men away from settlements precisely at a season when they were most needed for agriculture. The fur trade also reinforced dependence – notably military – on the mercantilist mother country, increased vulnerability, and strengthened inflexible authoritarian and monopolistic institutions, which proved incapable of responding to changing economic conditions. Profitability made expansion into virgin lands imperative in overcoming the overhead costs of long ocean voyages and imports of large amounts of merchandise, but with the extension into Saskatchewan by the middle of the 18th century the geographical limits of trade with the modified birch-bark canoe had been reached: “French power in New France collapsed of its own weight” (Innis 1930: 114; cf. 389ff.). The dependence on manufactures gave cheaper English goods an advantage, and contributed to the downfall of New France, but the importance of manufactures to the fur trade also “made inevitable the continuation of control by Great Britain in the northern half of North America”, contributing to the failure of the American Revolution in these parts:

The northern half of North America remained British because of the importance of fur as a staple product. The continent of North America became divided into three areas: (1) to the north in what is now the Dominion of Canada, producing furs, (2) to the south in what were during the Civil War the secession states, producing cotton, and (3) in the centre the widely diversified economic territory including the New England states and the coal and iron areas of the middle west demanding raw materials and a market. The staple-producing areas were closely dependent on industrial Europe, especially Great Britain. The fur-producing area was destined to remain British. The cotton-producing area was forced after the Civil War to become subordinate to the central territory just as the northern fur-producing area, at recent producing the staples, wheat, pulp and paper, minerals, and lumber, tends to be brought under its influence. (Innis 1930: 391 f.)

The period after the Conquest saw the formation of the Northwest Company, before the pressure of overhead costs led to its amalgamation with the Hudson's Bay Company in 1821. The importance of this organisation was recognised in boundary disputes and negotiations. Its bases of supplies for the trade in Quebec, Ontario, and British Columbia represented the agricultural areas of the later Dominion of Canada, and Innis could thus conclude that "The Northwest Company was the forerunner of the present confederation" (Innis 1930: 392). Thus, Canada was not merely a political creation but a logical geographical unity historically defined by the fur trade, and what the Canadian Pacific Railway and the wheat economy had done was to reassert this older solidarity.

The book's principal message in public ears at the time was simply: "The present Dominion emerged not in spite of geography but because of it" (Innis 1930: 393). This was also a statement in a contemporary debate between a more American friendly view, favouring a continental perspective, and a metropolitan perspective more concerned with the British connection, and where Innis, so to speak, rather put the French at the centre, but ultimately a peculiarly Canadian perspective and a thoroughly self-critical outlook.

Important circumstantial influences on the book can be found in geography. The popular grand theories of the 1920s involved cultural-evolutionary models and particularly economic and environmental schemes of varying degrees and kinds of determinism, 'environmentalism' (cf. Ellsworth Huntington) or 'possibilism'. A favourite example of Lucien Febvre (1922; trans. 1925), a representative of the latter approach, was a river, seen by some as an obstacle and others as a means of communication (cf. Burke 1992: 36). Paul Vidal de la Blache, emphasised the importance of bioclimatic zones, ecology, and particularly the complex, balanced evolution of patterns of living ('genres de vie'). Through everyday problem solving in a certain environment, the community even adopted a characteristic mental structure, which could live on even after environmental conditions had changed. Innis was familiar with these works, and while he was working out the relation between the Canadian railroads and waterways, there had appeared a work by the Scottish possibilist geographer Marion I. Newbigin (1927), who tried to demonstrate how French Canada had evolved along the waterways, using this as the explanation of why Canada had evolved separately from the United States (*ibid.*: 6). On the relation between man and the environment she held that the possibilities of their combination were endless (*ibid.*: 284 & 300), but for Innis, they were not so endless after all. His review pointed out that though she had accentuated the Laurentian Shield and Indian canoes, she was too concerned with military schemes and had insufficiently treated the limitations of the fur trade. Although only partially successful, he was particularly impressed by her observations (1927: 282 f.) on the impact of geography on the different flexibility of French and English political organisations, helping to explain the collapse of early New France.⁴⁰ Innis's own interpretation paid much more attention to the limitations of ecology of the beaver, bioclimatic zones, and climate, and to the dependence on the Indians and their knowledge (Innis 1927: 497f.; cf. 1930: 387 f.).

At the time, Innis invariably described himself as an 'economic geographer' (Berger 1976: 93), and the conclusion's opening frase gives further hints: "Fundamentally the civilization of North America is the civilization of Europe and the interest of this volume is primarily in the effects of a vast new land area on European civilization" (Innis 1930: 383). The first to undertake the study of 'the effects of a vast new land area on European civilisation', was not

⁴⁰ Berger (1976: 93) explains her position: "The entire history of Canada hinged on the solution to the twin problems of maintaining access to the sea and internal expansion based on products that could find their natural outlet by way of the St. Lawrence. The parallel between the fur trade and the river with the wheat economy and transcontinental railways was neither fortuitous nor insignificant. Canada was essentially what New France had been."

Innis but Frederick Jackson Turner, the United States' perhaps most influential historian, whose 1893 essay on 'the frontier in American history' had tried to divert the preoccupation of American historiographers with the eastern cost and European background. Instead the 'frontier' was a kind of individualist-democratic purification plant from which a genuinely 'American' society had sprung (Turner 1893: 463 f). Initially of little impact, his thesis had by the 1920s engulfed the whole community of American historians (although Charles Beard, perhaps the second most important historian, criticised it in 1921). Turner struck a religious chord, speaking of the perpetual rebirth of Western civilisation, and Innis's first book had perhaps not been entirely free from this influence. Turner (1893: 464) saw American society springing forth in a series of westward waves of furtraders (while fishermen remained on the East), miners, cattle-raisers, and farmers each having to confront the Indian civilisation, which also changed in the process so that each wave faced a new kind of Indian society. The trading frontier, initially dominated by the French, anticipated the settler frontier, and their different spheres of interest are summarised in the formula 'wheat against fur'. Indian trade and Indian means of communication were nevertheless crucial to the evolution of western, southern, and Canadian societies, ultimately dependent on the geology of the continent (*ibid.*: 465f.).

By the 1920s, when Innis worked on his book, it was generally thought that the Indian peoples were a dying race, and anthropologists engaged in extensive fieldwork to collect elements of native civilisation before these cultures were swept away. "Both the intellectual climate and his larger interest in the social impact of technological change influenced his approach to the aboriginal dimension," Ray (1999: xiii) has observed:

In Innis's mind, aboriginal consumers' enthusiastic adoption of European trade goods, and the inclusion of ever-more Native groups into the orbit of the fur trade, created an "insatiable demand" for European products. [...] Euro-Canadian merchants were able to make profits largely because aboriginal people willingly produced the commodities the industry needed in exchange for their labour at rates that were far below what the expectations of Euro-Canadians would have been.

This could indeed be regarded as a form of 'unequal exchange', but the theme has not been pursued.

Veblen (1904, 1915) had described 'the merits of borrowing' the latest industrial technology for nations such as the United States or Germany. In spite of its cultural inheritance, however, the borrowing community would have to make its peace with the new elements "on such terms as may be had". If the difference between the new and old cultural elements was too great, he reminded, their introduction might be so disruptive as to entail wholesale destruction, such as had been the case with the Indian civilisation with the introduction of iron tools, fire-arms, distilled spirits, the horse, and trade, especially in furs (Veblen 1915: 38 f.). Innis made much the same point in his study on the fur trade, where the "insatiable demand" of North American hunting peoples for European goods, which enabled them to obtain their food supply (*e.g.*, moose) more quickly and to hunt the beaver more effectively, was a determining influence upsetting the cultural and ecological balance of their civilisation, which ultimately succumbed to war and disease (Innis 1930: 388). There was a further lesson here for Innis in the analogous impact of industrial civilisation on European, or Western cultural values (Innis 1950b: 141). However, although not as severe as those of Western civilisation on the Indian Civilisation or of industrial civilisation on traditional Western, problems of readjustments were present already with each transition from one staple to another.

The hang-up on harmonious statics and dynamics in orthodox and not so orthodox economics, stimulated the development of what Innis termed 'cyclonics', wallowing in and gorging upon disruption.⁴¹ Gunnar Myrdal (1944, 1956, 1957), too, was to retain from the

⁴¹ Comparing the Canadian literary tradition with American and British, Margaret Atwood (1972: 32) has observed, that "the main idea is [...] staying alive. Canadians are forever taking the national pulse like doctors at

institutionalist tradition the critique of the assumption of equilibrium, but instead of focussing on disruption he sought a theory of self-reinforcing disequilibrium. Innis's perspective profited from admitting the experience from Canada's marginal position within Western civilisation as a legitimate stand from which to start theorising. The search for a theory more appropriate for new countries provided a good opportunity to discern and avoid some central biases of orthodox theory.

A further synthesis of economic theory and economic history was part of Innis's explicit program as spelt out in his 'bibliography' of Veblen (Innis 1929c). At least on the surface it was inspired by Veblen, but in significant respects was very similar to the program Ashley had expressed, and, as did the British historical economists, Innis traced its lineage to Adam Smith. If Smith had made the last major stocktaking before the industrial revolution, Veblen's importance was that he was the first to attempt one after it. "Any substantial progress in economic theory must come from a closer synthesis between economic history and economic theory", Innis rounded off his article. The extensive work being done in economic history on the origin and growth of institutions "will call for more diligent application in the synthesis with economic theory". He envisaged a program where Veblen's attempts at synthesis was to be "revised and steadily improved" (Innis 1929c; 1956: 26). In the article on "The Economic Significance of Culture" (1944; 1946: 100f.) he tried to identify the roles both economic history and economic theory had to play in political economy – a subject more difficult than mathematics: "The significance of economic history in all this is shown in its concern with long-run trends and its emphasis on training in a search for patterns rather than mathematical formulae."

Innis noted Veblen's (1919: 180-230) criticism of the 'static' nature of orthodox economics expressed in a critique of J. B. Clark. John Maurice Clark (1923), the son of the latter and Innis's teacher at Chicago, had been encouraged to complement it with his book on 'overhead costs', and Easterbrook (1953) reports that Innis's research program consisted basically in adapting the work of Clark and Veblen to his own field of historical investigation. For Veblen, however, the roots of the static perspective extended back into the classical tradition, which was teleologically predisposed to see society as moving in and unfolding towards equilibrium. The static theory formulated "the conditions under which this putative equilibrium supervenes", and those features that did not fit the formula were "abnormal cases and are due to disturbing causes", so that "the agencies or forces causally at work in the economic life process are neatly avoided" by reverting instead to taxonomy and classification (Veblen 1919: 67f.). The contemporary work best exemplifying the approach, Innis agreed (Innis 1929c; 1956: 24), was that of Alfred Marshall, the arch-enemy of the neomercantilist economic historian Cunningham (1892) in spite of Marshall's claimed belief in later years that the historical approach would revolutionise economics. As Georgescu-Roegen (1966: 106f.; 1971: 321) was to observe: "It is nevertheless true that lessons, perhaps the only substantial ones, on how to transcend the static framework effectively have come from Marx, Schumpeter, and Veblen."

Like Georgescu-Roegen, Innis considered the constructive argument to be both overlooked and more important. Enumerating all major works from *The Theory of Business Enterprise* (1904) and forth, Innis (1929c; 1956: 26) explained how Veblen's theme was the increasingly chaotic problems arising from the unused capacity of industrial technology:

a sickbed: the aim is not to see whether the patient will live well but simply whether he will live at all. Our central idea is one which generates, not excitement and sense of adventure or danger which the Frontier holds out, not the smugness and/or sense of security, of everything in its place which the Island can offer, but an almost intolerable anxiety. Our stories are likely to be tales not of those who made it but of those who made it back, from the awful experience – the North, the snowstorm, the sinking ship – that killed everyone else."

His main argument was logically developed in all of these volumes – namely, that machine industry was overwhelmingly and increasingly productive, and that the problems of machine industry were incidental to the disposal of the product.

The constructive part of Veblen's work was essentially the elaboration of an extended argument showing the effects of machine industry and the industrial revolution. Veblen's interest was in the state of the industrial arts which had gone out of hand – a point similar to that urged by Samuel Butler.

This indicated that the harmonious equilibrium of the *statics* or *dynamics* of conventional economics had to be complemented by a *cyclonics*, sensitive to the disruptive reverberations of technological or other progress, echoing to and forth – 'synchronically', in the geographical dimension, in economic 'cyclones' between metropolises and hinterlands, and 'diachronically', over time, in not so evidently equilibrating business 'cycles'.

Marshall (1920: 270) declared in his *Principles* that "the causes which determine the economic progress of nations belong to the study of international trade", and opened up the second but last chapter, dealing with "General Influences of Economic Progress", as follows: "The field of employment which any place offers for labour and capital depends, firstly, on its natural resources; secondly on [...] knowledge and organization; and thirdly, on [...] markets in which it can sell those things of which it has a superfluity. The importance of this last condition is often underrated; but it stands out prominently when we look at the history of new countries" (*ibid.*: 668). He went on referring to "the splendid markets which the old world has offered to the new" (*loc. cit.*), but as Nurkse (1959: 16) later noted: "It is perhaps significant that such remarks, though true almost to the point of platitude, were left unrelated to the traditional theory of international trade." A most important source of Innis's contribution in this respect was a metropolis-hinterland perspective joined with attention to the repercussions following the specific character of various staple goods and an observance of the character of demand.

In searching for a more adequate theory of Canadian economic history, Innis was helped by a man with similar personal experience of the conditions giving rise to agrarian radicalism, his colleague William A. Mackintosh, who was familiar with Turner's frontier thesis and with the ideas of G. S. Callender. As noted above, Callender (1909; quoted in Berger 1976: 92) proposed that "the most important feature of the economic life in a colony or newly settled community is its relation with the rest of the world." Mackintosh (1923) suggested a more systematic study of Canadian history on these lines. Innis asserted in conversation that his interest in export staples had in part been aroused by this lecture, whose broad thesis was that "Canadian economic and, indeed, national development had been delayed and frustrated because we had been able to achieve no more than intermittent and marginal export staples until the wheat trade achieved a firm basis at the turn of the century." Innis "clearly exaggerated" the influence of his essay, Mackintosh admitted (1953: 187), since it only spelt out what Adam Smith and Callender had already said, and since Innis's thesis had already fixed attention on the staple export, he noted it because it was "concerned with ideas already formed in his own mind." Mackintosh's ideas were encouraging, but Innis felt that he had paid too much attention to the later stages dominated by the wheat staple.

In another work, Mackintosh (1924: 1; cf. Berger 1976: 92) argued more generally:

In the settlement of new countries one problem takes precedence over all others – the problem of discovering a staple product with a ready market. The world makes a path to the door of those regions fortunate enough to possess such a product, and all commodities of other countries are obtainable in exchange [...]. So well do young communities understand this fact, that it is almost possible to write the history of the settlement of North America in terms of the search for new vendible products [...].

Innis, partly inspired by the British sociologist Graham Wallas, understood the primary reason for the emphasis on staple products to lie in the need to maintain a habitual pattern of culture and consumption. Sudden changes of cultural traits could be made only after serious

difficulties, and maintaining them and the accustomed standard of living involved an appreciable dependence on the peoples and goods of the homeland, resulting in the migrants search for “goods which could be carried over long distances by small and expensive sailboats and which were in such demand in the home country as to yield the largest profit (Innis 1930: 383 f.). In the early modern era such goods were necessarily luxuries (or their raw materials), intended for the European market, particularly in the major metropolises. The first of these was cod, which under the circumstances of early modern Europe could be seen as a kind of luxury, the second was furs, particularly beaver pelt for hats.

But the peculiar character of new countries was a further stimulus to Innis, one of whose central messages to Canadian political economy was that theories developed in old, industrialised countries were not applicable in new ones: “Economic history consequently becomes more important as a tool by which the economic theory of the old countries can be amended” (Innis 1929b; 1956: 3). Working out his new project, Innis nevertheless brought into the marriage a theoretical toolbox from the Chicago metropolis, including C.S. Duncan’s “lectures on the relationship between the physical characteristics of a commodity and the marketing structure built in relation to it”, and Veblen in whose work “the same point had been made but in a more general fashion” (Innis n.d., in Neill 1972: 35). Based on his lectures Duncan (1920: 17) wrote a manual on marketing, which made a primary division between, on the one hand, raw materials and foodstuffs, and on the other, finished, or manufactured, goods, advising students that a specific commodity should be selected and study “planned to carry through both the raw-material and the finished-product stage”. The former reached the market (bourses, fairs, etc.), fabricating plant or consumer, without any significant intervening manufacturing process, and not being the product of man but of nature, did not come into being in accordance with a predetermined man-made plan. Since they did not readily fall into standard patterns, standards were difficult to apply. For manufactured goods the fabricating process was of paramount importance, and it was here that machinery and standardisation had entered most conspicuously. Whereas the moulding of the product was under manufacturer control, he nevertheless took his orders from consumer demand. Whereas the marketing of raw materials and foodstuffs required an emphasis on the control of the commodity and the risk of its destruction and deterioration, the marketing on finished products stressed the control of consumer demand, through branding, trademarking and particularly advertising: “The aim of analysis in raw materials is to secure scientific production; the aim of analysis in finished goods is to promote scientific selling” (Duncan 1920: 278). One can recognise the parallel to Veblen’s distinction between ‘making goods’ and ‘making money’.

Duncan had much to say on the different trade organisations built around these various goods, which would be included in Innis’s analysis of the fur trade (*e.g.*, on the grading of raw materials which gave advantage to the British around Hudson Bay over the French around the St. Laurence, and to hunting during winter rather than summer). Arguing for the importance of the Chicago school of sociology, and of Robert Ezra Park’s ‘human ecology’, to Canadian social science, Shore (1987: 272; cf. MacLuhan 1964a) claims that Duncan’s point that the physical characteristics of a commodity influenced its marketing structure and in turn the cultural community built in relation to it, “all stemmed from Park’s ecological theories and penetrated into Innis’s books.” She points to the neglected ecological dimension in Innis’s work – his description of beaver family life was perhaps one of the more conspicuous instances –, which she thinks adds to her case, noting also that Canadian historians’ lack of theoretical understanding contributed to the neglect of this influence. Whatever Park’s influence, Duncan entered the reference list N. S. B. Gras, who was perhaps the direct source of the metropolis–hinterland dicotomy.

Gras’s methods and point of view owed a great deal to the German tradition of economic history, with a preference for typological classification and interpreting history as a

succession of 'stages'. The earliest and best known of his studies, on *The Evolution of the English Corn Market* (1915), emphasised metropolitan areas and markets, and was, as Postan (1957: 485) puts it, "a detailed exercise on themes from Schmoller". The same interest and influences were reflected in many of his later studies, notably on the interplay between metropolis and hinterland, which was important also in the work of Werner Sombart, and was to become so in the works of Innis, Prebisch, and others. Gras's (1922: 181-340) introductory attempt to give an overall picture of the Modern Era from a metropolitan perspective, built primarily on the case of London and its position in England and the world economy, and on the growth of American metropolises. A metropolitan economy entails a stronger division between the metropolis and its hinterland. Gras found it characterised by four phases: (1) the creation of a well-organised marketing structure for the hinterland; (2) the development of manufacturing; (3) the linkage of the urban metropolis to its hinterland through improved transportation; (4) the emergence of a mature financial system.

Simultaneously with the organisation of the market in the first phase, joint-stock companies became more important, since they could finance expensive, risky and long voyages. Along with inter-city trade, an internal division of labour between the metropolises and their hinterlands emerged, where the latter supplied the raw materials and the former provided a varied supply of finished goods. The hinterland constituted a substantial part of the market for finished goods, while the metropolis functioned as collecting point, warehouse, stock-in-trade, etc., and as Duncan had pointed out, the physical characteristics of the goods influenced respective organisation. The metropolis saw the growth of various specialised activities and trade institutions, such as credit and advertising, but also an increased dependence on the foodstuffs of the hinterland. Mercantilism created national free-trade zones, and temporary protective monopolies for the metropolises and manufactures, but was ultimately hampering because of the different interests of state and metropolis. The second phase was characterised by industrial development starting to withdraw from the centre of the metropolis into adjacent villages. The vicinity of great market demand in the metropolis was becoming neutralised by heavier costs of living and production. The increasing volume and specialisation of goods resulted in heavier loads on roads, so that during the third phase, the network of transportation was extended, improved, and modernised (*i.e.*, railroads). Now the restraints on *laissez-faire* and the free-trade system could be loosened, and instead appeared necessary due to increased means of production. The fourth phase meant that banking and finance, though present from the start, acquired an independent and even dominant position.

Innis criticised all attempts to generalize from European experience, and never considered Gras's scheme applicable to Canadian history, where cities grew and took on the characteristics of metropolitan centres in a radically different order. Canadian cities arose not in isolation, but out of the commercial dictates of staple exploitation and cyclonic growth. Nevertheless, viewing Canada as the 'hinterland' of the European metropolises the coherent model of metropolis-hinterland interflow must have been intriguing. Because of Canada's position at the margin of Western civilisation, Innis was naturally more occupied, at least initially, and as opposed to the sociologists of Al Capone's Chicago, with the problems of the hinterland. With each shift of major staple product, Canadian society and ecology was thrown into pangs of readjustment, but changes in the hinterland could also resound on the European or American metropolises.

The reciprocal and often disruptive interaction between metropolis and hinterland was notable in the paper industry. The preceding adaptation to British metropolitanism laid Canada open to the American, which was accompanied by market restrictions and complex tariffs and exchange controls, forcing Canada to concentrate on exports with the most favourable outlets. Thus: "Newsprint production in Canada is encouraged, with the result that advertising and in turn industry are stimulated in the United States, and it becomes difficult

for Canada to compete in industries other than those in which she has a distinct advantage. Increased supplies of newsprint accentuate an emphasis on sensational news. As it has been succinctly put, world peace would be bad for the pulp and paper industry” (Innis 1948: 111). In Innis’s analysis, advances in the pulp and paper industry, notably the use of wood pulp, encouraged and was encouraged by American ‘new journalism’, which pioneered ways of increasing circulation and attracting advertising. Exported to Europe, this sensationalism underlined international instability as a means of increasing circulation, which in Innis’s view, encouraged the First World War. Furthermore, the limitations of the press facilitated rapid development of the radio, particularly in Germany. German language regions were powerfully influenced by Hitler in his effort to extend the German Reich, whereas English language groups were mobilised by Churchill and Roosevelt. Rapid changes made people rely for information on the radio, which became a powerful instrument of propaganda stimulating the Second World War (Innis 1949: 101f. & *passim*). Easterbrook (1953) believed that Veblen’s influence was most notable in the early years and that Innis’s thoughts on the impact of means of communication on mind and society under the inspiration of his studies of the pulp and paper industry. In fact, Veblen (1904: 385f.) also wrote on the press and advertising, even to the point of relating it to war. Exemplifying that ‘terrific irony’ admired by Innis, he outlined how in order to sell advertising space, gauging the prejudices of readers became the editor’s first duty, until it all collapses: “The modern warlike policies are entered upon for the sake of peace, with a view to the orderly pursuit of business” (*ibid.*: 392).⁴² Although the scale of disruption had been increased by industrial technology, the cyclonic reverberations between metropolis and hinterland followed a pattern discernable already for earlier staples.

In the conclusion of *The Fur Trade*, Innis sketched the impact of successive staples on the Canadian economy. The first staple, simultaneous or even preceding furs, was cod, to which Innis himself was to devote articles and a major volume by 1940. The decline of the fur trade was accompanied by the rise of the lumber trade, which was largely responsible for the improvement of waterways and the construction of railways prior to Confederation. It had important effects on the supply of raw materials and extension of the market for the finished product. Heavy overhead costs meant that ships sailing from Quebec with lumber, were in desperate need of a return cargo. These ‘coffin ships’ were employed to take out emigrants, whose settlement brought an increase in imports of manufactured products and exports of potash, wheat, lumber, and other products. Heavy expenditures involved the development of a strong central government, while the serious effects of crises in Britain and the United States involved centralisation of banking, and finally promoted Confederation as a guarantee of successful operation.⁴³ Increasing demand for paper in the United States and the exhaustion of more available American sources of pulpwood, were factors responsible for the development of the Canadian pulp and paper industry especially after 1900. Innis’s forest-loving colleague,

⁴² Innis did feel that just as Schumpeter (1939) had neglected the importance of communications for the understanding of depressions, Veblen had failed to grasp the full significance of monopolies of communication for the disruption of society: “Schumpeter [...] has neglected the problem of organization of communication by which innovations are transmitted. As monopoly of communication with relation to the printing press, built up over a long period under the protection of the freedom of the press, accentuated discontinuity and the destruction of time, it eventually destroyed itself and compelled a recognition of a medium emphasizing time and continuity [*i.e.*, the radio, J.B.]. Veblen’s emphasis on the pecuniary and industrial dichotomy overlooks the implications of technology, for example in the printing industry, and its significance to the dissemination of information in a pecuniary society. A monopoly which accentuates more rapid dissemination brings about a profound disruption of society” (Innis 1951b: 187).

⁴³ “Perhaps it was Innis’s iconoclastic sense of humour that led him to juxtapose in a causal relationship the prosaic facts of primitive technology with grand political results, or to describe Confederation as a credit instrument” (Berger 1986: 102).

Arthur Lower were to extend the story of forestry staples in *Settlement and the Forest Frontier* (1936) and *The North American Assault on the Canadian Forest* (1938).

With the completion of the Canadian Pacific Railway and addition of other transcontinental lines “Canada came under the full swing of modern capitalism with its primary problems of reducing overhead costs” (Innis 1930: 399). As Innis well knew from his previous study overhead problems were crucial also in the production of wheat, as a plant grown in a north temperate area affording pronounced seasonal traffic. George Britnell, whom Innis considered as something of a disciple, elaborated on this staple in *The Wheat Economy* (1939). Lower’s first book was co-published with Innis’s own study of *Settlement and the Mining Frontier* (1936). Innis interest in the mining industries had been awakened rather with his study of the Canadian Pacific Railway, and mining had indeed been important for the timing of construction, in order not to loose contact with British Columbia to the benefit of the United States, although the localisation was still dependent on the fur trade. Interest here was directed towards the separate regions and their spasmodic development; naturally, the role played by geographical factors was noted, as well as the side effects of technological inventions (exhaustion of sources, extraction from ore or by washing, weather, water flow, unused capacity, and overhead costs of dams, machines and transport). He (*e.g.*, 1936: 267 f. on Yukon) often reminded of the ravages of the economic ‘cyclone’, with sweeping gold rushes followed by rapid elimination, leaving whole ghost towns behind, and began sketching on a study of the pulp and paper industry, where the cyclonic side effects might have proven overwhelming.

The so called ‘staple thesis’ thus became prevailing in the 1930s, and V. W. Bladen’s political economy was for example heavily indebted to Innis. The perspective influenced also the historical sociology of C. S. Clark, who was interested in the societal cyclonic side effects of shifts in dominating staple,⁴⁴ and in the 1950s J. M. S. Careless (1954) revived the book’s ‘metropolitanism’. Furthermore, the anthropologist Alfred G. Bailey’s (1937) *The Conflict of European and Eastern Algonkian Cultures, 1504-1700* owed much to Innis’s *Fur Trade*, but was largely ignored until ethnohistory became popular in the 1960s. While futilely waiting for ‘the great Canadian novel’, Northrop Frye has even suggested (in Klinck 1965) that Innis might have touched the right cord of Canadian literature.

In spite of it taking fifteen years to sell the thousand copies of the *Fur Trade*’s first edition, the book had an impact exceeding that of any other in Canadian political economy, but was equally important in historiography. Trying to understand its impact as well as the role it played in relation to Innis’s other work, it is not enough to look only at the staple thesis. It was in fact the implications of the geographic, communications, and techno-economic substructure on the superstructure of political organisation and thinking, which gave the book its revolutionary and iconoclastic freshness. Thus, the diplomatic focus of Chester Martin’s *Empire and Commonwealth* (1929), which lauded the contributions of the maritime region Nova Scotia in the establishment of responsible government, was obsoleted through Innis’s fur-trade study. In a number of books such as *The Commercial Empire of the St. Lawrence 1760-1850* (1937) and *The Dominion of the North* (1944), Donald Creighton profited from Innis’s study and instead found the centralising effects of the St. Lawrence something very much to acclaim.

⁴⁴ The characteristic feature of Canada’s social history “has been the recurrent emergence of areas of social life involving new problems of social re-organization and adjustment” (Clark 1939: 351; cf. Clark 1959, 1962). Berger (1986: 165) summarises Clark’s perspective of the history of Canadian social developments as “the record of a succession of disturbances in social relations, habits, controls, and institutions caused by the intrusion of new forms of economic production. In the fur trade of the St. Lawrence Valley, the fisheries of Nova Scotia, lumbering and farming of New Brunswick, farming in Upper Canada, mining in the Yukon and northern Ontario, wheat-growing on the Prairies, and manufacturing in the industrial cities, the specific modes of production determined the nature of social problems.”

However, as when turning from study of the C.P.R. to the fur trade, Innis in a sense used the study of the substructure as a tool to liberate himself (and perhaps some of his readers) from ingrained habits of thought on political matters, notably on the centralisation and decentralisation of empire and commonwealth. If Canadian historiography had previously been concerned with little else but political and diplomatic perspectives, any reinterpretation, even while raising economic interpretations to centre stage, would have to relate, or be related to such concerns. Thus, if *The Fur Trade* substantiated a theme of Canadian unity and continuity over time, Innis's other works of the 1930s, on the mining frontier and cod fisheries explored rather Canadian diversity and discontinuous development. Unifying, centralising or centripetal forces predominated in waterways and railways of the fur, timber, and wheat trades, but the fish, minerals, and pulp and paper staples were more noteworthy for the centrifugal forces they set working of diversity and decentralisation characterised the sailing ships, canals and automobiles.

"Canadian history tends to be of absorbing interest to Canadians but of little interest to other peoples", Ferns (1980: 68) has written. This can perhaps explain the relative neglect of Innis's next major work, *The Cod Fisheries* (1940), both among Canadians and non-Canadians. It is a particular pity that Patterson has made no substantive use of it in his argument connecting the concerns of Innis's early and late writings. Sprung from contrasting observations made while working on the fur trade, e.g., of fishermen's more hostile relations with Indians, it is in fact very much more than the mere padding in the Canadian staple thesis it is sometimes held to be. Its relation to the fur trade study can be surmised by looking at their respective subtitles. If *The Fur Trade* as 'an introduction to Canadian economic history', really studies the economic foundations of the political entity of the Dominion of Canada, by contrast, *The Cod Fisheries*, as a study of 'the history of an international economy', is really concerned with the economic foundations and character of the first British Empire and its offspring: it presents a new perspective on the history of Europe and North America, stressing the relationship of the fisheries to the maritime greatness of Britain and to the growth of New England as an important commercial power. Brebner (1953) pointed out that whereas the "patterns of force" in the fur trade of the St. Lawrence and the Great Lakes were centripetal, in the fisheries, scattered over extended coastlines, they were centrifugal. Such patterns of force became central tools in the understanding of Innis's last writings.

Canadian historiography before Innis was dominated by constitutional history, with important recent exponents in Martin's (1929) study 'in governance and self-government in Canada', and Livingston's (1930) on responsible government in Nova Scotia as the 'constitutional beginnings of the British Commonwealth'. Following up his study of the fur trade, Innis (1931: 38f.) wanted instead "to emphasize the continuous and powerful effects of the underlying technique of industry on the economic, social, and political activities of the communities concerned." Thus, already in the initial phases of studying the fisheries, he linked their findings on responsible government to trends occasioned by underlying geographical and economic patterns. The centralising tendencies of continental Canada were incidental to the fur trade built round the St. Lawrence, so Innis was arguing in a double sense against the influential Turner thesis. Innis (*ibid.*: 39) assumed "that the frontier of New England history was toward the sea and not, as Turner has suggested, towards the land." An incidental result of this outward pull of the fishing industries "was shown in the hostilities with the native populations. The bitter wars of New England and the extermination of the Beothic in Newfoundland contrasted strikingly with the fur trade and its dependence on friendly relations with the Indians."

In addition to the friendlier associations with the Indians, the story of the fur trade had focused on persistent pressures of centralisation, the growth and succumbing of monopolistic organisations under the pressure of technological innovations, and its re-emergence as a

political entity. The study of the international economy of cod from 1497-1938 focused on the growth and relative maturity of a decentralised economic system, which ultimately succumbed to, was eroded and made obsolescent by, the competition of a centralised economic system. This, in Innis's terminology, 'commercial' system came into existence when easily exploited fishing grounds were opened up to Europe, through improved maritime transportation. The capital investment in the fisheries as such was negligible and the investment in shipping both economically and physically mobile, though onshore bases of supply, of course, were not. These added efficiency and ultimately liberated the North American coastal trade from dependence on Europe and concomitantly from the mercantilist controls necessary for operating under the uncertainties and longer time horizons of trans-Atlantic voyages. The minimal capitalisation, easy entry, and flexibility in the face of shifting opportunities for profit, of this thereby decentralised commercial system, militated against tight control of European mercantilist states or empires. Some have suspected that Innis was in fact pulling his readers legs when suggesting that the English fishermen's limited supply of salt, forcing them to dry their fish on land and thereby giving them an advantage in coastal settlements, was responsible for the English dominance in the north-west Atlantic. English superiority in coastal trade was the basis for long-run victory, but the same problems of centralised political control which defeated the Spanish and the French re-emerged prior to the American revolution. Neill (1972: 47) summarises succinctly: "The significant victory was not the victory of one nation over another but of commercialism over mercantilism. Shifts in national dominance were symptoms of political problems caused by the bias towards decentralization in the maritime economic system."

As in the *Fur Trade*, the story ended with the commercial system being defeated, or made obsolete, by the higher demands on capitalisation, centralisation, and development of new products accompanying the advent of steam transportation. Before final collapse, however, there was an economic and political Indian summer, during which the relative possibilities of inland development gave Nova Scotia an advantageous position for organised bargaining, making it the first colony in British North America to achieve independence under 'responsible government'. This in itself affected the structure of confederation in Canada as a whole, counterbalancing the centralist tendencies of areas influenced by the railroad, and providing a temporary solution not only to the Imperial problem, but to the regionally divided Dominion, with its substantial French population. As before, Innis's concern is fundamentally in the political implications of techno-economical changes, primarily as affected by means of communication, and it is here, too, that he (1940: 500ff.) for the first time explicitly puts "problems of empire" on the agenda. This extended not only to the centripetal or centrifugal side-effects of waterways within an imperial metropolis-hinterland system, but also to the differing tendencies of oral and written traditions with respect to ideals of centralisation or decentralisation. *The Cod Fisheries*, Innis (*ibid.*: xi) wrote, attempted "to add to the significant studies of mercantilism by Professors Heckscher and Viner." On the political level it was thus partly conceived as a complementary volume to Heckscher's *Mercantilism*, but concerned with the decentralised 'commercial system', based fundamentally on oral communication, as opposed to the centralised mercantile system based on literacy: "The illiteracy of the fisherman is the reverse side of the literacy of the diplomat" (*ibid.*: x).

There was perhaps a certain 'melancholy', unnoticed by Patterson (1990), for this pre-industrial 'commercial system' as well as the pre-industrial one of the St. Lawrence reminding of Martin's for the same era. In Innis's case it is most likely related to his fondness for systems in which more intimate economic relations and oral communication dominated, more conducive of friendly economic relations than of warfare, which is surely related to his profound admiration for Smith. Easterbrook (1953: 291) remarked: "Although Veblen's influence left its mark on his work, Innis remained throughout a disciple of Adam Smith and

no name appears more frequently in his observations on economics past and present.” Smith (1937: 13) founded “the propensity to truck, barter, and exchange one thing for another” not on “one of those original principles in human nature, of which no further account can be given”, but saw it, “as seems more probable”, as “the necessary consequence of the faculties of reason and speech”. This translation of the Roman *ratio et oratio* exemplifies Smith’s links with the Western tradition of rhetoricians and grammarians back to the Hellenistic Stoic exegetes of the Heraclitean *logos*, the creative spoken word. Although without classical schooling, Innis, too, with the help of Graham Wallace and the classicist Cochrane worked his way back to the spoken word and the fertile Greek culture, which, as Arendt (1993: 51) has noted, to an incredibly large extent consisted of “constant talk” among citizens. Closer at hand, the potential of a strong oral tradition was reflected in the Common law tradition. The self-love to which man should in Smith’s view turn to for help from his brethren, was informed by the profounder ‘sentimentality’ and the retaining of ‘common sense’, which he had previously expounded, but which was apparently deranged by the selfishness of monopolies. Innis’s preference for direct communication and experience (or even silence which is not easily ‘expressible’ by other means of communication than speech) relates to Smith’s theory of sentiments. Patterson (1990: 17) noticed that like Smith, Innis was hostile to monopolies of power, “but beyond this he was opposed to the means whereby such power was entrenched and structures of government made resistant to change that necessarily attended shifts in the balance of power. It was not statutory prescription, he contended, but the flexible traditions of the common law that enabled the British constitution to adapt itself to such radical change in the nineteenth century; and it was in like fashion that he reflected upon the federal structure of Canada.”

Innis’s work is often divided into an early and late phase not present in his own mind, which shows a consistent concern with both ‘empire’ and ‘communications’, or the long-term problems of large scale politico-religious organisations, even to the extent of including culture and science itself as means by which to retain their vitality. Questions of science and of empire had been traced in parallel, but became more unified in his later work, both ultimately relating to a problem of ‘biases’ and how to avoid them, that he had learnt from Veblen.

In *Empire and Communications* (1950), Innis dealt with how means of communication ordained the chronological and geographical successes of empires, and the implications if this for the British Empire and Western civilisation. It is widely believed to be only superficially related to his earlier work, whether one has let oneself be inspired by the one or the other. In its final chapter, Innis demonstrated the impact of the introduction of paper and the printing press on the political and economic evolution of the West. An immensely condensed summary of this chapter can be found in another essay from the same period, where Innis (1947: 29) comments on the interplay between the mechanisation of the vernaculars and the breakthrough of militarily organised nationalist states: “The effect of the discovery of printing was evident in the savage religious wars of the sixteenth and seventeenth centuries: Application of power to communication industries hastened the consolidation of vernaculars, the rise of nationalism, revolution, and new outbreaks of savagery in the twentieth century.”⁴⁵

⁴⁵ McLuhan (1969 [1962]: 280-282) commented that his own book, *The Gutenberg Galaxy*, was merely a footnote to this one sentence by Innis. The by now widespread literature relating the printing press to nationalism and cultural change only rarely acknowledges Innis’s contribution. Yet, Innis was well known if not well understood at the time of his death in late 1952, having just (as the first economic historian even) been elected president of the American Economic Association. Among other things, he lectured at a seminar presided over by Lucien Febvre over half a decade before the appearance of Febvre’s and Martin’s book *L’Apparition du livre* (1958), which has since become a classic, and the enormous impact on McLuhan, who also made extensive use of Febvre & Martin, is of course well-known, but Anglo-Saxon scholars of the press and nationalism seem to have an almost Oedipal fear of admitting anything of value in what McLuhan had to say, whether on the press or nationalism or anything whatever, although in France this is well acknowledged (e.g., Martin 1994: 331).

The characteristics of the alphabet made it easily adaptable to mechanised reproduction in innumerable combinations, with a limited number of types: “In contrast with China, where the character of the script involved large-scale undertakings supported by governments, the alphabet permitted small-scale undertakings manageable by private enterprise” (Innis 1950: 173). Being the first mechanisation of a medieval handicraft – the scribe –, it reinforced the types of state organisation favoured by paper as compared to the monastic ‘monopoly of knowledge’ based on parchment. Its spread initially followed the routes of commerce to Italy, where it contributed to the publicational revival of classical literature and exegesis in the Renaissance, purifying the language of learning to the brink of extinction, and Germany, where it changed the environment of debate heating up debate in the vernacular and contributed to both the political and religious side of the Reformation, thus ultimately to the devastation of the German lands in the Thirty Years War. The emphasis on the vernacular made it particularly appropriate for the ‘centralised feudalism’ (not Innis’s word) in England. The connection between the printing press, nationalism and capitalism caught but not expanded upon in by Anderson’s (1991) concept ‘print capitalism’, seems to be yet another of those unacknowledged re-inventions of which this branch of history – or rather sociology – has been so full. Disregarding the First World War, Innis himself probably came upon the problem of the nationalist bias of the printing press when trying to resolve the problem of empire and the end of the First British Empire with the American Revolution. The unequal development of printing in Great Britain and the colonies, which – as Anderson also emphasises although he exaggerates the importance of Latin America and underestimates that of England – came more profoundly under the impact of the newsprint industry and gave prominence to the ‘freedom of the press’ (rather than the freedom of speech), contributed to the break-up of the British Empire (Innis 1950: 195 ff.). In France, a parallel disequilibrium was created which contributed to the revolution: “The policy of France, which favoured exports of paper in Holland and England, created a disequilibrium which ended in the Revolution” (*ibid.*: 199). However, French politics, founded on a fusion of church and the state, had also managed to erect a vast empire in North America, which when lost to Great Britain contributed to the collapse of the first British Empire, and became part of the second. The impact resulting from mechanisation of the hand-press in the early 19th century, following the industrial revolution, in time entailed an enormous spread of nationalism ultimately collapsing the internally relatively harmonious 19th century European diplomacy and civilisation. In a sense, Innis was still adding to the interpretation of mercantilism (and neo-mercantilism) as a form of nationalism.

The ‘problem of empire’ had also been with Innis from start, when he noted the centripetal effects of the Canadian waterways in his study of the fur trade, and the centrifugal effects of Atlantic fisheries. In his last writings, however, Innis conveyed more generally how the media of communication most central to societal organisation tended to reinforce, or bias, their respective societies and administrations relatively either towards spatial expansion and political organisation, or towards durability in time and religious organisation. Starting with an observation of Bryce (1901: 254f.) on the respective centripetal, centrifugal and again centripetal trends from ancient prehistory to the Roman Empire, from its fall to the reorganisation of nation states from the 13th century onwards, Innis (1950: 6 f.) noted the correlation of these periods to the dominance of respectively clay and papyrus, parchment, and finally paper. “The effective government of large areas depends to a very important extent on the efficiency of communication”, and the successful operation of these ‘centrifugal and centripetal forces’. Perhaps inspired by the language of relativity theory, time biased media, thus, tended to be durable like parchment, clay, or stone, whereas space biased were rather lighter and less durable, such as papyrus and paper. However, this was a relative affair, so that, for example, parchment was time biased in relation to papyrus or paper, but space biased

compared to clay or stone. In addition, he (*ibid.*: 8 f.) underlined that the *oral tradition* was too easily forgotten since it had left no material remains, posing difficulties for people schooled in written or printed traditions truly to appreciate it.

He then set out, after the fashion of the day (cf. Spengler, Toynbee, Kroeber, Mosca, Pareto, Sorokin, and others less familiar) but according to McLuhan as the first to use history as the physicist used his cloud chamber, on a comparative study of empires, to demonstrate the importance of communications to historical and economic change as such, but for the British Empire and statecraft in particular. He studied the transformations and repercussions of strictly speaking invisible oral traditions, when ‘fenced’ by various systems of writing in a number of civilisations, how different monopolies of knowledge are erected around the respective dominating media, leading to rigidities and inviting alternative media, how enduring empires, incorporating time and space (or religious and political) elements, have emerged when media of contrasting bias have been balanced, and finally, how periods of cultural creativity arise in the transition between two media of opposing character (particularly from orality to literacy), when culture is (temporarily) liberated from the screening of an earlier medium (cf. Innis 1950: 215 ff.). He mentioned how the radio reversed the space biased tendency of paper toward problems time, but his most illustrious follower, McLuhan, instead argued that the *global* electronic media made Innis’s distinction between biases of space and time obsolete (himself preferring to speak of respectively ‘visual’ and ‘audio-tactile’ media, or visual and acoustic space). The Canadian background explains this concern with imperial space and time, and the book in question was based on his ‘Beit lectures on Imperial economic history’. The problem suggested by the social scientist Innis of finding a statecraft able to cope with the bias of ‘time’ or ‘space’ was never posed by the literary humanist McLuhan. In spite of McLuhan’s objections – or perhaps because of them – the problem of statesmanship could thus be updated, in the spirit of *res publica*, from concern with ‘empires’ to global forms of government, understanding, or life, aiming at the good of the world in the interminably long run, *e.g.*, concerning itself with the unsolved ‘space’ problem of global inequities, and ‘time’ problem of Earthly degradation, killing off future generations.

Neither the problem of ‘underdevelopment’ or of the ‘environment’ were very high on the agenda of the interwar era. The problem economic division between tropical and temperate countries did not become a great issue until after the Second World War. Though Innis pointed to the problems of a civilisation founded on ‘looting’, he did not concern himself overly either with ‘underdevelopment’ or with the welfare of our non-human fellow earthlings. Notwithstanding, he has come to inspire studies within both the Third Worldist and environmentalist traditions, but oddly, one might think, not through his explicit treatment of the difficult problems of time and space as defined, but merely through his ‘staples thesis’. This has been transformed, on the one hand, into a ‘dependency’ theory of the kind applied primarily to Latin America, and on the other, into an ‘ecological’ variant of unequal exchange, both underlining the exchange of raw materials for manufactures, which, for one reason or another and as we have seen, has been considered as something negative at least since the time of the mercantilists.

For all his emphasis on the disturbing factors, the weakness of Canada’s ‘dependent’ economical structure, and the ‘handicaps’ flowing from her geography, plentiful resources and scanty population, there is no indication that Innis ever feared that Canada was not experiencing economic growth. Shifts between staples had never been sufficient to undermine Canadian development. Even though “no country has swung backward and forwards in response to such factors as improvements in the technique of transport, exhaustion of raw materials and the advance of industrialism with such violence as Canada,” Innis (1933) noted, “the elasticity of Canada’s political, economic, and social structure” had cushioned the blows

of cyclonic resource development allowing it to adapt. New countries tended rather to experience 'the merits of borrowing' as Veblen had it: "Industrialization of the new countries given suitable political and social organizations, tends to become cumulative – the United States became industrialized more rapidly than Great Britain, and Canada more rapidly than the United States" (*ibid.*: 82, 88, 90-92). Innis was rather concerned with the disruptions of capitalism and industrialisation as such, and the regional disparities and asymmetries within the old and new British Empire.

For the fishing industries, 'the rise of capitalism', or the end of the previous commercial system, entailed an increased importance of capital equipment: the schooner giving way to the steamship, the railway, and the trawler, salt yielding to ice as the fresh- and frozen-fish industries expanded. Newfoundland, as the region most distant from continental influence and markets and most dependent on cod, had been less influenced by the demands for fresh fish. The decline of the dry fisheries in the United States and Canada contributed to her specialising on salt cod. Newfoundland was placed in a vulnerable position. Pushed out of European markets to the West Indies and South America "or regions with poorly organized societies unable to resist the effects of depression and marginal to more powerful areas" (Innis 1940: 510). Thus, noting Newfoundland's vulnerability he also commented briefly on the situation in Catholic and tropical countries, of which it became dependent:

The demand for salt cod in tropical and Catholic countries has been more directly exposed to the effect of fluctuations in economic activity incidental to regions producing tropical commodities. These tropical products, being luxuries, are subject to wide variations of demand from countries in the temperate zone. Such variations are due to many things – to cyclical business disturbances; to the influence of mechanization on tropical commodities as, for example, citrus fruits, bananas, sugar, and coffee; to the weakness of government machinery in countries whose peoples have low standards of living, as is made evident in bankruptcies, exchange rates, and revolutions – and these variations are also due to the possibilities of competition from fish produced as a by-product in mechanized countries. Demand for luxury products fluctuates sharply, as it does for dried cod, whereas fluctuations in the cost of provisions and supplies such as flour, salt pork, and salt beef from temperate continental areas have been less pronounced. (Innis 1940: 493.)

Here Innis identified many characteristic features that would re-emerge in the postwar discussion on underdevelopment, notably the difference between the products of tropical and temperate regions, related to the disadvantageous variations of demand for luxuries as compared to basic goods, the 'soft' state, and low standards of living. In his marginal notes reprinted in a later edition (Innis 1954: 510), the parallel between Newfoundland's politically weak position and the situation in certain tropical countries was again underlined, and related to the difference between the products of temperate and tropical goods: "Toughness of cultural background fundamental in withstanding the effects of sever strain. Marginal poorly organized regions suffer acutely with depression. Loss of responsible government in Newfoundland. Marginal staple-producing countries dependent on prices of raw material. Luxury goods high in price, subject to wide fluctuations [and] fixed income charges to make whole very unstable in New France, Brazil, West Indies. As transportation improves bulkier lower value goods increase in importance and, because of character of necessities, [are] less subject to sever fluctuations." But it would be dishonest to say that he had a clear conception of the reasons behind 'underdevelopment', a word and problem not yet on the agenda in the interwar years, and certainly not on the mind of Innis, who was concerned principally with problems of empire and civilisation, and extended political economy to political organisation and philosophy through his engagement with the British Empire. Had he lived longer he would have been in a better position than most to make sense of the different development paths in Latin and Anglo-Saxon 'new countries' or 'regions of recent settlement'. As it was, his engagement in the political dimension was not (yet) global (as reflected in the United

Nations), even if he was, if anyone, heading in that direction as an world historian of 'empires'.

In 1963, Watkins (1963: 53) discovered "A Staple Theory of Economic Growth" in Innis's writings, although he admitted:

The staple theory is [...] not [...] a general theory of economic growth, nor even a general theory about the growth of export oriented economies, but rather [is] applicable to the atypical case of a new country. The phenomenon of the new country, of the 'empty' land or region overrun by the white man in the past four centuries, is, of course, well known. The leading examples are the United States and the British dominions. These two countries [sic] had two distinctive characteristics as they began their economic growth: a favourable man/land ratio and an absence of inhibiting traditions [...]. These conditions and consequences are not the typical building blocks of a theory of economic growth. Rather, the theory derived from them is limited, but consciously so in order to cast light on a special type of economic growth.

Watkins's guarded connection between the production of staples and development only in certain regions of recent settlement was further relativised by others.

However, if Watkins initially found 'a staple theory of growth', with the rise of the 'New Political Economy' in the nationalist/socialist debates of the 1970s, this was rapidly turning into its opposite. Innis's staple thesis was on the contrary revived, even by Watkins himself (cf. 1977), as a 'dependency' theory of *underdevelopment*. Under the influence of the dependency school, comparisons with the failure of economic development in Latin America were becoming increasingly popular. The dependency school argued, along Frank's (1967) lines, that the world was hierarchically organised in a rigid chain of international economic exploitation that accelerated development in the centre to the detriment of the thereby underdeveloping periphery. In 1969, Daniel Drache, James Laxer, and Watkins himself, started praising what they saw as the 'anti-Americanism', 'anti-imperialism', and 'nationalism' in Innis's writings, expressing surprise that socialists had not before discovered this essential starting point for "a Canadian nationalism of the left", apparently completely oblivious to what Innis himself had had to say on the matter in his later writings. Williams (1989: 122-125) has collected a number of illuminating quotations. Thus, Laxer saw Canadian "de-industrialisation" resulting from U.S. manufactures. Drache explained Innis's view that "Canada's staple-oriented economy would remain fundamentally dependent because centre-margin relations under capitalism are such that dependencies are prevented from developing into self-generating industrialized economies", and finding in Wallersteinian words that "Canada's status has regressed from that of a semi-centre economy to a semi-peripheral one", and concluding that Canada was brought to the "point of collapse [...] on a not too distant horizon". Ian Parker and John Hutcheson noted the profound analysis Innis had accomplished of colonial dependency, a 'peripheral' country dependent on a series of imperial countries, and Hutcheson found Canadian development "threatened": "The succession of capitalist development by underdevelopment has been a common fate". Kari Levitt saw Innis as "the chronological antecedent to the Latin American economists in developing a 'metropolis-hinterland' approach to American staple economics." And so, by invoking Innis, Levitt demonstrated Canada's "regression to a condition of underdevelopment in spite of continuous income growth".

Looking at the standard criteria advanced in the Latin American cases, these interpreters were moving fast in the direction of making Canada one of the underdeveloped countries of the world. Carroll (1985: 21) has summarised their influence as follows: "In Canada, the palpable hegemony of American imperialism in the 1960s and the availability of a complementary account of Canadian history in Innis' staples thesis were the social premises for the politically motivated acceptance of dependency theory, along similar lines to those discernible in Latin America." In fact, already in 1925, Tim Buck, the trade union secretary of the Canadian Communist Party argued that politically Canada is still a colony, still part of the

[British] Empire upon which the sun never sets”, and was joined by other leading communists, such as Maurice Specter, who wrote in 1926 that “Canada was one of those transitional forms of dependency and that ‘real independence’ would be won only by overthrowing ‘the capitalist government of this country and establishing ‘a workers and farmers republic’” (quoted in Penner 1977: 86f., 91). This policy was soon abandoned but revived again with a vengeance after the war, when the nationalist struggle against the U.S. was underlined as the first stage to a socialist transformation of Canada, indeed, nationalism was more important than socialism (cf. Penner 1977: 100-104; Kellogg 1989: 344f.). As in the Latin American school, they found the problem to lie with the weak and dependent capitalist class in Canada. Drache (1983: 25; cf. 34ff.) has probably been the most vocal of these authors in identifying an “Innisian-based Marxism”, finding in Innis a ‘general theory’ of peripheral capitalism, with many parallels to be found in the theory of Samir Amin. Noting that Amin, himself, places Canada firmly within the centre, Williams (1989: 125), who is still relatively benevolent towards the New Political Economy (indeed, considers himself a part of it), cannot help remarking that “the unintended irony in Drache’s argument is breathtaking.” Despite Williams, it might be that the Canadian scholars have used the concept of ‘dependency’ with more consistency than others. The post-1970s successors of the Canadian dependency approach have been less obviously absurd, although their neo-Marxist class approaches continued to represent Canada as the resultant of conflict between national capitals. In a later introduction to a collection of Innis’s writings, Drache (1995: xliii) still insists, *e.g.*, that “Canada’s position in the world economy has been marked by the fact that it is simultaneously rich and underdeveloped”.

Inspired by Emmanuel’s contention that the high wage levels in the white dominions of the 19th century accelerated their mechanisation and industrialisation, Williams had in 1976 questioned the nationalist comparisons between Canada and Third World resource exporters. Instead, he (1976: 30) wanted to revive a perspective that was truer to Innis, of Canada as a marginal region within the centre: “Canada and the other white Dominions stood in sharp contrast to the colonies of conquest and impoverishment. The colonies of settlement were developed as overseas extensions, miniature replicas, of British society, complete with a large measure of local political autonomy. In terms of the standard of living, Britons who emigrated did so for the most part freely, induced by relatively high wages and opportunities to improve their material conditions.” Higher wages created domestic consumer demand and forced industries to invest in labour saving machinery to remain competitive with low-wage countries, and was politically manifested in the debates on tariff and immigration policies around 1900. He (1976: 32) ended on the note that one should start paying greater attention to the ‘political implications’ of this centre position. This was part of a more traditionalist Marxist reaction to the dependency interpretation already in the 1970s, reminding of Canada’s economically advanced nature and urging that the nationalist stance be abandoned. Empirically, the fundamental difference pointed out in this interpretation between the peasantry of Third World countries and the petty capitalist farmers of Canada specialising in wheat, contrasted starkly with their adversaries focus on the ‘new mercantilism’ based in and organised from the metropole for the collection and extraction of raw material staples supplying their needs (Kellogg 1989: 345ff.).

Through many of these discussions, it is easy to get the impression that the obsession of older political traditions with Canada’s ‘place’ within the British Empire and on the North American Continent has merely been transfused to the international scene in neo-Marxist guise. One does not have to seek long to find precedents to the excessive emphasis on anti-Americanism, and here we have again the imperialist-capitalist ‘family compact’ standing against the nationalist-socialist ‘responsible government’ struggling for full employment and independence.

More recently still, scholars with a more ecological bent have found in Innis a precursor. The emphasis in Innis's historiography on the influence of geographical, ecological, and climatic factors, the successive exports of staples peculiar to these factors, as well as the metropolis-hinterland perspective included in the so called staple thesis, makes him particularly tantalising to those searching for a theory of ecological unequal exchange. It is fair to say, however, that this influence has been less than fruitful either in terms of theory or in historiography proper, although Innis is commonly included among the references of environmental histories on the fur trade. At least three exponents of an ecological unequal exchange, Stephen Bunker, Juan Martinez-Alier, Jason Moore have referred to Innis as a forerunner.

A student of unequal exchange suffered by Amazonia, Bunker (1989; cf. Chapter 23) wanted to reset the distorted 'neoclassical' picture and policy conclusions drawn from Innis's work, notably by Watkins (1963). Pointing out (1989: 590f.) that time and space worked differently in extraction and agriculture than in industrial production (cf. Duncan 1920: 278), 'extractive economies' were said to be constrained in ways alien to analysts formed in the study of 'industrial' experiences, and in ways difficult to generalise because of the peculiarities of individual commodities. Bunker's enemies were "theorists of regional development", who had imbued Innis's work with authority without ever understanding it, were "symptomatic of the close association between raw materials export and regional inequality as well as of the tensions between particularistic and generalizing analysis in the study of uneven development". Innis, he informed (*ibid.*: 593), took the staple itself as the organising principle, "working outward from its physical characteristics – including its geographical location, the spatial and physical requirements of its reproduction, and the relation of its weight and volume to the weight and volume of the factors required for its extraction and local processing" – and "inward from the financial, technological, political, demographic, and market conditions anywhere else in the world that affected the staple's extraction, transport, and sale." His staple studies demonstrated how geography and topography, in directing communication and through environmental constraints, determined the local shape of such extractive economies.

By contrast to Innis's intricate concept of space, Bunker (*ibid.*: 594) continued, Douglas North's (1955, 1961) understanding had reduced it to a single variable, writing about staples exports "from an almost entirely optimistic "engine of growth" and "vent-for-surplus" perspective", in which raw materials figured primarily as means to capture foreign capital, linked through multipliers to industrial growth. Mentioning resource depletion and market shifts as possible problems, he had not included them pertinent to the "ways regions grow" or to the "significance of the export base in shaping the whole character of the region's economy" (North 1955: 338; Bunker 1989: 594). Basically with his eyes on the United States, North (1955: 344) declared: "Historically, in a young region, the creation of a new export or the expansion of an existing export has resulted in the influx of capital investment both in the export industry and in all kinds of passive and supporting activities". Neglecting the problems underdeveloped exporting countries had to acquire capital investments in the first place, he explained how "capital can pour back into the export industries only up to a point, and then the accumulated capital will tend to overflow into other activity". Bunker (594f.), who objects to North's unwarranted generalisation, counters his own and reverse truth: "Capital typically searches for the highest rate of return; when the extractive economy is saturated, it will go to other regions unless the extractive economy happens [...] to be located near other resources or in an area of independent locational advantage". Thus, in Bunker's view, like that of other dependency analysts, extraction and exports of raw materials will as a rule lead to underdevelopment, and the United States, Canada and the rest of the British Dominions, Scandinavia, and, as we shall soon see, Argentina, must basically also have belonged to the

happy family of exceptions of which he mentioned only certain urban areas (Pittsburgh, San Francisco, and the Ruhr Valley). We shall return to Bunker and his follower (in this instance) Martinez-Alier in Chapter 23. Let it be said that the only reasonable solution to the problem of linking extraction and export of 'raw materials' necessarily to either development or underdevelopment must be that there is *no* such necessary connection, one way or the other, although there may still be interesting relations between the character of goods or respective environment, and differences in economic development.

Though a student of Chase-Dunn, Moore may legitimately be called Wallerstein's most important disciple, wanting to add an ecological key to his master's voice by combining it with a 'social-metabolical' perspective derived from a recent re-interpretation of Marx. Following Justus von Liebig, Marx had used the term metabolism (*Stoffwechsel*) on occasion to describe man's exchange with nature, spoken of the destructive character of capitalist agriculture, which did not replenish the soil e.g., with the artificial fertilisers discovered by Liebig, and proposed that in the communist society the town-country 'rift' would be eliminated (cf. Foster 2000). Moore (2003: 324) claims that: "Modern environmental history may be summarized in terms of unequal flows: from periphery to core, from colonized to colonizer, but perhaps above all, from countryside to the town." Speaking of the early modern "silver-frontier" he (*ibid.*: 334) emphasises, in the metropolis-hinterland tradition, what he considers to be the "profoundly unequal ecological exchange between American peripheries and European cores, enabled by a new, multi-layered and globalizing town-country antagonism." Criticising Bunker's view that Wallerstein has nothing to say on the environment, he (*ibid.*: 359; cf. Chapter 12) correctly notes that "Contrary to Marx's ecological critics, capitalism's historically-specific value-form is something quite different from what is "valuable"." Paying implicit homage to Turner rather than Marx or Wallerstein, he also maintains that the conception of the "commodity frontier" "balances place and space in the geographical expansion of capitalism, emphasizing production as well as exchange in contrast to the alternative market-centered formulations offered by Innis and Cronon."

It is an interesting spectacle to observe how the accusation of having neglected the true 'sphere of production' (etc.) is reiterated again and again with every generation of scholars from the mercantilist era onwards, including more heterodox Marxist accusations of the world-system approach, which Moore has troubled himself in trying to refute. I will not follow his example in the case of Innis, just as I would not bother making the same charge against Moore or Wallerstein. It is not evident that Marx added substantially to the understanding of Smith regarding the relations of city and countryside, including the 'unequal exchange' of agricultural and raw materials for manufactured goods of which ecological approaches make so much. In the case of Innis, the denomination 'neo-Smithian' would appear to be quite apt for other reasons, and in itself is no argument at all as to the validity of his approach, which could easily be seen as complementary to that of Brenner. Adding to understanding, however, is more difficult than merely adding terms together to make yet other terms (whether 'neo-Smithian', 'commodity frontier', or a prospective 'Brenner- or neo-Innisian'). Although Moore would seem to be no absolutist on expanding the town-country metaphor to a global scale, this attempt to add to the world-system perspective unfortunately obliterates one of the more promising aspects of Wallerstein's work, namely relating the capitalist to the 'inter-state' system, *i.e.*, to nation states and nationalism, with which Innis was, as we have seen, very much concerned. An approach centring on the town-country rift would have to face the problem of what characterised this rift in the other major regions of the world, which were more urbanised than Europe (cf. Bairoch 1985). One would also have to explain why the true 'rift' is perhaps ten thousand years older than capitalism, and why what characterised Europe and the origin of capitalism was on the contrary, or so it is plausible be argued, that it extended market relations to the means of subsistence in *rural* areas, particularly, and in spite

of Wallerstein, in England. In this instance, already early in the 20th century Veblen (1903) criticised the neglect of English and American specificity following the bias of Sombart's (1902) town-centred approach.

Innis certainly did not neglect the impact of resource depletion on the evolution of those marginal societies he studied, and vice versa on the centre economies, and political ecologists are right to seek in him a predecessor in this respect. His concerns were primarily with economic and ultimately political repercussions, and, just like his descendants in the study of ecological unequal exchange, not essentially with the effects on the non-human part of the world on its own account. Although time has passed, much knowledge has been added, and the focus may for some have become global, the political ecologists and the ecological exponents of unequal exchange theories have a noticeably minor scope of interest than Innis, who aimed at an 'all-inclusive approach'. Indeed, for Innis the environmental problem was only one of the avatars of a more general problem concerning a certain unresolved perversity of the Western world and how to resolve it:

European civilization lived off the intellectual capital of Greek civilization, the spiritual capital provided by the Hebrew civilization, the material capital acquired by looting the species reserves of Central American civilizations, and the natural resources of the New World.[...]

The enormous capacity to loot has left little opportunity for consideration of the problems which follow the exhaustion of material to be looted. (Innis 1944: 102.)

This was the problem with which Innis was fundamentally concerned in his last writings, in which the problems of large-scale politico-religious organisation and the importance of avoiding the biases of the world and of the very extensions of man himself, became the central, articulated concerns. It is, I would argue, very much a pity that the effort put by Innis into formulating this problem has had no reflection in current ecologist debate (cf. Odum & Odum 2001) on the 'prosperous way down'). Although more than a merely theoretical or methodological stance, it was also reflected in what he had to say on those accounts, and for Innis the principal direct inspiration behind it was evidently Veblen. The constant effort to avoid bias, at all levels, was perhaps the closest he ever got to a solution.

If Innis's Canadian perspective, centring on the periphery, was concerned with the general geographical and chronological disruptions of societies in a metropolis–hinterland relation, later theories have been more concerned with ways in which the prosperity of the centre has been achieved at the expense of the periphery. Although theories of centre–periphery relations are often assimilated into a discussion of development and underdevelopment the connection is not necessary. This will be the major point when we now turn to an Argentinean and Latin American context, in looking at the theory of Raúl Prebisch and the debate on the terms of trade in which his work played a seminal role.

Chapter 10. Raúl Prebisch, the Argentinean raw materials export economy, and the debate on the terms of trade

Raúl Prebisch (1901–1985) was one of the pioneers and most debated theorists in development economics. He presented a theory to explain what he saw as the declining terms of trade for primary products which is sometimes referred to as a theory of unequal exchange, and argued that rapid industrialisation through import substitution and development of basic

industries, supported by vigorous state action, was necessary to catch up with the more developed countries. Most of what became known as the CEPAL doctrine, was present in a document prepared for the United Nations Economic Commission for Latin America (ECLA, in Spanish CEPAL) in 1949, *The Economic Development of Latin America and Its Principal Problems* (ECLA, 1950). According to one of his most important interpreters, Joseph Love (1980: 45), his thesis “is probably the most influential idea about economy and society ever to come out of Latin America”, and he himself certainly had an enormous influence on practical economic planning through the ECLA, the U.N. Conference on Trade and Development (UNCTAD), the Latin American Free Trade Association, the Central American Common Market, the Alliance for Progress, and in the development programs of several Latin American governments. Already in his title, Love also refers to him as the originator of ‘the’ theory of unequal exchange, supposedly adopted by Latin American dependency theorists as well as other scholars such as Arghiri Emmanuel, André Gunder Frank, Immanuel Wallerstein, Johan Galtung, and Samir Amin. Although Emmanuel referred to the Prebisch-Singer thesis as “on the fringe of unequal exchange”, Love evidently bases his case on Amin. In the Afterword to the second addition of his *Accumulation on a World Scale*, Amin set out to rectify the injustice he believed he had done to Prebisch:

There can be no doubt that the first edition did not do justice to the debt I owe, along with all concerned with nonapologetic study of underdevelopment, to the Latin American writers on the subject. Raul Prebisch took the lead in this field, and I have shown in this book that the theory of unequal exchange was founded by him, even if the conjunctural context in which he set it, in his first version, has lost its significance. It is also to the United Nations Economic Commission for Latin America, of which he was the moving spirit, that I owe the essence of the critical theory to which I adhere, for it was this Commission that led the way in the reflections from which all the present currents in Latin American thinking on these matters have developed – criticism of the policy of import-substitution and also the theory of dependence. (Amin 1970a, II: 609f..)

As Love depicts it, Prebisch’s origination seems to have consisted basically in an analysis adopting a centre–periphery dichotomy, and some sort of concomitant trade relations. “It implied a hegemonic relationship between two discrete elements in a single economic system”, but, in addition, “the elaboration of the idea of unequal exchange between the two elements led to the conclusion that the center derived part of its wealth from the periphery” (Love 1980: 46, 45). The relationship was an enduring one and it was argued that new centres in the periphery could only come into existence by breaking way from the old centre.

Below, I will cast some doubts on the sense in which Prebisch can usefully be seen as the originator of the debate on unequal exchange rather than as one of its inspirers. More concerned with formulating policy than pure theory or historical interpretation, he is certainly a link in the revival of ‘mercantilist’ policy and concerns in inter- to postwar Latin America. As has been observed: “The idea that the prices of primary commodities, both minerals and agriculture, were in some sense unfairly depressed relative to imported manufactures went back as far as the era of the viceroyalties during the eighteenth century” (FitzGerald 1994: 94). Although involved in the United Nations and in formulating general Third World policy as Secretary-General of UNCTAD, his perspective was Latin American, and his greatest success was in the ECLA, universalising primarily from his native Argentina. In this sense, he forms a contrast to many other pioneers in development economics, such as his fellow theorem originator, Hans W. Singer, whose perspective sprang from concern with distributive justice and was closer to the idealist superstructure of Truman’s Point Four program for U.S. foreign investment. Of course, the implications of exploitation proved indigestible for a U.N. under heavy influence of the U.S., which even undertook to close the ECLA down when the idea began spreading from there. Toye & Toye (2003) have already demonstrated how Prebisch latched Singer’s data and conclusions on the long-term decline in the terms of trade for primary products onto his own centre-periphery, business-cycle framework. I will not

challenge the historical importance of Prebisch for Third World policy making, nor as an inspiration to development studies, particularly as pertaining to falling terms of trade for agricultural over industrial products and the division of the world into centre and periphery. I will, however, argue that his perspective arose by mixing the interpretation of trading relations between ‘old’ and ‘new’ countries with those between developed and underdeveloped ones, in a way that could probably originate and become widespread only in Latin America, and that in doing so he significantly added to a confusion within development studies. I will contrast it, not always favourably, with that of some earlier and other theorists, and relate it to the overall development of Argentinean economic history. To begin with I will, therefore, follow the suggestion by Love, that the challenge posed by the Great Depression for the landowning oligarchy in the prosperous agricultural exporter Argentina provides the useful context in which Prebisch’s ideas emerged as a response.

Prebisch was born in Tucumán, Argentina, in 1901. His father had come to Argentina from Germany as a child, and his mother came from an old Spanish family of Argentina. Prebisch studied at the University of Buenos Aires, whose Department of Economics was at the time probably the best of its kind in the Latin America. Having earned his masters degree in 1923, he was asked to join the staff of the university, and already in 1922 he had been appointed director of the statistical office to the powerful stockbreeders’ association, the elite *Sociedad Rural*, “the bastion of the landholding elite in Argentina” (Sikkink 1988: 92f.). In 1924 they sent him to Australia where he studied statistical methods related to stockraising. His experience in Australia and later work for the Sociedad, gave him an appreciation of the international economic system. From the outset he was interested in policy issues, and pursued a dual career in education and government throughout his life. Already by 1925 he was both a teacher of the university and an official the Argentine government’s Department of Statistics. In 1928 he became editor of the journal *Revista Económica*, published by the government-directed Banco de la Nación Argentina. Interestingly, it was concerned not only with monetary matters, but also international trade, agriculture, and stockraising, although not with economic theory. In 1930 General José Uriburu seized power. Under his conservative government Prebisch became Under Secretary of Finance until 1932, and from 1933 to 1935, economic adviser to the Ministry of Finance and Ministry of Agriculture. He proposed the creation of a central bank, to control the interest rate and money supply. After a few rounds of revision, the Banco Central was launched in 1935 with Prebisch as Director-General until 1943 (Love 1980: 46f.). Prebisch’s background clearly reflects the nationally dominant ranching and agriculturalists’ interests.

Having started his economic life as a firm believer neoclassical theories, it was only the world depression which prompted serious doubts in Prebisch (1984: 175; cf. 178 quoted below). Before the depression it was generally believed that “Argentina had prospered according to the theory of comparative advantage. [...] The benefits of export-led growth, based on an international division of labor, made the theory of comparative advantage a near sacrosanct doctrine” (Love 1980: 47, 48). There was good reason for this. As two of Prebisch’s admirers, Dadone & Marco (1972: 16), have noted, up to the 1930s, “there was no reason whatsoever for people with an economic background in Latin America to suspect that the economic theory devised mainly in England, France, Germany, and the United States was not the most adequate to solve the problems posed in that area of the world.” The great winners of Latin America were the temperate regions which had *not* undertaken to industrialise, and Argentina most of all. As economic historian Díaz-Alejandro (1970: 2) observes: “From 1860 to 1930 Argentina grew at a rate that has few parallels in economic history, perhaps comparable only to the performance during the same period of other countries of recent settlement.” According to the estimates of Bairoch (1997, I: 483f.), by 1913 and into the 1920s, Argentina, Chile, and Uruguay were probably among the 10 or 15

richest countries of the world, and in many respects their economic development in the 19th century resembled rather that of the British Dominions and the United States, than their fellow Latin American countries.⁴⁶ By 1959, however, when one started dividing nations into developed and underdeveloped, almost every classification grouped them with the latter, which was clearly problematic. Most would probably agree with Nurkse calling them 'Middle-class'.⁴⁷

According to Bairoch (1997, I: 484f.), on the eve of the First World War, Argentina was among the 6 to 9 richest countries in the world, thanks essentially to the great productivity of her agriculture, which was among the highest in the world. This is explained by her combination of important stockbreeding and extensive grain-growing. In 1913, each male agriculturalist disposed on average 230 hectares of arable and pastureland (compared, for example, with 26 in the United States, 81 in Australia, and 7 in France), and 260 head of cattle (17 per inhabitant). After Argentina's de facto independence in 1810, there was a long-term growth of exports, consisting almost exclusively of animal products (cow hides, salted meat, wool, and tallow), at an annual rate of 5.5 percent, or 3 percent per capita, until 1870. High transportation costs, as well as blockades and internal conflicts, put strains on this development until the early 1860s. In these early years, average per capita exports were about three times those identified by Bairoch and Etemad as 'Developed' and 25 times greater than those of the 'Third World' (cf. Newland 1998: 410).

European industrialisation, the general rise in levels of income in the developed countries, and continuous expansion of international trade contributed to this rapid expansion. In the first place it is attributable to the growth of inputs used in the pastoral sector, including the expanding frontier, the arrival of foreign capital and European immigration, but there was also an increase in livestock productivity through crossbreeding, and internal migration from low productivity provinces of the Interior and the warmer regions of the north to the more dynamic Littoral region.

Productivity of imported goods increased even more, however, so the international terms of trade improved, just as they did for other primary exporters in this period, such as Brazil, the United States and Spain. The decade from 1810 to 1820 was particularly good, when prices of Argentina pastoral products rose and imported cotton textiles diminished, and so was the

⁴⁶ Cf. Díaz-Alejandro (1970: 1): "It is common nowadays to lump the Argentine economy in the same category with the economies of other Latin American nations. Some opinion even puts it among such less developed nations as India and Nigeria. Yet, most economists writing during the first three decades of this century would have placed Argentina among the most advanced countries – with Western Europe, the United States, Canada, and Australia. To have called Argentina "underdeveloped" in the sense that word has today would have been considered laughable. Not only was per capita income high, but its growth was one of the highest in the world."

⁴⁷ Uruguay is often described as a Latin American Switzerland, a relatively small country with very few mineral resources and much tourism, although the differences in very fertile soils, non-existent industrialisation, and hypertrophic urbanisation, are easily perceptible. Not all that dissimilar to Argentina, wealth sprang from sheep- and stockbreeding, with 8 million head of cattle and 27 million sheep to a population of 1.3 million in 1913, and animal products constituting 85 percent of total exports in 1909-1911 (Bairoch 1997, I: 491f.).

The great distance from Europe assured Chile a relatively feeble European population until the 1840s. By the end of that decade the high price of copper allowed expansive exports of 10,000 tons (in metal content), making her the second largest exporter in the world after the United Kingdom, but in the 1860s the volume stagnated around 40,000 tons. The expanding demand for fertilisers in European agriculture gave exports of Chile saltpetre a push. Originating in the 1830s, the value of exports passed that of copper by 1881, and in 1913 represented ten times the value of copper and three quarters of total exports. Although mining and business outstripped agriculture as Chile's merchant megaliths, the latter was very productive, combining vast fertile land and easily applicable European agricultural techniques thanks to the temperate climate and European population. Almost as wealthy as Argentine, Chile also had a GNP per capita on the level of certain European countries and double the average of tropical Latin America (Bairoch 1997, I: 488ff.). Notwithstanding the great foreign involvement in the export of raw materials, it was ultimately the social structure of the estates that shaped colonial Chile, and which perhaps assured the stagnation in the inter- or postwar period.

1850s when the Crimean War reduced Russian competition in hides and tallow. In the 1860s, the terms of trade fell somewhat because textile prices rose during the American Civil War and due to the American tariff of Argentine wool from 1867. From 1800 to 1860, the Argentine proportion of exports from regions with European population decreased from 9 to 3 percent, and the proportion of population (which had nevertheless increased in absolute numbers even while native Americans decreased) from 4.5 to 3 percent. From then on until the First World War there was a remarkable increase to more than 12 percent of exports and 6 percent of population – an increase centring on the coast (Bairoch 1997, I: 486). In the census of 1869 the national population amounted to 1,8 million (compared to half a million at independence), almost half of which was workforce. Half a million lived in the province of Buenos Aires, mostly rural farmland in the heart of the pampas, and 180,000 in the city itself. More than two thirds were based in rural areas, and 12 percent were of foreign origin. By the time of the third census in 1914, national population had increased five times to 7.5 million, of which 3.6 million in the region of Buenos Aires and 1.5 in the city (Taylor 1997: 104). This growth was largely due to an inflow of almost 6 million immigrants, mostly from Italy and Spain, landing mainly in Buenos Aires between 1860 and 1913, with an early summit following the opening up of the pampas after the victory of Julio Roca against the local Indians in 1879, and a later peak the decade before the First World War. However, almost half either returned to Europe or went on to the United States, so half the population growth was still due to natural increase (Bairoch 1997, I: 486; Taylor 1994: 435).

Thus, according to Conde (1993:49), equally important to Argentina's extraordinary economic growth as the expansion of international trade and division of labour, was the movement of labour and capital factors of production which made those changes possible. Likely effects of this inflow include favouring the labour-intense cultivation in the so called wheat revolution on the pampas, behind whose successes and failures "stand the *estancieros*, the cattle ranchers who held almost all the good land, leasing it jealously on share-cropping or tenancy contracts which virtually prohibited grain farmers from acquiring land or even the hope of reasonable security" (McGann 1968: 198). Thus, immigration advanced this new staple export, transforming Argentina from an net importer of wheat in the 1870s to the third largest exporter in the world, killed off the *gaucho* way of life, promoted urbanisation and the rapid growth of Buenos Aires, paved the way for industrialisation, and worked towards a lowering of wages. Taylor's (1997: 100, 102) modelling suggests that immigration, by tripling cereal exports, "enhanced Argentina's comparative advantage as a cereal producer, encouraged extensive growth of the pampa, and markedly lowered real wages" by pushing them down towards the level of Italy and Spain.⁴⁸

The *belle époque* was brought to a halt by the dislocations associated with World War I. Although making no impression on health and nutrition, there was a lasting shock in capital markets. Throughout the 19th century, Argentina had been heavily dependent on external finance, particularly from Britain, as domestic savings were insufficient to satisfy investment requirements., and by 1913, almost half of the capital stock was owned by foreigners. The war signalled the end of Britain's role as 'the world's banker', first by the suspension of the gold standard and then by crippling war debts. As Taylor (1994: 435) observes: "The new major creditor, the United States, was unwilling to fill the vacancy, and New York failed to

⁴⁸ Others suggest that real wages still increased nationally, but that just as in Antebellum United States, the United Kingdom from 1790 to 1850, and many other 19th century cases, economic growth and rising per capita income coincided with declining stature and health. At least initially, greater integration into the world economy rendered negative effects in terms of biological welfare, accompanied in the early 20th century by increased social tensions and strikes associated with declining nominal wages and rising prices of necessities. Paradoxically, according to Salvatore (2004) the prewar export-led growth thus coincided with an absolute deterioration of nutrition and health conditions, whereas the economic retardation of interwar period represented a steady improvement in these respects.

adequately replace London as a center for international finance and as a source of loans for externally dependent countries such as Argentina.” In the Depression, Great Britain tried to buy less abroad and played off suppliers against each other, while the products of Argentina’s new major supplier in the 1920s, the United States with its advanced agriculture, were much less complementary than the British. The onset of the depression made matters even worse and per capita growth rates further retarded after 1929 and again after 1950. “In these years”, Taylor (1994: 435) explains, “Argentina’s economic policy stance was thoroughly overhauled by the rejection of the liberal export-oriented orthodoxy, the adoption of inward-looking import-substitution strategies, and the experimentation with ad hoc Keynesian policies and other forms of state intervention.” To the great chagrin of free-trade orthodoxy this reactive policy formula “was apparently successful in helping Argentina during the Depression years, and evidence on the depth and duration of the troughs in Latin American suggests that the reactive countries fared best at delinking from the collapsing economies at the center and ensuring some protection for themselves at the periphery. By the end of the 1950s there stood in place a vast array of tariffs, duties, exchange controls, marketing boards, and other governmental interventions in the economy.”

Prebisch was deeply involved in this reorientation, as a member of an economic team groping with the Depression and crisis, notably under the Minister of Finance, Federico Pinedo (1933-35 and 1940-41). In the 1930s Prebisch (1984: 175) was still recommending orthodox anti-inflationary measures, but departed from orthodoxy in advocating industrialisation when confronted with a serious balance of payments disequilibrium. In 1933, he attended a Preparatory Committee of the Second International Monetary Conference in Geneva from which he reported on the assembled monetary experts’ belief, in Love’s (1980: 49) words, “that the one basic blockage in the international economic system derived from the facts that the United States had replaced Great Britain as the world’s chief creditor country, and that high American tariff schedules [...] did not permit other countries to repay U.S. loans with exports. Consequently the rest of the world tended to send gold to the United States, and the bullion was not recirculated in the international monetary system.” Prebisch was thus confronted with the ingrained mercantilist, or protectionist, policies of the United States, and ultimately responded in a similar manner. From Switzerland he went on to help negotiations in London. Along with other statesmen and economists, he was willing to enter into the Roca-Runciman Pact of 1933, whereby Argentina promised to use all her sterling for purchases in the U.K. and the U.K. agreed to keep buy meat in exchange for debt service payments and tariff reductions for British manufactures. “Thus,” Love (1980: 49) observes, “beef exports, the traditional preserve of the Argentine oligarchy, were favored over wheat.” The controversial agreement was commonly perceived as disadvantageous to Argentine interests. Along with his connection to Sociedad Rural and General Uriburu, and his position as Director-General of the Argentina’s central bank for eight years (1935-1943), this “created a strong public perception of Prebisch in Argentine political and economic circles as an individual tied to traditional conservative landholding interests” (Sikkink 1988: 93).

In London he attended the unsuccessful World Monetary Conference, and came under the influence of J. M. Keynes’s proposals for ‘pump-priming’ of deficit spending to increase national income and employment, and for the creation of an international monetary authority to resuscitate credit for world trade. Love (1980: 50) finds it noteworthy, that Argentina was among the seven countries qualifying for the maximum loan, noting: “In the next few years Prebisch would become an enthusiastic Keynesian”. Back in Argentina, Prebisch began attacking the orthodox equilibrium theories of his older colleagues as scholastic, and sought to understand the declining terms of trade wrought by the Depression. Love (*loc. cit.*) refers to an article published in 1934, which pointed out how agricultural prices had fallen more profoundly than those of manufactured goods, Argentina by then having to sell 73% more

than before the Depression to obtain the same quantity of manufactured imports, and double the amount in terms of gold on her foreign debt as in 1928.

In Geneva and London in 1933 Prebisch had tried convincing policymakers of the other three major wheat-exporting countries – the United States, Canada, and Australia – to cut back production, but before the end of the year all countries except Australia had already broken the agreement. While Europe and Japan managed to keep their economies going with armaments, another depression spread in 1937-38 from the United States to less developed countries, including Argentina. The price of wheat fell sharply and along with other countries Argentina imposed quantitative restrictions on imports, while banking officials such as Prebisch struggled to keep international credits and debits in balance. There was still no conscious effort to stimulate industrialisation, but as in Chile and Brazil through sheer necessity output grew impressively throughout the 1930s into the 1940s. It was not until 1942, with Prebisch as the general director, that Argentina's Central Bank broke with tradition and began promoting industrialisation, arguing that exports and industrial development were not incompatible, and that the issue was to change imports from consumer to capital goods (Love 1980: 51).

Already in 1937, Love (1980: 52) explains, Prebisch “was beginning to formulate his theory of unequal exchange”, quoting (*loc. cit.*; braces by Love) from the journal *Revista Economica*:

Manufacturing industries, and therefore industrial nations, can efficaciously control production, thereby maintaining the value of their products at desired levels. This is not the case with agricultural and livestock countries for, as is well known, their production is inelastic on account of the nature [of production] as well as the lack of organization amongst agricultural producers.

In the last depression these differences manifested themselves in a sharp fall in agricultural prices and in a much smaller decline in the prices of manufactured articles. The agrarian countries lost part of their purchasing power, with the resultant effect on the balance of payments and on the volume of their imports.

Focus was on the tighter ‘control’ of prices in manufacturing nations and on the elasticity of supply of manufactures, rather than on the bargaining power of industrial wage-labourers, which was added later on. In spite of Love’s vague terminology of ‘unequal exchange’, it should be made clear that the theory of which Prebisch can be regarded as originator here concerns declining terms of trade for *primary* products and no other, due to the character of the product and the lack of organisation *among*, not yet *within*, *agricultural* nations, *including the United States, Canada, and Australia*. Furthermore, it sprang from the Argentinean experience of a *reversal* of the trend in terms of trade (rather than a continuous decline), the failed attempts at cooperation by said countries, and was conceived conjointly with trying to formulate economic *policy*.

Just as it would have been ridiculous to class Argentina or the major agricultural exporters as ‘backward’ – *i.e.*, in any other sense but the merely geographical equivalent of ‘hinterland’ – it was inconceivable that Prebisch’s idea could be concerned with *underdeveloped* countries. This association was made later. As noted by Love (1980: 56): “Latin America, where center-periphery theory was born, was not generally considered part of the Third World until after the Cuban Revolution (1959).” If this link is more incidental, it would illustrate perfectly that the problem of ‘underdevelopment’ among economists was intimately connected to the Cold-War perspective in Truman’s Point Four, to which we shall return in Chapter 11. Incidentally, although Prebisch used the statistics compiled by Singer for the U.N. publication on “Relative Prices of Exports and Imports of Under-developed Countries” (1949), even in the first major publication of his thesis for the CEPAL/ECLA that year, he spoke only of ‘Latin America’ and the ‘periphery’. As Arthur Lewis (1978a) observed, the Canadian ‘staple thesis’ (Chapter 9 above) predated Prebisch’s thesis. Following N.B.S. Gras, the former located the British Dominions in the hinterland, first, of the London metropolis and European markets, then of the United States, sometimes suffering disruption in various

regions in the wake of rapid – ‘cyclonic’ – changes of events. In Innis’s view, however, these disruptive fluctuations had been mitigated thanks to the flexible political organisation, at least in Canada, and furthermore had been *lessened* in temperate countries with the export of wheat and meat, because of the steady (inelastic) demand for such products. By contrast, tropical countries, which continued to produce and export high-value, low-bulk luxury goods, also continued to suffer greatly from these variations of demand. With respect to Latin America he also observed the inherited stale political organisation in Catholic countries. In addition to his general lack of enthusiasm for the industrial civilisation and disrespect for scholars whose ambition was to become bureaucrats in political administration, Innis made the crucial distinction in this instance between temperate and tropical regions, observing differences in political organisation often corresponding to them. For Prebisch the important dividing line was one inherited from the mercantilists or contemporary central European debates between industrial and agricultural products and countries, associated by Prebisch with respectively centre and periphery. In fact, there does seem to be a basic correspondence between the European centre exporting manufactures, and the neo-European periphery exports agricultural products, only it has nothing to do with the rift between developed and underdeveloped regions. The latter does not relate to a rift between agricultural and industrial sectors, but to one *within* either or both of them.

FitzGerald (1994: 101) has observed the unlikelihood that the center–periphery model originated autochthonously, based on the experience of the interwar years. The identification of ‘backward’ with ‘agricultural’ countries was made by the Romanian economist, Mihail Manoilescu, whose *Théorie du protectionisme* (1929: 61, 65, 184, on agriculture as backward; cf. 1934: 28), soon appearing in England (1931) and Brazil (Manoilescu 1931), as well as in Franco’s Spain (1943), having already appeared in serial form in a Spanish journal. An article (1947) appeared in a Santiago journal slightly before Prebisch’s arrival there. The similarities between Prebisch’s and Manoilescu’s main arguments were soon widely recognised (Buchanan & Ellis 1955), Meier & Baldwin 1959), whether on agricultural inferiority as an economic activity compared to industry or favouring tariffs to protect industry. Although Love largely rejects direct influence of Manoilescu on Prebisch (Love 1996: 134–36), he confirms that Manoilescu had deep influence on the Spanish and Brazilian debate – along with the German Historical School whose tendency towards economic nationalism and state intervention met with sympathy in Spanish academic circles. This prepared the ground for the reception of structuralism and dependency on the Iberian peninsula (as did Perroux in Portugal, cf. Love 2004), but in Love’s view (1996: 222) the central European theories were not ‘transmitted’ from Romania to Latin America. As noted by FitzGerald (1994: 94), the idea that prices of primary products were inherently disadvantaged went back at least to the 18th century in Latin America, but he is incredulous of Prebisch not ‘remembering’ any of his intellectual forefathers. Since Sombart became a convert to national socialism and Manoilescu had been a member of the Iron Guard, it is “perhaps understandable that in the immediate postwar period Prebisch preferred to overlook the central European antecedents of his model”, and that his intellectual autobiography preferred to gloss over the ‘first stage’ in his thought (*ibid.*: 101; cf. Prebisch 1984). It acknowledged no intellectual mentors and, FitzGerald (1994: 101f.) observes, he “continually claimed the sole authorship of the ECLA model, scarcely mentioning the work of his colleagues in Santiago or elsewhere in Latin America”, while mentioning (*ibid.*: 94f.) that Ernst Friedrich Wagerman had introduced the Sombartian centre–periphery perspective to Latin Americans with his *Evolución y ritmo de la economía mundial* in 1933. There were numerous contemporaries with similar concerns and observations to Prebisch’s before 1945, such as Alejandro Bunge and Luis Colombo in Argentina, Roberto Simonsen, Alexandre Siciliano, Jr., and Octávio Pupo Nogueira in Brazil (cf. Love 1994: 396; Toyo & Toyo 2003: 440).

Another potential influence would be that of Friedrich List, but according to Love (1994: 396) his influence was mostly limited to Chile and the popularisation of the ‘infant-industry’ argument found in Malaquías Concha between 1880s and the First World War. On the other hand, government concern to industrialise was revived in the late 1920s as a question of national defence, and it was on Chilean initiative that the United Nations Economic Commission for Latin America (ECLA, CEPAL) was set up after the Second World War. In 1943, Prebisch had been removed from his position at the Central Bank after eight years, but was asked to organise the Central Bank of Mexico. All the while he was also a professor of political economy at the University of Buenos Aires – in FitzGerald’s (1994) view adding to the unlikelihood that he was unfamiliar with the central European theorists – until he was removed in 1948. At the time he was working on an unfinished book on ‘money and the rhythm of economic activity’, recalling not only Wagerman above, but also the primary concern with the international business cycle in line with Mitchell (1927) and Schumpeter (1939). It was then that he was free to accept an invitation by the Secretary General of the United Nations to go to Santiago, Chile, to be an adviser to the ECLA. By then it had already published its first report, and Prebisch’s contribution, which was to make him famous and two years later its Executive Secretary, concerned primarily international trade.

Toye & Toye (2003: 444) gives a glimpse of Prebisch’s interesting overall research program at the time, translating a letter to Eugenio Gudín (20 Dec. 1948):

I believe that the cycle is the typical form of growth of the capitalist economy and that this is subject to certain laws of motion, very distinct from the laws of equilibrium. In these laws of motion the disparity between the period of productive process and the period of the circulation of incomes therefore holds a fundamental importance. So I have tried to introduce systematically the concept of time into economic theory and also that of space, which in the ultimate instances resolves itself into a problem of time. It is precisely the concept of space that has led me to study the movement in the centre and the periphery, not with the aim of establishing formal distinctions but to point out transcendent functional differences.

The interesting notion of the disparity between the periods of production and circulation perhaps recalls contemporary post-Keynesian debates, some of which also inspired Emmanuel (Chapter 19). The vocabulary of ‘time’ and ‘space’ had been evoked also by Innis, notably in a 1942 article trying to promote an all-embracing approach emphasising communications, thereby hoping to enlighten the workings of Grasian metropolises, which tended to develop separate equilibria, the Schumpeterian understanding of the business cycle, which neglected significant technological innovations in communication as well as the links to war and disequilibria, the monetarist concern with the velocity of monetary circulation, which would profit from studying that of newspapers, and the Keynesian ‘liquidity preference’ of money which needed to be related to the preferences for other goods. The paper, reprinted in a 1946 collection of his articles on ‘political economy in the modern state’ which may well have been included in Prebisch’s in his own words ‘extensive’ reading list, ended by declaring its design “to emphasize the importance of a change in the concept of the dimension of time, and to argue that it cannot be regarded as a straight line but as a series of curves depending in part on technological advances. [...] The concepts of time and space must be made relative and elastic and the attention given by the social scientists to problems of space should be paralleled by attention to problems of time” (Innis 1942: 34; cf. 1940b).

Prebisch’s policy ideas were probably less important in themselves than as part of a general trend, which was underway with or without him. During the Peronist government he was excluded from all official posts, “perhaps because of his long and close association with the nation’s traditional economic elite” (Love 1980: 57), and for which he remained bitter (Sikkink 1988: 93, 110, n. 11). There is no evidence indicating that he had any significant influence on Peronist economic policy, which was “well in place by the time Prebisch published his most important works for the CEPAL”, although some of his students at Buenos

Aires remembered him discussing the centre–periphery system (Sikkink 1988: 94, 110, n. 12). Nor did Prebisch’s and CEPAL policy ideas and recommendations differ substantially from those of the Peronist and Frondizi governments, but since various groups in Argentina sharing pro-industrialization and developmentalist ideas were often bitter political opponents, the image of Prebisch came to differ substantially depending on where you were (*ibid.*: 92). His and CEPAL’s ideas became most influential in Chile and Brazil, met with enthusiasm in Central America and the Caribbean, but less so in Argentina, Mexico, Peru and Colombia, where government request for CEPAL-trained students were less (*ibid.*: 92, 110, n. 6). Thus, while much of Latin America saw him as a progressive and innovative development theorist and policy activist, government circles in the United States viewed him as a leftist critic of standard economic wisdom, whereas in Argentina he was identified with conservative groups and liberal economic thought (*ibid.*: 91), and after Peron had been overthrown in 1955, Prebisch was asked to return as economic advisor and to prepare an economic plan, which he did. Soon more military sectors with a more punitive and repressive attitude toward the Peronist party and the unions took over, and Prebisch was asked to remain as an advisor and continue working out his economic program, which he did (*ibid.*: 95). The plan said nothing on the centre–periphery or terms of trade themes, but demonstrated “a grudging refusal to recognize any of the successes of Peronist policies”, though he failed to articulate an alternative vision (*ibid.*: 96). He made no strong case for industrialisation, for which he was hastily criticised as wanting to return to the good old days. The impression was reinforced by the failure to mention the need for agrarian reform, the recommendation, popular among allies of the government and the Sociedad Rural, that relative prices be reversed to favour agricultural producers, though his aim was thus to generate the foreign exchange necessary for capital goods imports to support continued industrialisation. The response of the industrial sector and the middle-class party was more mixed. Even General Aramburo did not dare execute the wage-reductions proposed by Prebisch. The only ones considering the worsening terms of trade were among Prebisch’s critics, and though ideas similar to those associated with Prebisch and CEPAL were adopted, these seem rather to have been ‘in the air’ (Sikkink 1988: 96-108). This would imply that for large parts of the Third World and Latin America, though significantly not in his home country, Prebisch became the mouthpiece of a change of perception brought about by other forces, although naturally he may have given his touch.

How was it possible that things could look so very different on the world scene, both among Third Worldists and U.S. WASPs. Prebisch’s admirers naturally like to find that he had a profound impact, for example in the creation of UCTAD, which was, Dadone & diMarco (1972: 25f.) explain, “fundamentally, the result of Prebisch’s personal effort”, and in its first meeting in Geneva in 1964, where he inspired the formation of a ‘majority front’ consisting of the 75 underdeveloped countries jointly submitting agreed-upon propositions. The resulting proposals included a “universal desire for increased exports (industrial ones, in particular) as a means to attain a substantial improvement in the international balance of payments”, and “a reduction of tariffs by the advanced countries in favor of the underdeveloped ones”, as well as external aid in order to offset the effects of unfavourable terms of trade. If there is any novelty or originality in these proposals it cannot be their content, but their form, *i.e.*, presenting the mask of a common, united will among under- and less developed actors on the world stage, following the Bandung Conference of 1955. The second UNCTAD conference in New Dehli 1968, the *Comercio Exterior* observed afterwards, “submitted to world opinion, in a rather dramatic fashion, a complete outline of the demands of about eighty underdeveloped countries from Latin America, Africa, and Asia”. One proposal, “relating to preferential access to markets of more advanced countries for manufactures and semimanufactured goods coming from underdeveloped areas was universally approved”, Dadone & diMarco (*loc. cit.*)

observed, but any schedule for its enactment or the goods concerned was carefully avoided, and thus actual results were very limited.

Love admits that Prebisch's economic theory is very hard to separate from his economic policy, and notes the great similarities with traditional mercantilism. Similarly, Hettne (1993) spoke of Prebisch, structuralism and dependency under the heading: "mercantilism comes to the Third World". Indeed, he did not find this Listian tradition – "a mercantilist approach applied to in a Third World context" – distinguishable enough even to qualify as *neomercantilism*. The depression of the 1930s and the disruption of world trade, dramatised the dimensions of Latin American dependence and, in line with the European tradition of economic nationalism initiated more systematic economic research, which crystallised in the import-substitution development strategy of the ECLA under Prebisch. Dependency theory, then, was simply "a more "socialist" application of the Listian approach in the Third World context." Hettne may be extending the concept of mercantilism to the breaking point, as Magnusson's appended commentary holds, but the problem here is not the usefulness of concepts but the similarity of approach. In this case the similarities extend to ideas originating more or less as *ad hoc* responses to practical problems (cf. Taylor 1994: 435 cited above). Let us also remind of Prebisch's (1984: 178) convictions and self-proclaimed aims: "as a young economist, I was a neoclassicist and fought against protection. But during the world Depression, throwing overboard a substantial part of my former beliefs, I was converted to protectionism." His seminal diagnoses of the situation in Latin America from 1949 and the early 1950s, had industrialisation as its main objective, but, he (*ibid.*: 177) confesses: "In reality, my policy proposal sought to provide theoretical justification for the industrialization policy that was already being followed". In a sense, this is similar to Manoilescu who wanted to provide a theory with which to justify the ever-present protectionist policies already being pursued by states. In addition, there is a direct lineage via the German Historical School. "The ideals of Mercantilism", Schmoller wrote, "meant the shaking off of a commercial dependence on foreigners which was continually becoming more oppressive, and the education of the country in the direction of economic autarchy" (quoted in Coleman 1969: 102). Myint (1965: 477) noted that the criticism of the universality of standard economics had been advanced since its beginning: "In the nineteenth century, Hamilton, Carey, and List questioned the applicability of the English classical free-trade theory to the underdeveloped countries of that period, namely the United States and Germany. They have been followed, among others, by Manoilescu from southeast Europe and by Prebisch from Latin America." Quoting Prebisch as admitting that his ideas were all contradictory in the 1930s, Sikkink (1988: 93) concludes that despite his theoretical reorientation toward industrialisation, "Prebisch nevertheless remained in many ways an essentially conservative man, drawn by events and his analytical mind to propose sometimes unorthodox theories and policies". For a politician and policy maker it should not be considered a vice to abandon theoretical coherence if the problems of the world so dictates, just as it cannot be a virtue for a highly coherent and formalised orthodox theory that for centuries its policy prescriptions has stubbornly stood stark and fundamental contrast to practical economic policy. Prebisch at least attempted to face the reality of his day and to formulate a theoretical response, even should it ultimately not satisfy the intellect.

It was only after his dismissal from the Banco Central in 1943, that Prebisch (1984: 175f.) had time to start reflecting on his experiences, commence working out a theoretical stance, and, as he explained to Love (1980: 52), when he began to read widely in recent economic literature. Unfortunately neither Prebisch nor Love report on which literature was or was not included, which leaves us with equally wide options. He was at one time a self-professed Keynesian, and later tried to liberate himself from this influence. A generous interpreter such as Love, thinking of his response to the Depression, could present Prebisch by quoting

Keynes: “When the facts change, I change my mind – what do you do, sir?” But if this game is started one is easily led to another, more famous, quotation from the conclusion of the *General Theory* (1936: 383): “Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist.”

Gras’s (1922) introduction to economic history reviewed in the previous chapter, was published already a year before Prebisch’s graduation in Buenos Aires and presumably not among that recent literature. Its Schmoller-inspired argument presented the London metropolis and its relations with the uplands, evolving through four stages and ending up as a financial centre until the process was repeated in the United States’ metropolises. In the 1920s, Innis had rejected the generality of the approach emphasising the peculiar development of hinterlands, and the same went for a host of attempts to apply theories developed in ‘old countries’ to the situation in new ones. Prebisch made a similar argument although the opponent was left more unspecified. He prepared a series of lectures in 1944 in which he referred for the first time to ‘centre’ and ‘periphery’, proposing an historical argument in which Britain was the 19th-century centre of trading and monetary system based on the gold standard. In Love’s opinion this fitted at least the Argentinean situation fairly well. Britain was the centre generating the trade-cycle, equilibrating gold flows and the balance of payments over the course of the cycle: gold left Britain in the upswing and returned in the downswing. The problem for Argentina – the periphery – was this outflow, which could only be diminished by contracting credit through raising the discount rate. But this was inconceivable in competition with London. So, in the periphery, monetary stability was maintained at the cost of economic contraction, making the gold standard an automatic system for the periphery but not the centre, which could adjust its rediscount rate according to its domestic needs. After World War I the situation changed, and by 1930 the United States had absorbed the world’s gold, forcing the rest of the world to adopt ‘inward-directed development’ (Love 1980: 53). This concept was later elaborated by ECLA-theorists, following up the observation that industrialisation had been greatest during the Depression and times of war when Argentina had to produce for herself.

Prebisch started thinking about Argentina more in terms of Latin America and its relations with the United States, probably encouraged in this direction by his work and meetings in Mexico. One significant point not sufficiently underlined by Love with respect to the origins of Prebisch’s thinking, namely that though he had reached his conclusions based on the Argentinean experience, he nevertheless formulated them in Latin American terms. Prebisch himself (1984: 176; emphasis added) even says as much but, concerned as he is with policy, without seeing the snag from the scientific point of view:

My entry into CEPAL in 1949 took place when my ideas were already reaching maturity, and I was therefore able to crystallize them in various studies published in the early 1950s. In these studies I tried both to diagnose the problems and to suggest policies which would serve as alternatives to those proposed by orthodox thinking. Thanks to the broader horizon which my new responsibilities permitted me, these studies concerned not only Argentina, but Latin America as a whole.

His interest in industrialization as a solution to Latin America’s economic problems, Love (1980: 54) observes, “originally arose from a desire, shared by many other Argentine contemporaries, to make Argentina less economically “vulnerable”, a vulnerability painfully evident for the whole period 1930-45.” In 1944 he noted that, unlike Argentina, the United States had a low propensity to import, and followed up the implied threat of international disequilibrium which he had encountered in 1933. His first usage in print of the terminology of centre and periphery appeared in 1946, identifying the United States as the ‘cyclical centre’ and Latin America as the ‘periphery of the economic system’, which therefore could not apply the same monetary tools as the centre, for example in the pursuit of full employment (*loc.*

cit.). When during the downswing peripheral prices fell, the peripheral governments could not affect world prices for their goods as the centre supposedly could, thus, he charged the economic science of industrial countries, making equilibrium theories of international trade unacceptable. Back in Buenos Aires in 1948, he specifically attacked the theory of comparative advantage, whose principles were repeatedly violated by the industrial nations even while used as an ideological weapon. On a more factual level he asserted that in both the United States and Britain, technical progress did not manifest itself in lower prices but in higher wages, although because Britain had sacrificed its agriculture some of the benefit “had been transferred to the “new countries” in the form of higher land values”, something unfortunately no longer the case under the hegemony of the United States (*ibid.*: 55).

The founding of the Economic Commission for Latin America (ECLA, or CEPAL) was undertaken on Chilean initiative in 1947 at U.N. headquarters in Lake Success, New York. It was approved in February 1948 by the U.N. Economic and Social Council, and the first meeting was held in June that year in Santiago, Chile. Latin America’s need to industrialise was emphasised already in the opening session, and a chief outcome of the meeting was a resolution calling for a study of Latin America’s terms of trade (Love 1980: 56). Prebisch’s ideas were already known to the Chilean leaders and his reputation had been enhanced by a publication on Keynes in 1947, and while he declined the first offer in 1948 to direct ECLA, a few months later he went to Santiago and to elaborate his theses on the terms of trade. In May 1949 the Spanish version of *The Economic Development of Latin America and Its Principal Problems* appeared, to which Prebisch had contributed most of the ideas on international trade. In it was made use of another study, which had appeared in February (cf. ECLA 1950: 9), at the U.N. Department of Economic Affairs, and whose main author was Hans W. Singer (U.N. 1949).

Born in the Rhineland in 1910, Singer had fled from the Nazi persecution and with the help of Schumpeter’s contacts with Keynes been placed at Cambridge to undertake a Ph.D. on secular trends in land values. His doctoral work led him to wartime employment, and in 1940 he was placed on Gestapos list of specially wanted persons in Great Britain in the case of German invasion. After the war wanted to return to academia, but was soon invited to join the U.N. DEA, which he reluctantly accepted, and where in the end he came to remain for 22 years (Toye & Toye 2003: 446). Arriving in New York in 1947, he was free to choose his research subject and came under the strong influence of the Swedish economist Folke Hilgert, who had shaped the League of Nations publications on the Network of World Trade, thus providing the link with its statistical studies, primarily the final volume on *Industrialisation and Foreign Trade* (1945), from whose statistical appendices, but not in the summary of findings, could be derived that the price index for manufactures had fallen less than for agricultural goods. Discussions soon led his attention to problems of terms of trade (Singer 1984: 280), and Hilgert had expressed his puzzlement over the behaviour of the British terms of trade data (Toye & Toye 2003: 448). The original and official objective was only the short-term problem that during the war underdeveloped countries had run into export surpluses that they subsequently wished to use to import capital goods for development. Singer’s study was thus occasioned by the problems to foreign borrowing, which had been observed in a previous study as arising from “the high prices of goods imported by the under-developed countries, and especially of machinery and equipment” (U.N. 1949: iii), and as its title shows was primarily concerned with the postwar period. However, unlike Hilgert and other colleagues, and unlike Prebisch, Singer had no interest in cyclical effects on the terms of trade. With his experience in long-term problems, and more influenced by Gunnar Myrdal’s concern with structural differences between industrial and nonindustrial countries, their effects on the long-term evolution on the terms of trade, and distributive justice (Toye & Toye 2003: 448), the study (U.N. 1949: 21) noticeably included a section on historical perspective compiling

comparable data from the Board of Trade as well as the earlier studies by the League of Nations (1945) and Schlote (1938) for 1876-1938. On the terms of trade for primary commodities revealed there he concluded:

The general trend from the 1870's to the last pre-war year, 1938, notwithstanding marked fluctuations, was unmistakably downward. In other words, average prices of primary commodities relative to manufactured goods have been declining over a period of more than half a century. By 1938, the relative prices of primary goods had deteriorated by about 50 points, or one-third, since the beginning of the period and by 40 points, somewhat less than 30 per cent, since 1913. (U.N. 1949: 23.)

Schlote's data for the United Kingdom went further back, and the trend up to the 1870s showed, by contrast, a market increase for the goods imported compared with those exported – as had, indeed, been the common and self-evident assumption among the classical economists.⁴⁹ By applying Ricardo's theorem for a closed economy to the world – that growth would raise the relative price of food and therefore the rent of land until a 'stationary state' was approached – political economy had become unison in its belief that the development of productive forces in manufactures and the limited expansive possibilities of raw materials and 'land', would assure that the terms of trade change in favour of the latter (Findlay 1987: 626). The same belief underpinned the equally strong tradition of pessimism from Malthus to Keynes about the sustainability of population growth, revived again by the ecological Protestants/neo-Malthusians to be discussed in Chapter 22. "That manufacturers' terms of trade would decline, and that rapid population growth was therefore unsustainable, were two propositions that caused political economy to be dubbed the 'dismal science'" (Toye & Toye 2003: 438; cf. Toye 2000, Ch. 1). By contrast to the Malthusian strain, much of the 'leftist' ecological renewal of the 1970s seems to have endorsed rather the contrary Prebisch-Singer/dependency view that primary production was somehow linked to underdevelopment and poor terms of trade.

There are several reasons for the strong reaction to Singer's statistics and his and Prebisch's explanations of them. In 1948-49, Paul Samuelson had just given the economic profession a formal demonstration of the Heckscher-Ohlin thesis, stating that under certain conventional, albeit perhaps unrealistic, assumptions, trade could serve as a complete substitute for the movement of factors of production from one country to another, indication that international trade could potentially equalise incomes among nations. "Thus", Love (1980: 63) suggests, "the less rigorous (but much more realistic) arguments of Prebisch and Singer burst upon the scene just after Samuelson had raised neoclassical trade theory to new heights of elegance, and against this theory the new ideas would have to struggle". In the 1970s, Prebisch recalled "a sense of arrogance toward those poor underdeveloped economist of the periphery" (reported to and by Love 1980: 63), but of course Singer was nothing of the kind. Ironically indeed, as Toye & Toye (2003: 441) have observed, even Samuelson (1948: 183f.; emphasis added) remarked that the terms of trade of those postwar days, were "abnormally favourable to agricultural production", and that "one can venture scepticism that this abnormal trend of the terms of trade, *counter to historical drift*, will continue." As indicated by this remark, belief had already begun to gain ground that agricultural products were at a disadvantage. Love (cited in Toye & Toye 2003: 440) noted the 1927 observation by Gustav Cassel in the League of Nations that from 1913 "a very serious dislocation of relative prices has taken place

⁴⁹ In addition to Ricardo (1821; 1953, Ch. II, III, IV) this view was embraced by Malthus (1820, Ch. III), Torrens (1821), J. S. Mill (1848, Bk. IV, Ch. II), Jevons (1865), Marshall (quoted in Rostow 1950), Keynes (1920: 23ff.), Beveridge, Robertson (1915: 169), Graham (1932), Clark (1938; 1942: 49-54), Moret (1957: 120), Viner (1950), Haberler (1947), Lewis (1949; 1952), E.A.G. Robinson (1954: 456), as well as Marxists (Marx & Engels 1978: 220; Bukharin 1915). It is well illustrated in the cock-and-bull story of W. S. Jevons stowing enormous amounts of coal in the basement. Findlay (1987: 626) sees this tradition revived in the Club of Rome.

in the exchange of goods between Europe and the colonial world". In 1944, Sanford A. Mosk noted that "[t]he relatively unfavourable price position for raw materials and foodstuffs that prevailed in the interwar period, and especially during the depression of the 1930s, profoundly affected the outlook of Latin Americans" (Whitaker 1945: 143; cf. Toye & Toye 2003: 440). That primary producers were at a disadvantage was becoming increasingly commonplace, and certain Latin American governments began to see their future economic security in terms of promoting industrialisation. Invoking 'Engel's law' of demand against classical orthodoxy on the terms of trade, Charles Kindleberger (1943b) wrote that "inexorably [...] the terms of trade move against industrial and raw material countries as the world's standard of living increases". Love (1994: 421) has established that Prebisch himself was familiar with another of Kindleberger's (1943a) articles at the time, arguing for industrialisation based both on the differing elasticities of demand for primary and manufactured products and on the special "institutional organisation of production in industry". In fact, some of the critics adduced a contrary bias against promoting agriculture: "Since underdeveloped regions are primarily agricultural, chief emphasis should be placed initially on increasing agricultural output in attempts to raise incomes. This is frequently not the conviction of national leaders in countries that are economically underdeveloped. Desire for self-sufficiency or military power, national pride, or a purely romantic association of manufacture with affluence – these and other noneconomic motivations frequently result in an almost contemptuous attitude toward farming and the glorification of gigantic industrial or public utility projects" (Buchanan & Ellis 1955: 259). The reaction was particularly strong against the idea of a long-term deterioration of the terms of trade for primary products, and is perhaps most plausibly understood as a conditioned reflex from the more than century-long assumption – referred to, but not endorsed, by Viner (1952: 114) and Haberler (1988: 39f.) – to the contrary.

Critics started by questioning the empirical validity, explaining deviations from standard prognostics by changes in transportation costs and quality of goods, most of which had indeed been noted in an appendix to Singer's U.N. study. According to Spraos (1983: 6), for whom the episode lent support to the thesis that "partisanship, conscious or subconscious, prevails over academic detachment", "they may be fairly judged to have completely failed." However this may be, and though Spraos is often seen as authoritative, still others continue to dispute it. Ironically, just as the theories purporting to explain falling terms of trade for primary products started to be formulated, the terms of trade themselves became reversed during the Korean War, but, alas, only to drastically deteriorate by the end of the decade, so that the overall outcome was rather indecisive. Looking at the period of the whole century from 1876 or 1900 onwards, the majority of scholars appear to be on the side of an overall deterioration for primary goods, although the debate – and the data – continues (Thirlwall 1983, Sapsford 1985, Sarkar 1986, Grilli & Yang 1986, Evans 1987, Diakosavvas & Scandizzo 1991, Bloch & Sapsford 1998).

The most obvious empirical objection struck at the identification of primary/agricultural production with underdevelopment or backwardness. There was as critics pointed out an abundance of exceptions to this 'rule'. One of Manoilescu's early reviewers and scathing critics, as well as being a friend of Harold Innis, Jacob Viner (1952: 61ff.; 1932), wondered why the world's sympathies should not turn to Denmark exporting butter and bacon, New Zealand exporting lamb, wool, and butter, Australia exporting wool and wheat, or to California, Iowa, Nebraska, and so on. Looking at Italy and Spain, Viner remarked that neither was it evident, that industrialisation was synonymous with prosperity. His point was that the problem in poor countries is not to be found in agriculture as such, or in the lack of manufactures as such, but in underdevelopment due to poverty and backwardness as such, to poor agriculture and poor industry. Primary production is not a cause of poverty, but merely an associative characteristic of poverty and low agricultural productivity (Viner 1952: 50,

Kuznets 1954: 222ff.).

The most significant contribution to the debate was made with Kindleberger's study of industrial Europe's terms of trade with the world, which separated the question of deteriorating terms of trade for underdeveloped countries from that deteriorating terms of trade for primary products as against manufactures. He (1956: 232f.) pointed out that the British terms of trade did not provide a good measure in reverse of the terms of trade of underdeveloped countries, and the "widely publicized statistic that the purchasing power of underdeveloped countries had fallen in international trade by some 40 per cent of its level of the 1870's down to 1938 [...] cannot be supported". However, he continued, the "invalidity of this statistical demonstration does not necessarily disturb the conclusions drawn from it." Looking at the terms of trade of eight industrial Western European countries by areas gave the index in Table 7: A.

Table 7. Kindleberger's indices on terms of trade and prices (\$ relatives, 1913 = 100)

A. Net Barter Terms of Trade (by region)							B. Double Factorial Terms of Trade (in trade with):						
Year	Indus- trial Europe	Other Europe	Total Europe	United States	Areas of Recent Settle- ment	All Other	World (incl. Industr. Europe)	World (excl. Industr. Europe)	Indus- trial Europe	Other Europe	United States	Areas of Recent Settle- ment	All Other
1872	112	102	114	137	108	123	119	119	100	55	160	135	120
1900	96	98	100	114	115	122	108	112	100	70	110	115	100
1913	100	100	100	100	100	100	100	100	100	100	100	100	100
1928	103	96	101	101	104	119	102	104	100	130	90	110	150
1938	104	116	108	114	144	176	135	143	100	190	110	170	250
1952	100	96	98	82	120	155	117	122	100	130	65	110	210

C. Terms of Trade of Manufactures/Primary Products * (excl. Ger.)				D. Prices (unit value)		Sweden U.K. & (Timber Germany Products, (Coal and Paper) Coke)	
Year	Industrial Europe	World			Industrial Europe		
		League of Nations	Lewis		Manu- factures	Primary Products	
1872	120 (98)*	93	95		152 (123)*	126	123
1900	108	99	102		93	86	102
1913	100	100	100		100	100	100
1928	97	112	112		132	136	161
1938	131	138	134		127	98	150
1952 (1950)	109	—	(98)		272	250	559

Source: Kindleberger 1956; Index A: 234; B: 240; C adapted from 259; D adapted from 259 & 266, n. 12.

From 1913 the (net barter) terms of trade of industrial Europe deteriorated against United States, remained relatively unchanged against Other Europe, improved somewhat against Areas of Recent Settlement and sharply against All Other (= non-European underdeveloped) countries. (If the base is moved to the more uncertain earlier dates, the general picture remains, though the deterioration against the United States is accentuated and the deterioration against Areas of Recent Settlement and All Other countries is moderated.) In line with, e.g., Viner above, Kindleberger (1956: 235) here made a fundamental point: "The sharp decline of the terms of trade of All Other countries *vis-à-vis* Industrial Europe is less than conclusive evidence of a deterioration of the terms of trade against primary-producing countries in general. Other Europe and Areas of Recent Settlement are mainly sources of raw materials and foodstuffs, and the majority of Industrial European imports from the United States are of the same character (and incidentally [...] have done very well in price)." The rise in the price index of Swedish timber (Table 7: D) had been exceptional (in spite of substitutes, though long fibres of northern conifers differentiate them from many other kinds of wood), and the relatively beneficial terms of trade of Other European countries was largely attributable to the wood and wood products. Looking closer at the intra-European variation, Kindleberger (1956: 239) nevertheless found that "it is a fair conclusion that in the European context the terms of trade favor the developed and run against the underdeveloped countries."

The price of coal, which was exported by the U.K. and Germany even to the Third World, had shown a similar trend, whereas the price of oil (before OPEC) had declined in spite of the enormous increase of demand. “The fact of the matter is that coal, and timber and timber products behave very differently from, say, cotton, fats and oils, and petroleum products” (*ibid.*: 265f.). On the other hand the price of textiles had declined in spite of their being manufactures, and so on.

Reviewing the various attempts to determine the overall terms of trade for manufactures over primary products, such as League of Nations (1945), on which Singer had largely based his conclusions, or Arthur Lewis’s more recent attempt (Table 7: C), Kindleberger (1956: 263) found his own series for industrial Europe, purged of German bias in 1872, as good as any. However, this “showed very little trend of any kind. The 1938 movement in favor of manufactures, subsequently reversed, is the product of depression” and over the 70 years covered, the net change amounted to merely 10%, which of course was smaller than the margin of error. “It may be fair to conclude that there is no long-run tendency for the terms of trade to move against primary products in favor of manufactures.” Indeed, if allowance was made for probable quality differential, the reverse would be the case. “Unweighted by quality,” however, “the terms of trade run heavily against underdeveloped countries, or rather against those many underdeveloped countries represented by the All Other category [...], but not against primary products.” Furthermore, as he (*ibid.*: 240) maintained and hesitatingly attempted to provide numerical estimates for (Table 7: B): “If the terms of trade run in favor of developed and against underdeveloped countries, the double factorial terms of trade that take account of changes in productivity must do so still more.” As we shall see, this was in fact one of the main points all along.⁵⁰

Indeed, Singer himself had already noted as a major limitation of his U.N. study that it was based on price relations between primary commodities, which formed the major export articles of underdeveloped countries, and manufactured goods – specifically capital goods – which formed an important part of their imports. “It may, however, be very misleading to conclude that changes in total terms of trade as they affect under-developed countries follow directly from changes in price relations between these major classes of commodities. In particular, the high prices of food imported into under-developed countries must be considered before conclusions are drawn from simple changes in price relations between primary and manufactured goods” (U.N. 1949: 4). Neither did his study attempt to say anything on the internal or distributional effects of price changes within underdeveloped countries, emphasising (*ibid.*: 5) that price relations were “only one of many factors determining the distribution of gains from trade between under-developed and industrialized countries”, and “only a part of the broad problem of economic development.” So, from this point of view some of the critics were battering at an open door and clearly overreacting.

Nevertheless, as evidenced by the types of explanation offered, the original emphasis was still on the type of product and what has been called the ‘fundamental inferiority of trade in basic produce as compared with trade in manufactures’. This age-old ‘mercantilist’ idea had a renaissance with the Prebisch-Singer theorem, as it has had for example in ecological attempts to formulate unequal exchange, but continued allegiance becomes a bit odd in view of the fact that Singer himself, responding to Kindleberger’s criticism, already by 1958 had partly

⁵⁰ A later stock-taking by Bairoch (1975: 111-134; cf. Lipsey 1963: 12-17) came to largely the same conclusions regarding the secular trend of the terms of trade for primary commodities, which he held had even benefited over the period from the 1870s to the 1950s. He also maintained that the terminal year of the original study (1938) was abnormal, and cited trade figures for the United States and France diverging from the original British ones, as well as long-term studies of terms of trade for several exporters of primary products contradicting the U.N. study. Furthermore, he (cf. Chapter 23 below) has repeatedly pointed out that the developed world was more or less self-sufficient in primary products up to the 1950s, although it has since become a net importer.

abandoned this conception in favour of the idea that it is instead the terms of trade of developing countries *as such* that are deteriorating, whether they produce raw-materials or manufactures (Singer 1958: 87f.; 1974-75). Singer I, he (1975: 58) explained, *i.e.*, in 1949, had discussed the problem very largely in terms of different commodities and their attributes: “Quite specifically, like others of the day, I thought of industrialization as the great saviour”. Singer II, of 1974, wanted to put the emphasis differently: “Singer I assumed the central peripheral relationship to reside in the characteristics of different types of *commodities*, *i.e.* modern manufactures versus primary commodities. Singer II now feels that the essence of the relationship lies in the different types of *countries*” (*ibid.*: 59). Recollecting the early years, Singer (1984: 292f.) wrote of the “point first made by Charles Kindleberger, that the tendency toward deterioration is more a matter of the characteristics of different countries than of different commodities”, dubbing it the ‘Kindleberger effect’ as supplementing the ‘Prebisch-Singer effect.’

In his 1987 contribution to *The New Palgrave*, Singer concluded that prices on primary products of developed countries 1954-72 sank yearly by on average 0.73%, while the corresponding figure for developing countries was 1.82%. The terms of trade for manufactures was similarly less in developing than in developed countries. The factors to be taken into account in explaining the deterioration in terms of trade of developed countries are:

- (1) the rate of deterioration in prices of their primary commodities compared with those of primary commodities exported by industrial countries;
- (2) a fall in prices of the manufactures exported by developing countries relative to the manufactures exported by industrial countries; and
- (3) the higher proportion of primary commodities in the exports of developing countries which means that the deterioration of primary commodities in relation to manufactures affected them more than the industrial countries. (Singer 1987: 628.)

The original Prebisch-Singer hypothesis included only the third aspect, while later theories, shifting emphasis from commodity factors to country factors, tried to cover all three. Of these, Singer mentioned the dependency approach of the later Prebisch, the ECLA, Celso Furtado, as well as the centre-periphery analysis of Dudley Seers, and “particularly” (*loc. cit.*) Emmanuel’s theory of unequal exchange. For this unusual acknowledgment of ‘unequal exchange’ by one of the pioneers of development theory, we may thank his colleague at the Institute of Development Studies, David Evans, from whom he learnt about it, rather than from Emmanuel (Singer 1984: 280, n. 13; refers also to Lorenz 1970 & 1982).

Turning to explanations, the critics of the Prebisch-Singer theorem have a stronger case. Sticking with the original declining terms of trade for primary products, trying to explain them was quite another matter, particularly within the established framework, which, as noted above, had thitherto uniformly predicted the opposite. It would not be surprising, then, if those rare attempts at generalised explanations which appeared for the most part only half-heartedly managed to break with tradition, grabbing for straws within and outside that framework, and therefore tending to become overdetermined. Although such a discussion is all but absent, it would for example be odd if the explanations proposed were so general that they predicted perpetually deteriorating terms of trade for primary products, since Singer himself had noted that there was a shift in the 1870s. But let us first see what Prebisch and Singer actually said, and if there was indeed a single theorem.

Singer’s initial statistical study refrained from any attempt “to analyse the causes of the continued downward trend over the long period in the prices of primary products, relative to manufactured articles”, but perhaps more importantly it at least rejected some explanations. In principle, the trend could be an effect of a relatively greater increase in productivity in the output of primary over manufactured goods, but although such data were lacking this explanation could be dismissed: “There is little doubt that productivity increased faster in the

industrialized countries than in primary production in under-developed countries”, as was “evidenced by the more rapid rise in standards of living in industrialised countries from 1870 to the present day”:

Hence, the changes observed in terms of trade do not mean that increased productivity in primary production was passed on to industrialized countries; on the contrary, they mean that the under-developed countries helped to maintain, in the prices which they paid for their imported manufactures relative to those which they obtained for their own primary products, a rising standard of living in the industrialized countries, without receiving, in the price of their own products, a corresponding equivalent contribution towards their own standards of living. (U.N. 1949: 126)

If there is any single origin for the postwar debate on ‘unequal exchange’ in Love’s (1980) sense, this conclusion is a good candidate. This was the report’s most controversial implication, and, as Toye & Toye (2003: 450) have shown, Singer’s “clear message of historical injustice”, was “very shortly to be rejected by the subcommission”, and was in fact the reason why Prebisch avoided the general fate of U.N. authors to remain anonymous (*ibid.*: 456f.). It had been announced even earlier, at a seminar to the New School of Social Research, New York, on 23 December 1948, where he, he (1949: 2f) said: “Marxist analysis, in which rising standards of living for given groups and sections are somehow held to be compatible with general deterioration and impoverishment, is much truer for the international scene than it is for the domestic.” The reason for the growing inequality in the distribution of world income was attributable to the change in price relations between primary products and manufactures, or to “a structural difference between countries where increased efficiency of production leads to higher incomes and those where it leads to falling product prices” (Toye & Toye 2003: 460, n. 48).

In May, following Singer’s report, Prebisch quoted both the data (in slight modification) and the above conclusion (ECLA: 10, n. 3) to make the same point, only adding the centre-periphery terminology:

Speaking generally, technical progress seems to have been greater in industry than in the primary production of peripheral countries [...]. Consequently, if prices had been reduced in proportion to increasing productivity, the reduction should have been less in the case of primary products than in that of manufactures, so that as the disparity between productivities increased, the price relationship between the two should have shown a steady improvement in favour of the countries of the periphery.[...]The benefits of technical progress would thus have been distributed alike throughout the world, in accordance with the implicit premise of the schema of the international division of labor [...]. (ECLA 1950: 8.)

As we have seen, this had not happened; prices had not fallen with increasing technical progress; rather, the rewarding of entrepreneurs and other factors had increased prices:

Had the rise in income in the industrial centres and the periphery been proportionate to the increase in their respective productivity, the price relation between primary and manufactured products would have been the same as if prices had fallen in strict proportion to productivity. Given the higher productivity of industry, the price relation would have moved in favor of the primary products.

[...] Since [...] the ratio actually moved against primary products in the period between the 1870’s and the 1930’s it is evident that in the center the income of entrepreneurs and of productive factors increased relatively more than productivity.

In other words, while the centers kept the whole benefit of the technical development of their industries, the peripheral countries transferred to them a share of the fruits of their own technical progress. (*Ibid.*: 10.)

The ‘inequality’ which both Singer and Prebisch point to, is the fact that deteriorating commodity terms of trade reflect a transfer – of some sort – ‘in the wrong direction’ from low to high productivity countries. The importance of this is implied by the complete reversal of the liberal prediction that the more saturated with capital the industrial countries became, the lower would profits become. Thus, opportunities for investment would decrease and capital

flow to the underdeveloped countries. As Meier (1958: 65) admitted in passing, however, “this conclusion [...] depends [...] on the qualification of *ceteris paribus* (particularly no change in the terms of trade).”

The deteriorating net barter terms of trade suggested a more important deterioration, if not in the actual double factorial terms of trade, then at least in what the terms of trade *should* have been. As Streeten (1982: 8) was to observe, “the debate over the course of the terms of trade has been shunted onto the wrong track, by disputing the question as to whether they had deteriorated historically. The relevant question is not what are the terms of trade compared to what they were, but what are they compared with what they should and could be.” When Singer looked back once again from the 1980s, he observed that his early papers “concentrated on the issue of distributive justice or fairness or desirability in sharing out the gains from trade.” He did not deny that there *may* be actual gains from trade, as compared with no trade – and neither did Emmanuel, although there is some confusion and ‘guilt’ by association with Samir Amin on this issue – or claim that there was necessarily an actual deterioration of welfare, which would have required study of factorial terms of trade for which the data were not available. Singer did, however,

look into productivity trends, and by implication argued that if productivity in manufacturing increases faster than productivity in primary production – surely a justifiable assumption then and now – it must be assumed that the distribution of welfare gains based on double factorial terms of trade (allowing for change in productivity in the production of exports and imports) would a fortiori become even more unequal (unfair, undesirable). [...] Naturally, deteriorating terms of trade mean a welfare loss for the developing countries as compared with a situation in which their terms of trade do not deteriorate while everything else, specifically including export volume and factorial terms of trade, is exactly the same – but that is clearly a hypothetical comparison. (Singer 1984: 284)

Following Streeten above, it would still be this hypothetical comparison that is important, notably because orthodox economics had for over a century had envisioned and predicted precisely the opposite hypothetical situation. As far as historical and economic interpretation, and the detection of trends go, it is clearly a valid exercise, indicating what goes on under the empirical ‘surface’ of observable price changes. This is what makes the terms of trade interesting in the first place. They could for example be placed in a dynamic and international context, such as that suggested by Nurkse in the early 1950s where relative lack of purchasing power meant reinforcing a vicious circle of geographical disparities in investment opportunities. The case for a dynamically vicious circle was found in Myrdal’s *American Dilemma* (1944) and developed in the field of international economics by himself, Hilgert, Prebisch, Nurkse, and Emmanuel, the latter for whom a comparison between the actual and a hypothetical situation was the very definition of unequal exchange (though he sometimes identified it with the double factorial terms of trade).

In the above passage, Prebisch made no distinction between ‘entrepreneurs’ and ‘productive factors’, which indicates that the benefits could equally well show up in higher rates of profit as in wages or rents. Later he and the ECLA were to focus on ‘monopolistic pricing’ at the centre, but elsewhere in his original study Prebisch singles out the trade-union factor, which was insignificant in the periphery.⁵¹ In the developed countries progress in manufactures led

⁵¹ According to Flanders (1964: 313f.), Prebisch assumed a single factor of production (labour), with which to compare productivity and make an index of comparative advantage. This is only permissible if both countries produced the same goods that enter into trade and with roughly the same combinations of labour and other inputs. Since Prebisch “argues that there is a significant “profit” element included in wages in the centre but not in the periphery”, even this is questionable. But even so, “it is impossible to say that the productivity of labour (or of anything else) in coffee production is four times as high in Brazil as in Canada, because nobody knows what the productivity of labour in coffee production is in Canada. Furthermore, it would be wrong to say that if productivity per man in beef production in Argentina are three times as high as in the United Kingdom, and

to increased wages, whereas in the underdeveloped countries, progress in the food- and raw-materials branches led to lower prices. This could only be understood in relation to trade cycles and the way in which they occur in the centres and at the periphery: during the upswing prices of primary goods rise more sharply than those of industrial goods, but during the downswing they fall more steeply. "In the cyclical process of the centres," he explained,

there is a continuous inequality between the aggregate demand and supply of finished consumer goods. The former is greater than the latter in the upswing and lower in the downswing.

The magnitude of profits and their variations are closely bound up with this disparity. Profits rise during the upswing, thus tending to curtail excess demand by raising prices; they fall during the downswing, tending in that case, to counteract the effect of the excess supply by lowering prices.

As prices rise, profits are transferred from the entrepreneurs as the centre to the primary producers of the periphery. The greater the competition and the longer the time required to increase primary production in relation to the time needed for the other stages of production, and the smaller the stocks, the greater the proportion of profits transferred to the periphery. Hence follows a typical characteristic of the cyclical upswing: prices of primary products tend to rise more sharply than those of finished goods, by reason of the high proportions of profits transferred to the periphery. (ECLA 1950: 12f.)

But if this was so, how does one explain that over time and throughout the cycle, income has increased more in the centre than in the periphery? Prebisch (ECLA 1950: 13) saw no contradiction, since even if "prices of primary products rise more rapidly than industrial prices during the upswing" they also "fall more in the downswing, so that in the course of the cycle the gap between prices of the two is progressively widened." So far, however, he had offered no explanation of this progressive widening. He could conceivably have referred, in an Innisian 'cyclonic' manner, to the socially disruptive side-effects of the heavier fluctuation themselves, but Prebisch instead argued that centre profits could not fall in the same way during the downswing as they rose in the upswing.

In the upswing the working classes of the centre absorbed real economic gains, but during the downswing they did not fall proportionately because of downward rigidities of wages enforced by trade unions. Ill-organised peripheral workers, particularly in agriculture, meant that the downswing contraction of income was redirected towards the periphery:

The reason is very simple. During the upswing, part of the profits are absorbed by an increase in wages, occasioned by competition between entrepreneurs and by the pressure of trade unions. When profits have to be reduced during the downswing, the part that had been absorbed by wage increases loses its fluidity, at the centre, by reason of the well-known resistance to a lowering of wages. The pressure then moves toward the periphery, with greater force than would be the case if, by reason of the limitations of competition, wages and profits in the centre were not rigid. The less that income can contract at the centre, the more it must do so at the periphery.

The characteristic lack of organization among the workers employed in primary production prevents them from obtaining wage increases comparable to those of the industrial countries and from maintaining the increases to the same extent. The reduction of income – whether profits or wages – is therefore less difficult at the periphery. (*Loc. cit.*)

Again there was the theoretical indifference as to whether the reduction hit the rate of profit or the wage-rate. It should also be noted that the trade-union factor was only a 'passive' force, so to speak, able to protect an increase in productivity as wages, but unable to raise wages by itself. The primacy of market forces was even more underlined in the subsequent passage, which undermined his first explanation:

Even if there existed as great a rigidity at the periphery as at the centre, it would merely increase the pressure of the latter on the former, since, when profits in the periphery did not decrease sufficiently to offset the inequality between supply and demand in the cyclical centres, stocks would accumulate in the latter, industrial

wages in Argentina are half as high as in the United Kingdom, then beef must cost one-sixth as much in Argentina as in the United Kingdom [...] because we know from this nothing about the relative amounts (and costs) of non-labour inputs – land, feed, shelter, etc., involved in beef production in the two countries."

production contract, and with the demand for primary products. Demand would then fall to the extent required to achieve the necessary reduction in income in the primary producing sector. (ECLA 1950: 13f.)

From his Argentinean experience, Prebisch knew well the intensity which this movement could attain, in the “forced readjustment of costs of primary production during the world crisis”, but he forgot to mention that in his experience it included the wealthy wheat producing ‘new countries’ Argentina, Australia, Canada, and the United States.

Instead of pursuing the argument on trade unions, he preferred to extend on the ‘cyclical centres’ Just as the Canadian discussion and the monetary theorists of the 1930s, Prebisch emphasised how Great Britain had now been replaced by the United States as the principal cyclical centre of the world, elaborating on the consequent Latin American ‘dollar shortage’ following the much lower U.S. import coefficient (ECLA: Ch. 4). This centre position was crucial both in obtaining wage increases and in redirecting loss of profit to the periphery:

The greater ability of the masses in the cyclical centres to obtain rises in wages during the upswing and to maintain them during the downswing and the ability of these centres, by virtue of the role they play in production, to divert cyclical pressure to the periphery (causing a greater reduction of income of the latter than in that of the centres) explain why income at the centres persistently tends to rise more than in the countries of the periphery, as happened in the case of Latin America.

That is the clue to the phenomenon whereby the great industrial centres not only keep for themselves the benefit of the use of new techniques in their own economy, but are in a favourable position to obtain a share of that deriving from the technical progress of the periphery. (ECLA 1950: 14)

In spite of this ‘clue’, nowhere was there any mention of other divisions than that between primary and industrial goods or countries: centres were all industrial, peripheries all agricultural, fitting rather well the 19th-century relation between Argentina and the U.K., but, as is indeed evident from the ‘import coefficient’, not the U.S.. Despite the warnings in Singer’s original statistical presentation, then, this division was as good as a definition for Prebisch. No subdivision was made among different agricultural products, such as food in Singer, or among temperate and tropical producers and regions as in Innis and later Lewis. It is not pointed out, as it was by Singer that the terms of trade had in all probability *ameliorated* for primary products up to the 1870s.

By transposing his Argentinean experience to all of Latin America, Prebisch overemphasised the unity of Latin America as ‘periphery’, perhaps fittingly for United Nations’ organs based on continents. He neglected both more or less failed early Latin American attempts at industrialisation, such as in Brazil, and the evident fact pointed out by critics that ‘industrial’ centre-countries included many agricultural exporters. His division into centre and periphery blurred and meshed at least two different phenomena, one reflecting the mercantilist colonial policy of (European) mother countries importing raw materials and exporting manufactures to their (neo-European) colonies, itself perhaps modelled on the town-country dichotomy; the other reflecting the newly experienced division into underdeveloped vs. developed, or as it was ‘industrialised’, which was central in the United Nation’s conception of the world. These shortcomings can perhaps be explained by the principally policy oriented approach, a bias no doubt shared with most of his colleagues in development economics, which leads analysts in different and perhaps theoretically neglected directions depending on circumstances and personal experience, but does not always foster either coherent general theory or profound historical interpretation.

On the policy plane, Prebisch mentioned various alternative solutions. First he pointed out that “since prices do not keep pace with productivity, industrialization is the only means by which Latin-American countries may fully obtain the advantages of technical progress” (ECLA 1950: 16). Nevertheless, in spite of this focus on industrialisation he could later on explain (tautologically) that economic growth of Latin America, depended on an increase in

population, and an increase in average income per inhabitant. The latter could, however, be achieved either through an increase in productivity, or, in parallel fashion to industrial trade unions, “assuming a certain level of productivity, through an increase in income per man engaged in primary production, in relation to the income of the industrial countries which import part of that production”. This would tend “to correct the disparity in income brought about by the way in which the benefits of technical progress are distributed between the centres and the periphery” (*ibid.*: 43).

Furthermore, he had found an alternative solution to industrialisation in the classical theory. If the advantages of technique were not passed on through prices, they would have extended to the same degree by the raising of income, just as had happened in the United States and in the other great industrial centres. But the practicality of this classical economic solution was seriously hampered in the real world, as Prebisch and anyone else with experience from Mexico must have been well aware. For it to have occurred in the rest of the world, “would have required, throughout the world, the same mobility of factors of production as that which characterized the broad field of the internal economy of the United States” (*ibid.*: 16). That mobility was one of the essential assumptions of the theory, but in the real world a series of obstacles hampered such easy mobility. This implied a difference between the actual situation and a hypothetical one:

Doubtless the high wages paid in the United States, as compared with those of the rest of the world, would have attracted large masses to that country, with a very adverse effect upon wages, tending to reduce the difference between them and those of the rest of the world.

Thus the observance of one of the essential rules of the classical game would have resulted in a considerable lowering of the standard of living of the United States, as compared with the levels actually achieved.

It is easily understandable that the protection of this standard of living, attained by great effort, should have prevailed over the uncertain advantages of an academic concept. (ECLA 1950: 16)

A similar point was to be made again with greater emphasis by both Lewis and Emmanuel, the latter whose very definition of unequal exchange consisted in comparing the actual situation with such an hypothetical one. For neither of them the importance lay in the definition, however, but much more in the light theory threw on our understanding of history.

Other points also found in many of the early development economists – such as Rosenstein-Rodan, Nurkse, Singer, Baran, and Lewis – concern the problems of capital formation, for Prebisch concentrated to Latin America and particularly related to inflation. Productivity in some Latin American countries, said ECLA (1950: 37), “is very low owing to lack of capital; and the lack of capital is due to the narrow margin of savings resulting from this low productivity. The temporary help of foreign capital is necessary if this vicious circle is to be broken without unduly restricting the present consumption of the masses”. This was the angle from which Singer was to broach the problem of terms of trade. The ECLA (*loc. cit.*) also noted another problem: “Throughout most of Latin America, the characteristic lack of savings is the result, not only of this narrow margin, but, in many cases, of its improper use”, *i.e.*, “certain types of consumption peculiar to relatively high income groups.” There is nothing to say that these questions were not as important to Prebisch as the terms of trade, of which there was to be so much criticism. Indeed, in the argument of Tøye & Tøye (2003), these other matters were what really concerned Prebisch until after reading Singer’s 1949 U.N. report, and which he soon reverted to afterwards. Prebisch’s argument on how the periphery transfers the fruits of its technological progress through the deterioration in the terms of trade, consisted partly in that prices and wages were flexible upward in the centre but not in the periphery, and partly in the ‘technological density’ of the centre as compared with that of the periphery; finally, a case was made for the tendency of the periphery to develop a balance-of-payments deficit because of the higher propensity to import than the centre, whereas the significance of price-elastic demand for primary products “has been given much more

attention in the “commentaries” than in Prebisch’s own work” (Flanders 1964: 316). The latter point seems, however, to have been the main focus for Singer.

Singer did not make public his own interpretation of the falling terms of trade until the 62nd annual meeting of the American Economic Association after Christmas 1949 (published in May 1950), a full ten months after the initial presentation of his statistics and a seven months after Prebisch’s attempted interpretation of them. Being in New York, there is no indication that he had any contact with Prebisch in Santiago, the English version of whose *Economic Development of Latin America* appeared only on 27 April 1950, and on Love’s inquiry they both denied having had any contact. Presumably based on these publications the argument was sometimes referred to as the ‘Singer-Prebisch’ theorem, but it is now commonly referred to as the ‘Prebisch-Singer’ theorem of which they are seen, then, as independent originators. There seems not to have been much debate on who actually came up with it first. Love argues, based on the Spanish edition from May 1949, that Prebisch was first, but he seems to have been unaware that it was Singer who produced the original U.N. study, something which for the generous interpreter would surely have changed the picture. Actually, Love’s (1980: 65) case is another, which I think one could also be generous enough to admit: “Not paradoxically, I hope, I have also argued that Prebisch had formulated the elements of his thesis before the appearance, in 1949, of the empirical base on which the thesis rested in its first published form – the U.N. study, *Relative Prices*.” In fact, Tøye & Tøye (2003: 445) argues, the 1948 lectures to which Love refers, did not include the terms ‘centre’ and ‘periphery’ and the conditions under which the unequal distribution of gains from trade appeared were too confused to allow any clearcut statement on the direction of the terms of trade. He never referred to the secular decline in the terms of trade before having read Singer’s U.N. study (something Singer had on Tøye’s & Tøye’s inquiry always presumed), and his interest was still with the study of the business cycle. Prebisch feigned not to have been aware of Singer in New York, but it was only after a letter by G. Martínez Cabañas in New York to Prebisch, 5 March 1949, urging him to study the findings of the “much debated” Sr. Singer’ study on the terms of trade – a problem which was “one of the most important of those that will be treated in the general study that we [*i.e.*, the ECLA] are going to present at the Havana Conference” – that he turned his mind to the question of the terms of trade (quotation in Tøye & Tøye 2003: 453; they also demonstrate two other transmission channels at least one of which mentioned Singer by name as the author of the *Relative Prices* study). Even in the final text, Prebisch dealt extremely briefly with the whole issue of the secular decline in the terms of trade, but it “powerfully reinforced his other main arguments – that the international division of labor was an “out-dated schema,” and that “industrialization is the only means by which the Latin-American countries may fully obtain the advantages of technical progress” (Tøye & Tøye 2003: 455, quoting ECLA 1950: 1, 16).

Even should Prebisch have been the first to formulate what would then correctly be called the Prebisch-Singer theorem, it would not imply that he was thereby also the originator of the postwar debate on unequal exchange as Love assumes. Love’s usage of the term is consistently vague, speaking as if it were a constituent element of the dependency tradition in general, even though, as we shall see (Chapter 12), neither Baran’s nor Frank’s paradigmatic writings gave any consideration to terms of trade or transfers of value via exchange. If we allow with Love to let ‘unequal exchange’ stand for a broader debate on the inequality of trading relations between developed and underdeveloped regions of the world, then Singer’s U.N. study pointed to these before Prebisch, and in a way that indubitably concerned developed and underdeveloped regions and no other couple. If on the other hand, one is to use some more precise definition of the debate on ‘unequal exchange’, or the spread of the actual term, as distinct from ‘non-equivalent exchange’ common in Marxist literature, then it seems equally indubitable that the origination was Emmanuel’s (1962) essay on ‘L’échange inégal’.

While Prebisch met with acclaim when presenting the ECLA thesis in Havana, the controversial lessons drawn by Singer had not been endorsed by the U.N. Sub-Commission on Economic Development. When confronted with it in the ECLA study it therefore adopted the extreme, and as it turned out completely failed, measure of attributing it to Prebisch as an individual in the hope of thereby limiting its impact (Toye & Toye 2003: 456ff.). However, Singer's emphasis on "the distribution of gains between investing and borrowing countries" was nevertheless different, addressing the problem from the angle of 'U.S. foreign investment in underdeveloped areas' (the section under which it appeared), and with reference both to the Marshall Plan (1950: 483) and Truman's Point Four (*ibid.*: 484). He certainly did not focus on Latin America, mentioning (*ibid.*: 476) specifically only the "tea plantations of Ceylon, the oil wells of Iran, the copper mines of Chile, and the cocoa industry of the Gold Coast," in a sample of important industries from representative geographical areas. He began (*ibid.*: 473f.) by pointing out that underdeveloped countries often present "the spectacle of a dualistic economic structure", in which the export industries, "whether they be metal mines, plantations, etc., are often highly capital-intensive industries supported by a great deal of important foreign technology", whereas by contrast, "production for domestic use, specially of food and clothing, is often of a very primitive subsistence nature." Arthur Lewis was among those Singer wished to acknowledge and the same 'dual' economic pattern, with widely diverging productivity levels, reappeared in his writings. Singer (*ibid.*: 475) wished to cast doubt on the common view that investments were necessarily always beneficial, and that "the productive facilities for export from underdeveloped countries, which were so largely a result of foreign investment, never became part of the internal economic structure of those underdeveloped countries themselves":

Economically speaking, they were really an outpost of the economies of the more developed investing countries. The main secondary multiplier effects, which the textbooks tell us to expect from investment, took place not where the investment was physically or geographically located but [...] they took place where the investment came from. (*Loc. cit.*)

Indeed, he (*ibid.*: 477) argued, these investments could even have harmful effects by making countries specialise on supplying the industrialised countries with raw materials, and withholding the possible side effects on the general level of education, skill, way of life, inventiveness, habits, store of technology, creation of new demand, etc. that Singer believed were more closely linked to manufacturing industries. He thus contended that, for several reasons, "the specialisation of underdeveloped countries on export of food and raw materials to industrialized countries, largely as a result of investment by the latter, has been unfortunate for the underdeveloped countries". First, he maintained, "because it removed most of the secondary and cumulative effects of investment from the country in which the investment took place to the investing country". Secondly, "because it diverted the underdeveloped countries into types of activity offering less scope for technical progress, internal and external economies taken by themselves, and withheld from the course of their economic history a central factor of dynamic radiation which has revolutionized society in the industrialized countries." Finally, however, (*ibid.*: 478) there was also a third reason, "of perhaps even greater importance", relating to the terms of trade.

Referring to his previous study for the United Nations, Singer established that ever since the 1870s the trend had been heavily against sellers of food and raw materials and in favour of sellers of manufactured goods. Again dismissing the possibility that this might be explained by greater productivity increase in the former line of production, the following interpretation then presented itself:

The fruits of technical knowledge may be distributed either to producers (in the form of rising incomes) or to consumers (in the form of lower prices). In the case of manufactured commodities produced in more developed

countries, the former method, i.e., distribution to producers through higher incomes, was much more important relatively to the second method, while the second method prevailed more in the case of the food and raw material production in the underdeveloped countries. Generalizing, we may say that technical progress in manufacturing industries showed in a rise in incomes while technical progress in the production of food and raw materials in underdeveloped countries showed in a fall in process. (*Loc. cit.*)

In a closed economy the two groups could be considered as identical, but where foreign trade was involved the producers were at home and the consumers abroad. Singer established that higher remuneration of domestic producers would constitute a burden on foreign consumers, but even should an increase in domestic income follow productivity, this would entail a lack of gain on behalf of the foreign consumer:

Rising incomes of home producers to the extent that they are in excess of increased productivity are an absolute burden on the foreign consumer. Even if the rise in income of home producers is offset by increases in productivity so that prices remain constant or even fall by less than the gain in productivity, this is still a relative burden on foreign consumers, in the sense that they lose part or all of the potential fruits of technical progress in the form of lower prices. (*Ibid.*: 479)

Singer proposed to explain how income levels could be raised above those of productivity through “the notorious inelasticity of demand for primary commodities”, but there were other factors such as “the absence of pressure of producers for higher incomes”. Singer’s silence on any distinction between wages and profits is unfortunately even greater than Prebisch’s. Extrapolating from Ernst Engel’s law that the proportion of income spent on foods increase as income rises, Singer (*ibid.*:479) held that technical progress “operates unequivocally in favor of manufactures – since the rise in real incomes generates a more than proportionate increase in the demand for manufactures – has not the same effect on the demand for food and raw materials”. Furthermore, in manufacturing it “actually largely consists of a reduction in the amount of raw materials used per unit of output, which may compensate or even overcompensate the increase in the volume of manufacturing output. This lack of an automatic multiplication in demand, coupled with the low price elasticity of demand for both raw materials and food, results in large price falls, not only cyclical but also structural.”

Returning to the question from which his original exposition set out, Singer explained how foreign investment in the production of primary commodities benefited the investing country, through beneficial cumulative effects in the investing country, as consumer in lower prices resulting from higher productivity in primary production, and as producer in not sharing the fruits of technical progress in the production of manufactures, partly through specialisation in high productivity branches.⁵² Thus, he explained (*ibid.*: 479f.):

The industrialized countries have had the best of both worlds, both as consumers of primary commodities and as producers of manufactured articles, whereas the underdeveloped countries had the worst of both worlds, as consumers of manufactures and as producers of raw materials. This is perhaps the legitimate germ of truth in the charge that foreign investment of the traditional type formed part of a system of “economic imperialism” and of “exploitation.”

The benefits of foreign trade and investment had not been equally shared between the two groups of countries (*ibid.*: 480): “Perhaps the widespread though inarticulate feeling in the

⁵² Singer (1950: 480) enumerated: “The capital-exporting countries have received their repayment many times over in the following five forms: (a) possibility of building up exports of manufactures and thus transferring their population from low productivity occupations to high-productivity occupations; (b) enjoyment of the internal economies of expanded manufacturing from industries in a progressive society; (d) enjoyment of the fruits of technical progress in primary production as main consumers of primary commodities; (e) enjoyment of a contribution from foreign consumers of manufactured articles, representing as it were their contribution to the rising incomes of the producers of manufactured articles.”

underdeveloped countries that the dice have been loaded against them was not so devoid of foundation after all as the pure theory of exchange might have led one to believe.”

Prebisch's focus had been on Latin America's relations with the United States and the problems arising from its low import requirements, but by 1951, ECLA emphasis had shifted to disparities in income elasticities of demand at the centre for primary products, and those of the periphery for industrial goods, thus adopting Singer's terms and dealing instead with the centre countries as a group (Love 1980: 59). Amin (1970a, 1: 83f.) also saw a difference of emphasis between the arguments of Prebisch and Singer, the former pointing to the rigidity of wages in the centre, while the latter focused on the differences in demand for agricultural and industrial commodities. The main difference was perhaps rather Prebisch's concern with medium-term business-cycles, and the centre-periphery terminology which implied a corresponding historico-geographical framework. While highly suggestive and appealing to Latin Americans with traditional export economies and a sense of having fallen behind, when linked to the dichotomy 'developed-underdeveloped' it also introduced a confusion of analysis more evident with respect to the other, *e.g.*, Anglo-Saxon, historico-geographical peripheries, and the inability to handle this problem has lived on in the dependency tradition (cf. Chapters 9, 12, 23).

According to a later summary by Singer (1987: 627), the underlying economic argument of the combined Prebisch-Singer theorem can be put under four headings:

(1) The lower elasticity of demand for primary commodities than for manufactured goods, meaning that a drop in the price of primary inputs will only mean a proportionately less drop in the price of the finished product and no great effect in demand can be expected. Singer tries to explain how this is bad, since if prices fall (presumably through technological progress) the volume sold will not be able to compensate and this will show up in the balance of payments. (If the price of food drops, consumers will not just buy more food but rather other goods.) Though Singer does not lay emphasis on this, such inelasticity naturally also means that if prices rise there will be gains which are just as great. He instead points out, though he admits that the original analysis “did not always quite clearly distinguish the disadvantages [...] due to price instability from those due to a deteriorating trend.” The former had been pointed out by Singer's old teacher, J. M. Keynes in 1938 and at the Bretton Woods conference when proposing “even a world currency based on commodities.”

(2) Demand for primary products is bound to expand less than demand for manufactured products, partly because of the lower income elasticity of demand for primary products, especially agricultural products (Engel's Law), and partly because the technological superiority of industrial countries is devoted also to economies in resource use and to the development of synthetic substitutes for primary commodities. Such divergent demand trends introduces a tendency towards balance of trade deficits, which will enforce currency depreciations and a further circle of terms of trade depreciation.

(3) In line with the argument of another of Singer's old teachers, J.A. Schumpeter, the technological superiority of the industrialised countries, concentrated in multinational firms based there, means that the prices of manufactured exports “embody a Schumpeterian rent element for innovation and also a monopolistic profit element because of the size and power of multinational firms.”

(4) The structure of both commodity markets and labour markets is different in industrial and underdeveloped countries. Here, Singer is referring mainly to Prebisch and other contributors (even Arthur Lewis, whose theory must be considered as quite distinct) than to his own article (though he had brushed the subject), which may explain the inverted commas: “In the industrial ‘centre’ countries, labour is organized in trade unions and producers in strong monopolistic firms and producers' organizations,” meaning that “the results of technical progress and increased productivity are largely absorbed in higher factor incomes

rather than lower prices for the consumers.” By contrast, in the underdeveloped countries (and Singer here enforces his and Prebisch’s argument with that of Lewis and others) increased productivity is likely to show up in lower prices, benefiting the overseas consumer rather than the domestic producer.

As to the first points, Kindleberger (1956: 268) at one point questioned not only the empirical validity, but the whole concept of commodity groups allegedly sharing either price- or income-elasticities, since “these elasticities may well differ for the same commodity in different parts of the world.” Explanations by income-elasticities of demand of doubtful validity and even of doubtful meaning: “Wheat is income-elastic in developed countries, income-elastic in densely populated. The obverse is possibly true of petroleum products” (*ibid.*: 266). On the demand side, “income- and price-elasticities for basic food are high in underdeveloped countries, low in countries with a high standard of living. In each separate part of the world economy the elasticity concepts are relatively clear and precise; the average elasticity for the world as a whole is of dubious meaning.” On the supply side, the question was even more complex, with commodities going through stages depending on innovations and discoveries, in addition to idiosyncrasies in occurrence and ownership of mineral deposits, combined with the exercise of power. The difficulties became even greater when considering that there may be more than one production function for the same commodity, and long-run elasticities of supply may differ in different countries (*ibid.*: 268f.). “If demand and supply elasticities for a single commodity are different in the underdeveloped, adult and mature portions of the world economy, there is some question as to the meaningfulness of world demand and supply elasticities when national markets in separate sectors are concerned. It is rather like measuring the average height of a family consisting in father, mother and several children; it can be done, but it is not clear that the results are worth trying to interpret” (*ibid.*: 270). As to economists trying to predict future terms of trade in order to prove themselves true scientists (or aid policy decisions), this was perhaps an even less meaningful task – a science comparable to astrology: “It must be recognized that in a field with many variables there is a grave risk of claiming too much credit through getting the right answer for the wrong reasons. Scientists can make a reputation in this way, but the science itself is likely to be set back” (*loc. cit.*).

Myint (1954: 132) wanted to turn the focus from tastes and demand factors as determinants of the terms of trade to the supply and cost factors, particularly in the vast expansions of output induced by foreign investment. This had not followed the competitive ‘norm’ taught in the textbooks: “in the typical situation where foreign enterprises in the backward countries are large enough to be monopsonistic buyers of labour and peasant produce, their behaviour may depress the terms of trade.” A ‘monopsony’ is a market with only one buyer, and here means that they may meet the pressure of competition by depressing wages and cutting prices rather than output, “while retaining their “normal” profit on an unreduced volume of output.” It is interesting that Myint should refer to this normal profit which for a foreign enterprise would seem to be an *international* norm, but at this point Myint found that “we have clearly passed from the external factors determining the terms of trade to the internal factors arising from the domestic economic structure of the backward countries.” He pointed out that Prebisch and Singer, too, were obliged to fall back on the internal factors: “It is maintained that while wages in the advanced countries rise during the upswings of the trade cycles, they are extremely resistant to cuts during the downswings, whereas in the backward countries, due to monopsony and less powerful trade unions, wages and incomes do not rise as much during upswings and are certainly more easily cut during the downswings. Thus with each trade cycle, the costs and prices of the manufactured goods are irreversibly jerked upwards relatively to the costs and the prices of the raw materials.”

Kindleberger, too, felt that more attention should be paid supply factors, but still criticised

the way Prebisch and Singer adduced monopolies in the factor market. He noted their common stance that although increases in productivity had been faster in manufacturing than in agriculture, export prices in the former had been maintained at a higher level, because wage pressure tended to maintain prices and raise (in Kindleberger's interpretation) factor incomes, whereas in the latter increased productivity only resulted in lower prices. As has been suggested, Singer basically evoked elasticities while mentioning the trade-union factor, while Prebisch at least initially laid more stress on the trade-union factor, while also pointing to elasticities. Kindleberger (1956: 246) satisfies himself with a little less subtlety: "The basis for this asymmetry is said to be the differences in effectiveness of organization at the factor level in the two countries." Though the focus of critique had been on the empirical validity, this was quite unnecessary, since the explanatory theory itself was flawed (how he would square this critique with the above one of elasticities is not explained):

There can be no monopoly elements in factor markets in separate countries, which impinge on terms of trade, apart from the existence of monopoly in the goods markets. If foreign demand and supply in international trade is inelastic, national price-wage policy can have no effect on the terms of trade. A difference between the price and wage policies of two countries will effect their balances of payments, and through them possibly exchange rates, but the terms of trade will be unchanged. [...]

If foreign demand and supply are inelastic, differences in price and wage policy can bring about a change in the terms of trade [...]. But it is questionable whether it is the monopoly elements at the factor level, rather than those in goods markets, which are effectively responsible for the changes.

The ECLA-Singer thesis on this basis is super[er]ogatory: If it can be conclusively established that the elasticities facing the underdeveloped countries are lower than those facing the developed, there is no lack of forces to explain why the terms of trade work as they do. (Kindleberger 1956: 247)

Here, Emmanuel (1972a: 82) wholly agreed with Kindleberger: "Indeed it is hard to see what a more dynamic posture of the factors could do in the face of a defective structure of external demand, if it is really demand that determines prices." "It must be agreed that as long as the premises of the prevailing theory are not challenged, Kindleberger will be in the right as against Prebisch" (*ibid.*: 85).

However, for Emmanuel the problem lay rather with the premises of the prevailing neoclassical theory, and with allowing wages to be determined by prices and these by the demand side of the equation in the first place. If it was the nature of the product that dictated whether a rise in productivity would be reflected in lower prices or higher wages, then

the independent variable of the system remains the state of demand, since, as use values, the products differ from the economic standpoint only in the kind of demand they arouse. The fact that primary products are put on one side of the barrier and manufacture on the other merely supports the impression that the Singer-Prebisch thesis is in the last analysis only a sophisticated reformulation of the fashionable doctrine that, for reasons left undefined, the former category of goods encounters always and everywhere a less satisfactory demand than the latter. (*Ibid.*: 80f.)

If such defective structures of demand were supposed to explain lower wages, there were innumerable difficulties, which we can only graze. Pointing to the production of French wines and Scottish whisky (in which an almost superstitious hostility to novelty reigned), he also found it difficult to see why the application of 'monopoly' wages should be restricted to cases in which technical advance and increased productivity was involved (a criticism that would be equally true of some versions of Lewis's model). The highest degree of paradox according to the Prebisch-Singer thesis, was that since the textile industry had been taken over by the underdeveloped countries – in ultramodern Egyptian, Indian, and Hong Kongese plants – the old European producers still obtained wages 20 or 30 times as high, by turning toward the semi-craft production of artistic and luxury goods. Emmanuel had many more such examples, real, imaginary, or amusing, all to the same effect, suggesting, *e.g.*, that when the whole Third World has become industrialised we might see Congolese or Indonesian locomotives

exchanged for the tulips of Holland, the lace of Bruges, or the gowns of Paris, but still with the same wage differential.

Contrary to Prebisch, but in line with the classical economists and, Emmanuel (1972a: 86) maintained, “to the universal consciousness of mankind (what is called common sense), wages depend not on the productivity of the branch in which the worker works but on that of the branches that supply the goods he consumes.” The standard good could change, of course, and Emmanuel agreed that the trade-union factor and well-organised workers in export industries could exploit good economic conditions to gain improved wages. However, Prebisch’s argument added causes to causes without worrying if they were internally consistent. Ultimately, Emmanuel (*ibid.*: 87) argued, they amounted to a theory where wages alternated as cause and effect and the explanation thus became circular:⁵³

How does Prebisch get out of all these contradictions? By taking wages sometimes as cause and sometimes as effect. He assumes that it is the productivity in *each* branch taken separately that determines wages in the first place, and this apparently leads him – though he does not explain himself clearly on this point – to think that, in the event of a disparity in technique, the wages in the primary sector tend to fall. This prevents the prices in this sector from rising, despite its low productivity, and consequently enables the advanced industrial sector to freeze its own wages in spite of its high productivity. This wage freeze brings about in its turn a fall in prices in this exporting sector and a transfer of value abroad.

Here we have a perfect instance of reasoning in a circle. Prebisch is looking for a cause for a certain evolution of world prices. He thinks he has found this in a certain evolution of wages, which is in turn conditioned by a certain evolution of productivity. Now, productivity can in no case affect wages except *through prices*.

Based on another well-known study (Prebisch 1959), Andersson (1972b: 55) came to basically the same conclusion that for all its relative merits, Prebisch’s theory was ultimately both incomplete, because it included only the labour factor, not capital or land, and inconsistent, because of wages and prices alternating as the independent variable.

Through the work of Prebisch, certain age-old conceptions of the disadvantages suffered in the periphery/hinterland against the metropolis/centre, and in agriculture against industry, found a modern exponent and form. Possibly inspired by Central European precedents and Keynes, it represented more generally a revival of traditional ‘mercantilist’ concerns, both with respect to the disadvantages inherent to exporting raw materials and to the concern over the balance of payments. Although the theoretical responses eventually stimulated did not always stand up to the tests of internal consistency, policy practitioners nevertheless had to confront real problems, which were dismissed as non-existent by mainstream theory. The difficulties in formulating novel explanations based on a theoretical framework which had for a century predicted the opposite, are understandable. Prebisch’s attempt mixed arguments from demand with others from costs and rigidities of wages in an unsatisfactory way. More generally, the identification of geographical peripheries as agricultural was largely consistent with the more prosperous of Latin America’s export economies, the British Dominions and the United States in relation to Europe and Britain in the 19th-century. Sprung from Argentinean soil and the economic setbacks suffered by land-holding interests in the 1930s depression, Prebisch’s theory transposed the paradigm to Latin America as a whole in line with U.N. organisational principles. Subsequently it linked up with the postwar debate on development and underdevelopment, in which form it was extensively criticised and, in essence, refuted. Peripheral underdevelopment, or at any rate ‘Latin America’s principal

⁵³ After reviewing many problems in Prebisch’s approach, Flanders (1964: 320f.) found one that was “even more troublesome” concerning the mechanism of wage-determination. What Flanders refers to is that wages appear to be determined by both the terms of trade and by overall, or average, productivity in the whole economy, and he believes it may be explained by Prebisch, as he frequently did according to Flanders, implicitly going from a static to a dynamic analysis.

problems', was partly due to the inherently falling terms of trade for primary goods against manufactures, due to peculiarities of demand, relative lack of organised labour, and, in passing, even to non-equalisation on the factors market, though no distinction was made between the labour and capital factors. Continuing the search for a true explanation of the falling terms of trade it was suggested that it was not so much the type of good as the type of country that mattered. Admitting this difference, an important step was taken at an early stage by Arthur Lewis, to whom we shall now turn, and who instead suggested that it was the different evolution of wage-levels between these types of countries that explained the evolution in the terms of trade. If Prebisch, as an Argentinean, was sensitive to the fortunes of agricultural exports, Lewis, as a black West Indian, was obviously sensitive to racial discrimination in wages as well as migration policies. However, having moved to England, and after the Chinese revolution had accentuated the political need for non-communist paths out of underdevelopment, Lewis was first of all inspired by the example of the British industrial revolution, in which he noticed the impact on wage-levels of the high level of agricultural output and of the possibility of emigrating to new and 'uninhabited' lands overseas.

Chapter 11. The Cold War Fabian development economics of Arthur Lewis – differential agricultural productivity and directed migration in the eyes of a West Indian immigrant

In their recent semi-centenary, Kirkpatrick & Barrientos (2004: 679) observe that Lewis's (1954) most famous article "is widely regarded as the single most influential contribution to the establishment of development economics as an academic discipline." Below I shall first remind of the place development economics had in its Cold War context, in which his 'one big idea', presented in this article, originated to solve what he considered to be one of the two problems with which this branch of learning was obsessed in the 1950s: how to finance modernisation. Looking at the principal capitalist case, British industrialisation, and following the observations of contemporary political economists, who were experiencing a vogue at the time, he assumed an 'unlimited supply of labour' at subsistence wages. This implied that with increased productivity, savings would also increase and with them modernising investments. As an aside, this model also solved the problem of the terms of trade, or why 'steel' was dear and 'coffee' cheap, which basically depended on the level of productivity in the subsistence sector. Lewis's model came in two versions, one closed, to which we shall then turn, which was the more influential in development economics and basically tended toward the same stationary state as classical economic models, and one open, ending our presentation, which was the one relating to the terms of trade and unequal exchange, and which was extended into important historical interpretations. Since, formally, the basic difference between his model and that of Emmanuel lies in the determination of wages at subsistence levels or in accordance with productivity levels, rather than through exogenous political forces, something will have to be said on Lewis's many, rather inconsistent, acknowledgments of politically determined wage-levels and differences. Lewis was himself much concerned with explaining the rise in urban wages, described (1979: 224) as "the real theoretical puzzle of the

period” (cf. Kirkpatrick & Barrientos 2004: 686f.). Finally, it shall be argued that the great explanatory powers of Lewis’s model relating to international mobility of labour and the factoral terms of trade, has no counterpart with respect to the mobility of capital. Contrary to expectations raised by his model’s, but consonant with his historical argument that growth in the poor export countries has followed the growth of markets in the rich, capital investments have been just as attracted to high-wage areas as has labour.

If our first example of a peripheral contributor to the unequal exchange perspective was a Virginian apologist of slavery and no great theorist, the Nobel laureate W. Arthur Lewis (1915–1991)⁵⁴ was by contrast a coloured West Indian, who became one of the most widely acclaimed theorists in development economics. As was Schumpeter’s (1939) study of business cycles, his contribution to the debate on the terms of trade was both statistical, theoretical, and historical. His explanation centred on different agricultural productivities establishing a wage differential between the tropical and temperate world, which was crucially fortified by politically guided migration policy, and which together with different developments in the productivity of regionally specific branches determined the terms of trade. Thus, the perspective could be said to be that of a classical economist with differential wage levels determined exogenously by the level of subsistence. His explanation was inspired by the example of the English industrial revolution and the opportunities open for surplus populations to migrate. Contrary to Prebisch, then, his policy recommendation consequently relied not exclusively on import substitution in industry, but more profoundly in agriculture. At the same time his approach was more firmly set in the Cold War debate on ‘population’ and the relative benefits of the planned, mixed, or free economies, which not only constitutes the counterpart of the contemporary debates in the Socialist bloc (Chapter 7), but also informed the contribution of Baran (Chapter 12), Emmanuel (Part IV), and the neo-Malthusians (Chapter 22). The spectre of communism, reinforced by the popularised growth rates of Stalinist Russia in the 1930s, and underlined by Mao’s surge to power in China, made the it urgent to propose alternative, corner-cutting paths to prosperity that would not turn into roads to serfdom.

The American side of the controversy was crucial for the institutional support of development economics in the United Nations. Harry S. Truman and his advisers, who believed that British retrenchment, political instability, and economic dislocation afforded the Soviets opportunities to expand into the eastern Mediterranean and Middle East, thereby gathering strength that would enable them to challenge the United States in still more important areas. Truman maintained that the administration faced the greatest selling job in U.S. history. After careful preparatory public-information campaigning by officials in business and the media (“a full-scale public relations blitz”), Truman appeared before Congress to request \$400 million for aid to Greece and Turkey. A “fateful hour” had arrived, where nations “must choose between alternative ways of life”. The United States must not falter in their leadership, if it were not to “endanger the peace of the world.” The media instantly hailed the Truman Doctrine as a “historic landmark in American foreign policy”, no less important than the Monroe Doctrine and the decision to oppose Hitler (quoted in Leffler 1992: 145). “Underlying the ideological crusade were deeply rooted geopolitical convictions that defined national self-interest in terms of correlations of power based on the control of critical resources, bases, and industrial infrastructure. Newspaper editors, sharing these same assumptions, supported the Truman Doctrine because of their concern with prospective shifts in the balance of power” (*ibid.*: 146). Defining the enemy as inveterately hostile eliminated the prospect for compromise and accommodation, and expressed an ideological fervour that could entice isolationists into the interventionist camp.

⁵⁴ Tignor’s (2006) important recent biography has come to my attention too late to be incorporated here.

Truman's inaugural address in January 1949 was dominated by foreign policy. It reaffirmed his global struggle against the "false philosophy" of communism, and was infused with the same ideological fervour that had permeated the Truman Doctrine address two years before. In rhetoric with which we have again become familiar, Truman saw himself as the leader of the free world, fighting evil and safeguarding core values and national security at the same time. Truman's administration would take four courses of action through which the United States would "create the conditions that will lead eventually to personal freedom and happiness for all mankind." First, it would support the United Nations; second, promote world economic recovery; third, strengthen "freedom-loving nations against the dangers of aggression"; and forth, launch "a bold new program for the improvement and growth of underdeveloped areas" (quoted in Leffler: 267).

The speech became known after its forth article, aid to the "underdeveloped areas", as the 'Point Four Program'. *The Oxford English Dictionary* has this speech as its first recorded entry of 'underdeveloped' in its modern sense (Public Papers 1964: 114ff.; *Oxford* 1989: 960; quoted in Linnér 2003: 43). Derivatives of the German *Entwicklung* can be found much earlier, but even in English this neglects Wilfrid Benson's, member the ILO Secretariat in Britain, case for "The Economic Advancement of Underdeveloped Areas" in 1942 (National Peace Council 1942: 10). Arndt (1973: 27) instead believes this to be the first use of the word in the postwar sense, noting it in a more literal sense already in Bowman (1937: 1). However, as indicated by the *Oxford* entry, Truman's usage gave the expression a legitimacy and circulation it had thitherto lacked.

Point Three was a call for a collective defence arrangement in the North Atlantic area, which eventually resulted in the formation of the North Atlantic Treaty Organization (NATO). The enlightened humanitarian self-interest of Point Four, which became the American program of foreign aid, was set in the midst of a call for building military strength against the communist threat. "Military treaties like NATO and technical assistance like Point Four were merely opposite sides of the same coin" (Perkins 1997: 145). Whereas point three was thus the overt military component of the program, Point Four was the effort to spread American influence in the less developed countries, not by force of arms but by the transfer of technology and the institution of capitalism:

More than half the people of the world are living in conditions approaching misery. Their food is inadequate [...]. Their poverty is a handicap and a threat both to them and to more prosperous areas [...]. The United States is pre-eminent among the nations in the development of industrial and scientific techniques [...]. Our imponderable resources in technical knowledge are constantly growing and are inexhaustible. I believe that we should make available to peace-loving peoples the benefits of our store of technical knowledge in order to help them realize their aspirations for a better life. And, in cooperation with other nations, we should foster capital investment in areas needing development [...]. The old imperialism – exploitation for foreign profit – has no place in our plans. What we envisage is a program of development based on the concepts of democratic fair dealing [...]. Greater production is the key to prosperity and peace. And the key to greater production is a wider and more vigorous application of modern scientific and technical knowledge [...]. To that end we will devote our strength, our resources, and our firmness of resolve. With God's help, the future of mankind will be assured in a world of justice, harmony and peace. (Truman 1949; Public Papers 1964; quoted in Perkins 1997: 144)

It is interesting to note that the 'old' imperialist exploitation for foreign profit is to play no part, and that the new program (new imperialism?) is instead to be based on "fair dealing". In a sense, Truman had thereby already countered much Marxist, later 'dependency', criticism of 'monopoly capitalism' and imperialist motives, who were then left with the mere 'liberal' retort that Truman's and the capitalists' intentions were not really honest. The unintended implication is of course that if they had been, all would have been well. By contrast, an expatriate former member of the Greek communist resistance, Arghiri Emmanuel, would meet these claims head on, demonstrating how exactly the assumptions of equal rates of profit and of normal "fair-dealing" free-trade conditions could mean an unequal exchange between high

wage and low wage countries. Lewis provided a crucial stepping stone between the Prebisch-Singer argument and Emmanuel, which is also very interesting in itself. Though he said nothing of rates of profit and fair dealing, Lewis's argument fit nicely also in the corresponding shift when the British government transformed its Law of Development of the Colonies into the Law of Development *and Welfare* of the Colonies in 1939. His stance on planning was a well-argued intermediate between the extreme left and right, and can be profitably compared with that of another historian of the industrial revolution, Walt Whitman Rostow.

Development economics was firmly set in the cold war context, and one had not even to wait long for its own 'non-communist manifesto'. "In the grandiose design of Truman's speech, there was no room for technical or theoretical precision. The emblem defines a programme conscious of Mao's arrival, looking for evolution as an antidote for revolution" (Esteva 1992: 11). Striving for said precision, many of the early development economists bear witness to the "growing sense of political urgency concerning the promotion of economic development in the underdeveloped regions in order to maintain international stability and to contain the spread of communism" (Hunt 1989: 45; cf. Myrdal 1957: 7, Myint 1954 in Agarwala & Singh: 135, 151f.), but it was nowhere more evident than in Rostow's work. Shortly after the Korean War (1950-1953), he wrote in *An American Policy in Asia* (1955):

We as a people (the United States) have made a momentous choice. We have now clearly ruled out one conceivable approach to our international problem: namely a military attack on the Soviet Union and Communist China initiated by the United States [...] That American decision has an important consequence, it means that the American people must find other ways for protecting their interests. The alternative to total war initiated by the United States is not peace. Until a different spirit and a different policy prevail in Moscow and Peking the alternative for the United States is a mixture of military, political and economic activity (Rostow 1955: vii).

The United States must develop a more vigorous economic policy in Asia. Without such a policy our political and military efforts in Asia will continue to have weak foundations [...] Asia's economic aspirations are linked closely to the highest political and human goals of Asia's peoples: and American economic policy in Asia has, therefore, important political as well as economic meaning. (Rostow 1955: 43)

Rostow's theoretical work was guided by his ideological perspective and anti-communism, and his most ambitious work, *The Stages of Economic Growth: A Non-Communist Manifesto*, sought to be "an alternative to Karl Marx's theory of modern history" (Rostow 1960: 2). Being an able historian of the British industrial revolution, his claims and stages nevertheless had no great success with his colleagues in economic history, except for introducing the terms 'take-off' and 'leading sector'. What he earned was attention and a more direct counter reaction in the form of the Marxist-structuralist blend found in Frank's dependency and particularly Wallerstein's world-system, for which, still after three decades, this counter-position is more vital than hazarding any more theoretical exposition of its own. In a later review, Hirschman (1982: 374) found this 'neo-Marxian' stance no better than the dominant neoclassical 'pre-development' economics: "A cozy internal consistency, bent on simplifying (and oversimplifying) reality and, therefore, favourable to ideology formation, is immediately apparent in both the orthodox and the neo-Marxian positions." This would lend them a stability, he thought, which was not accredited his own preferred development economics, behind which he apparently saw no particular ideological motivation, consisting of a more 'conjunctural' group of activist 'problem-solvers', and which had therefore tended to disintegrate. Lewis fitted rather into this latter group, but his stance is no less liberated from ideology than any of the other.

In 1932, at the age of 17, Lewis won a university scholarship and began studies at the London School of Economics for the Bachelor of Commerce degree, which he was awarded in 1937, remaining for another ten years, and obtaining his doctorate in 1940. In a 1937 paper

on “African Economic Problems”, Lewis (1937: 15) stated: “This much is clear: uncontrolled industrialism destroys more happiness than it creates. Study England in the throes of the Industrial Revolution or any country from America to Japan, and we find always that legacy of slums and misery, which uncontrolled industrialism hands down to future generations.” This was in line with the socially conscious historiography of Toynbee, the Hammonds and the Shaws, and Lewis himself was involved with the Fabian Society, which published his first books. According to Kirkpatrick & Barrientos (2004: 680) his “life-long interest in economic history and the world economy” was awakened by Friedrich Hayek, then Acting Chairman of the LSE Department of Economics, who asked him – as the best way to learn – to teach a course on the interwar years, and which resulted in his first book (1949). By the time he arrived in Manchester in 1948, the agenda had changed somewhat. In an appendix to his *Theory of Economic Growth*, Lewis (1955) asked, but along with all of development economics and economics in general did not really question: ‘is economic growth desirable?’ For him the benefits of economic development lay not in that it increased happiness, but that it increased man’s control over his environment, and thereby his freedom. He remained a Social Democrat and was anxious to avoid both the harsh realities of the English industrial revolution, and the social revolution they may entail. In Tignor’s (2004: 708) words: “Although most development economists were not active participants in the Cold War debate, they were aware of the political dimensions of their work. If poverty was not overcome and economic growth did not take place, social revolutions were likely to follow. Lewis himself was a Fabian and was entirely opposed to highly coercive, non-democratic approaches to economic development. Nor did he favor authoritarian and highly centralized economic planning.” The defects of the market, he believed, could fortunately be overcome through state intervention of a much milder sort, rigorous development planning and programs of domestic taxation and incentives for foreign investment.

Keynes had defended the enlargement of the functions of government so as to adjust the propensity to consume and the inducement to invest to one another, against what he believed to be an excessive individualism of the 19th century and the contemporary American financiers. It was “the only practicable means of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of the individual initiative” (Keynes 1936: 380). The purpose was to avoid disruption similar to the Great Depression, which if nothing was done would eventually supplant communism, or worse, for capitalism. Thitherto, “the increment of the world’s wealth” had “fallen short of the aggregate of positive individual savings”. Part of the problem had been solved in the systems he particularly wanted to avoid:

The authoritarian state systems of to-day seem to solve the problem of unemployment at the expense of efficiency and of freedom. It is certain that the world will not much longer tolerate the unemployment which, apart from brief intervals of excitement, is associated – and, in my opinion, inevitably associated – with present-day capitalistic individualism. But it may be possible by a right analysis of the problem to cure the disease whilst preserving efficiency and freedom. (*Ibid.*: 381.)

Liberal as he was, the system he aimed at was not only a bulwark against communism and fascism, but also against the archenemy of liberalism. Realist it may be, but mercantilism was an economic nationalism driving peoples to war. Thus,

if nations can learn to provide themselves with full employment by their domestic policy (and, we must add, if they can also attain equilibrium in the trend of their population), there need be no important economic forces calculated to set the interest of one country against that of its neighbours. There would still be room for international lending in appropriate conditions. But there would no longer be a pressing motive why one country need force its wares on another or repulse the offerings of its neighbour, not because this was necessary to enable it to pay for what it wished to purchase, but with the express object of upsetting the equilibrium of payments so as to develop a balance of trade in its own favour. International trade would cease to be what it is, namely, a

desperate expedient to maintain employment at home by forcing sales on foreign markets and restricting purchases, which if successful, will merely shift the problem of unemployment to the neighbour which is worsted in the struggle, but a willing and unimpeded exchange of goods and services in conditions of mutual advantage. (*Ibid.*: 382f..)

Keynes was still an idealist in the sense that he believed ideas to be stronger than vested interests and practical men. He cut through the absolute choice between free-trade capitalism and state communism, and it is difficult to see, at least afterwards, how the problem facing Western capitalism could have been resolved in any essentially different way than by a mixed-economy policy of the kind proposed by Keynes. Old-style liberals such as Viner and Innis did not like this turn of events, and to a Marxism which had learnt to contrast the anarchy of capitalist production with the ordered one of communism, it presented a rather grave problem of reinterpretation., which was faced most commonly by joining hard-core liberals in a charge against ‘monopolies’ and ‘state capitalism’. However, some were also intrigued to pose new questions and try to find a more basically Marxist approach incorporating Keynes’s observations. For example, Sweezy and Baran, to whom we will turn in the following chapter, tried to integrate aspects of Keynesian and Marxian underconsumptionism. Emmanuel, to whom we will return *in extenso* in Part IV, responded to the argument on mercantilism, as well as the problem of inefficiency in both capitalism and socialism, by finding an more profound lack of purchasing *power* substantiating the lacking *will* to purchase in Keynes’s system. In this perspective, the problem with the international order was not, then, the “express object of upsetting the equilibrium of payments so as to develop a balance of trade in its own favour”, as Keynes put it above, but one of compensating for an already pre-existing domestic disequilibrium, which was inherent to the capitalist mode of production. More commonly, economists reacted by extending or elaborating on Keynes’s argument, and by trying to build up a case for economic planning *within* the capitalist system. Such was the approach of Lewis.

After Keynes and the war, then, there was widespread belief in ‘economic planning’, the degree of which was the subject of much discussion in face of the necessity of distinguishing it from the Soviet model and winning over the poorer regions of the world. As Bhagwati (1982: 15-20) has observed, Lewis’s *Principles of Economic Planning* (1949a) served such a purpose, placing him somewhere in between Friedrich Hayek and Thomas Balogh as a believer in ‘planning through the market’ rather than ‘planning by direction’. However, his critique of centralised economic planning was not motivated by mere ideology, but also on grounds of economic efficiency, the impossibility of taking everything into account, and the inflexibilities involved even should one succeed, in a sense turning the argument from ‘alienation’ against the possibilities of the planner to succeed. Thus, Lewis (1949a: 16f.), found “a formidable case against planning by direction, and in favour of using the market”, since the central planner “cannot hope to see and provide for all the consequences of his actions”: “In planning by direction the result is always a shortage of some things, and a surplus of others. Planning through the market (e.g. the state placing an order for watches, or paying a subsidy) handles all this better because [...] the flow of money and the adjustment of prices acts as a ‘governor’, turning on or off automatically without any central direction.” The plan is destined to become inflexible, resisting any demand for revision, “simply because you cannot alter any part of it without altering the whole”, whereas the “price mechanism can adjust itself from day to day”. Furthermore, standardisation was too tempting because it facilitated the planner’s job, hampering invention of new goods and processes: “The future of this country depends on bold and free entrepreneurs”, he (*ibid.*: 18) exclaimed, and any form of planning which prevented it “will be the ruin of Great Britain.” Assuming that centrally planned economies would be in equal need of foreign exports (rather than imports) as market economies presented additional problems in adjusting to consumer demand. In general, he

(*ibid.*: 18f.) argued, “the more one tries to overcome the difficulties of planning by direction, the more costly planning becomes in terms of resources”, since acquiring the necessary knowledge requires elaborate censuses and an array of clerks: “The better we try to plan, the more planners we need”, as demonstrated by the 800,000 ‘economists’ connected with planning in the Soviet Union. Like Veblen’s distinction between making goods and making money, and in line with the long tradition counterepositioning ‘productive’ and ‘unproductive labour’, he noted the parallel “hangers-on” in a market economy, “who contribute to profit making rather than to production,” *i.e.*, its contract men, sales promoters, stockbrokers and the like, believing, however, that “they are not as essential to it as are the planners to planning.” Just as his predecessors he clearly underestimated the inherency of *selling* in a market economy, which is *precisely* as necessary as *planning* to a planned economy. In any case, Lewis (*ibid.*: 19) perceptively linked the complexity of planning by direction to the rise of a technocratic bureaucracy, which tended not to increase, but on the contrary diminish democratic control by the people, parliament, or cabinet, providing innumerable opportunities for corruption: “The more we direct from the centre the less the control that is possible. When the government is doing only a few things we can keep an eye on it, but when the government is doing everything it cannot even keep an eye on itself.” And as noted above, for Lewis, ‘control’ was even more important than happiness.

Taking economic growth and development as the self-evident goal, Lewis was mainly concerned with the causes and constraints of capital accumulation. The fundamental constraint to growth in output was the lack of accumulation of productive capital and the overriding constraint to capital accumulation was the rate of savings. “The central problem in the theory of economic development is to understand the process by which a community which was previously saving and investing 4 or 5 per cent of the national income, or less, converts itself into an economy where voluntary saving is running at about 12 or 15 per cent of national income or more. This is the central problem because the central fact of economic development is rapid capital accumulation (including knowledge and skills with capital)” (Lewis 1954: 416; page references to this article here and below is to the reprint in Agarwala & Singh 1958). This suggestion was taken up in another influential article by Rostow (1956, in Agarwala & Singh 1958: 160, 162) as an important target value for the ‘take-off into sustained economic growth’: “it is nevertheless useful to regard as a necessary but not sufficient condition for the take-off the fact that the proportion of net investment to national income rises from (say) 5 per cent to over 10 per cent, definitely outstripping the likely population pressure [...] and yielding a distinct rise in real output per capita.” With China having taken the communist road, eyes were the more fast on the second most populated country in the world. As Hunt (1989: 95f.; cf. 107) observes, a similar goal had been put forth already in 1953 by the authors of India’s *First Five Year Plan*, acknowledging the Harrod-Domar model, which, incidentally, Rostow (1952) had previously criticised. Perhaps indicating instead the influence of Nurkse, the two main factors determining the scale of investment/growth were the rate of savings and the volume of unutilised human and material resources. While the development of a modern industrial sector was a major objective, the plan, with a reference to the experience of Britain and Japan, and in line with the program of the Rockefeller Foundation, also advocated agricultural improvements, including irrigation and power, to increase the output of food and raw materials necessary for industrialisation.

As Lewis (1982: 121f.) recalled it, the “two major obsessions” of the 1950s concerned ‘what limits the size of the manufacturing sector’, and ‘how is modernisation to be financed’. On the first issue there were two major groups supporting either agriculture or industry and each pointing out the inadequacies of the other. Lewis never fell in with either crowd, stressing that he supported strategies favouring both agriculture and industry. The answer provided by Steuart or Smith (1937: Bk. III, Ch. 1), that the limiting factor was the

productivity of the farmers whose marketable surplus would exchange for manufactures, had been forgotten, but Lewis (1950: 50) adopted another suggestion found in Smith that when the farmers' output is small, industry might expand by exports.⁵⁵

Exporting manufactures was "the obvious strategy for countries that are overpopulated", Lewis (1982: 128) recalls, "and several of us were saying this from the 1940s onward." Starting as import substitution fast industrialisation could then only be sustained by exports:

This was like the breaking of a spell. For over a century tropical peoples had been told that manufacturing industry was unsuitable for their countries, and that their comparative advantage lay in exporting agricultural commodities. Then suddenly they were selling manufactures in the markets of developed countries, and the leaders of these developed countries were running around in a panic and adopting social discriminatory measures to keep out LDC manufactures. It involved a spiritual revolution as great as that experienced by economists over the age of thirty who were converted to Keynesianism in 1936. (Lewis 1982: 129.)

The high level and rate of technological change in manufacturing made it different from agriculture, public utilities, banking, or wholesaling, and meant that it could not be accomplished without dependency on multinationals and foreign entrepreneurs, which "tend to be indispensable", even for standard items, "in initiating exports of manufactures to other markets in which they are already established", until domestic entrepreneurs have learnt how to sell overseas (Lewis 1982: 129). Though he had "received much criticism for this stand over the past thirty years," Lewis reflected in 1982, he had never felt that the less developed countries should "hold back the diversification of their manufacturing sectors from fear of multinationals, since in independent countries they operate on the country's terms or not at all." Lewis's critics had been tempered with time, but even as he was writing a very heated controversy on this very question was carried on over Emmanuel's book on 'appropriate or underdeveloped technology?'

Import substitution and export of agricultural products, both of which Lewis endorsed, were common alternative strategies to exporting manufactures. Starting with arguments similar to Manoilescu in 1931 – that protection is justified in less developed countries because, it was claimed, wages are always higher in manufacture than agriculture and therefore exaggerates the real cost of manufacturing – Lewis (cf. 1982: 125f.) and others built an argument that success in one industry, increasing its wages and pulling up wages in surrounding industries beyond what they could pay, would be paralleled by an even greater unemployment elsewhere.⁵⁶ Other arguments for protection in the development literature at the time concerned the time factor (learning), scale, externalities, or complementary networks, to which Lewis (1982: 126ff.) added considerations of resource mobility (migrant labour and foreign capital) and inelasticity of export earnings. Import substitution did not only concern manufactures, and self-sufficiency was that part of the strategy relating to food production for

⁵⁵ His two articles in the *Caribbean Economic Review* in 1950, gave rise to the term "the Lewis Strategy of Industrialisation by Invitation" and also to some emotion at the time, but became very influential for West Indian growth strategies. In the 1930s labour discontent had grown in the West Indies and Lloyd George had set up a committee under Lord Moyne to determine the causes of unrest and the way to handle it. The committee found that social reforms were necessary but that the desire to industrialise should be restrained because these isolated islands lacked not only minerals, but also the appropriate traditions and climate for sustained industrial labour, and demonstrated why agriculture was and necessarily would remain their only proper activity. It was this conception that Lewis attacked, suggesting that the budding industries should be protected and that incentives be created to attract foreign capital to finance further industrialisation. Lewis was attacked by the Ministry of Colonial Affairs' informants, but already by 1952 the secretary of the Caribbean commission concluded that industrialisation had become an issue of high priority (Danielson 1990: 152f.).

⁵⁶ Neglecting the argument from unemployment, Findlay (1982: 9) finds "a case for intervention in the prices mechanism to expand the output of manufactures and contract the output of food", but as noted, Lewis did not believe in having to choose between agriculture and industry, and certainly not in a policy of contracting food production.

the domestic market. “Once one has grasped the point that agriculture and industry provide markets for each other’s output, theoretical dispute ceases”, Lewis (1982: 128) contends, though the practical planning problems remain, particularly in the dry tropics where physical conditions thus far had impeded success. However, the Third World’s failure in increasing agricultural productivity was not merely one of physical constraints, but “mainly at the political level, in systems where the small cultivator carries little political weight.” Here is one of many implications in Lewis’s work that even ‘agricultural productivity’, which is taken as the theoretical baseline, is also something profoundly ‘institutional’.

As for agricultural exports, Lewis (1982: 124) maintained, in the 1950s two arguments were developed against this strategy: the dependency argument and the terms of trade argument. The dependency argument was “not like the usual arguments against imports, which turn on the difference between money costs and real costs,” but was “primarily about power and its accumulative accretion.” Lewis summed it up as follows, in a composite from many writers:

A peripheral country that begins to export agricultural commodities becomes paralyzed in ways that preclude an industrial takeoff. Its trade and all that goes with it – shipping, banking, insurance, port facilities – fall into the hands of a few foreigners, with or without association with a few rich local families. The profits of this trade are transferred overseas instead of being invested in the country. The best jobs are reserved to foreigners, so that local talent is untrained and unable either to compete the old trades or to start new ones. The talented young become frustrated, lose confidence in their abilities, emigrate, or lower their horizons. Domestic industries are destroyed by imports. The foreign companies are interested in foreign trade and, if they can, will block attempts to create new industries that might diminish their trade or render it more costly. Mass advertising teaches the people to prefer imported consumer goods over to their own products, thereby raising the propensity to import foreign brands or materials or machinery in place of local resources. This trend imperils the balance of payments, makes it harder to provide jobs, and pushes displaced workers back into the subsistence sector. (*Loc. cit.*)

Although it exaggerated the share accruing to foreigners and underplays the higher investments in schools and other services in the colonies with the highest exports, Lewis (*loc. cit.*) found this a reasonable description of what was happening in most tropical – not temperate – colonies in the first half of the 20th century, and the theory important for their study in the second half of the 19th century – excepting countries such as Brazil, Argentina, or the countries of Southern and Eastern Europe, whose stagnation through the 19th century “is as much a puzzle for dependency analysts as is the history of Mexico” – but not the second half of the 20th, when independent governments were engaged in restructuring the place of foreigners in the country. Lewis admitted the validity of elements of this theory in the 1950s and 1960s, but of greater consequence for him was the problem of the terms of trade.

The terms of trade argument against agricultural exports consisted of one historical part, stating that since the commodity terms of trade had a long-term bias against agriculture, primary production should be avoided, and one theoretical, stating that if primary producers develop their exports faster than the industrial countries demand, then the terms of trade must move against them. Lewis (cf. 1949b: 197) never subscribed to the former argument, and considered the latter to be of merely short term interest. In the long run, respective price levels were determined by the differing real wage levels, which themselves were determined by the differing levels of productivity in food production. The case made on this issue in his most influential article, could almost be put in an epitaph:

In a 1954 article I argue that in the long run in the less developed countries (LDCs) it is the factoral terms of trade that determine the commodity terms of trade, and not the other way around. (Lewis 1982: 124f.)

Indeed, the argument on the terms of trade in was only a part, and at the time a mostly unnoticed one, of this article on “Economic Development with Unlimited Supplies of Labour”, which summarised the path Lewis’s thinking was to take and whose influence on subsequent development economics was to be considerable.

In Tignor's (2004: 691) recent evaluation, the article is said to have "galvanized the new field of development economics, providing it with a legitimacy that it had not previously enjoyed", and that nearly all of Lewis's later studies in economic history bore the imprint of this paper. In Isaiah Berlin's classification of thinkers into 'hedgehogs' and 'foxes', Findlay (1982: 3) finds Lewis indubitably to be a hedgehog, *i.e.*, a man of 'one big idea' set forth in his 1954 article: "His own subsequent work, and in fact a large part of the literature of development economics, can to a large extent be seen as an extended commentary on the meaning and ramifications of this central idea." Tignor (2004: 691f.) suggests that in addition to being short (some would say 'long'), well-written and original, one of the things making it an overnight sensation and producing a wide readership was that it was easy to understand, "at least to non-specialists", and that "its major tenets fit comfortably within the economic consensus of the period." I would add that a significant aspect of this consensus was a compulsory optimism on the possibilities, even destiny, of development – through state intervention but, of course, within the market economy –, which his basic model shared with Rostow, but which was not as evidently apparent in the work of some other pioneering development economists, *e.g.*, Rosenstein-Rodan, Nurkse, Leibenstein, Myrdal, or Baran.

It was when ruminating on the second 'obsession' of the time, on how modernisation was to be financed, that Lewis had hit upon his model. The bulk of the finance had to come from increases in private domestic saving, but how had it come about in the 19th century? For Europe it had been from a rising share of profits in the national income, but what had caused this rise? The toolboxes and answers provided by neoclassical, monetarist or Keynesian economics, "was of no use", he concluded:

As I was walking down a road in Bangkok one morning in August 1952, it suddenly occurred to me that all one needed to do was to drop the assumption – then usually (but not necessarily) made by neoclassical macroeconomists – that the supply of labor was fixed. Assume instead that it was infinitely elastic, add that productivity was increasing in the capitalist sector, and one got a rising profit share. It also occurred to me that this model would solve another problem that had long bothered me since undergraduate days: what determined the relative prices of steel and coffee? I had been taught that marginal utility was the answer to this question, but this answer made no sense to me. If, however, one assumed an infinite elasticity of labor in terms of food to the coffee industry, and an infinite elasticity also in terms of food to the steel industry, then the factoral terms of trade between steel and coffee were fixed, and marginal utility was out the window. (Lewis 1982: 132.)

So, Lewis observed, with one change of assumptions and in only three minutes he had solved two major problems occupying him for some time – why so many of the countries in the less developed world had impoverished populations, *i.e.*, the problem of the wealth and poverty of nations, and why steel was relatively expensive when compared to coffee: "Throw away the neoclassical assumption that the quantity of labor is fixed. An 'unlimited supply of labor' will keep wages down, producing cheap coffee in the first case and high profits in the second. The result is a dual national or world economy where one part is a reservoir of cheap labor to the other" (Lewis 1980: 3). However, writing it up "would take four articles from me, and further exploration by Fei and Ranis and others. The thing became for a time a growth industry, with a stream of articles expounding, attacking, testing, revising, denouncing, or approving" (Lewis 1982: 133; cf. 1954, 1958, 1972, 1979[?], Ranis & Fei 1961).

His dissatisfaction with neoclassical marginal utility and his search for insight into the problems of the wealth and poverty of nations, had driven him to study the classical economist, whose writings and arguments were currently being revived through the efforts of leading Cambridge-based economists such as Piero Sraffa, Joan Robinson, and Nicholas Kaldor. Their common fascination with the classical economists was due to the attention they had paid questions of economic growth and the distribution of wealth. As Tignor (2004: 698) points out, the reading of Smith, Ricardo, Malthus, and Marx, "persuaded Lewis that these men had lived through and written about the great period of transition from predominantly

agrarian societies to industrial countries.” Their observations, rather than the writings of neoclassical economist like Marshall, or even Keynes, and the texts that were required reading in university economics departments, were more appropriate to the conditions facing less developed countries. Thus, in the opening sentence Lewis pledged allegiance:

This essay is written in the Classical tradition, making the classical assumption, and asking the classical question. The classics, from Smith to Marx, all assumed, or argued, that an unlimited supply of labour was available at subsistence wages. They then enquired how production grows through time. They found the answer in capital accumulation, which they explained in terms of their analysis of the distribution of income. Classical systems thus determined simultaneously income distribution and income growth, with the relative prices of commodities as a minor by-product. (Lewis 1954: 401.)

In Europe, labour had ceased to be unlimited and the neoclassical economists had forgotten about and changed the assumption. However, it remained valid for the greater part of ‘Asia’: “Asia’s problems, however, attracted very few economists during the neo-classical era (even the Asian economists themselves absorbed the assumptions and pre-occupations of European economics) and hardly any progress has been made for nearly a century”. Important as Keynes was, “from the point of view of countries with surplus labour, Keynesianism is only a footnote to neo-classicism” (*ibid.*: 403f.).

In addition to the classics, Lewis’s study of the labour and economic histories of Britain from the works of the Hammonds, Ashton, and Deane & Cole, had provided evidence contrary to common assumptions in neoclassical economics, that workers’ wages had stagnated even as the industrial sector expanded. Ashton’s recent authoritative overview of *The Industrial Revolution, 1760-1830* (1948: 129; cf. Tignor 2004: 699) had ended by pointing out the parallels between the periods: “There are today on the plains of India and China men and women, plague-ridden and hungry, living lives little better to outward appearance, than those of the cattle that toil with them by day and share their place of sleep at night. Such Asiatic standards, and such unmechanized horrors, are the lot of those who increase their numbers without passing through an industrial revolution.”

As indicated in the classification into ‘European’ and ‘Asian’ economies (cf. ‘modes of production’), and as pointed out by Tignor, there were evident conservative features to Lewis’s intellectual breakthroughs:

By positing traditional and modern sectors, admittedly abstractions and ideal types rather than precise descriptions of any less developed economy or economies of Europe at the beginning of the nineteenth century, he was aligning himself with a vast body of non-economic, social scientific literature, loosely labeled at the time modernization theory. Whether consciously or not, Lewis was writing in the tradition of the leading social scientists of this period, who believed that the world was divided between the modern countries, mainly to be found in Western Europe, Australasia and North America, and the traditional ones. The great challenge of the post-war era was the transition of the traditional countries to modernity – a process that they labeled modernization. Thus, although Lewis saw himself as breaking moulds, founding a new field, and challenging prevailing assumptions of an established field, his formulations were deeply rooted in European experience and dove-tailed with the predominant social scientific vision of the period. (Tignor 2004: 700)

The main achievement of the article was to present a model of a ‘dual’ economy, so called because it divided the economy into two sectors, capitalist and non-capitalist, where ‘capitalist’ meant a man who hires labour and resells its output for a profit. In the 1960s and 1970s, Tignor (2004: 706) explains, “the dual sector model stood alongside the social science theory of modernization as a dominant scholarly paradigm for understanding the processes of economic and social change in third world countries.” Lewis’s (1954: 401) stated purpose was to bring the classical framework up-to-date, and “to see how far it then helps us to understand the contemporary problems of large areas of the earth.” Later, he (Lewis 1972: 75) reminded of how the original purpose of the model was “to provide a mechanism explaining the rapid growth of the proportion of domestic savings in the national income in the early stages of an

economy whose growth is due to the expansion of capitalist forms of production. The chief historical example on which the model was based was that of Great Britain". For the period after 1870s he also developed an open version, inspired by Britain's interaction with the rest of the world, in which the terms of trade were "determined by international rather than national forces" (*ibid.*: 91). We shall first take a closer look at the initial 'closed' model, as worked out also in later writings, before turning to its open variant involving the explanation of the terms of trade.

In the model, the non-capitalist sector, which included, *e.g.*, a domestic servant working in a private home but not in a hotel, served as a reservoir from which the capitalist drew labour. Hirschman (1982: 376f.) has suggested that Lewis's focus on rural underdevelopment as the principle economic characteristic of underdevelopment, which he nevertheless shared with Rosenstein-Rodan, Nurkse, and others, was at the heart of his contribution to development theory: "he managed – almost miraculously – to squeeze out of the simple proposition about underemployment a full set of 'laws of motion' for the typical underdeveloped country, as well as a wide range of recommendations for domestic and international economic policy." In fact, the source of labour is not all from agriculture or even the countryside, but apart from peasant farmers also come out of casual workers, petty traders, retainers (domestic and commercial), wives and daughters of the household, unemployment generated by increasing efficiency, what Marx referred to as the 'reserve army', and finally population increase (Lewis 1954: 403-6). He later confessed that he and his contemporaries had greatly underestimated the impact of the growth in population.

The capitalist sector, which included both agriculture and industry, "may" be said to have unlimited access to a labour supply in those countries "where the marginal productivity of labour is negligible, zero, or even negative", Lewis (*ibid.*: 402) observed – something which apparently led to much confusion on the part of professional economists –, but this "is not, however, of fundamental importance to our analysis. The price of labour, in these economies, is a wage at the subsistence level [...]. The supply of labour is therefore 'unlimited' so long as the supply of labour at this price exceeds the demand. In this situation, new industries can be created, or old industries expanded without limit at the existing wage; or, to put it more exactly, shortage of labour is no limit to the creation of new sources of employment" (*ibid.*: 403).

Since 90% of the population was too poor to save a significant proportion of its income, the necessary increase in savings could not occur simply by the whole population becoming more thrifty. Experiences from the United Kingdom and the United States indicated that of the remaining richest 10% only capitalists had the necessary propensity to save and invest, whereas landowners and the middle classes were either involved in conspicuous consumption or in a perpetual struggle to keep up with the Jones's. The question then became one of determining under which circumstances their share of the national product could be increased, since under the circumstances the share of savings (=investments) would also increase (*ibid.*: 417ff.).

Lewis's model had the good fortune of answering this question, in a way which must have whetted the appetite of development optimists. The major benefits could only be reaped, oddly but in line with classical economics, precisely by trusting it all to capitalists in whatever guise they came and by keeping the population in poverty as long as possible, until such a time as the whole economy had become capitalist (*ibid.*: 419): "if unlimited supplies of labour are available at a constant real wage, and if any part of profits is reinvested in productive capacity, profits will grow continuously relatively to the national income, and capital formation will also grow relatively to the national income." In this way, "practically the whole benefit of inventions goes into the surplus, and becomes available for further capital accumulation", and the latent pessimism in other interpretations was out the window, such as,

e.g., Nurkse's where low incomes impeded both investment stimulants and savings: "If we ask, 'Why do they save so little?', the truthful answer is not 'Because they are so poor', as we might be tempted to conclude from the path-breaking and praiseworthy correlations of Mr Colin Clark. The truthful answer is 'Because their capitalist sector is so small'". This did not exclude the possibility of a 'state capitalist' doing the saving, which, he argued, it could even do at a more rapid rate than private capitalists, because it could also add what it could force or tax out of the subsistence sector (*loc cit.*). Nothing in this argument would have surprised Preobrazhensky or the Soviet planners, whose arguments had been brought to the attention of Westerners by Erlich in 1950, and Lewis's comments might even have profited from Baran's 1952 article in the *Manchester School*, of which Lewis was the editor.

On the origin of either sort of capitalist, Lewis did not have much to say, other than that it was, in line with Smith and Schumpeter, "probably bound up with the emergence of new opportunities, especially something that widens the market, associated with some new technique which greatly increases the productivity of labour and capital used together." At any rate, this was apparently of no great concern so long as it did: "Once a capitalist sector has emerged it is only a matter of time before it becomes sizeable. If very little technical progress is occurring, the surplus will grow only slowly. But if for one reason or another the opportunities for using capital productively increase rapidly, the surplus will also grow rapidly, and the capitalist class with it" (*ibid.*: 420).

The rate of expansion of this 'capitalist nucleus', as Hunt calls it, can be raised by inflationary stimulus if it favours private capitalists or goes to finance government capital formation as in the U.S.S.R. Nor need this capital withdraw resources from other activities when there was an unlimited supply of labour, since, in contrast to food, which cannot be created without land, capital can be created by labour alone without having to withdraw land or capital from other uses. The effectiveness of monetary expansion is constrained if investors lose confidence in price rises and start turning to unproductive uses, if money goes to other, less productive consumers than capitalists, or, in an open system, if money flows out of the country instead of being invested.

In Lewis's closed model, capitalist expansion would continue until it has caught up with the labour supply, when the economy ceased to function according to classical rules, labour ceased to be available at the ruling wage rate, and instead started functioning according to neoclassical, where wages increased according to productivity. However, even before this happened capitalists' profits may have been checked either by an exogenous rise in wages, faster than productivity and not due to the expansion of the capitalist sector itself, or, because of its expansion, by profits falling relatively to wages, through adverse terms of trade with the subsistence sector. Neither fate was unavoidable, however, and in that case there would be an exhaustion of the surplus of labourers: "the capitalist sector will expand until capital accumulation catches up with the labour supply, whereupon we reach a new stage of development" (Lewis 1958: 24). Lewis finds Smith more perceptive than either post-Adamite classical economists or Marxists. (Marx had rejected the Malthusian population theory but still believed that there would always be a surplus of labourers.) Nevertheless, even in the presence of a perfectly elastic labour supply at a wage rate that was constant in terms of what it can buy, the capitalist sector could cease expanding for any one of basically three reasons, concerning a rise of real wages in the subsistence sector, the terms of trade, and an exogenous rise in wages:

(i) Some of the reasons have to do with the effects on capitalist wages of a rise in real wages in the subsistence sector. Thus, "if capital accumulation is proceeding faster than population growth, and is therefore reducing absolutely the number of people in the subsistence sector, the average product per man in that sector rises automatically, not because production alters,

but because there are fewer mouths to share the product.” Furthermore, “the subsistence sector may also become more productive in the technical sense”, Lewis (1954: 431f.) explained. Giving an interesting illustration of what he meant by ‘exogenous’ he (1958: 21) elaborated: “wages may rise exogenously because the source from which labour is recruited is experiencing increasing productivity. Thus, if labour is being recruited from abroad, through immigration, from countries where wages are rising, wages will have to rise at home, too, or the rate of expansion will be checked. [...] Similarly, if labour is being recruited from peasant agriculture, where productivity is rising, it may be necessary to pay higher wages.” The consequences in the latter, ‘dual economy’, case depended on whether the capitalist and peasant sectors traded with each other. If not, rising productivity in the peasant sector would definitely force up wages in the capitalist sector. If they do trade, he (*ibid.*: 21f.) added, rising productivity may “be offset by deteriorating terms of trade, even to the point where wages, considered not in terms of wage goods in general, but in terms of the commodities produced in the capitalist sector, may actually be reduced because the terms of trade are moving in favour of the capitalist sector.”

Interestingly, since earnings in the subsistence sector were determined by productivity, and in turn determined the wage-level in the capitalist sector, capitalists may possibly gain from, *e.g.*, colonial or imperialist policies: “The fact that the wage in the capitalist sector depends upon earnings in the subsistence sector is sometimes of immense political importance, since its effect is that capitalists have a direct interest in holding down productivity of the subsistence worker’s income” (Lewis 1954: 409f.). Thus, plantation owners had no interest in seeing knowledge of techniques or seeds spread to peasants, would use their influence in government to the same effect, and, as Marx had noted with his ‘primary accumulation’, as Lewis called it, apparently following Baran, were often seen turning peasants off their lands. This was “one of the worst features of imperialism”, Lewis (*ibid.*: 410) explained:

The imperialists invest capital and hire workers; it is to their advantage to keep wages low, and even in those cases where they do not actually go out of their way to impoverish the subsistence economy, they will at least very seldom be found doing anything to make it more productive. In actual fact the record of every imperial power in Africa in modern times is one of impoverishing the subsistence economy, either by taking away the people’s land, or by demanding forced labour in the capitalist sector, or by imposing taxes to drive people to work for capitalist employers. Compared with what they have spend on providing facilities for European agriculture or mining, their expenditure on the improvement of African agriculture has been negligible. The failure of imperialism to raise living standards is not wholly to be attributed to self interest, but there are many places where it can be traced directly to the effects of having imperial capital invested in agriculture or mining.

The only thing that is odd about this is perhaps that Lewis nevertheless, although not in the same place, advocated precisely such increase in the share of capital, and preferably on behalf of the subsistence economy. It would of course be of great importance for an open economy, but since nothing is said on expatriation of profits or the effect on terms of trade between high and low wage countries, it is difficult to see in what the fault of imperialists consisted from the perspective of capital accumulation.

(ii) Profits may be checked if the expansion of the capitalist sector would moves the terms of trade against it. If the capitalist sector exchanges (different) goods with the subsistence sector (and if the marketed output from this sector is price inelastic), then as the capitalist sector increases relatively to the subsistence sector, this may turn the terms of trade against it. This will force the capitalists to pay workers a higher percentage of the value of output to the payment of wages, in order to sustain real incomes at subsistence. As to policy concerning subsistence productivity, this contradict the foregoing reason, where an increase in subsistence productivity caused a rise in capitalist wages.

Classical economists all predicted that diminishing returns in agriculture would move the terms of trade in favour of the landlords. As Lewis observes, Smith had stated the opposite, leaving ample space for technological improvements in agriculture and constantly diminishing rents relative to national income. Smith had so far proved right in all countries where agriculture was on a capitalist basis, but things were quite different where agriculture was on a peasant basis. So, if the capitalist sector (including agriculture) trades with the peasant sector – *e.g.*, if it depends on it for food or raw materials and therefore for markets – “its continued expansion would be menaced if the peasant sector were stagnant, since this would move the terms of trade against the capitalist sector.” Indeed, as has been observed, for Lewis, “failure of peasant agriculture to increase its productivity has probably been the chief reason holding down the expansion of the industrial sector in most of the under-developed countries in the world” (Lewis 1958: 23). Even with failing domestic agriculture, capitalist industry still had the opportunity to expand through foreign trade. This will lead to ever-increasing imports of food and raw materials, Lewis maintained, and depend on the ability to open up foreign markets. Otherwise the terms of trade would turn against it, and the expansion of home industry be slowed down to the rate which the expansion of foreign trade was able to carry. Finally, an adverse movement of the terms of trade was “due to ‘unbalanced growth’ of the various sectors of the economy”, and “probably the main reason why only a few countries have made substantial progress” (*ibid.*: 23).

(iii) For those used to see Lewis’s model in terms of productivities in the food sector, the possibility of *an exogenous rise in wages* will sound odd. Exogenous factors include anything from natural disasters, such as earthquakes or the bubonic plague, to social revolutions, but Lewis preferred to consider some economic examples. He began by reiterating the baseline of his classical model: “In the classical system the normal level of wages is the subsistence level at which the working class exactly reproduces its numbers. In Africa or Asia the wage floor is set by the productivity of small scale agriculture: men will not accept wage employment unless it yields at least as much as they would consume if they remained on the farm. In practice it must yield even more, perhaps as much as 50 per cent. more; and thus the floor is set to wages” (Lewis 1958: 20). In its pure form Lewis’s model does not depend on a difference between wages in the traditional and wages in the modern sector, but in practice wages are normally higher in the latter. It does predict that “this margin should remain constant in the early stages of development,” Lewis explained, given the abundance of labour seeking jobs in the modern sector. “It predicts quite well for nineteenth century Europe, on whose experience it was based, but”, he (1979: 223) admitted, “when applied to one hundred LDCs over the past quarter century its performance is spotty.” In particular, urban wages had been rising faster than he had predicted.

However, in addition to this lower limit, there were other factors at work, especially those related to ‘non-competing groups’ of various kinds. Large firms may prefer to take “their advantage in rents (profits, salaries, wages) instead of using it to reduce prices and bankrupt the smaller firms” (*ibid.*: 224). While the existence of excess labour made it possible for capitalists to hold wages at the lower limit, they did not necessarily do so, Lewis (1958: 20) suggested, either because they had “moralistic notions which limit the rate of profit on capital”, such that they may deliberately raise wages as productivity increases, or “they may react in the same way towards trade union pressure, or even to ward off the growth of unions.” “If this is the way capitalists normally behave,” Lewis (*ibid.*: 20f.) continued, “there will be an ever-widening gap between the wages they pay, and the subsistence wage at which unlimited labour is still available”, and rising wages would not be “an exogenous but an endogenous check.” Indeed, if wages rose proportionately with productivity capitalist

expansion will not be stopped at all, but would make profits a constant proportion of income in the capitalist sector.

Later, Lewis (1979: 225) followed up the suggestion that the labour market tended to segment into two classes of jobs, good and bad: “The superior earning power of the good job set is due not to superior innate capacity of those selected for it, but to strict control of entry. Trade unions are strongest in the good job industries, and have used their power to maintain wages by controlling numbers. [...] Discrimination is built into these processes, for and against whom depending on the local mores.” As Lewis (*loc. cit.*) described it, there was not much difference between these non-competing groups and the old guilds, which would make the very existence of a ‘labour market’ something highly doubtful, and confined to the brief period between the disorganisation of guilds and the organisation of labour unions. Everywhere, the bad sector included a large portion of the women in the labour force. In Britain the basic distinction was between the ‘aristocracy of labour’, “represented by the old craft unions, and the rest of the labour force, whose unionisation started at least a generation later; control of entry is central to the craft unions.” In the United States job discrimination was used rather against women, blacks and other ethnic minorities. There were great difficulties in ‘uprooting’ and ‘clearing’ the labour market of these discriminations; even if outside pressure had abolished them at a lower level, they only moved upwards in the hierarchy. The number of workers allowed entry into better jobs depended on the state of prosperity. But Lewis (1979: 226) beheld into “some distant future”, when “the duality of the labour market is ended [...] because prosperity pulls the bottom layer up to the top [...]. Prosperity is the real friend of the women, the ethnics and the *lumpenproletariat*”.

The entrepreneur ‘allows himself’ to be squeezed in this way, Lewis (*loc. cit.*) now proposed, either (1) because he does not realise the extent to which work habits rather than innate abilities reflect the differences in work, or (2) because he needs workers with a certain combination of skills, training and experience, who are employed in the good labour market, and whose ‘creed’ does not allow them to work with other craftsmen who have not come through the proper channels, or, finally, (3) because “it may be easier to follow established practice and not get into bitter disputes with the unions and his fellow employers”, and because “he may persuade himself that it is best to build up a staff of long-service employees, loyal to the firm, and appreciative of his leadership.”

Lewis (*ibid.*: 227) also related the successfulness of wage differentiation to economic factors. In less developed countries it would depend on whether there were economies of scale or not. If not, “a vigorous class of small businessmen will scour the cheap labour market for its best talents, and will prevent the trade unions and the large capitalists from joining together to create restricted entry systems.” If so, the large firms were not pressured by the small, but by “pressure from within, to create promotion ladders, training systems, pension schemes, and above all “orderly” entry”. Other elements were pressure from civil service unions raising government pay, and pressure of governments on foreign employers, all of which would reasonably lead to the emergence of an aristocracy of labour, “which will protect itself by treaty with those large scale employers who can withstand small competition – while population pressures and migration from the countryside keeps the cheap labour reservoir full.”

Though Lewis admitted that the theory of distribution is the No Man’s Land of economics, in view of the many obviously political factors noted above one could perhaps be reasonably surprised to see his answer to the question: “what determines the levels of wages in this model?” In the early stages of development labour was infinitely elastic, but, following a suggestion by Phelps-Brown, in the later stages of development it was the supply of capital that was infinitely elastic, meaning that the rate of return on capital stabilised at a particular level. Thus, in a developed economy “wages in the good jobs market are determined by

productivity.” He seems to have been assuming a closed system in which wages could not possibly rise above productivity. Workers got their output minus other costs, including the standard rate of return to capital, Lewis explained, and their wages rose every year in proportion to productivity, except in civil service where the influence was political. In an open system there would clearly exist the possibility of wage increases rising more than productivity, and letting the outside pay through the terms of trade. There was unfortunately not a syllable of explanation relating the above hierarchically ‘non-competitive groups’ to ‘productivity’ in an open system, or even on how to compare the ‘productivity’ of different branches of production, something which is in principle impossible, but, he (*loc. cit.*) maintained: “This fits the facts over the last hundred years or so.” Perhaps his model could be more plausibly placed in the same distant future when that bad jobs market has disappeared. In the bad jobs market, by contrast, productivity “has no meaning [...] because of the dominance of service outputs”, and “the minimum is determined by minimum wage laws, by trade unions or by the subsistence level.”

If rising real wages halted the rate of profit from growing as fast as it would, it did not necessarily stop expansion or even the acceleration of growth, so long as productivity was rising faster than wages. In this instance, Lewis (1958: 22) observed a difference between countries and regions, which he relates, it seems and only in passing, to the country being a closed system to far as the mobility of labour was concerned: “There may have been cases, in the real world, where the capitalist sector of a country ceased to expand because of an exogenous rise in wages, but one cannot think of many such cases. On the other hand, this is happening all the time in the expansion of towns or regions within a country, where the expansion of employment in one place, relatively to the rest of the economy, is brought to an end because developments elsewhere raise wages and drain away labour.” Emmanuel, too, found no cases where an increase in wages had entailed a decreased development, and he also related it to the lack of international labour mobility, but as we shall see, both less classical and neoclassical, he also saw an inherent tendency towards stagnation and underemployment of the productive factors, which the exogenous increase in wages, by contrast, helped to alleviate.

Bhagwati’s (1982: 23) suspicion is in all probability basically correct, that implicit in Lewis’s closed economy model was the Classical notion of the stationary state, “with increasing real cost of labor replacing the increasing resort to infertile land as the villain of the piece.” Thus, Lewis wrote (1954: 434f.): “We conclude, therefore, that the expansion of the capitalist sector may be stopped because the price of subsistence goods rises, or because the price is not falling as fast as subsistence productivity per head is rising, or because capitalist workers raise their standard of what they need for subsistence. Any of these processes would raise wages relatively to the surplus. If none of these processes is enough to stop capital accumulation, the capitalist sector will continue to expand until there is no surplus labour left. [...] When the labour surplus disappears our model of the closed economy no longer holds. Wages are no longer tied to a subsistence level.” What did determine them Lewis never really seemed to have decided upon, or if he turned in favour of productivity his decision was not decisive. In his first presentation he gave the alternatives of marginal productivity and Smith’s answer that they depended upon the degree of monopoly.

In spite of Lewis’s daring pronouncements based on his closed model, his original article pointed out that in the real world “countries which achieve labour scarcity continue to be surrounded by others which have abundant labour.” He thus set out to study this country “as part of the expanding capitalist sector of the world economy as a whole, and to enquire how the distribution of income inside the country and its rate of capital accumulation, are affected by the fact that there is abundant labour available elsewhere at subsistence wage” (*ibid.*: 435).

Bhagwati (1982: 24f.) noted that, “for the simple reason that the unlimited-supply-of labor at a constant real wage was such a beautifully neat assumption for growth-theoretic analysis”, his open economy model, explaining the terms of trade between poor and rich countries and tucked away at the end of Lewis’s classic paper, “somehow got lost soon after.” It was not wholly lost, however, and Lewis himself returned to it both in his Wicksell (1969) and Janeway (1978b) lectures, his major historical work on *Growth and Fluctuations, 1870-1913* (1978a), as well as in his last writings on racism and economic development. It was with this model of an open economy that he advanced a theory of unequal exchange in all but name, and where, furthermore, he added inspiration to other such theories, notably the principal one of Emmanuel (1962, 1969, 1972), but also in different ways of Andersson (1976) or Somaini (1971). Its lack of influence in the dominant paradigm of development economics is probably due also to the liaison with these desecrating theories, which everyone knows are so suspicious that they have to be denounced – or by some detractors of orthodoxy praised or perhaps ‘elaborated’ – without study.

Whereas Lewis’s original model had been, according to Tignor (2004: 707), “an optimistic blueprint”, he more and more came to emphasize his open economic version of his model, because it offered “a powerful explanation of why economic change had been so sluggish in less developed countries.” The accumulating evidence of the 1960s and 1970s made him increasingly convinced that in relatively open economies, “the factorial terms of trade doomed the third world to poverty and economic marginality.” Below, the basic theoretical elements of this open model shall be spelt out, which was unfortunately never worked into a coherent body with the dynamics of his closed one. Figueroa (2004) has pointed out divergence between what Lewis himself and the ‘Lewis model’, *e.g.*, as extended by Ranis & Fei 1961, has similarities with the difference between Keynes and the keynesian model, to which we might add, Innis and the staple theories of growth or underdevelopment. As we shall see, instead of trying to dynamise his open model in mathematics, Lewis went directly to the perhaps more profitable field of historical interpretation.

As before, Lewis seems to have based his model on the case of the British industrial revolution, where it took almost a century for the ‘unlimited supply of labour’ to be used up, before wages began to rise around mid-19th century. Thus, he (1954: 436) reminded: “When capital accumulation catches up with the labour supply, wages begin to rise above the subsistence level, and the capitalist surplus is adversely affected.” However, as in the British case if there was still surplus labour in other countries, capitalists could avoid this either “by encouraging immigration or by exporting their capital to countries where there is still abundant labour at a subsistence wage.” Kindleberger (1967) suggested in response to this, and Lewis (1972: 94) concurred, that dynamic capitalists could also react by speeding up their labour-saving innovations.

The possible effects of mass immigration of unskilled workers were quite extensive, and this was recognised particularly by the well-paid workers: “If there were free immigration from India and China to the U.S.A., the wage level of the U.S.A. would certainly be pulled down towards the Indian and Chinese levels” (Lewis 1954: 436). If thus competitive the wage-level of the United States would establish itself at the Asian subsistence level plus a ‘cliff’ for higher costs of living plus the cost of migration:

This is one of the reasons why, in every country where the wage level is relatively high, the trade unions are bitterly hostile to immigration, except to people in special categories, and take steps to have it restricted. The result is that the real wages are higher than they would otherwise be, while profits, capital resources, and total output are smaller than they would otherwise be. (*Ibid.*: 436f..)

The argument on trade unions is self-evident (cf. Bauer in Chapter 5) and, as we shall see from Lewis’s later work, historically well-founded. The implications for capital are more

debateable, however, indicating that profits, etc., are therefore lower in high-wage countries, motivating an export of capital to low wage areas: “The export of capital is therefore a much easier way out for the capitalists, since trade unions are quick to restrict immigration, but much slower in bringing the export of capital under control” (*ibid.*: 437). This would in turn reduce the creation of fixed capital at home, as well as the demand for labour, and was all in line with the predictions of classical economists and Marx. There was still the risk that the exported capital would increase the standard of living in the capital-exporting country.

According to the logic of his model, there would seem to be a tendency towards capital export, but in face of the fact that nothing like an net-exodus of capital from high to low-wage countries ever took place – and in his favoured historical case had gone from high to even-higher wage countries –, Lewis (1972: 94) perhaps did best in adopting an agnostic stance: “the behaviour of capitalists as profit margins diminish relatively to wages cannot be predicted. [...] We are still in the dark as to why entrepreneurs act more creatively in some countries than others, or at one period rather than another in the history of the same country.” However, although Lewis’s analysis of the incentives to invest clearly represents a regression as compared with Nurkse (1952, 1953), he (1954: 438) did suggest reasons why the general tendency was not in fact general. Capital exports had gone to the Americas and Australia because the most productive investments “are those which are made to open up rich, easily accessible resources, such as fertile soil, ores, coal or oil”, whereas in India and China “the known resources were already being used.” Here, in spite of Bhagwati above, Lewis again has recourse to the using up of natural resources, following which profits would decline and capital be exported, precisely as in the ABC of Classical economics. Nevertheless, contrary to what might be suspected from his model, Lewis (*ibid.*: 438f.) went even further, admitting that the productivity (profitability?) of one investment depends upon other investments having been made before: “Hence it may be more profitable to invest capital in countries which already have a lot of capital than to invest it in a new country. If this were always so [...] the gap between wages in the surplus (labour) and non-surplus countries would not diminish but would widen. In practice, [...] the gap does widen, and we cannot at all exclude the possibility that there is a natural tendency for capital to flow towards the capitalized, and to shun the undercapitalized.” Unfortunately, nothing more is said on this possibility, and Lewis instead reports that all the major economist in every country and every century had affirmed the tendency of the rate of profit to fall, although they had not often given the same explanation. This was true, he agreed, for individual lines of production, where the possibilities of expansion were soon exhausted, so the reason why capital was exported was not an inevitable tendency of the rate of profit to fall, simply that foreign countries had differently utilised resources that left different opportunities for investment. Thus, what would seem the supreme paradox according to the logic of his model, “even if there is still surplus labour at home, available at subsistence wages, investment opportunities abroad may be more profitable. Many capitalists residing in surplus labour countries invest their capital in England or in the United States” (*ibid.*: 440).

As Hunt (1989: 94) remarks, quite how the reader is supposed to relate this point to the prior elaboration of economic development in a closed economy is not spelt out: “The implication is that capitalist exports from some underdeveloped countries might slow down the process of capitalist growth in these countries if not offset by equal or greater capital imports. However, this point is not explicitly stated and there is no discussion of it.” Findlay (1982: 10) also notes correctly that Lewis never did construct a model including both the dynamics of his closed model and the international aspects of his open, and that the contradictory conclusions drawn from them were precisely due to the fact that the first was closed but dynamic whereas

the second was open but static.⁵⁷ Contrary to Findlay, however, Lewis (1978a) himself preferred very simple illuminative ‘models’, along with interpretations of actual historical transformations, which he doubted that any theoretical model could capture. This said of the dynamics on the international stage, Lewis set out some comparative static models to explain the terms of trade.

Assuming two countries that trade but did not compete with each other, they could either produce one good each, or each country produced two or more goods, one of which was common to both, and was the good produced in the subsistence sector. In the first case, wages were not determined in relation to each other and relative prices were determined solely by supply and demand. If a capitalist sector developed in the wheat producing country, it may at first get unlimited labour at an average wage in wheat related to average subsistence wheat production, but in time this labour would be eliminated and wages start to rise. If the advanced techniques in wheat production were applicable to peanuts which were produced in the other country, capitalists would export capital there because there labour was still available at a subsistence wage level in terms of peanuts. When initially capital was invested in wheat, the price of peanuts would rise relatively, so both capitalist and subsistence wheat workers would be worse off in terms of peanuts, though they earned the same amount in terms of wheat, and vice versa for peanuts workers. When capital was invested in peanuts production, the terms of trade would again be reversed. Thus, as noted before, if applied to things which workers import capital exports may benefit them (Lewis 1954: 440f.). In the second case “the result is the same, except that the terms of trade are now determinate” (*ibid.*: 441).

This second case is clearly the more interesting and it was also the one given in his Wicksell lectures (Lewis 1969: 17-22), brought in to answer the following question: “Why does a man growing cocoa earn one tenth of the wage of a man making steel ingots?”

I was taught that the answer depended on the relative marginal utilities of cocoa and steel, but this answer has never made any sense to me. My alternative answer can be put in a nutshell. Each of these men has the alternative of growing food. Their relative incomes are therefore determined by their relative productivities in growing food; and the relative prices of steel and cocoa are determined by these relative incomes and by productivities in steel and cocoa. Demand is important in the short run, but the long term determinants are the conditions of supply. (*Ibid.*: 17.)

According to the original (1954: 441) model, “both countries produce food, but do not trade in it”, the temperate country also produces steel whereas the tropical country also produces rubber (1954) or coffee (1969). To arrive at his model in 1969, he made the simplifying assumption that all kinds of food are homogenous, and “can all be translated into units of equivalent nutritional values which will always exchange at the same price, because”, quite the contrary, “food can be traded between all countries” (Lewis 1969: 17). This was apparently introduced to make food and all the other goods internationally comparable, but it seems to obliterate a fundamental criterion for his model of a non-competitive subsistence sector. Furthermore, all manufactures are also homogenous (=steel), as is all tropical commercial products (=coffee) – although no unit is given for either –, and output per head is the same in all temperate and tropical countries respectively. Finally, there are no transport costs (*ibid.*: 17f.).

If in the tropical country unlimited supplies of labour can be released from subsistence food production, wages “will equal average (not marginal) product in food”, and in the temperate

⁵⁷ Findlay (1973, Pt 2; 1980) and other (Hornby 1968; Inada 1971) had thus set out to construct ‘dynamic models of open dual economies’. Findlay 1981 analyses Lewis and others on the terms of trade. Those who find such model building amusing, all of which (in line with the neoclassical mainstream) seem quite unconcerned with empirical relevance, although they seldom shun giving policy recommendations, should also consult Darity 1990.

country, too, “the wage cannot fall below productivity in the food industry” (Lewis 1954: 441). Thus put, the option of choosing to work in the subsistence sector was clearly crucial for real wage determination or the standard of living – money wages, or indeed money, never entered the picture in Lewis’s model – just as it was that food can function as some sort of real wage baseline. If food productivity in the temperate country was three times higher than in the tropical, so would wages be, but any change in productivity in the other, traded, sector, would be lost in the terms of trade to the consumers of the other country.

Lewis (1954, 1969) assumed that output per head and standard unit of time (one day’s labour), was as follows:

	Steel	Food	Coffee
Temperate country	3	3	–
Tropical country	–	1	1

Since food is globally homogenous both commodity and factoral terms of trade are given: the commodity terms are 1 steel = 1 food = 1 coffee, while the factoral terms, determined by relative productivities in food, are 1 temperate wage = 3 tropical wages.

Now, if productivity tripled in coffee this would be excellent for temperate workers, *i.e.*, consumers, since then 1 steel = 3 coffee, whereas it would do tropical workers, in either line of production, “no good whatsoever” (unless they purchase more coffee than steel) since their wages would continue to be determined by food productivity. If, on the other hand, tropical subsistence, or food productivity were to triple, then wages would rise correspondingly in both food and coffee production, and the terms of trade ameliorate accordingly, so that 1 coffee = 3 steel. Thus, temperate workers are better off if productivity increases in what they buy, and worse off if productivity increases in the temperate subsistence sector. Tropical workers “are benefited only if productivity increases in their subsistence sector; all other increases in productivity are lost in the terms of trade” (Lewis 1954: 441f.).

This gave Lewis the solution to his puzzle “why tropical produce is so cheap”, even in cases such as the sugar industry, where productivity was very high by any biological standard, and had been advancing by leaps and bounds, trebling over the 75 years preceding 1954, outdoing anything comparable in the wheat industry.

Nevertheless workers in the sugar industry continue to walk barefooted and to live in shacks, while workers in wheat enjoy among the highest living standards in the world. The reason is that wages in the sugar industry are related to the fact that the subsistence sectors of tropical economies are able to release however many workers the sugar industry may want, at wages which are low, because tropical food production per head is low. However vastly productive the sugar industry may become, the benefit accrues chiefly to industrial purchasers in the form of lower prices for sugar. (Lewis 1954: 442.)

Emmanuel was the first serious commentator on Lewis’s explanation of the terms of trade. As we shall see, in Emmanuel’s own explanation of the terms of trade and of wage differentials, which does not presume the existence of a subsistence sector, wages are ‘delinked’ even more completely from productivity; though they might once have been so connected, the established standards of living (or ‘claims’ on the total societal product) were now rather the self-reinforcing expressions of societal mores, historical circumstance, and consumer habits. Not improbably, he had Lewis’s above passage, which he had quoted elsewhere, in mind when writing:

I do not suppose that the American worker would lie down and die, or cease to beget children, if he were obliged one day to live in public housing or even a shack. The trouble is that in the United States there is neither enough public housing nor enough shacks to shelter everybody. The American workers are thus doomed either to live in elegant and comfortable small houses or else sleep under bridges. (Emmanuel 1972a: 117f.)

In parenthesis, Lewis (1954: 442) noted another assumption to explain why he spoke only of wages and workers: “The capitalists who invest in sugar do not come into the argument because their earnings are determined not by productivity in sugar but by the general rate of profit on capital”.⁵⁸ As underlined by Emmanuel (1972a: 89) he assumed a uniform rate of profit for both countries – a crucial condition for both of their theses:

It is this last phrase that is the most revolutionary. Lewis does not seem to realise it, though, since he puts it in parenthesis. This is a pity, for it would be by taking this step – recognizing the equalization of profits on the international plane – that Lewis’s thesis would become a coherent one. If, indeed, wages are stuck at a very low level, for reasons peculiar to themselves, *somebody* has to get the benefit of the difference. This somebody can only be the capitalist or the consumer. If it is the capitalist, there may perhaps be exploitation or bad distribution within the nation, but there is no unequal exchange on the international plane. If it is the (foreign) consumer, we have plundering of some nations by others.

If the capitalist cannot benefit by it (at least not in the long run), owing to competition of capital and the equalization of profits, only the consumer is left, and for him to benefit it is necessary that prices fall.

Given this reservation, there is nothing to be said against Lewis’s thesis, except that it is too restrictive to serve as a general theory. It is limited to the case where a low-yield self-subsistence sector is present. This factor, though very often an attendant circumstance, is not the only one that brings about differentiation in wages between countries.

Indeed, Lewis was all but clear on either of these points, *i.e.*, on the equalisation of profits and on the possibility of raising wages above the level of productivity, since he had previously concluded that the effect of trade unions hindering low wage immigrants “is that the real wages are higher than they would otherwise be, while profits, capital resources, and total output are smaller than they would otherwise be” (Lewis 1954: 436f.), not specifying if they would be lowered only for the branch affected by the wage rise, or if this lowering would be diluted, via price rises and international competition, in the general rate of profit.

When writing in his ‘further notes’ on the higher ‘second stage’ of capitalist development, reached when labour was no longer unlimited, there was a similar ambiguity. At this ‘neoclassical’ stage “the ration of profits to national income becomes relatively stable”, at a point which had to be determined according to the classical model. He concluded that “profit margins will be lowest in countries which reach their second stage earliest, and will be highest in countries where the second stage is longest delayed”, just as “countries which begin to develop latest will stabilise with higher savings ratios and higher rates of growth than those which reach their second stage earliest” (Lewis 1958: 27). This general rule would be modified, however, by several factors: the effect of innovations and the technology used in the capitalist sector varied between countries; subsistence wages, their growth rates, and the margin between subsistence and the actual wage varied between countries. Finally, “the international migration of capital tends to prevent differences in the rate of profit from being as wide as they would otherwise be” (*ibid.*: 29). So we have a general rule that profits would be higher in late developers – every country was assumed to become developed –, particularly reinforced in regions with low agricultural productivity such as Central Africa, but with a counteracting tendency towards international equalisation. It never occurred to Lewis that international equalisation might change the rules of the game, even to the point where ‘late’ developers would not develop at all, or perhaps at a consistently lower rate than ‘early’ ones.

Apart from limiting itself to the case where there was a subsistence sector, Emmanuel noted that, just as the Prebisch-Singer proposition, Lewis’s explanation of the falling terms of trade

⁵⁸ This, he (*loc. cit.*) explained, “is why our leaving out of this and subsequent analysis of the effects of changing productivity upon wages and the terms of trade simplifies the analysis without significantly affecting its results.” According to Darity (1990: 822, n. 6) Lewis “adopts a uniform profit rate condition to characterize the equilibrium terms of trade. The international profit rate simply equalizes at zero since he assumes the perfectly competitive zero profit condition. His qualitative results would not alter if he assumed positive profit rates as long as, once again, they are uniform across all sectors.”

depended on an increase in productivity in the export sector. These points were taken up by Andersson (1972b) in a critique of Lewis's (1969) Wicksell lectures. Lewis had also tried to test the validity of his model empirically by studying the price of wheat, tropical goods and manufactures in the period from 1871 to 1965, believing his thesis to be fairly well confirmed. Utilising some of the data provided by Lewis on productivities in the various lines of production, making the assumption *cum* observation of identical productivities in both tropical agriculture *and* all other crops, Andersson (1972b: 52) concluded by contrast that they did not, or at least that Lewis had not sufficiently explained the 'paradox' of the falling terms of trade for underdeveloped countries.⁵⁹ Andersson's case rests on pointing out that the ratio between the price of 'cocoa' and wheat had not fallen. However, the price of 'wheat' with which he compares is a global compound which cannot be used to estimate productivity in tropical agriculture. Lewis's argument is perhaps confused by the attempt to base calculations on a common 'food' product – a problem he did not have in his 1954 article where it was not traded in –, and even more so since he chose wheat, whose price, as he (1969: 20) noted, "probably depends more than anything else on changes in American output".⁶⁰ There can be no doubt, however, that in Lewis's mind the difference in productivity between tropical export crops and tropical food was somehow significant and crucial. Indeed, it was his major point all along:

The main reason why tropical *commercial* produce is so cheap, in terms of the standard of living it affords, is the inefficiency of tropical *food* production per man. Practically all the benefit of increasing efficiency in export industries goes to the foreign consumer; whereas raising efficiency in subsistence food production would automatically make commercial produce dearer. (Lewis 1954: 449)

The unfavourable terms of trade which the tropical countries were undergoing at the time of his Wicksell lectures, depended fundamentally on the rapid strides in American agricultural productivity. The one thing the tropical countries should *not* do to counter it, he (1969: 25) repeated, was to increase productivity in their commercial crops, which could only drive down prices to the same extent: "This is an important conclusion. For the last eighty years the tropical countries have put practically all their agricultural research and extension funds and

⁵⁹ To illustrate and demonstrate wither the terms of trade would go according to Lewis's model, Andersson put it in four equations, showing how wages, w , in temperate and tropical countries respectively, depend on the price, p , and productivity, q , of wheat; and how in turn the ratio of wages and productivities determine the price of steel and cocoa:

$$\begin{array}{ll} (1) w_{\text{temp}} = p_{\text{wheat}} q_{\text{wheat, temp}} & (3) p_{\text{steel, temp}} = w_{\text{temp}} / q_{\text{steel}} \\ (2) w_{\text{trop}} = p_{\text{wheat}} q_{\text{wheat, trop}} & (4) p_{\text{cocoa}} = w_{\text{trop}} / q_{\text{cocoa}} \end{array}$$

The terms of trade for cocoa will thus deteriorate if the agricultural productivity increases more in the steel than in the cocoa producing country, and/or if productivity in cocoa increases more than in steel production, according to:

$$(5) p_{\text{steel}} / p_{\text{cocoa}} = (q_{\text{wheat, temp}} / q_{\text{wheat, trop}}) (q_{\text{cocoa}} / q_{\text{steel}})$$

Taking the data from Lewis (1969: 20) and making what he claims to be the same assumption of stagnant tropical agriculture *and* cocoa production, Andersson (1972b: 52) constructed the following table:

	1890	1929	1957
$q_{\text{wheat, temp}}$	1	1.34	3.56
$q_{\text{wheat, trop}}^1$	1	1	
q_{steel}	1	2.46	4.60
q_{cocoa}	1	1	1
$p_{\text{steel}} / p_{\text{cocoa}}$	1	0.55	0.77

According to these calculations the terms of trade for tropical products, *i.e.*, the relative prises of 'cocoa' to 'steel', should have gone up from 1890 to 1929, but according to Lewis's own figures had not. Lewis (1969: 21f.) had of course pointed out that this would be the result *if* one looked only at the terms of trade between steel and wheat, which is in effect what one does if productivity in tropical agriculture and 'cocoa' is equated.

⁶⁰ Cf. (1969: 21): "What matters in our equations is not the world trade price, but the price received by the producer".

effort into trying to raise the productivity of export crops like cocoa, tea, or rubber, and virtually no effort into food productivity. From their point of view, this effort was wholly misdirected.” (A more recent evaluation by Deaton & Laroque [2003: 305f.] came to the conclusion that Lewis’s account was consistent with the world trend in terms of trade for primary products, although the evidence was not hard enough to convince a serious sceptic.)

Furthermore, as his historical work of the 1970s made perfectly clear, the relevant levels of agricultural productivity, determining the factoral terms of trade, were not the level happening to exist in just any local country, but, due to the massive waves of migration in the 19th century, represented, on the one hand, those of India and China, and, on the other, those of Europe and ‘neo-European’ regions of recent settlement. The way these waves were directed illustrates rather well the ‘institutional’ character of wage differences. Lewis held on to a belief in at least the potentiality of a common labour market, and ‘factoral terms of trade’ in both his and Emmanuel’s understanding seems to have related to such a hypothetical state. The two waves of migration corresponded well to Lewis’s favoured division into ‘temperate’ and ‘tropical’ agriculture, but even on his own account there were clearly other, more political factors involved than a mere ‘unlimited supply of labour’ seeking to eke out a livelihood.

Thus, the interconnected protectionist, welfare (except, perhaps, in the U.S.), and anti-immigration policies of the temperate countries, provide further argument for the importance of wage levels. Late 19th century world migration was of two kinds, Lewis (1978a) explained: (1) a large emigration from Europe to ‘new countries of temperate settlement’, following the medium long wave economic fluctuations (named after ‘Kuznets’), and leading to rapid urbanisation of these new countries; (2) an equally large migration of Indians and Chinese to tropical countries, although the proportion returning home was higher not least because of the horrible conditions to which Asian (particularly Chinese) migrant labour was subjected. Although considering the study of divergent economic development as much a task for the political historian (*ibid.*: 167), Lewis nevertheless interpreted differences in the light of respective agricultural productivity levels, which established a high or low equilibrium wage level, leading further to deteriorating factoral terms of trade and low development:

These two streams moved on very different terms. The Asians came from countries with low agricultural productivity, and were willing to work for a shilling a day or less. The Europeans expected wages in excess of those earned in Europe, where productivity was several times higher than in Asia. The prices of tropical crops and of the temperate crops reflected these differences in the factoral terms of trade. So the temperate settlements were rich, with large domestic markets for industrialisation, whereas the factoral terms of trade of the tropical countries were such that the trade option could support only low levels of development. (Lewis 1978a: 158)

Thus, Lewis (1978a: 181-8) recounted, between 1871 and 1915 some 36 million persons emigrated from Europe, two thirds of which moved to the United States, and most of the remaining 12.6 million to Canada, Australia, Argentina and Brazil, the majority, however, moving on to other Latin American countries, the United States, or New Zealand. Of the almost 16 million leaving India between 1871 and 1915 almost 12 million returned. Including Chinese emigration, concentrating on Southern Asia, Asian emigration must have exceeded European. Among the 300 million Indians and 400 million Chinese, there was thus ‘an unlimited supply of labour’ willing to work at wages far below ones acceptable to Europeans (although higher than in their countries of origin), and willing to enter ‘contracts’ or ‘indentures’ binding them for periods of several years on some plantation thousands of miles away in a foreign country whose language they did not understand. The plantation system was spread from Latin America to Asia in the 19th century, starting with British cultivation of coffee in Ceylon in the 1820s, and spreading rapidly especially with the opening of the Suez Canal in 1869. In the 1880s, the wage of a plantation worker was a shilling a day or less, whereas that of a ‘navvy’, an unskilled construction worker, in New South Wales was nine shillings a day.

The evolution was reflected in the commodity terms of trade, where, with the exception of sugar, all “commodities whose price was lower in 1913 than in 1883 were commodities produced almost wholly in the tropics. All the commodities whose prices rose over this thirty-year period were commodities in which the temperate countries produced a substantial part of total supplies” (*ibid.*: 189). Lewis interpreted this as the result of market forces working towards an equilibrium wage level (the main cost differential), set by the tropical standard of living of 700 lb of grain per acre, in contrast to the British level of 1600 lb. The evolution of prices were dependent on the divergence of wages, not the other way around, offering highly divergent prospects:

Given this difference in the factorial terms of trade, the opportunity which international trade presented to the temperate settlements was very different from the opportunity presented to the tropics. The temperate settlements were offered high income per head. From this would come immediately a large demand for manufactures, opportunities for import substitution and rapid urbanisation. Domestic saving per head would be large. Money would be available to spend on schools, at all levels, and soon these countries would have a substantial managerial and administrative élite of their own. They would thus create their own power centres, with money, education and managerial capacity, independent of and sometimes hostile to the imperial power – so that Australia, New Zealand and Canada had ceased to be colonies in any meaningful sense long before they acquired formal rights of sovereignty. The factorial terms available to them offered the opportunity for full development in every sense of the word.

The factorial terms available to the tropics, on the other hand, offered the opportunity to stay poor – at any rate until such time as the labour reservoirs of India and China might be exhausted. Nobody understood this better than the working classes in the temperate settlements themselves (and in the USA). They were always adamantly opposed to Indian or Chinese immigration into their countries because they realised that, if unchecked, it must drive wages down close to Indian and Chinese levels. (Lewis 1978a: 192.)

Obviously, no one can believe that Indians and Chinese actually preferred to move to the horrific labour conditions in tropical areas, rather than to what has been called the ‘workers paradises’ of temperate areas, had they had the choice. This is a fairly well-known, if unattractive, story of anti-immigration policy surging with the welfare-state and organised labour, both against local capital and international mobility of labour.

Economic recession and unemployment inspired protectionism, social policies and anti-Asian sentiments. Pre-World War I Australia was a pioneer in protecting itself from the flux of workers from Asia and the poorer regions of Europe, starting with Victoria State in the mid 1850s, followed by conflicts between Australian workers and Asian low wage immigrants rose. The first restrictions on immigration appeared in the 1880s, and in 1902, on the instigation of the Australian Labour Party, a European language test was established on the federal level. Restrictions were extended in the interwar years to promote British settlers and hinder non-Britons, refusing entrance on national, racial or occupational grounds. New Zealand followed suit already in the 1880s and 1890s – in the four decades from the 1880s to the 1920s, the Chinese population of Oceania actually decreased, while South Africa took measures against Indians and Chinese in 1913. The first restraints in the United States were imposed with various *Chinese Exclusion Acts* from the 1880s onwards, and from 1917 Chinese were simply refused entrance. In the 1920s, a system including several European countries was instigated with quotas for each country of origin of a few percent the number having immigrated until 1910 or 1890. Immigration sank drastically in every decade, with new minimums following new restrictions in the depression years. Canada followed its big American brother from the early 1900s, notably Asians in the 1920s and Southern and Eastern Europeans in the 1930s, while at the same time encouraging Britons. Tocqueville said of French Canadians that they seemed to have preserved the *ancien regime* more strictly than the French themselves. The same might perhaps be said of the nationalism of British colonists. Pioneered in the countries of British settlement, anti-immigration restrictions became generalized in the 1920s and 30s (Bairoch 1997, I: 476ff.; II: 176, 483f.; III: 26ff.).

Along with intercontinental ‘recruiting’ procedures, this seems more than adequate to explain the relative mobility and immobility of labour. Unfortunately, as we have noted, the same can not be said for capital. The dependency of developing country exports on developed country markets, which Lewis made a major theme in his Janeway lectures (1978b), indicates that the ‘engine of growth’ is situated not in exports themselves but precisely where the power is, in a market economy meaning *purchasing* power.

Hunt (1989: 108) well summarises the critique of Lewis (including the extensions by Ranis & Fei 1961, and others, as well as Rostow) from the perspective of inadequate domestic demand and inducements to invest:

The emphasis on an overriding savings constraint to development ignores the possibility that investment is constrained not by lack of savings but by lack of demand. Thus, for example, the first and major part of the Lewis model is based upon the assumption of a closed economy. Nowhere in this section does Lewis consider the possibility that inadequate demand may deter capitalist investment and slow down the rate of growth. With mass incomes held constant, much of the inducement to invest must come from within the capitalist sector itself [...]. Yet the ability of the capitalist sector to sustain this inducement will be a function of the size both of the economy as a whole and the sector itself. These issues are not raised in the Lewis model. It appears that the capitalists are assumed to have so high a motivation to engage in capital accumulation that they will do so whatever the return on investment. Later, too, when Lewis drops the assumption of a closed economy, and when he briefly notes the possibility of capital export from an underdeveloped economy, the assumption is that this will be induced not by inadequate domestic demand but by more favourable cost structures in industrially advanced countries.

The omission of the potential constraint in the inducement to invest is a tribute paid to the strictly classical and non-Keynesian approach, which could have serious implications for policy recommendations, but of course also for the possibilities of apt historical interpretation. The condition illuminated in Lewis’s later historical studies that growth in the developing countries is dependent on growth in the developed would appear wholly consistent with an approach in which incentives to invest follow the stimulus of demand, but becomes something rather anomalous if it is neglected. What Lewis (1978b: 10) called “the dependence of an industrial revolution on a prior or simultaneous agricultural revolution”, and the constraining “smallness of the market [...] because of low agricultural productivity” are steps in this direction, but he still felt the need for an unexplained “absence of an investment climate”. The industrial revolution spread in countries, especially in Western Europe and North America, that were also revolutionising their agriculture, Lewis reminded, but failed in countries that did not, such as Central and Southern Europe, or Latin America. There is clearly a case to be made for agricultural productivity as a factor in economic growth, but which case is it?

The countries in Latin America that were industrialising in the 19th century, such as Brazil, had much lower agricultural productivity than Argentina which did not. In spite of the “liveliness of Brazilian and Mexican entrepreneurs” at the end of the 19th century, the attempts to industrialise would prove hazardous to Brazil and other Latin American countries because they were forced to compete with the already industrialised British, while Argentina instead grew to be one of the ten richest countries in the world based on her agricultural exports. Lewis (1978b: 23) blamed the failure of tropical industrialisers on the heavy involvement of foreigners in their trade, who, he believed, were less induced to reinvest domestically than were nationals. Another factor, favoured by nationalist historians, was the preference for foreign goods (such complaints have indeed followed foreign imports at least from the 14th century in England), and Lewis (*loc. cit.*) further noted the 20th century novelty of established brand names making it difficult to dislodge their footing in consumer markets “even with domestic products of equal cost and quality”. Finally, the vested interests of landowning classes, working their way into the state apparatus, might have downplayed industrialisation as a government policy, and the outcome would depend on “the relative political strengths of the industrial and agricultural interests” (*ibid.*: 24).

The agricultural productivity of Argentina was higher than in most Western European countries that did industrialise, and in that respect it resembled other temperate 'regions of recent settlement'. But why was Argentina and almost equally agriculturally productive Latin American colleagues put to a halt, when other temperate regions of recent settlement were able to follow through with a rise in industrial productivity. "To unravel the different responses of countries experiencing apparently similar forces is a source of historical excitement", Lewis (1978b: 25) confesses, and the contrast between Argentina and Australia was particularly instructive: "These two countries began to grow rapidly at the same time, the 1850s, and sold the same commodities – cereals, wool, and meat. In 1913 their incomes per head were among the world's top ten. But Australia industrialized rapidly, and Argentina did not, a failure which cost her dearly after the war when the terms of trade moved against agriculture." Some Argentinean nationalists had blamed it on British interests, but as Lewis (*ibid.*: 25) pointed out, the British had even more influence in Australia and Canada. So, here was a difference that could not be explained by agricultural productivity or foreign influence. Instead, Lewis (*loc. cit.*) had recourse to differing government policy, with a tinge of underlying social forces: "The crucial difference between the two countries was that Argentinian politics were dominated by an old, landed aristocracy. Australia had no landed aristocracy. Its politics were dominated by its urban communities, who used their power to protect industrial profits and wages." What these politics could provide, except a policy of protection advocated by industrialists rather than the free trade advocated by landed classes was presumably what Lewis above referred to as a 'climate for investment', complementing agricultural productivity as a factor in economic growth.⁶¹

A "whole set of new people, ideas and institutions" had been established in Western Europe, Lewis (1978b: 11) explained, "that did not exist in Asia or Africa, or even for the most part in Latin America": "Power in these countries – as also in Central and Southern Europe – was still concentrated in the hands of landed classes, who benefited from cheap imports and saw no reason to support the emergence of a new industrial class. There was no industrial entrepreneurship." Though pointing to the social institutions, Lewis still put emphasis on the 'protestant' spirit, ideas and notions of the 'entrepreneur' as *primus movens*.⁶² But there had been no more lack of entrepreneurial spirit in the immigrants to Argentina than there was elsewhere – if coercion was a factor Australia would surely have been in a worse position –, and none when raising the agricultural productivity for exports. So, to explain this export-biased entrepreneurial spirit, Lewis would have been helped by following his thought on social institutions through to the implications for the demand side of the equation, which he did not. Had he done so, he could have suggested that the hindrance to prolonging 'sustained economic growth' through the 20th century was rather that social institutions did not permit the high agricultural productivity to spread as consumer demand in a way that could induce local investments in industrial or selling enterprises on a scale comparable to their temperate colleagues. It would then appear as if the missing link is not agricultural productivity *per se*, nor even the dominance of the industrial classes in economic policy, but the increasing

⁶¹ The struggle between landed and industrial classes is also familiar from British history, where the Corn Laws is said to have held workers' wages down in during the industrial revolution, and free trade to have been established in order to give Britain the full advantage of her head start industrialism. However, according to the stately reinterpretation by Cain & Hopkins (2002), British imperial policy was much more influenced by the landed classes than the industrialists – to British industrialists' loss in the late 19th century, as Lewis (1978a) himself had demonstrated – so the implication of this internal balance of power is perhaps less evident than at first sight. So far as it concerns foreign trade policy, Lewis's argumentation requires that, contrary to the beliefs of most of the economists' profession but in line with the standing argument and documentation of Bairoch (*e.g.*, 1993), protection rather than free trade was the policy most successful for national development.

⁶² The Janeway lectures of which this book consisted were held in honour of Schumpeter, for whom the entrepreneur also played such a role.

purchasing power of the masses which, given the right institutional setting, could *also* be stimulated by increasing agricultural productivity and economic policy.

At the other end of the pole, Lewis's models also emphasised greater productivity, while his historical presentation added other more evidently political ones induced by the working masses. Although he tended to see this as an impetus for capital exports, there were similar protectionist processes to the one studied on the labour market: "In the past, the developed countries have gone to extremes to keep out manufactures from the developing countries, for exactly the same reason that they have kept out Asian migrants. They have imported raw produce, but have placed heavy import duties or prohibitions on refined produce in order to protect their own manufacturing capacity" (Lewis 1978b: 32). He did not note that similar precautions had been taken against the United States and British Dominions, all to no avail, and thus did not really attempt to explain why they managed to get away with it and poor countries did not.

The combination of full employment and zero population growth produced structural changes in the developed countries' labour markets, which by the international recession starting in 1974, had altered their attitudes to importing manufactures from low-wage countries. "In pure models of the market economy," Lewis (1978b: 34) explained, "labor of equal competence receives equal wages in all industries or occupations."

This is not so in the real world, where there are protected jobs and low-wage jobs. Sometimes the difference is between industries; unskilled labor is paid more in, say the motor industry than in the hospital industry. Sometimes it is between occupations; some kinds of skilled workers, e.g., printers, are able to keep their wages higher than those of persons in other occupations requiring the same degree of learning ability. Sometimes the distinction is between people of different races or sexes or religions.

We call this a "dual" or "two-sector" labor market because the natural tendency of a market economy to reach an equilibrium in which equal competence receives equal wages is arrested. Employers of workers in protected jobs would no doubt prefer to be hiring at lower wages from the low-wage sector, but they are prohibited from doing so by trade unions, by the racial, religious, or sexist prejudices of some of their irreplaceable staff, by legislation, or even merely by custom.

So, are these trade unions, legislations, customs, racial etc. prejudices, included in Lewis's model with low agricultural productivity, or indeed, caused by these differing food productivities? The idea would be absurd. What we are left with, then, is only a more general category, where differentials of agricultural or even industrial productivities are only special cases, *i.e.*, it could be argued, precisely a theory where wages themselves are 'for whatever reason institutionally different' (cf. Emmanuel 1972a: 64; 1962: 22).

The difference between Lewis and Emmanuel is lesser in Lewis's later historical work than anywhere else. Emmanuel emphasised the institutional character of wages and that differential levels of productivity were conditioned by institutional setting both internally and externally; in particular, he emphasised the wage differential *arising from* the political and unionised organisation of the working classes and the impossibility of its equalisation. Lewis put greater emphasis on levels of agricultural productivity and on how the wage differential rooted in these were *protected* from immigration by working class politics. Both considered the main cause of the observable decline in commodity terms of trade for underdeveloped countries to be the wage differential, referring to it as the factoral terms of trade – which were at any rate not *positively* affected by raised productivity levels in the *traded* goods.

If the above interpretation of Lewis's ideas on the determination of wages as not only caused by differences in agricultural, or other, productivity, and where the factoral terms of trade determine the commodity terms of trade, is correct, then there is hardly any difference between his *implicit* generalised model and that of Emmanuel. Indeed, to the extent Lewis's 1954 and 1969 models do not incorporate other, institutional aspects of temperate-tropical trade and wage differentials, it would be Emmanuel who gave the first expression of that

generalised model contained only in Lewis's historical works. On the dynamics of capital flows and inducements to invest, on the other hand, Emmanuel (1972a, 1984) was much closer to Nurkse (1953), and both had arguably more relevant things to say.

The above chapter set out by linking the origin of development economics to its Cold-War context, in which Lewis was induced to interpret the development path of Britain as the first capitalist economy to achieve 'sustained economic growth' along lines of those who lived through it. Once conceived, however, the resulting model nevertheless had a life of its own as well as taking charge of Lewis's. However, it came in different versions, of which particularly the dynamics of the one 'open' to international trade remained insufficiently explored, perhaps because it would ultimately transform into the closed one. In particular, the closed model predicted capital movements to low-wage areas which did not even correspond to Lewis's own observations on the matter. This optimistic conclusion was perhaps part of the reasons for its popularity in development economics. The open model, which could cast doubts on this optimism, appears to have been neglected by most, and as noted remained relatively unexplored even by Lewis himself, though it dominated his historical works, which ultimately may have been his most important. The open model was, however, the one Emmanuel considered to be closest to his own theory of unequal exchange, and this was nowhere more so than in those historical works, which was, by contrast one could argue, a field relatively neglected by Emmanuel. Before turning to that model, we shall return to the Marxist tradition in its North American guise, notably in the form of the U.S. immigrant, Paul Baran, who by contrast to Lewis saw bleak prospects for a capitalist path to development.

Chapter 12. From drain theory to dependency – the importance of Paul Baran

The Marxist blend with structuralist development economics most commonly and broadly referred to as the dependency tradition is often associated with thoughts on unequal exchange. It is hoped that this study can help to clarify instead the difference between these traditions, which in the early contributions, were in open conflict with one another. Later attempts to join them have also met with only superficial success, even when undertaken by noted scholars, adding little of substance so far as theory is concerned, and possibly contributing to the disrepute of 'unequal exchange' as a concept in general economic and historical circles. Not wishing to get too entangled with the origins of the dependency tradition, I will focus on the contribution of Paul Baran as the only plausible candidate to having influenced the unequal exchange tradition. It will be argued that he did this rather in his role as a synthesist of a coherent Marxist stand on underdevelopment, reversing the traditional stance that imperialism was beneficial to the conquered. While unequal exchange theorists have basically accepted the reversed position, this specific synthesis served perhaps rather as something *against* which to react. The origins of Baran's synthesis can be traced with some help from his personal history, and his direct impact served instead to bring the contrasting Hilferding interpretation of 'monopoly capitalism' to the fore. However, some monopoly version of unequal exchange was also the most common way in which Emmanuel's theory of unequal exchange was house-trained in general Marxism and the dependency tradition, thereby losing most of its specific interpretive power.

Below it will thus be argued that Baran, and the dependency tradition largely inspired by him, has had less to contribute to theories of unequal exchange than is commonly assumed, even if he contributed to redirecting the Marxist stance on the 'progressive' nature of colonialism and imperialism in the West – a stance adopted in the Comintern program of

1928. Although Baran had studied under Preobrazhensky in Moscow, and was an associate of the Frankfurt School where Grossmann was active, he was in fact, like his close associate Sweezy (cf. Chapter 5), even *against* the idea of a ‘transfer of value’ via trade. Consequently he, and for example André Gunder Frank (1967) considered the terms of trade debate to be a sham (while Wallerstein did not have much to say), instead underlining the transfer of ‘surplus’ through repatriation of profits. This idea resembles rather another idea which was debated in England even during Baran’s stay there in the 1930s, the Indian so called ‘drain theory’, which has indeed been considered a forerunner of both dependency and unequal exchange theory. The various meanings of Baran’s idea of an ‘economic surplus’ will be characterised below. The most important of them was ‘critical’ in the sense of the Frankfurt School, and not linked to ‘economic drain’, instead renewing an underconsumptionist tradition within early Marxism. While not admitting any ‘transfer of value’ through trade, there are nevertheless many similarities in the ‘transfer of economic surplus’ from underdeveloped to developed countries, and the idea of an ‘economic drain’. None of them refer to the terms of trade, but rather the balance of trade. In Baran’s case, renewing Hilferding’s interpretation, the principal agents of transfer are said instead to be the ‘monopolies’. In none of these senses did it have much to do with Emmanuel’s theory of unequal exchange, although it inspired his director Bettelheim.

In line with this differentiation, I shall emphasise the links from drain theory forward to dependency (but not to the more specific unequal exchange tradition), and backward to the late mercantilists, *e.g.*, Steuart, who seems to have been among the first to write on such balance of payments drain with respect to India. Thus, not only Prebisch and Latin American structuralism, but also and the dependency tradition revived questions central to mercantilists. In fact, as an economic debate trying to relate to real problems of the world rather than to formal coherence, this could be said of much of development economics. The fact that Lewis was more inclined to the classical tradition may have been an additional reason both for his popularity among economic theorists and for the relative clarity of his ideas compared to those prevailing in the dependency tradition, whose popularity, on the other hand, apart from U.S. leftist academics, has been greater among Latin American and Canadian nationalists and anti-Americans. In this way, too, although the enemy has changed, it resembles the Indian drain theory.

In the decades at the turn of the century the ‘drain theory’ came to be seen as the foremost symbol of Indian economic nationalism. It has “been regarded as a expression of patriotic fervour against foreign rule, as an exercise in the economics of imperialism, as an outdated product of mercantilism and as an anticipation of recent neo-Marxist theories of unequal exchange” (Dasgupta 1993: 75). There appears to be at least partial truths in all of these interpretations. Its principal Indian advocate was Dadabhai Naoroji in a series of speeches and writings subsequently published in 1901 as *Poverty and un-British Rule in India*. He made no claims to originality and himself referred to, *e.g.*, Sir John Shore in a minute to the Fifth Report of the East India Company in 1787, pointing out that the company’s trade produced no equivalent returns to India. In 1837, a Bengal civilian, Mr. Frederick John Shore observed that India had been drained of a large proportion of the wealth she once possessed, and the same year a Commissioner of Revenue in the Deccan, Mr. Saville Marriot, admitted that most of the evils of British, or company, rule in India arose directly from the heavy tribute paid to England (Ganguli 1965: 89-91).

In a general sense, there are even older and evident connections with mercantilism, *e.g.*, Oswald’s critique of Hume’s argument that specie would always flow to the less wealthy regions and countries. Oswald noted that within a country there was a permanent discrepancy between the capital and the provinces, and no indication of a “constant reciprocal drain” from the former to the latter. “The Capital has a constant balance in its favour. There, most kinds of

labour and commodities are constantly dearer than in the provinces, and a plenty of money always greater. But these effects continue constant and without variation. The only difference observable is that the Capital goes on constantly increasing in its number of inhabitants, its buildings, arts, industry, and cultivation, notwithstanding this difference in the price of labour and commodities” (Oswald to Hume, 10 Oct. 1749, in Hume 1970: 194). Now, Oswald metaphorically presumes that the case would be “precisely the same with a countrey which should have a constant balance in its favour against neighbouring nations of Europe”: “The advantages of a rich countrey in this respect, compared with the disadvantages of a poor one, are almost infinite, and all infallibly take place, after a free communication of the necessarys of life and materials of manufacture, and an easy settlement of new inhabitants, are established. A countrey in this situation would, in some measure, be the capital of the world, while all neighbour countreys would [...] be as its provinces” (*loc.cit.*). The rich county could employ more people, buy cheaper raw materials, and so still produce at low cost, in addition to having access to their own domestic market and more productive agriculture.

A direct link with India can be found in the work of Sir James Steuart, who in 1772 submitted a report to the East India Company, published in July as *The Principles of Money applied to the Present State of the Coin of Bengal*. Steuart (1772: 64) was one of the first to draw attention to the tremendous efflux, or “drain” as he called it, of precious metals from Bengal during the first years of British rule, and the scarcity of currency threatened the trade and industry of the country. Steuart (*loc. cit.*) argued for a long-term policy, but entertained no illusions that the measures he proposed would be popular: “it is in vain to think of a remedy without sacrificing the interest of Great-Britain, and of the Company itself to that of Bengal. All therefore that can be done in this particular, is to carry on the trade to the best advantage of the Company and for this nation, consistently with the permanency of it. Not to kill the hen which lays the golden eggs, but to feed and preserve her” (cf. Barber 1975: 77). The measures suggested by Steuart for Bengal were similar to those proposed by Mun for England a century and a half before, and included structural change of institutions to improve the situation of the population. These reforms could best be accomplished under the guidance of outsiders such as the Company. The Company presumably thought the suggestions too extensive, however, and part of the reason for its non-reception in England was Adam Smith’s denunciations of the East India Company as a commercial monopoly and a sovereign authority, which made Steuart’s argument highly suspect. Another reason was the increasing belief in the self-regulatory specie-flow mechanism, by which mode of argument for example James Mill (quoted in Barber 1975: 83f.) could rebuke those who had insisted that Bengal ever experienced a shortage of silver: “the absurdity of the theory which they invented to account for the want of money [...] is shown by this fact; that the price of commodities all the while, instead of falling had immensely risen.” As Barber comments: “This judgment amounted to saying that the problem which Steuart had been invited to analyse had never, in fact, existed.” Already in 1759, Steuart had disputed the kind of quantity theory of money formulated by Hume, particularly its applicability to agrarian economies, where many transactions were not conducted in money (Barber 1975: 84).

The novelty of Steuart’s approach to the Bengali question lay in his invitation to the leadership of the East India Company to transcend a narrowly commercial policy to its affairs in the East, proposing in essence a policy of mercantilist statesmanship for a multinational enterprise: “Sovereignty and commerce could be mixed successfully, but only when the company in its governing capacity gave paramount attention to economic improvement for its subjects.” In the longer run, the Indian domain would become attractive for trade “to the extent that growth in the local economy was nurtured. The East India Company had before it an opportunity to chart new paths in corporate responsibility” (Barber 1975: 85). Steuart applied about the same logic to India as to Great Britain, amounting to a case for mixed

economic planning to supplant the total but superficial freedom of unregulated commerce. Naoroji's charge of 'un-British rule' echoes that Steuart's recommendation was not followed.

The drain theory in Naoroji's sense implied in formally unelaborated terms that India suffered from trade with no equivalent returns, a drain of wealth, and an annual tribute. In Bipinchandra's (1965: 103) view, the Indian national leadership held that one of the most important causes of the poverty in India was the drain of wealth to England, and a great deal of the national agitation was based on this belief "that a part of the national wealth or of its annual product was being exported to England for which India got no adequate economic or material return." Barber similarly describes it as a belief that 'unilateral transfers' systematically stripped the country of resources and perpetuated poverty. More specifically, Dasgupta finds protests especially over the remittance to England of a proportion of incomes, savings and pensions by military, civilian, and railway employees, government officials, lawyers and doctors of British origin, together with the fact that Indians were excluded from the higher ranks of the civil services. One of Naoroji's least convincing items of drain, according to Dasgupta (1993: 78; cf. 76), was payment for services and transports.

Since the theory was regarded as an attack on the foundations of British rule, the response was hostile, but "[t]hat India received no 'equivalent' return for part of its exports was common ground between Indian exponents of the drain theory and its British critics", Dasgupta (1993: 79) reports, the only dispute being over its magnitude. One of the most cogent replies was given by Sir Theodore Morrison in *Economic Transition in India* (1911), which was favourably reviewed by Keynes. Keynes's own analysis of 'the transfer problem', however, with respect to the economic consequences of the payment of war reparations by Germany, paid considerable attention to the link between such capital transfer and the terms of trade. This aspect was wholly neglected by Naoroji or R. Dutt, but was observed by other Indian writers, who derived it from J. St. Mill. Thus, G. S. Iyer (cited in Dasgupta 1993: 82f.) noted that drain arose not only out of unrequited outlay but also because "it forces India to exchange her produce on less advantageous terms, as pointed out by J. S. Mill in a well-known passage". The passage in question was quoted by Viner (1937: 535) and reads as follows: "A country which makes regular (non-commercial) payment to foreign countries, besides losing what it pays, loses also something more, by the less advantageous terms on which it is forced to exchange its production for foreign commodities". Unfortunately this point was left undeveloped and peripheral to drain theories (Dasgupta (1993: 82f).

Keynes himself did not have any particular interest in less developed economies, and non-European countries were indeed almost wholly ignored by mainstream Western economics during the inter-war period. They could be found only in specialist literature, including studies treating special aspects of interest to the West (population, migration, investment, and industrialisation), studies of colonial economics, and statistical studies, especially Clark (1937), who for the first time put the gulf between living standards in the rich and poor countries in statistical terms and gave a considerable stimulus to subsequent theorising. In addition there were studies by nationals of the underdeveloped countries, though according to Arndt (1973: 22), these are "not easily accessible and hardly repay the effort of research". We have already referred to the advanced Russian and Japanese debates, but in the Indian case Butani (1941-42: 285) confessed that "Mr Ghandi is to me a greater economist than all the Indian economists bundled together" (cf. Ghandi 1957). However, it has already been proposed by Hettne (1983: 254), that "the Indian debate on dependency could have had an impact on the Latin American debate through Paul Baran", who was also well-read on India. In fact, Baran may well have come across the drain theory during his stay in Britain in the mid-1930s, when debate on similar lines had been revived through the work of the his co-Moscowite English communist and left-wing journalist Freda Utey (Sugihara 1997: 264).

Paul Alexander Baran (1910-1964) was one of the most influential figures of postwar Western Marxism, and the threads interwoven in his life story holds some clues to his success in interweaving intellectual traditions to a comprehensive synthesis. Baran's education up to the age of 11 was entirely under his Menshevik father's tutelage (Sweezy 1965: 29f.; cf. 43 on Baran's attitude to women). In 1921, dismayed over and in the state of collapse after the October Revolution, Baran Sr. took the family back to his native Vilna, by now in Polish possession, and they all became Polish citizens, a nationality which Paul retained until he was naturalised as an American citizen during the Second World War. Baran's formal schooling began in Dresden, but when his father was not allowed to practice they went to Moscow (Sweezy 1965: 30f.), where, in 1926, he enrolled in the Plekhanov Institute of Economics at the university of Moscow. In applying for American citizenship, Baran remembered the industrialisation or transition debate between the Stalin and the Trotsky wings to have been uppermost in the intellectual life of the University, that several of his professors, *e.g.* Preobrazhensky (Deutscher 1965: 94), were members of the Opposition, and how he was greatly attracted to their position, which made him seriously waver in his Communist orthodoxy and to long for the unfettered intellectual atmosphere of Germany (Sweezy 1965: 31f.). Back in Berlin, he became even more estranged from organised Communism, shocked by the persecution of oppositionists in the Soviet Union, alarmed by the proclamation of the German Party that the principal danger to the revolution was socialist reformism, and instead joining the Socialist Democratic Party as the most hopeful combatant against National Socialism (Sweezy 1965: 32ff.). He thus made the acquaintance of the party's most renowned economic theorist, Rudolf Hilferding – author of *Das Finanzkapital* and Finance Minister in one of the Weimar Republic's many coalition governments – and was invited to write for its official organ, which he frequently did (under pseudonym so as not to cause trouble for his parents in Moscow). If the problems of industrialisation in an underdeveloped country was in his later writings was an inheritance from Preobrazhensky, the importance of 'monopoly capitalism' is one from Hilferding. He also received an assistantship at the Institute for Social Research in Frankfurt, the home of the 'Frankfurt school', where he befriended Herbert Marcuse and others, and from which stems his later concern over the contradictions between real human needs and human wants in capitalism, for Marxism, and on a psychic plane (cf. 1958a; 1958b).

With Hitler's *Machtübernahme* he left Germany, first for Paris then Moscow, but the horrible conditions and danger forced him to leave for Vilna, to start working in his uncles' timber business. This was rapidly expanding and, as pointed out by Kindleberger in the chapter on Prebisch above, experiencing increasingly favourable terms of trade. Britain was the largest market for the high quality Vilna timber, and in 1938 he was sent to London as the firm's permanent representative. Longing to return to an intellectual career – he had missed out on the whole Keynesian revolution –, unable to get a post in England and war approaching, he sailed on October 12 1939 with his by then considerable savings to the United States on the Russian immigration quota. Sweezy (1965: 34f.) speculated that by then most of his Vilna relatives "may already have perished at the hands of the Nazis", apparently forgetting that it was the Soviet Union who invaded Vilna, and only in 1941 the Germans, greeted as liberators with cheers and flowers, began *their* persecution with the help of locals.

Baran was introduced by the Polish economist Oscar Lange to Paul Sweezy at Cambridge (Mass.), which was the beginning of an extensive collaboration. Harvard accepted Baran as a graduate student, he got his Master of Arts in 1941. He began working on price control and took a job in the Office of Price Administration, then at the Office of Strategic Services. Next he worked for the United States Strategic Bombing Survey under J. K. Galbraith, where he contributed substantially to the surveys on the economic effects of bombings in Germany and Japan, concluding that 'strategic' bombing killed hundreds of thousands of civilians and made

millions homeless but had little impact on war production and fighting capacity. He began to be depicted as a Soviet spy, which accusations were revived in the McCarthy era. In New York, where he underwent three years of psychoanalysis (he was deeply interested in Freudian theory), he worked for the Department of Commerce and the Federal Reserve Bank. A sojourn as an immensely popular teacher later secured him a post as associate professor and by 1951 full professor at Stanford where he remained for the rest of his life. The witch-hunt for communists revived accusations of being a communist spy, made his colleagues more estranged and himself more outspoken. The last straw was his championing of Castro and the Cuban Revolution in 1960. He died of a heart attack in March 1964.

Whereas his visit to Havana together with Sweezy and Leo Huberman had enthused him greatly, Sweezy (1965: 46) remembers him saying that after a trip to the Eastern European socialist countries “only resuming life under capitalism could restore one’s faith in socialism”, an experience probably in part explaining the popularity of Third World national liberation movements and the fresh air they brought among leftist intellectuals.

Until the 1920s, Marxists had generally believed that capitalism, though plundering, had always contributed to the *development* of the exotic countries. There were anticipations in the Comintern program of 1928, and occasional statements of Stalin, Trotsky and other interwar Russian Marxists, in Bukharin, Hilferding and, relying on their work, also in Lenin’s claim that capitalism had ceased to be a progressive force. Nevertheless, according to Howard and King (1992: 168), the “responsibility for initiating a revision of the established theories of imperialism falls on Paul Baran”, whose writings in the early 1950s formulated most of the main economic propositions in subsequent Marxist analysis of underdevelopment. By his late teens, Baran had already been exposed both to the Marxism of the Second International, under the influence of his father, and Leninism. That the Third International after 1920 elevated the importance of anti-imperialist struggles in the colonies no doubt provided an impulse to reformulate theory (Claudín 1975). With Baran’s work a clear break with tradition appeared:

For the first time a comprehensive economic theory of underdevelopment was formulated, explaining why development outside the strongholds of advanced capitalism was impossible without the intervention of socialist revolution. Furthermore, although Baran’s ideas were subsequently extended by André Gunder Frank, Immanuel Wallerstein and the ‘dependency theorists’, they seldom improved upon Baran [...]. Consequently, Baran may claim a place in Modern Marxist theories of imperialism analogous to that of Hilferding earlier in the century (Howard & King 1992: 168).

Baran’s outspoken Marxism during the McCarthy years certainly added to his reputation as an intellectual, but as Eric Hobsbawm reflected on receiving the news of his death: “in the 1950’s Western Marxist intellectuals had scarcity value, and we must resist the temptation to confuse this with greatness”. But he was also convinced that there were “few works of recent Marxist economics from which students – especially in the countries of the national and liberation movements – can *learn* so well as from the *Political Economy of Growth*”, not least because of the author’s gifts of exposition (Hobsbawm 1965: 109 & 110). Baran’s and Sweezy’s *Monopoly Capitalism* had yet to appear, but, great as that book may be, its stature was not diminished by the longing for heroes which Hobsbawm had sensed at Baran’s death.

The great impact on André Gunder Frank and thereby the dependency tradition is beyond question. Frank, who had met Baran the year before in Rio de Janeiro, commented from Santiago de Chile in April 1964 that for him Baran’s “systematic examination of the development of underdevelopment as the reverse side of the coin of development under capitalism on a world scale opens the door to the understanding of world history, past, present, and future” (Frank 1965: 99). Latin American Marxists testified to the “transcendental importance” of viewing events in this Baronian light, in which, contrary to what had traditionally been maintained and even daring to present itself as Marxism, “increasing capitalist development and penetration, or increasing development of capitalism,

on this continent does not necessarily contribute or lead to development and progress in general.” He affirmed the great influence Baran’s work had had on Latin American politicians and even that “in the theoretical and practical education of Fidel Castro and of Che Guevara especially, the importance of Paul Baran’s work exceeds that of any other economist of this century” (*ibid.*: 101; cf. Baran 1959). The first sentence of Frank’s most influential book (1967: xi) sums up both his perspective and unhesitatingly acknowledges his debt to Baran: “I believe, with Paul Baran, that it is capitalism, both world and national, which produced underdevelopment in the past and which still generates underdevelopment in the present.”

Hilferding was certainly an influence directly and indirectly also on Baran, noticeably in the emphasis on ‘monopoly’, but the main influence may well have been Sweezy. While Maurice Dobb (1937, 1940) added little new material in imperialism, Sweezy (1942, with acknowledgements to Baran) is an important bridge between the old and the new perspective. He placed ‘monopoly capitalism’, inspired by Hilferding’s ‘finance capital’, and chronic underconsumptionism, inspired by Hobson and Keynes, at the forefront of the contradictions of imperialism and advanced capitalism. In this way he pointed briefly in the direction Baran’s work would take in the early 1950s (Baran 1952; 1957; debouching into Baran & Sweezy 1966). “There is a consistent line of development”, Brewer (1990: 137) observes on these works spanning 24 years, “starting fairly close to classical Marxism, and evolving into something distinctively different.” An important vehicle was the journal *Monthly Review*, edited by Sweezy and others, which also editing Baran’s first major book.

In the postwar years, Prebisch may have provided Baran both with ideas and the terminology of ‘centre’ and ‘periphery’, as suggested by Howard & King, but were this so it seems rather odd that one searches in vain for Prebisch’s name or most influential text among his references (although some of the surveys for Latin America do figure), even while other development economists such as Singer or Nurkse do figure. Indeed, Baran engaged neither with structural rigidities inhibiting growth in backward economies, nor with deteriorating terms of trade. “Instead he stressed underdevelopment as a result of the very nature of capitalism itself”, Howard & King (1992: 169) explain. All this is also contrary to the perspective Emmanuel was later to suggest. Rather more like Emmanuel, on the other hand, as well as Dobb and many others, the expansion of the Soviet economy from the 1930s onwards greatly impressed him, as did the extension of the command economy to Eastern Europe and China. This lead him to repudiate reformism: “no matter how radical, a reformed capitalism would be inferior to the potential offered by central planning the very nature of which required a socialist revolution” (*loc. cit.*). In the national planning debates of early 1950s, Baran concluded, much like Rosenstein-Rodan and in line with Preobrazhensky, that economic planning under backward capitalism should involve a transfer of the excess agricultural population to industrial employment. This could be financed by progressive taxation and using rationing to eliminate inessential consumption, which was, however, politically impossible without a socialist revolution, such as in the Soviet Union (Baran 1952b). In spite of his private reservations he never expressed any criticism of Stalinism in public, and the final chapter of *The Political Economy of Growth* (1957) “is a long and completely uncritical defence of the Soviet model of planned economic development, which is seen as the only means of mobilising the potential economic surplus” (King 1988: 175).

Another enthusiast of the Soviet and later the Chinese model, the French Marxist and Emmanuel’s supervisor Charles Bettelheim, remembered his meetings with Baran in 1955–1956 in Calcutta, the enthusiasm with which his work was met by young economists everywhere, and the facility and depth with which it was absorbed. Of his contributions to science he (1965: 88) believed “that one of the most essential was his analysis of the economic surplus, its content, its diverse forms, and the contradictions arising from its existence and growth.” An interesting aspect was the growing opposition he had found

developing in present-day capitalist society “between real human needs and the desires felt by men (and systematically stimulated by the agents of monopoly capitalism)”.

‘Economic surplus’ was Baran’s re-elaboration, perhaps for pedagogical reasons, of the classical economists or Marx’s ‘surplus value’, and meaning in general terms the portion of output remaining after the consumption necessary for reproduction has been subtracted. However, Baran incorporated important differences and distinguished three kinds: (1) the *planned* surplus was the difference between the optimum output and the optimum consumption of a socialist economy, and was not relevant for a capitalist economy; (2) the *actual* surplus was the difference between actual output and actual consumption, *i.e.*, aggregate savings; finally, and clearly most importantly for Baran, was (3) the *potential* surplus, defined as “the difference between output that *could* be produced in a given natural and technological environment with the help of employable productive resources, and what might be regarded as essential consumption”, whose realisation “presupposes a more or less drastic reorganization of the production and distribution of social output” (Baran 1957: 133f.). As King (1988: 167) points out it is “a hybrid concept involving considerations both of existing capitalist reality and of a more rational socialist future”, very clearly revealing Baran’s debt to the Frankfurt School: “It is a critical, not solely analytical concept.” It includes excess consumption by the upper and sections of the middle classes (but not that necessary for government administration), output lost due to wasteful organisation and unproductive workers, as well as output that would have been produced but for the effects of deficient aggregate demand. The significance of the latter, Baran (1957: 141-55) maintains, was amply demonstrated during the Second World War when large portions were mobilised.

In fact, Baran distinguished between ‘planned potential economic surplus’ and merely ‘potential economic surplus’, the difference being between a ‘rational’ and merely ‘purposeful’ employment of currently employed resources. The thought leans on some kind of ‘underconsumptionism’ by which is usually meant the belief that there is a lack of demand because of the restricted purchasing power of workers. A striking thing observable from Howard & King’s *History of Marxist Economics* is how widespread such beliefs were among the early Russian and German Marxists; the non-Marxist Hobson was another influential source of underconsumptionist ideas, not least because it entered into some of Lenin’s works, though Baran and Sweezy, according to Brewer (1987), seem unwilling to acknowledge this debt. Sweezy had identified the tendency to underconsumption as the most serious contradiction of the ‘monopoly stage of capitalism’. Monopolistic prices, as Hilferding had taught, caused monopolies to spread in concentric circles from any point of origin. The equal profit rate of competitive capitalism thereby turned into a hierarchy of profit rates according to the degree of monopolisation of an industry. A generally higher degree of monopolisation raised the rate of accumulation of capital and hence accentuates the falling rate of profit and underconsumptionist tendencies. Under competitive capitalism deficient demand might be counteracted by buoyant investment expenditure but, Sweezy claimed, monopolies (rather oligopolies) lacked the same compulsion to invest in the latest technology. Capital crowded into more competitive areas so as to lower the average rate of profit, which in turn lowered the incentives to invest, and thereby caused depression and strengthened the general tendency toward falling rate of profit and underconsumption. The principal force acting against stagnation was the rising cost of distribution (marketing, etc.), beyond what was socially necessary, with the consequence that monopoly extra profits were reduced – “in many cases to no more than the competitive level”, as Sweezy puts it, which must have obstructed any empirical verification or falsification of his general claims on monopolisation –, a large number of unproductive consumers were brought into existence, in addition to the indirect boosting of consumption through advertising (Sweezy 1942: 270-86).

Although basically agreeing with Hilferding, Sweezy (1942: 305) also took a stand on the fundamental limit to imperialism in promoting industrialisation in the economically backward areas, arising from the relation between metropolis and colony. The introduction of cheap manufactured commodities and the import of capital had destroyed the traditional handicraft industries without promoting modern industry in their place. Foreign capital flowed only into the production of primary industries and related infrastructure, thereby leading to “a very one-sided development of the economies of the backward areas”, a swelling of the ranks of the peasantry, and consequent deterioration of land, productivity and living standards. The essential conditions for improvement, such as changes in the land system, an increase in the productivity of and reduction of the numbers dependent on agriculture could not be performed under imperialism, thus only overcome by national liberation. Since the bourgeoisie proved more and more unfit for leadership, and since even the “advanced sections of the peasantry” were not necessarily socialist in their conviction, it fell to the lot of the small working class “to lead the nationalist opposition to imperialism in the colonial countries just as it stands at the head of the socialist opposition to imperialism in the advanced countries” (Sweezy 1942: 324-28). A perhaps odd conclusion to reach in the midst of an ‘imperialist’ world war amongst the advanced peoples.

Baran first expressed his basic ideas before the annual meeting of the *American Economic Association* in 1950, reprinted in the proceedings and the following year in *Monthly Review*. In 1952 his influential article “On the Political Economy of Backwardness” appeared, which was translated into French, Spanish, Japanese, German, and Turkish and reprinted in the most widely quoted collection of articles on economic development of the era (Baran 1951; 1952a). Most of what went into the more extended account in *The Political Economy of Growth* (1957) had been the subject of a lecture series delivered in 1953. During the 1950s and 1960s he wrote articles on various aspects of underdevelopment, while at the same time collaborating with Sweezy on *Monopoly Capital* (1966). In the early article (1952a) he followed up on Sweezy’s sketch pointed out that material and cultural progress had been confined to a demographically relatively small (North-)Western sector of the inhabited globe, while for the vast multitude of the remainder standards of living had gone from bad to worse through population increase and absence of productivity increase. In yet another metaphor, capital stayed close to the sun and out of the shadow, and “either did not move from countries where its marginal productivity was low to countries where it could be expected to be high, or if it did, it moved there mainly in order to extract profits from backward countries that frequently accounted for a lion’s share of the increments in total output caused by the original investment” (*ibid.*: 66). Here we have some undoubted factual observations which went against what ‘could be expected’, *i.e.*, in a rational world, mixed with what appears to be moral indignation over the fact that profit ‘extraction’ had not realised these expectations. There is an odd similarity with the indignation felt by many a liberal over the same fact, the sole difference being that in the liberal case what is rational is the optimal world of perfect competition, whereas for Baran it is the world of perfect socialist planning. The main question was of course how it came to pass.

Baran argued on lines very similar to those that Frank (1966; 1967) was later to follow on the absence of feudalism, namely that whereas Western capitalism had disrupted the quasi-feudal coherence of the backward societies, it had not *completely* substituted capitalist market rationality, which would have been “an important step in the direction of progress”, for the rigidities of feudal or semi-feudal servitude (Baran 1952a: 67). Instead, age-old exploitation was only strengthened due to both economic and political factors. Over the centuries, the native middle class became too closely associated with the conservatism of feudal overlords and powerful foreign investors, and what industry and commerce developed “was rapidly moulded in the straitjacket of monopoly” (*ibid.*: 69): “What resulted was an economic and

political amalgam combining the worst features of both worlds – feudalism and capitalism – and blocking effectively all possibilities of economic growth.”⁶³

Economic growth was restricted on the one hand by the propensity of those wealthy beyond “what could be regarded as “reasonable” requirements for current consumption” to consume luxuries instead of investing, and on the other by the mere poverty of the rest. If the volume of savings to be invested was curtailed by the habits of the wealthy, their will to re-invest in productive enterprises was “effectively curbed by a strong reluctance to damage their carefully erected monopolistic market positions through creation of additional productive capacity, and by absence of suitable investment opportunities – paradoxical as this may sound with reference to underdeveloped countries.” By the ‘paradox’ Baran was obviously referring to the *potential* surplus, although he did not name it as such. In strictly economic terms, there was no paradox: “The deficiency of investment opportunities stems to a large extent from the structure of the existing effective demand.” With very low living standards, the small money income there would be spent on food and necessities that were already available at low prices – hardly promising of great returns for large-scale production of consumer goods. Simultaneously, the spending of the rich could not be the source of a local luxury industry for the simple reason that “the “snob” character of prevailing tastes renders only imported luxury articles true marks of social distinction” (Baran 1952a: 73). Finally, the limited demand for investment goods precluded setting up a local machinery or equipment industry. This only left the expansion of raw materials output for investment activities, but here he (*ibid.*: 74) saw difficulties arising from the small volume of savings, and the difficulties of gathering the relevant information (foreseeing accurately the receptiveness of the world markets, prices obtainable in competition with other countries, volume of output elsewhere, etc.), all of which tended to benefit ‘foreigners’, *i.e.*, those in close contact with the foreign outlets of their products. Baran’s personal experience in the Lithuanian timber export, which necessitated his being stationed in London, had probably shown him at close range the kind of situation he thus succinctly described.

Based on this, the objection against Baran, which Howard & King (1992: 172) find to be very just, that he should have neglected how “rich regions appear to offer more lucrative markets, and more profitable investment opportunities, than poor countries”, is quite off the mark (at least so far as his initial article is concerned), though he does seem to have neglected what follows from it, namely, that “Western capital had no obvious incentive to block economic development in the backward areas”, just as he exaggerated their power to do so. In

⁶³ Reading Baran’s presentation of the peculiar character of ‘the middle classes’ and their alliances etc. in “all the underdeveloped (and perhaps not only underdeveloped) countries”, (1952a: 71) without a single reference to empirical material or actual historical events in either place or time (except the single one to “the Bolshevik Revolution in Russia”), one sometimes wonders if the whole world outside “Germany and Austria, Britain and France, some smaller countries in Western Europe, and the United States and Canada” (*ibid.*: 66), could really be so alike, and if what has resulted is not an amalgam combining the worst features of both worlds of theory and historiography. Although political analysis is not Baran’s strongest quality, or strong in any sense, this judgement would be unfair towards an article striving to set new ground in political economy. Furthermore, the original article and, indeed, all of his 1957 book, originated as lectures, and that with the mental blocking Baran claimed to have had with writing (as opposed to speaking) it was either that or nothing. It is unfortunate that his 1957 book shows similar deficiencies, and that they have proliferated throughout the ‘dependency’ literature. In his article, well worth reading, on ‘the underdevelopment of development literature’, Tony Smith (1979: 257) objected for example: “Indeed, he is so ignorant of conditions in late Tokugawa Japan that he calls the Meiji Restoration a bourgeois revolution.” Cf. Howard & King (1992: 170): “To assert that all of Asia was on the verge of bourgeois revolution was absurd.” Smith’s objection was not “to the simple omission of evidence relevant to the construction of an historical argument”, but “to a certain style of thinking which – to use two of the dependency school’s favourite words – is biased and ideological, distorting evidence as much in its fashion as the “bourgeois science” that it claims to debunk.”

this early article the emphasis was not evidently on monopolistic manipulations, but rather on the difficulties arising from the internal situation.

Lack of both investible funds and investment opportunities were two aspects of the same problem, Baran continues: many projects which would be economically beneficial from a social point of view, are not so “under prevailing conditions” of a capitalist economy. This is the problem of social vs. private appropriation. New and socially beneficial industrial ventures are avoided because backward economies lack the ‘external economies’ (roads, electric power stations, rail-roads, houses, etc.) which capital private investors would therefore have to supply themselves; skilled manpower would have to be trained; outlays for raising the productivity of the land would have to be supplied. Finally, the will to invest in long-term projects on the part of the moneyed people was blocked not only by the above ‘monopolistic market structures’, as he called them, the shortage of savings, the lack of external economies, or the ‘divergence of social and private rationalities’, but also by “the general feeling of uncertainty prevailing in all backward societies” due to the constant threat of political instability (Baran 1952a: 74-77).

In principle, these deficiencies could be overcome by state intervention – as the overwhelming majority of writers seemed to assume “when faith in the manipulative omnipotence of the State has all but displaced analysis of its social structure and understanding of its political and economic functions” – channelling funds raised by progressive taxation to the necessary investments. However, this was neglecting that such measures would run counter to the vested interests dominating the state apparatus. Economic aid from abroad, which was on H.W. Singer’s agenda in the U.N., might even do more harm than good, Baran suggested. He was thereby unknowingly in line with the World Bank opposition to Singer, or in its ‘autarchic’ version, even worse, with the World Bank’s rightist critics. To the official free-trade slogan: ‘Trade Not Aid’, Senator Taft as a representative of the men of practice is said to have replied: “I agree with the second part of it.” (As reported by Singer 1984: 297; a similar stance was taken by Raymond Cartier in France.) Baran’s was perhaps only the reverse image of the shared notion behind Truman’s Point Four, that aid and trade for development was a means to avoid communist revolutions. Maybe this strengthened his conviction of the manipulative nature of ‘help’ such as the Marshall-aid in Europe.

Be this as it may. Because of the character of state power, reformist solutions would be unlikely to succeed, Baran (1952a: 78-84) believed, and should the bourgeoisie thus “fail to rise to its responsibilities in backward areas”, then only the revolutionary path remained in which the backward countries of the world would “inevitably turn to economic planning and social collectivism.” The logic behind this conclusion is strait out of the ABC of historical materialism, according to which a social class that ceases to be progressive will inevitably be superseded by another. Nothing was said against the revolutionary potential of the working classes in the advanced countries, but the notion was clearly there that the revolution was likelier to arise in backward areas, as had indeed been the case. Thus far, Baran’s contribution was certainly an improvement on established Marxism, whatever other justifiable criticism that can be levelled against his approach.

Baran’s *The Political Economy of Growth* (1957) was a considerably extended version of the argument in his article, and I will concentrate on some details pertaining to the possibility and importance or not of non-equivalent pricing. Naturally, he argued that ‘economic surplus’ had been transferred from the underdeveloped to the developed countries in the form of repatriated profits: “profits derived from operations in underdeveloped countries have gone to a large extent to finance investment in highly developed parts of the world. Thus while there have been vast differences among underdeveloped countries with regard to the amounts

of profits ploughed back in their economies or withdrawn by foreign investors, the underdeveloped world as a whole has continually shipped a large part of its economic surplus to more advanced countries on account of interest and dividends” (1973 [1957]: 325). The principal obstacle to underdeveloped economies was “the *actual* economic surplus invested in the expansion of productive facilities”, while the “*potential* economic surplus that could be made available for such investment is large in all of them” – large, that is, not in absolute terms but as a proportion of national income, or sufficiently large not to provide a large increment of output, but to attain high rates of growth (*ibid.*: 375). The potential surplus, we may recall, “is what would be available for investment given a purposeful utilization of the national output produced with such resources as are presently employed.” Baran (*ibid.*: 376f.) could thus establish: “The principal obstacle to rapid economic growth in the backward countries is the way in which their potential economic surplus is utilized. It is absorbed by various forms of excess consumption of the upper class, by increments to hoards at home and abroad, by the maintenance of vast unproductive bureaucracies and even more expensive and no less redundant military establishment.” In the face of mass starvation, he found Nurkse hesitation to make a class distinction concerning this excess consumption “nothing short of mockery”. But a substantial part of this ‘potential surplus’ was withdrawn by foreign capital, as proven by the higher profits made in underdeveloped countries than on home markets. He adduced comparisons of the dividends paid by Dutch corporations operating mainly at home and in the East Indies respectively, and the similar returns on Belgian investments in the Belgian Congo and at home, or of corporations based in the United States’, all of which showed clearly greater earnings abroad than at home. But these were as yet nothing compared to what happened in the colonial British empire, Baran maintained, which areas had the lowest per capita income in the world but “which have been made by Britain’s ‘paternalistic’ government (Labour as well as Conservative) to *support* throughout the entire postwar period the United Kingdom’s incomparably higher standard of living” (*ibid.*: 380). As a recent study by Hazelwood (1953: 49f.; cf. 1954: 73) had demonstrated, in the period from 1945 through 1951 the colonies had *exported* £1,000 million to Britain, quite contrary to the general perception. If the underdeveloped countries could even export capital to the developed ones, it was certainly not for lack of ‘savings’ that they were underdeveloped.

Contrasting to his easy acceptance of transfers of ‘economic surplus’, he was unresponsive to the possibility of exploitation through the terms of trade and non-equivalent pricing: “Related to the misconception that shortage of capital is the most important factor preventing economic development in the backward countries is another generally encountered notion, that the terms of trade in the raw-materials-producing areas has been seriously retarding their economic development.” He did not deny the reality of the phenomena, but “its general significance to the economic development of underdeveloped countries is highly questionable, to say the least” (Baran 1973: 381). It is understandable that Baran should have taken this rather unsympathetic stance. With his experience from the Lithuanian timber trade, which fitted the general category of a raw materials-exporting underdeveloped country very well, but which experienced both rapid growth and exceptional terms of trade (cf. Chapter 10, Table 7: D), it would perhaps even have been odd had he accepted it. Indeed, Baran found that with reference to many underdeveloped countries the category of ‘the terms of trade’ was hardly meaningful. Foreign raw materials-producing and exporting enterprises, he (*ibid.* 382) explained, could “manipulate their profits and therefore the f.o.b. prices of the products so as to minimize the amount of royalties due to the governments of the source countries”, in addition to the stimulus provided by foreign exchange controls, so that “depending on what is most advantageous at any particular time, high or low prices [...] may appear on the books of the raw-materials-producing and -exporting enterprise, or even of the shipping company”.

More significant than this difficulty of finding out the actual prices was, another aspect of the problem:

For most underdeveloped countries exporting raw materials, especially for the majority of them where the production and exportation of the raw materials are carried on by foreign enterprise, changes in the terms of trade, to the extent that they depend on the changes in the prices of the raw materials rather than on those of the imported goods, *make actually very little difference.* (*Loc. cit.*)

Here, Baran rejected the very usefulness of looking at the terms of trade, and the possibility of transfers through non-equivalent pricing and the terms of trade was not so much denied as simply did not occur to him. He (*ibid.*: 383) admitted that “higher f.o.b. prices of the exported raw materials may strengthen somewhat the bargaining power of native labour or of the native peasant-producers in their dealings with the producing or wholesaling company”, and that “lower f.o.b. prices may cause shut-downs of operations and increased unemployment”, but he was unmoved. Supply in raw materials-industries was commonly inelastic, and changes in demand “affect primarily the level of prices and *profits*”, but “the relevance of the magnitude of profits to the welfare of the peoples inhabiting the underdeveloped countries or to their countries’ economic development depends entirely on to whom these profits accrue.”⁶⁴ Thus:

A decline in profits may merely involve lower remittances abroad, possibly painful to the foreign stock-holders of the companies involved [...]; but this may be of no major consequence to the economy of the areas the raw materials of which are being exported. Conversely, a rise of the profits earned by the raw-materials enterprise may imply larger remittances on account of dividends or some investment in the expansion of raw-materials production – also, as we have seen, of no particular importance to the underdeveloped areas. In fact, since an increase of prices of raw materials and a corresponding swelling of profits of the raw-materials enterprises does usually lead to larger payments to foreign capital, the higher prices of the exports do not result in an increased capacity of the underdeveloped countries to import foreign goods but rather in an expansion of their ‘unrequited’ exports. (*Ibid.*: 383; 1957: 232)

This may have been one ‘may’ too many for Emmanuel (1972a: 94; orig. in 1962: 14), to substantiate a categorical rejection of the idea of exploitation through prices, and a claim that any rise in the prices of the products of a Third World country will only be added to the profits of the big companies, to increase the dividends they distribute elsewhere: “In face of such an astonishing statement made by an economist who has undertaken to analyze all forms of exploitation one cannot but think that Baran was trying to get rid of an awkward subject as quickly as possible. Where does he find evidence that the difference in prices is equal to the increase in dividends?” And he exemplified to the contrary with copper prices and the pre-eminently colonial Union Minière of the Belgian Congo, with which he was so familiar. By contrast, the potential father of the ‘dependency’ school, André Gunder Frank, though he was more concerned with trade as the defining feature holding together the capitalist system of metropolises and satellites, was completely uncritical of Baran, merely paraphrasing his rejection:

This stress on the quite real and important adverse change in the terms of trade [...] often serves to divert attention from the fundamental problems and causes of the growing underdevelopment and poverty of the satellite countries. Moreover, Baran has pointed out that a fall in the prices of their export products does not necessarily harm them much since the gains from that trade, reduced or not, go to enterprises from the capitalist metropolis anyway. (Frank 1967: 202.)

⁶⁴ The same, or a similar, point had been made by Myint (1954: 132), who was also sceptical over the current preoccupation with the terms of trade: “indeed, it has now become apparent that an important obstacle to their economic development may arise from the fact that their wants for the new imported goods are “overdeveloped rather than “underdeveloped.””

Andersson (1972b: 72f.; 1972d: 11) allowed that Frank was probably in the right to criticise those who overemphasised phenomena at the expense of structure, but charged that at the same time he neglected important phenomena which his own perspective simply could not account for. While trying to determine the size of Chilean 'economic surplus' lost to foreign appropriation, including profit-taking and payments related to foreign debts amounting to about \$300 million yearly, Frank (1967: 100) had referred to the price of copper on the London-bourse as the standard against which to compare the monopolistically controlled fictive New York-market, as if the price on the former was really equivalent. Andersson (*loc. cit.*) concluded that the rather loose concept of 'economic surplus' was unlikely to give a complete picture of mechanisms of exploitation, constituted no basis for a theory of unequal exchange, and was probably the reason why Frank was unable to explain how satellites could turn into metropolises, as had happened with England and United States.

Thus, if there was any inspiration from Baran on Emmanuel – or Andersson – directly concerning the argument on terms of trade and unequal exchange it was clearly negative. The same is true of Paul Sweezy, who in his criticism of Otto Bauer declared that the trade between two countries could only affect the distribution of the value produced within them, but cannot transfer any value from the one to the other. In this he was, as Emmanuel (1972a: 95) put it, "governed by his unshakeable fidelity to the postulate that there is no competition between capitals on the international plane." Yet this would probably be to underestimate the impact that Baran's work could have had on the debate on unequal exchange. Primarily, it was the first general stocktaking of underdevelopment and related literature from a Marxist perspective, thereby serving as something from which to benefit and against which to react, while firmly placing the backward countries on the agenda as part of a globally interrelated system. Although not dealing with unequal, or even non-equivalent, exchange in any sense, many scholars who have tried to link unequal exchange to a 'monopoly' stage of capitalism, for example Samir Amin, appear to have been, wittingly or unwittingly, greatly influenced by the perspective found in Baran's work. In a sense, it functioned as a kind of update of Lenin's (1917) adoption of Hilferding and Hobson in *Imperialism, the Highest Stage of Capitalism*. In one such passage, evoking his old friend and teacher Oscar Lange, Baran (1973: 247) spoke of how

there evolves a far-reaching harmony between the interests of monopolistic business on the one side and those of the underlying population on the other. The unifying formula of this 'people's imperialism' to use Oscar Lange's expression – is 'full employment'. With this formula on its banner, monopolistic business has little trouble in securing mass support for its undivided rule, in controlling the government openly and comprehensively, in determining undisputedly its external and internal policies. This formula appeals to the labour movement, satisfies the requirements of the farmers, gives contentment to the 'general public', and nips in the bud all opposition to the regime of monopoly capital.

This was a rehearsal of the old 'labour aristocracy' argument found in Lenin's *Imperialism*, borrowed by him from Engels whom he quoted, and similarly attributed to the monopoly stage. There was of course an immense ideological pressure on Marxists not to find faults with the working classes, but rather with monopolistic capitalists and their lackey politicians, who somehow manages to dupe unresponsive workers to obedience by ideological propaganda. Merely in introducing this problematic of 'harmony' and 'appeal', then, Baran was out on quagmire, where monopoly was the footbridge to safety. Even Emmanuel (1972a: 181), for whom the monopoly fixation of contemporary Marxism meant rather walking the plank, as in the good old pirate movies, could evidently profit from Baran's argument: "Oscar Lange's 'people's imperialism' is today becoming a living reality in the big capitalist countries." Like Baran, Emmanuel gave no written reference, but that he was borrowing from Baran is evidenced by the fact that the expression itself came not from Lange, although Baran may certainly have heard it from him, but from Schumpeter's 1917 book on imperialism, used

to designate the ancient Egyptian kingdoms, etc.. Much closer to Baran in outlook was Samir Amin, who, though adopting the concept of unequal exchange from Emmanuel and being a Third Worldist, was equally devoted to liberating the working classes from the guilt of causality. Praising Prebisch over Singer for greater emphasis on the rigidity of the centre's wage bill, he (1970a, I: 83f.) immediately follows up this approval by adding that "It was the monopoly [after 1880-90] that made possible the rise in wages".

The tradition in development economics which goes under the names 'neo-structuralist', 'dependency', or 'world-system's' analysis, is often seen as a Latin American product, or, as Landes (1998: 328) has suggested: "Cynics might even say that dependency doctrines have been Latin America's most successful export." Someone even more cynical would chance that it is indeed a *re-export*, originated by a 'Berlin-born citizen of Germany trained at the University of Chicago' (cf. Packham 1992: 24). For being a 'Latin American' school, it is striking how many of the earliest and most influential contributions originated rather with scholars affiliated to the United States, including Baran in the 1950s, Frank in the 1960s, and Wallerstein in the 1970s (cf., e.g., the selection in Haggard 1995, Part II), and even extending to dependency theories of ecological unequal exchange in the 1980s (Bunker 1985; cf. Chapter 23). At the time of writing his most important work, the Chicago trained Berliner, Frank, was nevertheless active first in Brasilia with dos Santos and Marini, then following them in exile to Santiago de Chile, which makes him perhaps the central node connecting Latin America and the United States. We shall first follow the debate on unequal exchange in the 'American' dependency line from Baran via Frank to Wallerstein, before briefly reviewing some of the Latin American debate between Marxist and reformist *dependistas* in the 1970s, i.e., Marini (1973, 1978) and Serra & Cardoso (1978). The important contribution of Oscar Braun will only be discussed in Chapter 17.

Although Frank and Wallerstein, contrary to Baran, define capitalism in terms of exchange relationships – production for the market rather than use –, and claim an interest in the 'commodity chains' relating metropolises/core areas (via semi-peripheries and perhaps semi-centres) to satellites/peripheries in a world division of labour, there is nowhere a clear exposition of the mechanisms involved. Frank's historical understanding has been criticised on several occasions, among others by Emmanuel, and his outright denial of the possibility of transfers of value was pointed out by Jan Otto Andersson who also doubted the fruitfulness of the whole 'economic surplus' approach. Frank himself reacted with no enthusiasm to Emmanuel.

Emmanuel had noted what he felt to be the intellectual and empirical somersaults sometimes relapsed to when trying to fit history into a predetermined schema, quoting the following passage by Frank (1967: 12, n) as an example: "The development of the British ex-colonies in North America and Oceania was rendered possible because the ties between them and the European metropolises at no time matched the dependency of the now underdeveloped countries of Latin America, Africa, and Asia." Emmanuel (1972a: 363f.) commented:

It is surprising that a writer like Gunder Frank can put forward such an outrageous proposition as this [...]. One must really be short of arguments to have recourse to such historical untruths. In 1710 the first attempt to set up a small textile manufactory in North America was vigorously condemned by an act of the British Parliament. In 1732 the transport of hats from one province to another was forbidden, in order to prevent this branch of craft production from becoming an industry. In 1750 a ban was placed on the establishment of any enterprise where iron was worked. In 1765 emigration of craftsmen and skilled workers to North America was made illegal. In 1770 Lord Chatham declared that he would not allow so much as a horseshoe to be made in the colonies. Many more examples could be quoted. If this is not "dependency" and "blocking," what is? But what about Latin America - did the Spanish government impose no bans? Yes, indeed: on olive trees and vines!

Without replying to this particular criticism, Frank instead charged Emmanuel with being a neo-Weberian (in the sense of the 'protestant ethic' explaining the origin of capitalism) only

posing as a Marxist. Emmanuel had all but refrained from explaining his 'wage as independent and exogenous variable', but nonetheless dedicated some brief attention to the institutional factors which determine long-run wage levels in the first place and which, though exogenous to his model, were not exogenous accidents to human society. Frank noted Emmanuel's (1972a: 126f.) explanation of the difference between Latin American and U.S. wage-levels as corresponding to the *initial* high wage level of the immigrants, and due, in the last analysis, to higher or different subsistence wages and 'demands on life' of people who settled the United States. Frank (1975: 435f.) now countered that, "Emmanuel, like the neo-Weberians, believes that the people who settled in the United States were somehow "different" and that this difference "in the last analysis" accounts for the subsequent development of the United States, which then snowballed thanks to unequal exchange and other factors." By contrast, Latin American development had 'relative handicap' because the living standards they brought with them were lower and because of the transplantation of the clerico-feudal structures of the metropolis, and unequal exchange, etc., only served to widen this gap. Emmanuel's analysis, Frank (*loc. cit.*) continued, "is quite unacceptable not only because it is contrary to fact, but it is theoretically inadequate because it does not explain *why* different kinds of people (with their different institutions) settled in various parts of the New World." Leaning much on Adam Smith, he then explained that it had to do with the processes of global capital accumulation and the fact that gold was to be found in Latin America but not in North America, and that therefore the Spanish government paid much more monopolising 'attention' to their regions than had the British, and exploited the indigenous population to labour under the level of subsistence.

This is the fundamental explanation of why some parts of the New World had the necessary and sufficient conditions to begin the development of underdevelopment, while others did not. This does not, perhaps, constitute an adequate explanation of the sufficient conditions for development, but the mode of production in "colonial" New England *and* its exploitative exchange relation to the Caribbean and the American South with their respective "peculiar institution" undoubtedly contains the explanation" (Frank 1975: 442).

Neither Frank's own explanation nor the denomination of Emmanuel as a neo-Weberian seems to have made much of an impression (significantly because the 'moral and historical element' to which Emmanuel referred 'in the last analysis' was taken from Marx), but Frank was repaid by Robert Brenner calling him and Wallerstein 'neo-Smithians'. Frank repeated his case against Emmanuel in later works of the mid-1970s, adding the criticism of Christian Palloix in the form of quotations. In reviewing two of these books, Wallerstein (1981: 43) observed that Frank's own 'theory of neglect' "works more clearly to explain differences in the Americas than it does when he tries to explain the peculiar case of the "white Dominions" and their relatively high standard of living."

Though the world-system historical sociologist Wallerstein on the contrary frequently refers with sympathy to Emmanuel's theory of unequal exchange and even invokes it as the principal prime mechanism perpetuating his 'world-system' (*e.g.*, 1979: 18f.), what is really intended is something much vaguer which simply cannot be the theory of Emmanuel. For his invocation of Emmanuel, Wallerstein was criticised in the polemic by Brenner (1977), characterising him as a neo-Smithian, market oriented Marxist, and informing that unequal exchange requires free mobility of capital throughout the whole system so as to equalise profits. If profitability should happen to be higher under serfdom, this could still not stimulate any flow of investments, since there were neither 'free labour' nor 'free land' to combine with, and so capital could not be mobile either:

Indeed, precisely because there could be no such mobility of investment to increase output, the general outcome of growing demand for East European products produced under serfdom in the seventeenth century was simply a rise in their price (rather than their output), so that the relative prices of eastern agriculture and western industry

shifted in favour of the former. As a result, the market did facilitate a certain 'transfer of surplus', but from the western 'core' to the eastern 'periphery', rather than vice versa. (Brenner 1977: 61.)

Unfortunately, Brenner's understanding of Emmanuel also leaves something to be desired, and his erroneous statement that equal capital intensities (organic compositions) are *required* for unequal exchange was perhaps borrowed from Amin rather than Emmanuel. Even though Wallerstein and Brenner himself seem unaware of it, the centrality of institutional, political and class-struggle determinants for economic development in the "Brenner-thesis" fits quite well with the framework of Emmanuel, where prices are also institutionally, etc., determined (it could possibly fit nicely with Wallerstein's conception of proletarianization). What Emmanuel adds to this perspective, apart from extra-European historical examples, is a deeper understanding of how active markets attract international capital, something which resolves the balance of payments problems with which the English mercantilists were – in Brenner's (1993) view as a consequence of the origination of capitalism – obsessed. If moving instead to where investment opportunities were the greatest, Wallerstein might still be right about the Early Modern international mobility of *capital* he sometimes insists upon, although he seems more interested in the international mobility of *goods*. The former, *i.e.*, investment opportunities, was observed also by Marx, Luxemburg and Emmanuel to have passed from Italy to Holland, then to England and from there to the United States, quite in line with Wallerstein's general notion. The latter, the expansion of trade in goods, is another matter, equally applicable to Ricardo's comparative costs, and stressed also by Ernest Mandel, while disavowing the former, as a characteristic of the Early Modern period. Brenner might still be right about the minor importance of unequal exchange in comparison with internal capitalist dynamics, since wage differentials were much lesser, and compensated by higher profits or land-rents of feudal lords monopolising the land and labour factors. These are historical questions and interpretations which are not mutually exclusive in theory, only in need of greater precision of analysis and formulation.

Unfortunately, to my knowledge, Wallerstein has never tried a serious answer to his critic, although he was perhaps 'subliminally' influenced by him. For, as it happens, when he later tried to explain how he understood the unequal exchange mechanism, it turned out that what he described had nothing much in common with the theory of Emmanuel. He situated himself with Frank against Laclau on the mode of production, Sweezy against Dobb on transition, Emmanuel against Bettelheim on unequal exchange, and with the Chinese against the Soviet communist party on the primacy of geopolitical over class politics as the central inequality giving dynamics to the world system. Friedmann (1980: 247) noted that Wallerstein took the concept of unequal exchange from Emmanuel, "itself based on a consistent but problematic combination of assumptions from Ricardian international trade theory and Marxism", but that his model "made assumptions violating Emmanuel's, namely that capitalist relations of production ([...] *i.e.*, wage relations) prevail universally and that profit is equalised throughout the world." By contrast, she continues, for Wallerstein, "states enforce 'unequal exchange' through positions in a hierarchy of nations". Since there is nowhere any formal exposition in Wallerstein's works, and since in addition to Emmanuel he refers also to Amin, Baran, Frank, and many of the *dependistas*, the mechanisms he believes to be at work are not easy to decipher, although he constantly insists upon the state apparatus as a mediator, manipulator, and decision maker. In one notable and synthesising presentation (Wallerstein 1985: 36f.), the point of inequality was that prices have been 'arbitrarily manipulated' by monopolies and state powers, thus reinforcing minor existing differences, and petrifying centre-periphery hierarchies. Although he seemed to deny final consumption any particular significance, instead wanting to emphasise production processes, chains of goods were described as centripetal, with multiple origins ending up in the centre. The crucial event for Wallerstein, was the application of force when prices were to be determined, as goods were

crossing state borders. Unequal exchange was described as the feature defining centres and peripheries, and as dependent on (temporary) deficiencies in a complex production process or militarily created artificial deficiencies. The less 'scarce' good was 'sold' (Wallerstein's quotation marks) at a price representing a larger real effort (cost), than a good of equal price moving in the other direction, resulting in a transfer of a part of the total profit (or surplus) being produced. So all there is to Wallerstein's unequal exchange, then, is a manipulation of goods markets, as in quite a number of leftist or liberal theories of monopoly power and state protectionism, but no extra economic (class-struggle, political) determination on the factors market (or if so, only in some way via taxes), combined with international equalisation of profits. As described, the theory even seems opposed to unequal exchange, to the extent the inequality depends on oligopolistic setting of prices, in line with the monopoly capitalist tradition endorsed by Baran or even Mandel, in whose theories there is *no* international mobility of capital and no international equalisation of profit rates.

The criticism levelled by Brenner that Emmanuel's theory under no circumstance could be applicable to the early modern era and that it was never so intended, has possibly added to the vagueness on the point. Wallerstein's rescue action (1980: 93f.) in referring to Joshua Child's observation that wage differentials corresponded to prosperity differentials, not only as a 'theory' in the first place but even as Emmanuel's theory, is perhaps sufficient illustration of that, and as we have just seen his own subsequent sketch resembled much more something involving state power and monopolies than the free play of market forces with different factor remunerations and a profit rate with a tendency towards equalisation. In spite of everything, the works in this tradition seem not concerned with terms of trade or unequal exchange at all, other than as a powerful rhetorical instrument. Their inclusion here is motivated rather by the extent to which they function as background influence and contrast.

In this sense, Baran is clearly the historically most important, not only because his work presents the paradigm in which Frank, Wallerstein, and also Samir Amin, fall most neatly into place, but also because the reevaluation of traditional Marxist views of imperialism contained in his synthesis of impulses from German, Soviet and American Marxism, as well as the fledgling underdevelopment economics, in actual fact cleared the way for Emmanuel, directly and via Bettelheim. If the theoretical union of structuralism and Marxism represented by dependency was formulated by scholars educated in the United States, they are nevertheless part of a larger Western and Third World Marxist movement in which, *e.g.*, Amin certainly deserves to be included along with many Latin Americans. As Kay (1989: 144) sees it, Baran exercised a major influence on the Marxist, as distinct from reformist, dependency writers of Latin America, adopting his thesis that underdevelopment was rooted in the capitalist development of the imperialist countries. Before taking a much closer look at the role which unequal exchange played in the political economy of Emmanuel, something more will have to be said on Latin American *dependistas*.

A discussion of 'dependency theory', even as distinct from structuralism (cf. Chapter 10) or an unequal exchange tradition in any more precise sense, would be incomplete without inclusion of Latin American Marxist contributions, if scant so far as unequal exchange is concerned. Packenham's (1992: 10ff.) dissection of the dependency movement's politicised scholarship highlights the many contradictory claims as to who is to be regarded as 'the' founding father of dependency theory, and there seems to be a politico-religious importance attached to its Third World or Latin American origins. Such a case would have been considerably strengthened by considering the Peruvian Marxist José Carlos Mariátegui (1894–1930), whose most important book appeared the same year (1928) as the Comintern Congress in Moscow altered the position on capitalist progressiveness in colonial areas. The only trouble is that apart from Frank (1967: 123, 285), with whom he has many similarities and who ironically has often been accused of not acknowledging his Latin American

influences, not many dependency scholars have invoked him. Whatever its designation, much of Latin American debate has concerned the necessity or not of revolution to overcome poverty and underdevelopment. Pioneered in the debate of the 1920s and 1930s, Haya de la Torre and Mariátegui respectively foreshadows, on the one hand, central issues of structuralism and reformist dependency, and, on the other, the neo-Marxist and revolutionary dependency view, filtered through to the public via the political programmes of social democratic and revolutionary parties, particularly in Peru. Thus, like Frank, Mariátegui argued that remnants of the feudal *latifundio* system were tied to international capitalism in a single economic system, believed that pre-capitalist relations would not be eliminated but instead intensified by imperialist monopoly capital, consequently saw no prospects for indigenous capitalist development debouching in revolution, and hoped instead, in line with contemporary Soviet debates, that a political alliance between workers and peasants could bring it about (cf. Kay 1989: 15ff.). However, even within the Marxist dependency camp, only a few Latin Americans, such as Oscar Braun and Ruy Mauro Marini, have also contributed to theorising on unequal exchange. Due to the similarities between Braun's and Andersson's early theory, they will be considered together only in Chapter 17, and here we shall focus on Marini.

Born and dead on Brazilian soil, Marini (1932–1997) had studied at the Faculty of Law at the University of Brazil, at the Brazilian school of public administration, and also at the institute of political studies in Paris. Following the Brazilian military *coup d'état* in 1964, after only a few years at the recently established University of Brasilia where he befriended scholars such as Dos Santos and Frank, he was exiled to Mexico in 1965, later to Chile in 1969, and again to Mexico in 1974. His most important work *Dialéctica de la dependencia* (1973) advanced a thesis of 'super-exploitation' involving an argument on 'the secret of unequal exchange'. In Kay's (1989: 144) view, Marini is "the most outstanding Marxist *dependista*", having made "the most systematic theoretical effort to determine the specific laws which govern the dependent economies", albeit being "almost completely unknown in the English-speaking world." Even so, unfortunately, "his analysis is extremely succinct and not always easy to follow, particularly when he employs Marxist categories which are problematic." Notably in his analysis of unequal exchange, Marini made no reference whatsoever to Emmanuel or the existing debate on issue, and, like all the other scholars treated in this chapter, "might also have gained precision and greater clarity" (*ibid.*: 243, n. 11) by using Marx's notations and algebraic formulations. Dependency is that division of labour, characterising the relation of Latin American countries with the industrialising Europe after their formal independence, which sets them on the path of underdevelopment. In other words, Marini (1973: 18) explained circularly, dependency meant that the relations of production in formally independent, but subordinate nations were modified and recreated so as to assure extended reproduction of this dependent relation.

If "Marini's central thesis is that the basis of dependence involves the over-exploitation or superexploitation of labour in the subordinate nations", Kay (1989: 145) explains, this over-exploitation itself arose "out of the need of capitalists to recover part of the fall in profit rates as a consequence of unequal exchange". Thus over-exploitation, which could either consist in an extension of the working day, a reduction of the worker's wage below what was considered the socially acceptable subsistence level, or an increase in the intensity of work, helped to compensate for unequal exchange, understood as a transfer of value occasioning a rise in centre rates of profit and a lowering of periphery rates of profit. Although the direction of causality is perhaps not always evident in Marini's interpretation, a consequence of this is of course that international differences in wage-levels will be the work of capitalist manipulation, and ultimately the result of the price manipulations of other, centre or monopoly, capitalists. Following from such over-exploitation of labour was a general overemphasis on absolute over relative (*i.e.*, implying increased productivity or intensity of

labour) surplus value, thereby hindering peripheral processes of accumulation and underpinning dependence. Obversely, the centre's capital accumulation had profitted substantially from cheap Latin American primary products from the mid-19th century, thereby reducing the value of centre labour power (*i.e.*, the cost of its reproduction) and helping centre capitalists accumulate (through relative rather than absolute surplus) (Marini 1973: 16-23). The different functioning of dominating and dependent countries was apparently explicable by the former being able to rely on internal markets, whereas the latter depended on external ones. Consequently, whereas centre-worker wages could be allowed to increase with productivity and technical progress without a fall in profits, peripheral workers were not 'needed' for the realisation of products and their wages could be kept low (at least, apparently, so long as there was a sufficiently large surplus population), and consequently there was no need for technical improvement (*ibid.*: 49-55). As in Emmanuel's interpretation, industrialisation offered no real exit from the over-exploitation of labour. For Marini, this was, however, because the import-substitution advocated by the ECLA and reformist *dependistas* would only satisfy demand of higher income groups, not requiring the creation of an internal mass market. Instead, he believed, technical progress in a context of over-exploitation, would bring a further redistribution from lower to middle and higher income groups through state policies and inflationary measures (Kay 1989: 146f.). As a sort of political superstructure to this thesis on over-exploitation of labour, he also held a thesis of 'sub-imperialism' based on Brazilian experience, and very similar to the views Frank, Bambirra and Dos Santos (cf. Kay 1989: 148-162).

Several critics of Marini's analysis appeared. Arauco (1974: 89-90) found two distinct uses of over-exploitation in Marini's work, one as the reduction of wages below the value of labour power, considered by Marx as a temporary phenomenon, and another as payment of labour below the minimum level of subsistence, which Marx had seen not as over-exploitation but as the 'embezzlement' of labour. More interesting than what Marx thought, was the fact that neither form was peculiar to dependent, but also part of the dominant capital accumulation (*ibid.*: 91; cf. Johnson 1981: 61; Kay 171). Oliveira (1973: 450-7) and Cueva (1974: 74) instead criticised it on empirical grounds, the latter pointing out that Argentina exported cereals and meat to advanced countries like Britain, thereby helping to reduce the cost of reproducing labour there. However, this implied nothing was as to Argentinean labour being remunerated below its value or the blocking of its internal market, especially since in actual fact, Argentinean wages had risen to such an extent as to attract European immigrants, and to give a boost to industrialisation and early development (cf. Chapter 10). Johnson (1981: 69) dismissed both Marini's (1973: 36) and Bambirra's (1978: 111) claims that super-exploitation arose out of unequal exchange as a way to recover surplus value, thinking that it meant a 'double exploitation', once in production and once in circulation. Weeks & Dore (1979: 69f.) argued that Marini (in spite of his denial) upheld a defunct underconsumptionist position that had been refuted already by Lenin and Bukharin. By contrast, Veltmeyer (1983: 204f.) supported Marini's thesis by adding further reasons for super-exploitation. In Kay's (1989: 164) view, the comprehensive attack by Serra & Cardoso (1978), together with Marini's (1978) rebuttal even constitutes the "most important debate within the dependency perspective". On the other hand, with respect to this debate, Henfrey (1981: 25) called Marini's an "ideologically determined", "post-hoc theory of armed struggle", while Cardoso's analyses might have been more accurate, but were by contrast lacking in theoretical perspective. The debate itself centred on four areas, the first of which was Marini's analysis of unequal exchange, and the other concerned his theses on dependent capital accumulation, on sub-imperialism, and the political conclusions to be drawn.

As Serra and Cardoso (1978: 20ff.) understood the argument, Marini had argued that an increase in unequal exchange meant a further deterioration of the terms of trade, and a

consequent fall in the rate of profit which was compensated for by increasing over-exploitation. However, using the terms of trade as an indicator of unequal exchange implied a confusion, which brushed aside the problem involved in theories of transfers of value through international trade, of how to define socially necessary labour when labour was not internationally mobile. Marini's main mistake was to argue that unequal exchange implied a deterioration in commodity terms of trade and vice versa, and to assume that an increase in productivity in the centre implied a reduction in the rate of profit in the periphery (*ibid.*: 15, 24), following from an assumed rise in the price of centre products. Unequal exchange could turn against the periphery without the terms of trade deteriorating, and an increase in productivity might not lead to a change in the price of manufactures. As we shall see, there was a similar problem in Amin's representation, and an implicit assumption that centre-wages rise with or even more than productivity. Furthermore, as Serra & Cardoso (*ibid.*: 24f.) pointed out, if an increase in peripheral productivity did result in a fall in export prices and a fall in the commodity terms of trade, this did not necessarily imply a fall in the rate of profit since unit prices may fall to the same degree as productivity rose. "In short," Kay (1989: 165) sums up, "even if unequal exchange increases and the commodity terms of trade deteriorate further against the periphery, its profit rate might not fall. Consequently, Marini's argument that the dependent countries have to resort to super-exploitation of labour to maintain profit rates is not validated, and his deduction that there is an inevitable economic tendency towards super-exploitation of labour cannot be sustained".

Turning to dependent capital accumulation, Serra & Cardoso pointed out that capitalists were interested in raising the rate of profit, not the rate of exploitation, something fundamentally achieved by technological improvements raising labour productivity. This process, which could take place even accepting the assumption that workers did not consume industrial goods, had been wholly ignored by Marini, and consequently his conclusion that dependent development was necessarily blocked did not follow. In line with this criticism, without denying its benefits, Cardoso (1972: 23; 1977: 57f.) rejected the argument that accumulation in advanced countries rested on the extraction of surplus in the periphery (cf. Kay 1989: 165f.). Given the possibility of problems of insufficient internal demand, Serra & Cardoso (1978: 41) still argue against the sub-imperialist thesis that no such lack of demand existed in Brazil. Finally, (*ibid.*: 53) Marini's political conclusion to the above argument (endorsed also by Bambirra and Dos Santos), that Latin America faced the choice of socialism or fascism, was politically reductionist, simplistic and disregarded the many possible political alliances possible.

Marini (1978) responded that Serra & Cardoso had formulated the relationship between value and price and confused profit rate with rate of exploitation. Whether labour was internationally mobile or not was immaterial in determining the socially necessary labour time, which was not determined by the circulation of labour but was "exclusively a function of the development of the productive forces, the degree of dexterity, productivity, and average intensity of the labour power in *production*" (*ibid.*: 64; trans. in Kay 1989: 167). Neither had he confused unequal exchange with the terms of trade, claiming to be well aware of the difference between 'value' and 'price', but still defended the use of the terms of trade as a proxy for value. He (1978: 73) also denied having argued that economic stagnation would be inevitable in Latin America, and with respect to over-exploitation counters (*ibid.*: 89, 97f.) that Serra & Cardoso confuse it only with absolute surplus value, leaving his argument untouched and empirically verified. His subimperialism thesis was reaffirmed, charging (*ibid.*: 95) his opponents with mystification. Finally, Kay (1989: 169) sums up what he calls "this at times acrimonious debate", he "rejects the criticism of economism, underconsumptionism, and neo-populism, and charges Serra and Cardoso with sociologism, political reductionism, and neo-developmentalism." As Kay (*ibid.*: 169f.) sees it, their differences were mainly

political and ideological, forming part of the wider debate between advocates of a peaceful road to socialism or of armed struggle.

Political motivations may extend also in other directions. Ending this chapter, it can be noted that both Latin American dependency theorists and their North American siblings, have focused rather on monopolistic *distortions* of trading relations and class-struggle than on these trading relations themselves. Thus, they still basically refer to what Truman in 1949 called ‘old imperialist’ ‘exploitation for foreign profit’ rather than that ‘fair dealing’ one he wished to promote. This all changed with Emmanuel and the theories of unequal exchange proper, to which we shall turn in Part IV. The heated controversies aroused by his work obliges us to take a closer look at yet other Marxist and Sraffian contributions on unequal exchange.

In Part III above, we have studied the varying thoughts on centre–periphery relations by geographically peripheral scholars, who have all, rightly or wrongly, been linked to theories of unequal exchange. Some, such as Fitzhugh, Prebisch, and the dependency tradition, perhaps have greater internal similarities than the others, *i.e.*, Innis and Lewis, whose contributions to historical understanding have on the other hand been greater. Perceptions of reality have been coloured by surroundings, including this peripheral context.

Fitzhugh’s defence of Southern slavery was partly founded on a paternalist perception of – first British and then Northern – commercial society as humanly and ecologically disruptive. Even if his theory of non-equivalent exchange in terms of labour values *may* be separated from this context and political motivation, such an act would remove all or most interest from it, and in that event his analysis of the economic pledge or advantages of slave or command economies not only compares poorly with, *e.g.*, that of the late mercantilist Steuart, but its foundation in the raw materials–manufactures dichotomy also was misleading on its own terms, as it did not relate to the fact of much greater productivity of Northern agriculture as well as manufactures. The agriculture–manufacture dichotomy was inherited from mercantilists and protectionists, ultimately going back to the city–countryside divide. The centre–metropolis perspective lived on in the German historical school, and partly via Schmoller and Gras into the 1920s and 1930s, when it entered the ideas of scholars as diverse as Innis, Manoilescu, and Prebisch.

Innis was the more sceptical of applying it to the new world, and already before the First World War his *maître* Veblen had indeed criticised Schmoller’s use of it as the guiding principle behind economic development. He focused on the disruptive interactions between changes in the metropolis and hinterland respectively, especially in Canada of course, but increasingly also in the metropolises. Though his perspective was basically ‘critical’ (satirical), the idea that Canada’s position as hinterland would lead to economic underdevelopment was wholly foreign to his understanding. Indeed, in a sense rather like Fitzhugh, Veblen, and ecologists, he was concerned rather with an industrial civilisation which had gone out of hand. Methodologically, the all-inclusive approach for which he strove, and the observance of ecological, geographical, technical, and basically historical detail in Innis’s staple studies, holds more prospects than either the proponents of a ‘staple theory of growth’ or a ‘staple theory of underdevelopment/ecological unequal exchange’ have so far managed to live up to. This is demonstrated more specifically in the later works, where the centrifugal or centripetal biases in waterways, etc., are similarly found in other means of communication. Furthermore, through innovations in central media, changing the rules of the game, said metropolis–hinterland disruptions become correspondingly more severe, as seen, notably, in the historical enhancement of nationalism through paper and the printing press. Here he touches on crucial problems of government, rejuvenating a problematic within the imperialist tradition, which have an analogue in contemporary concerns with geographical

and chronological inequalities – poverty and ecology – or in his own terms ‘space’ and ‘time’, which have gone unnoticed in the commentary so far.

If Innis noted crucial differences not only between Protestant and Catholic social institutions, but also temperate and tropical ecologies and goods, *e.g.*, with respect to the differences in the swing of demand, Prebisch held on the composite category of ‘agricultural’ goods vs. manufactures. This he may have inherited either from domestic or central European traditions – perhaps preferring to forget politically suspect predecessors such as Schmoller and Manoilescu in the postwar climate, when orthodox economists were already out to get him for other reasons. It is also possible, though perhaps unlikely, that he simply reversed the traditional prediction that the terms of trade would worsen for industrial products until the ‘stationary state’ was installed. The importance of the historical context for the origination of Prebisch’s ideas seems particularly relevant. Rather concerned with policy than abstract theory, his ideas began forming when the traditional Argentinean export economy ran into difficulties in the 1930s depression, when agricultural prices sank and the traditional agricultural export nations – being, apart from Argentina, the United States, and the British Dominions – could not be made to cooperate. Both of these events, the decline of prices and the inability to cooperate became central to Prebisch’s later thesis, but, as with Innis in Canada, it was as yet inconceivable that this relative disadvantage of hinterlands could result underdevelopment, since these nations, including Argentina, constituted the cream of the wealth of the world’s nations. Thus, if the centre–metropolis imagery coincided roughly with the industry–raw materials one – at least as long as Britain could still be seen as the workshop of the world of the 19th century –, Prebisch’s most important later contribution transposed this Argentinean experience to Latin America as a whole, in line with the dimensions of the UN organ for which it was worked out. When ‘Latin America’ as a whole, was then classified among the ‘underdeveloped’ regions of the world, it suddenly fitted all too well with the long-standing mercantilist, etc., tradition, in which exchange of agricultural goods and raw materials for manufactures is somehow seen as detrimental. At the same time, the shift of the metropolis from Britain to the United States, and the very fact that the United States was *not* a mere industrial nation but also an exporter of food and raw materials, introduced new difficulties in selling, and thus severe balance of payments problems in Latin America – *i.e.*, yet another defining mercantilist concern.

In the ensuing debate on the terms of trade, Singer was placed alongside Prebisch, though his concerns were otherwise more in line with Truman’s Point Four on how to secure investments in underdeveloped countries. His statistics indicated, contrary to a century of received wisdom, that the terms of trade for agricultural over industrial products had declined, and, though he was aware that this was not wholly so, were presented as corresponding to a decline in the terms of trade for underdeveloped countries. The important thing was not really the commodity terms of trade in the actual statistics, but, as Singer made clear and Prebisch quoted and agreed, what they implied about the factoral terms of trade, *i.e.*, when corrected for the presumably higher productivity increase for manufactures. Singer’s interpretation resorted to different elasticities of demand, whereas Prebisch also mentioned the ability of centre countries to retain wage-increases achieved during upswings even in the ensuing downswings of the business cycle. Kindleberger’s more extended study revealed that the decline of the terms of trade depended not primarily on the type of good, but on the type of country – a conclusion accepted by Singer, who, however, seems not to have taken it as a refutation of his theory, but instead dubbed it the ‘Kindleberger effect’ to complement the ‘Prebisch-Singer effect’ for primary products. However, Kindleberger also showed that the two alternating explanations offered by Prebisch – the elasticities of demand and trade unions – were inconsistent and made the theory overdetermined.

Lewis offered another explanation, which did not depend on the agriculture–manufactures dichotomy, but went directly to the factoral terms of trade themselves, *i.e.*, the wage-differential. An unlimited supply of labour kept wages constantly at the level attainable in subsistence agriculture, differing greatly between tropical and temperate regions of the world. Thus, any attempt to increase productivity in the tropical export sector – coffee, sugar – was doomed only to worsen the terms of trade to the benefit of the foreign consumer, whereas, by contrast, any productivity increase in the subsistence sector would raise wages also in the export sector and thus lead better the terms of trade. This model was only the static, but open version of his more influential dynamic, but closed model based on the exemplar of the British industrial revolution and its contemporary political economic observers. The choice may appear to have been motivated on purely scientific grounds – and there was to be something of an industry of such interpretations, including Rostow’s – but it fitted nicely in the Cold War efforts to suggest a capitalist road out of underdevelopment, and counter the communist one which feaded on poverty and social disruption, had expanded in Eastern Europe, and had recently been victorious in China, the world’s most popolous nation. Truman, the Rockefellers, and numerous social scientists all agreed that the like must not be allowed to happen in the adjoining Asian countries, certainly not in India (through British ‘old imperialism’), and particularly not in Latin America. Lewis’s interpretation suggested an explanation, first, of the lack of increase in worker wages during the first half-century of British industrialisation, when there was still an unlimited supply of subsistence agricultural labourers, second, of the lack of increase in the tropical world, where there was an unlimited supply of Indian and Chinese labourers, at so much lower wages that they had to be kept out by force and legislation from the more wealthy temperate regions, which kept their just as voluminous migrations to themselves. This powerfully simple explanation of grand historical events was Lewis’s ultimate gift to scholarship, but his economic model was still incomplete. Certain wage increases had to be explained *ad hoc*, *i.e.*, those that did not depend on agricultural productivity increase – or where there were no available subsistence sector – but simply on the same organisational powers which managed to keep low-wage workers out of competition. If the logic behind the mobility of labour and its racial and wage-mechanisms of exclusion fitted nicely into the model, the same was not true of the related international movements of capital and investments, which according to the optimistic logic of his closed model would turn to low-wage regions, but instead anomalously followed the trail of high wages. The problem, which was central to Nurkse, could possibly have been resolved by the changing dynamics of the open model, but these were never spelt out.

In a paradigmatic way for Western postwar Marxism, Baran reversed the traditional Marxist perceptions of capitalism’s progressive nature in the underdeveloped countries, and consequently, contrary to Lewis, saw the only prospects forward in communism. As to his contributions to a theory of unequal exchange, apart from serving as a sounding board, they were largely negative, renouncing both the importance of the terms of trade and the possibility of international transfers of value through trade. By contrast, he emphasised the transfer of ‘surplus’ through the repatriation of profits – Truman’s ‘old imperialism’ – and again relating directly to the balance of payments rather than the terms of trade. The perspective resembles greatly, and may well have been inspired by, that of the Indian ‘drain theory’, at times much discussed in England, and itself a new leaf on the mercantilist tree, again possibly through Steuart. Looking ahead it directly inspired Frank, the father of dependency if Baran was its grandfather and Prebisch its step-grandfather. Like Baran, Frank was uninterested in the terms of trade and in open dispute with Emmanuel, but he inspired both Wallerstein’s world-system, which erroneously claimed to build on Emmanuel’s unequal exchange, and his colleague from Brasilia and Santiago de Chile, Marini. Wallerstein’s version of unequal exchange vaguely built on state manipulations of market prices, but had nothing much in common with the

theory of Emmanuel. Similarly in this respect, Marini's theory also seems unrelated to Emmanuel's and as well as being unnecessarily vague and lacking in any formal rigour.

It is now high time, in Part IV, to look more thoroughly at Emmanuel's theory, and some of the controversy it rased, in neoclassical, Marxian, and Sraffian circles, and in different geographical areas, some of which we have already touched upon in Chapters 7 and 12 above. His intervention in the terms of trade debate was to confront the problem of underdeveloped nations *per se* suffering from worsened terms of trade, by following up Lewis's turn to the factoral terms of trade as determining the commodity terms, *i.e.*, that it was wages that determined prices and not the other way around. Contrary to Lewis, he also had an elaborate theory to explain why investments were stimulated by an exogenous rise in wages. Much as in Keynes's theory, as we shall see for example in Chapter 19, the price to pay for this was a fundamental underemployment of productive factors, but the escape from it could only be found in an economy which was planned to a much higher degree than either Lewis or Keynes would have admitted. On the other hand, whereas Fitzhugh, Prebisch, and the dependency theorists all resorted to the dichotomy of raw materials vs. manufactures, a major point of Emmanuel's argument was, in line with Lewis and Kindleberger, precisely that the causal link from raw materials to underdevelopment was mythical, notably for reasons which were readily observable in Innis's Canada or Prebisch's Argentina. The basic difference explaining the divergent developments of the British Dominions/United States and Latin America, on which he confronted dependency theorists, were instead, as in Innis or Brenner, institutional and related to ingrained habits of consumption inherited from the mother countries. I shall now try to make the details in this theory clearer, in both its Marxist and Sraffian versions, as well as Emmanuel's own. In addition, some of the unlimited supply of commentary will be reviewed, while, as before, it will at the same time be suggested how personal experience may have contributed to, or coloured, perception. As will be seen, the central place of institutionally established levels of wages and consumption in Emmanuel's theory, and the implications this has for international solidarity, overconsumption and 'overdevelopment', provides clear links to themes pursued in the ecological movement, and in theories of ecological unequal exchange to be taken up in the subsequent and final Part V.

Part IV

Unequal Exchange in the Political Economy of Arghiri Emmanuel

In previous chapters we have often come across references to Arghiri Emmanuel. He contributed to the debate on mercantilism, commented (often caustically) on predecessors and even participated in contemporary Central and Eastern European debates, as well as on Prebisch, Singer, Lewis and the terms of trade debate, and Baran and the dependency writers. It is fair to say that without his work and the debates aroused by it, unequal exchange neither would nor could have become the organising principle of, *e.g.*, the present thesis. Just as Keynes revived many mercantilist, underconsumptionist, and Malthusian concerns, by placing their problems in new theoretical light, and Sraffa similarly retrieved many Ricardian and Marxian themes relating to the institutional and class aspects of price determination, Emmanuel placed the question of unequal exchange on the agenda. In the process he placed many mercantilist and Marxist arguments on what constituted beneficial trade and non-equivalent exchange in his line of descent, and gave subsequent interpreters a rejuvenated conceptual framework in which to place their own ideas.

In this Part IV, it will be argued that in spite, or perhaps because, of the much attention and controversy allotted to Emmanuel's work, his basic vision has mostly remained unperceived. This is significantly because of a persistent refusal to consider his work as a whole, in which context his theory of unequal exchange has a specific theoretical and historical role to play. In doing so, I may at times be forced to treat certain other contributions to the unequal exchange debate with less richness and perhaps deference than they would warrant as subjects in their own right. After tracing Emmanuel's formative years in Chapter 13, as best we can through the general lack of information, the contrasting paradigms of his and traditional French Marxism on the question of international worker solidarity will be expanded upon in Chapter 14. Emmanuel's theory of unequal exchange, which may well have been inspired by his experiences in the Congo, stated that the low and declining terms of trade for underdeveloped countries, were the consequence of the high and rising wages in the developed countries, and as such, like all equilibrium prices, a surface reflection of an underlying social conflict, this time between the majorities of populations, especially developed and underdeveloped ones.

French Marxist economics largely defined itself in contradistinction to neoclassical economics. The reversal of traditional neoclassical assumptions in Emmanuel's originally Marxian presentation will be described in Chapter 15, along with certain neoclassical reactions. This largely explains why the fundamental differences between Emmanuel and the other Marxists did not make themselves clearly felt at once. As soon as they did, open dispute burst upon the French scene, conducted in Marxian language and reviewed in Chapter 16, along with certain Anglo-Saxon Marxists. Ironically, the great hostility of Marxists concerning the unorthodox disregard of Marxian labour 'values', was complemented by neoclassical critics who focussed precisely on the theory's alleged basis in such labour values.

The popularity of Samir Amin, who was a prominent participant in French debates, is largely explained not only by attempting to place unequal exchange in a perspective where productivity differences matter more, but also – so it is suggested – by the theoretical vagueness on this point, and by his drawing the politically correct conclusion. In line both with the ‘state capitalist’ interpretation popular in France at the time, but more so the general dependency stance in France and elsewhere, this meant that it is the ‘monopolies’ who were to blame for unequal exchange, not, as in Emmanuel’s theory, the nationally enclosed working classes and labour unions of well-off countries.

Along lines of previous criticism by Bettelheim, Palloix, and Amin, both the Marxist focus on a net ‘transfer’ of labour values, and the attempt to accommodate unequal exchange with a monopoly and state protectionist interpretation, characterised both Jan Otto Andersson’s and Oscar Braun’s similar approaches, treated in Chapter 17. Thus, in spite of reformulation in Sraffian equations, the perspective was still that of comparing values with prices of production. This perspective was retained in Andersson’s later reformulation which significantly introduced a third common sector, basically in order to compare productivities and thereby values. This modification turned it more into an adaptation of Lewis’s model, in which, as we have seen, wages were ultimately dependent on agricultural productivity. Indeed, abandoning wages as the independent variable was an important ambition all along, a common theme in every single modification of Emmanuel’s theory, and this unanimity curiously corresponds to an abhorrence of his conclusions on international worker antagonism. So long as the productivity differential is higher than the wage differential, the wealthy workers are safe from accusation, and no mention is made of the social antagonism evidenced in restrictions on migration, democratically enforced in the interest of the working classes. Even in Andersson’s recent contribution to ecological unequal exchange, based this time on consumption-centred so called ‘ecological footprints’, rather than production-centred ‘labour values’, such restrictions are wholly absent from analysis.

The many misunderstandings and fruitless debates occasioned by the labour value formulation, had encouraged Emmanuel already in 1970 to reformulate his particular theory in more adequate Sraffian language, treated in Chapter 18. This was a rather uncommon route in a France where Marxist debate was significantly constructed around their monopolistic opposition to neoclassical economics. Discussion and criticism from the Sraffian camp was opened rather by scholars who were for the most part not French (*e.g.*, Van de Klundert, Braun, Andersson, Saigal), or who had at least gotten their economic education outside France (Delarue). Again, Emmanuel’s theories were commonly accepted and understood only to the extent his assumptions coincided with those already established within that school (or its Marxist-Morishiman version), whether it concerns the adoption of nominal as opposed to real wages as independent variable or some other, more profound, characteristic in a dynamic and monetised market economy which is not well captured in the Sraffian approach. We shall therefore continue our probing, in Chapter 19, into what were the reasons for Emmanuel’s emphasis on the *increase* in wages as the central mechanism both for unequal exchange and as incentive to investments and development. In fact, this involves a much more fundamental questioning of the assumptions of political economy than his specific theory of unequal exchange.

Probably inspired by the different functioning of planned and market economies, by Marx and the debate between Heckscher and Keynes on mercantilism (Chapter 3), as well as the post-Keynesians, this meant abandoning the equality of the value of output and the purchasing power of incomes facing it. It is in placing the theory of unequal exchange in this context that Emmanuel’s theory, whatever its intrinsic value, comes into its own, as a condition for and consequence of the chronic postwar rise in wages, which itself provided a crucial incentive for investment overtrading. In fact, developments relating to the other such crucial incentive, an

institutionalised depreciation of currencies, which were definitely made inconvertible in the early 1970s, implied that the nominal wage-increases behind unequal exchange could be cancelled out *ex post* in real terms, and consequently did not necessarily entail a lowering of the rate of profit. His political economy was conceived as a crucial advancement in line with the unfinished vision in Marx's many projected books, particularly those on foreign trade, on the one hand, and the world-economy and crises on the other, eventually debouching into a globally planned socialism. The historically aberrant case, from a Marxist perspective, was not underdevelopment, but precisely the latter century overdevelopment, to which Emmanuel devoted his major attention.

Some conclusions of Emmanuel's theory of unequal exchange, where increases in income and consumption play crucial roles, have interesting parallels with many contemporary ecological critics of Western overconsumption, but this road from Marxism to ecology was taken in a rather different way than by Andersson. In the subsequent Part V some of the more specifically ecologist, or land based, versions of unequal exchange will be reviewed, but in Chapter 23 we shall again probe into the prospects for Emmanuel's more socio-political approach to unequal exchange with respect also to ecology.

Chapter 13. Emmanuel's formative years in Greece and the Belgian Congo

Arghiri Emmanuel⁶⁵ (1911–2001) was born in Patras, Peloponese, Greece. Having studied economics and commerce in the 1930s, he received a degree from the High School of Economics and another from the Faculty of Law (where economics is still taught) at the University of Athens. According to a list of his works which was presumably provided by Emmanuel himself (Communist Working Group 1986), he published one article in the Greek journal *Proia* (Athens), in July 1937, which possibly related to earlier essay topics. Due to the policy of the Greek National Library the article itself has proven difficult to obtain off-site, but its title – given in French as “L’Or, interdit de séjour”, *i.e.*, something like ‘residence ban on gold’ – suggests links with later concerns over the special economic role of the money commodity (*e.g.*, Emmanuel 1965a; 1965b, 1974a, 1984, 1988), and perhaps also with contemporary post-Keynesian debates, with which these later works show great sympathy. No record of membership in a communist party has been mentioned, but based on his later writings nothing indicates that he was ever anything but a Marxist, although perhaps an unusually independent species, critical of Marxist ‘theology’. Nor need we doubt that he by then considered himself fully a participant in the communist movement both in the historical materialist sense and in the economic sense of supporting centralised economic planning even on a global scale. Thus, although his later works also clearly identify him as a Marxist or communist of sorts, it is still uncertain when and under which circumstances he began considering himself as such.

Throughout the period 1918–1931, Marxism had in fact little appeal in Greece, being an agrarian and underdeveloped country with few who could identify with the industrial ‘proletarians’ so central to the Marxist doctrine. When striving to better their positions Greeks were more interested in climbing the social ladder as artisans and shopkeepers, or, as Stavrianos (1958: 478) argues, when economic circumstances forced them to leave their ancestral village, they sought their fortune in glamorous America rather than a nearby city, and they remained conspicuously unimpressed by communist appeals to “join the struggle

⁶⁵ For biographical details, see Jedlicki 2001; Terreri 2002; Emmanuel 1972a, 1984.

against the capitalist yoke”. *Xenitea*, or sojourning in foreign parts, has long been a fundamental part of Greek historical experience, and emigration has traditionally acted as a safety valve for poor economic conditions at home. In the 18th century, Greek communities were established in central Europe, southern Russia, Italy, Holland, France, Egypt, even in India and, briefly, in New Smyrna in Florida, and in the 19th century a prosperous community was found in England, mainly London. From the 1890s, large-scale emigration to the United States began, initially predominantly from the Peloponnese, comprising as many as a quarter of all Greek males between 15 and 40 in the period between 1900 and 1915. In the 1920s, 1930s and 1940s, however, this flow was severely restricted by US anti-immigration laws, and thus was obliged to take other courses (Clogg 2002: 110f., n. 35). Thus, having finished his studies in 1937, a year which certainly had its share of poor economic conditions in Greece, Emmanuel went to work in commerce, presumably in the family textile trade, in the Belgian Congo.

The poor standing of communism was also related to the social imperialist reform programme which had found a charismatic leader in Eleftherios Venizelos. The communists, for their part, had constant leadership problems, to which was added the advocacy, on Comintern’s directive, for a “united and independent Macedonia and Thrace”, which offended nationalist sentiments at a time when 700,000 Greek refugees had already settled in Greek Macedonia, constituting 95% of its population. When Zachariades took over the leadership in 1931, changing the policy on the Macedonian question, which together with the adoption of an anti-fascist ‘Popular Front’ policy, the electorate had sevenfolded to almost 100,000 by 1935, and party membership tenfolded to 15000 by 1936. Another factor in the growth of communist influence was simply the economic depression hitting Greece in the 1930s, and Venizelos’s failure during his last term (1928–32) to implement structural changes in the economy and satisfy urgent needs of peasants and refugees. Under the years of General Metaxas’s dictatorship (1936–1941), the communists became the chosen object of persecution and almost disintegrated (Vlavianos 1992: 8-11). If Emmanuel was already by this time a communist, this would have added impetus to leaving the country. At the same time, persecution forced communists to practice covert action already before war broke out, giving them a head start over the socialists. Although the subject is still a matter of controversy, they seem to have been rather lucky to have come out in a favourable light as opponents to the German invaders, and their status and membership enhanced greatly during the war.⁶⁶ Following the German occupation of Greece in May 1941, King George II accompanied by Metaxists (M. himself had died suddenly), fled to Egypt where they set up a government-in-exile, which became recognised by the Allies. In order to gain the support, or at least toleration, of the Greek people, the quisling government set up by the conquerors continued the vigorous anti-communist and anti-Slavist propaganda campaign, but this association with the invaders resulted in ‘anti-communism’ becoming a more repugnant expression than ‘communism’ for many non-communist nationalists. The utter destitution in which many Greeks found themselves during the starvation winter 1941-42 and the following years of occupation (killing as many as half a million) drove many of them to join the resistance.

⁶⁶ This was ultimately through Metaxas’s persecution and the policy implemented of utilising prisoners for propagandistic purposes, and through Zachariadis’s the poor communications with the Comintern. Thus, his ‘open letter’ argued support for the government against the invaders and could then be seen as one of the few incidents of a ‘nationalist deviation’ committed by a European Communist Party. Following the German-Soviet pact in August 1939, the Comintern had changed their tactics from an ‘anti-axis’ position to one arguing for putting an end to the ‘imperialist war’ by agitation for peace and if necessary sabotage of imperialist armies. Being in prison Zachariadis was poorly and belatedly informed of the change in Comintern policy, and when later trying to ‘correct’ his utterances Maniadaokis’s censorship and propaganda assured that the ‘damage’ could not be undone: “So by a complex twist of providence the arch-enemy of the KKE became suddenly the redeemer of its sins” (Vlavianos 1992: 21).

Starting with spontaneous acts, the communist party (KKE) soon became the leading force, forming the EAM (National Liberation Front) in September 1941, and their military phalanx ELAS (National Popular Liberation Army) in April 1942. By the end of the war, KKE membership was nearly 300,000, and the EAM/ELAS some two million, almost 30 percent of the population.

In 1942, Emmanuel, too, volunteered for the Greek Liberation Forces in the Middle East, and was active in the April 1944 left-wing uprising of the Middle Eastern forces against the government-in-exile in Cairo. Many complexities and uncertainties over strategy and over attitudes towards 'bourgeois parliamentarism' were built into most Marxist movements (cf. Close 1996). In fact, the Middle Eastern uprising was not supported by the mainland communist resistance (EAM) (nor by Stalin), with whom the rebels had no previous communication and to whom it came rather inconveniently in their attempt to form the 'Political Committee of National Liberation' (PEEA). It appears to have been directed more immediately against the return of the monarch, so that participation does not in itself suggest if Emmanuel already had communist/Marxist leanings, perhaps came to do so in the process, or merely shared republican (on the mutiny, see Vlavianos 1992: 37ff.; Fleischer 1986: 423-47). When it was put down by British troops he was sentenced to death by a Greek court-martial in Alexandria, but by the end of 1945 granted amnesty and in March 1946 on free foot, after which he went back to the Congo. In this he was not alone, and Jewsiewicki (1979: 564) notes for the Belgian Congo how the Second World War and the ensuing political events (e.g., the Civil War in Greece) entailed a growth in the number of colonists of foreign origin, particularly Greek.

Emmanuel's experiences in the Congo often provided him with illustrative examples in his later writings – if could be seen as a sort of microcosm of the capitalist world according to Emmanuel. Jewsiewicki (pers. comm.) notes interestingly that non-Belgian settlers, especially Portuguese but also Greeks, were generally perceived as not entirely 'white', which may explain a relative observance on Emmanuel's behalf. It would certainly have been difficult not to notice the extreme wage differential between Africans and Europeans, as well as the oddly racial worker 'solidarity'. By the mid-1930s, when Emmanuel first arrived, Africans had begun their entrance into the higher skill employments of the Union Minière (increasing the ratio of African to white workers from 9:1 to 18:1), but this had not resulted in a rise in African wages, stable at an annual \$US 64.8, but in a stagnation at about \$US 3000 in the thitherto rapidly increasing European wages (Higginson 1988: 207).

Emmanuel wrote two articles for *Le Stanleyvillois*, both on economic questions, and each of which hints at the themes of his two major works, *L'Échange inégal* (1969a, 1972a) and *Le Profit et les crises* (1974a, 1984). Thus, the second of them (Emmanuel 1954b) argued, in premonition of the latter book, to which we shall return at length in Chapter 19, that a capitalist economy had certain inhibitory characteristics to investments in the downward phase of the business cycle (which were not there in a planned economy), precisely when they would be needed. The first article (Emmanuel 1954a) also mentions the 'free' and 'directed' economies, but only to put the question of their respective merits aside, and to consider if within the system, whether good or bad, the rules of the game had been observed. Thus, formed by functionaries, the 'buyers' unions' or consumer organisations ('groupements d'achat') with which the article disputed, had not raised the issue of a change of the system, but had instead merely been campaigning, for more than a year – with conferences, speeches, and appeals to the Chambres des Commerce – that the percentage of commercial gains burdening consumption goods in the Congo was too elevated. Emmanuel thus restrained his argument to argue against this idea, apparently related to be that often raised by leftists and liberals against monopolistic or other 'superprofits', but presumably implicating also such non-monopolistic traders and middle-men such as the Greeks.

Here, though not claiming to have studied the phenomenon in particular, “being in trade”, Emmanuel nevertheless happened to have come across certain information on specific articles to decide whether the percentage pertaining to middle men and retailers was more elevated in the Congo than in Europe. The articles mentioned were some kind of textile or ‘regulation blanket’ (‘couverture dite réglementaire’), black and Muscat grapes, and simply fish to be had at the restaurant. It is clear then, that Emmanuel had personal experience of trade in textiles. On inquiry, Jewsiewicki (pers. comm.) guesses that at least his family was in trade, and informs that almost all Greeks were because there was almost no way for Southern European white to make their living otherwise. In all probability, then, Emmanuel took part in what he (1972a: 375; cf. 1970c: 86; 1977: 136) would himself describe as the spread of the textile industry to the African colonies, by that group of “outsiders, well-to-do settlers, individual capitalists, who had no ties with the big financial capital – Jews from Rhodes and Greeks in the former Belgian Congo, Pakistanis in Uganda, Kenya, and Tanzania”. Coloured by this experience in small-scale industry and family business, he knew how they utilised the loopholes of the capitalist system and the temporary weaknesses in a ‘monopoly’ capitalism, which was “neither so ubiquitous nor so monopolistic as is commonly believed”. This experience seems to have proofed him against what has turned out to be the 20th-century’s most dominant Marxist schools – on ‘monopoly capitalism’ in all its guises –, which was even to absorb the many ‘elaborations’ of his own theory of unequal exchange. Even more ironic, it could even be argued that a crucial assumption of his theory – that of the international equalisation of the rate of profit – sprang directly from the observations on which he built his case against the proponents of superprofits.

It was thus with said textile, of which the Congos absorbed several hundred thousand a year, that he had the closest knowledge. It was exported from Antwerp at 35 francs f.o.b. (free on board), and imported to Stanleyville, burdened first by maritime packing, shipper commission, three months of bank-funding, maritime and fluvial freight, clearance to Congo, profits of the importer, insurance premium, then *du benefice de l’importateur, de la prime d’assurance*”, then warehouse at the wholesaler, while awaiting reselling to the retailer, who put it on a trailer and transported it to the interior at the other end of the province, adding his costs and profits, and distributing it in his cantines, where, finally, at the furthest end of nowhere in the African bush, it cost 75 francs. Now, – “imagine my surprise” – in Brussels, two steps from the production site, he had stumbled over the same good at 89 francs.

Apart from being the first recorded observation by Emmanuel on international prices, the admitted surprise (indicating novelty) that remuneration in distribution was apparently higher in Belgium than in the Congo – certainly not the opposite as in the favourite Marxist opinion – may well have incited the more qualified assumption in his theory of unequal exchange of international equalisation of the rate of profit, as well as an international difference in money wages for the same distributional service. It seems likely, then, that his theory profited from his experience in a ‘multinational corporation’, so to speak, or at least ‘multinational family business’, which in certain circles could certainly be construed as the wrong ‘MNC’.

Furthermore, it would seem unquestionable that Emmanuel drew from his Congolese experience when deciding on the limited applicability of Marx’s price of production schemas and on the proper premises for his theory of unequal exchange. In the national sphere there was in Marx’s schemas equalisation both of the rate of profit and the wage rate. The hostility noted by Bauer (Chapter 5) between Czechs and Germans within the Habsburg empire was only abolished through the worker mobility from the one to the other, which made the well-off Germans realise the necessity to include the Czech in their negotiations. In the Congo, the wage-differential was of another order of magnitude and it was evident that African wages were never going to achieve white levels, and that therefore hostility was the fiercer. If an

apartheid state was not constructed, domestic homogenisation would merely mean making the wage-differential follow international political borders rather than intra-national.

Turning to the international environment, Emmanuel admitted that the mobility of capital faced greater difficulties, and its 'viscosity' increased because of monopolistic barriers and a certain risk coefficient. Nevertheless, in the long run the equalisation would ultimately take place, not least because of capitalists such as the Greeks in the Congo. Apparently, even in his first publication on unequal exchange he had already been confronted with several objections on this point, and tried to explain himself in a very long footnote (Emmanuel 1962: 18). He did not mean to say that a difference of 1 or 2 percent in the rate of profit between Europe and the Congo would suffice to start stirring capitals towards the latter. But there was a limit to this differentiation beyond which capitals would start so moving (excepting abnormal situations, political troubles, etc.). Thus, long-term differences in average rates of profit of one to three or one to five in different world regions were inconceivable, and experience also showed that there was nothing of the kind.⁶⁷ Furthermore, the 'viscosity' of capital played a minor part only with regard to fixed capital, which he again demonstrated with examples from the ex-Belgian Congo (*ibid.*: 19), while he had also observed how the transfer of capital was carried out *within* the great monopolistic and financing groups, such as the Société de Belgique transferring its capital from one branch to another and from the metropolis to the Union Minière in pushing it from extraction of uranium to copper and then restraining it to cobalt. "In general", he concluded, "I have the impression that one exaggerates somewhat the importance of the 'viscosity' of capital, just as one does the importance of monopolies, at least the specific influence of the latter factor on the transfer of capital" (*loc. cit.*; trans. J.B.).

By contrast, examining the possibilities for an international equalisation of wage rates, it was only too evident that there was nothing like it to be found, and that frontiers constituted "absolute discontinuity thresholds", with \$US 3 *per hour* in the United States compared with 25 cents *per day*. Such wages, some 30, 40, or 50 times more elevated in the one over the other, was no longer a question of percentages, but of orders of magnitude (*loc. cit.*).

There were no obvious reasons for European settlers or workers to rejoice in African protests, which if successful would show up in higher local prices and costs of services, and in fact they did not. Neither could they have been approved by the multinationals or any other capitalists, but if forced to choose between wage-bargaining with European or African workers, and as long as nationalisations could be avoided, the latter would naturally seem the preferred choice. This would seem helpful when trying to understand the greater support international finance and multinationals gave, at least initially, to the independency movement of Lumumba, over the secessionist aspirations of Tshombe. Conflicting interests such as these figure prominently in Emmanuel's writings, but his degree of involvement at the time is clouded. Judging from one of the articles he also lived in Stanleyville, which became a stronghold for Patrice Lumumba in the late 1950s, and presumably was not an unusual residing place for Greeks in trade. According to one source Emmanuel was even working with the independence movement guided by Lumumba (Terrerri 2002), and in itself this would not be surprising in view of his previous experience from the resistance.⁶⁸ Again, this would

⁶⁷ It does lend a certain concreteness to theory if one has oneself been engaged as a businessman in the very process of international equalisation of profit rates. More objectively, Emmanuel compared the proceeds from various activities on the stockmarket a) before the vortex of decolonisation had set in, demonstrating a remarkable equilibrium if one allowed for a risk premium of a few percentages for underdeveloped countries, and b) after the war, when the rate of return on investment in underdeveloped countries had indeed increased until 1951-54, but coincident with a rise in prices and still remaining in the same order of magnitude.

⁶⁸ The native Congolese elites formed semi-political organisations which gradually evolved into the main parties striving for independence. The largest of the ethnic organisations was the Association des Bakongo (ABAKO), founded in 1950 and later led by Joseph Kasavubu. It promoted the interests of the 'Bakongo'-related peoples, and like most such organisations, which were created to maintain ethnic ties in urban areas, based themselves in

constitute no evidence of Marxism. In 1955, Lumumba became regional president of a Congolese trade union and joined the Belgian Liberal Party – hardly to be suspected of Marxist revolutionary motives. He was arrested in 1957 on charges of embezzlement followed by a year in prison, after which, on his release, he founded the Mouvement National Congolais (MNC) in October 1958. By then, Emmanuel had already left for France, however, perhaps incited by mounting insecurities, visible in the arrest and subsequent humiliation and execution of Lumumba (on this and more cf. Witte 2002).

From 1957 to 1960, Emmanuel studied art history at L'École du Louvre, and it was only in 1961, at the age of fifty, that he entered the École Pratique des Hautes Études to study socialist planning under Charles Bettelheim (two years his junior), receiving a doctorate ('de 3ème cycle') in sociology from the Sorbonne in 1968 (Jedlicki 2001: 951). His thesis appeared the following year in the form of his contested book, *L'échange inégal*. His academic career also began that year when he was appointed Associate Professor at University of Paris I. He then headed the Economics Department, UER of Geography and Social Sciences, at the University of Paris VII and from 1972 the International Economic Relations Department at the Institute of Economics and Social Development Studies (IEDES), again at University of Paris I, until his retirement in 1980. He continued to publish at least until 1988, and died at the age of 90 on 14 December 2001.

Chapter 14. Planning, monopolies, and international worker solidarity in French Marxism

Below we shall see how Emmanuel's *rendezvous* with French Marxism/communism had implications in several problematic fields. Trying to adjust to being in government by non-revolutionary means underlined the question for French communists, and pioneered in the work of Bettelheim, of just how much economic planning was necessary to avoid the problems of underemployment and depression, and how to differentiate themselves from Keynesianism or other state-centralists. Thus, a central defining characteristic for French communists already in domestic disputes, was their focus on the manipulations of the French state by self-centred 'monopolists'. At the same time, with the help of Baran, the 'monopoly capitalist' interpretation established itself as the central Marxist understanding of international and American dominated capitalism, underlined in France by the difficulties to comprehend the French conflicts in contemporary Asia and Algeria, where it came to serve in a similar way. If Emmanuel shared the concern with distinguishing the Marxist approach from the Keynesian and over the necessary level of planning – a problem following him throughout his career and to which we shall return in Chapter 19 – he had, as we have seen, no inclination towards the monopoly tradition. Being without the moral comforts thus provided, and not personally involved with the policy problems of the PCF, instead put the problem of international worker solidarity in the forefront, on which new light could be cast from the terms of trade debate. The theory of unequal exchange was presented already in Emmanuel's first publication in 1962, and from the beginning it was accompanied by his director

Leopoldville (now Kinshasa). Politicians were often former students of colonial Christian schools, and formed the so called Alumni Associations. Lumumba belonged to the third source of political organisation in the Congo, the urban associations called the *Cercles*, as head of the Cercles de Stanleyville. In Lumumba's words, they were designed "to improve intellectual, social, moral and physical formation" of the educated elites (*évolués*). If Emmanuel did indeed have any contact with Lumumba, this is the most likely connection.

Bettelheim's commentaries – perhaps the most stimulating that he was to make. While his concerns coincided partly with those of his tutor, as well as with those of French Marxism in general, he also presented certain views, which were to prove too much for French communists or Marxists, and simply could not be endorsed – not at any intellectual effort, it seems. This was not because of some inherent lack of talent for political economy, which has a long tradition of high originality stemming from even before Monchrétien (1615) coined the actual term, but it may well be related to French *Marxist* economics.

If advanced economic thinkers can be found as far back as Aquinas, the birth of modern mainstream economics in France has been dated to the creation in 1887 of its first academic journal, the *Revue d'économie politique*, inaugurating the 'eclectic' so called 'professors', who for three generations described institutions and collected marginalist and sociological tools, but otherwise left little intellectual legacy. The aftermath of the First World War saw a new current of scientific managers and public administrators, who were often trained in the scientific and engineering *grandes écoles*, and believed, as did other contemporary technocrats, that the national economy would be better controlled by the public sector – although not in a collectivist way. A prominent species was Fayol, France's answer to Taylor in the USA, who alongside the influence on his generation of public sector administrators also found favour in some left-wing trade unions, who saw in these ideas possibilities for scientific management of the future socialist society (Nectoux 2000: 139).

The introduction of Marxism in France before the First World War occurred at a time when its exponents lacked an adequate training in economics. Even as late as 1955, Raymond Aron (1955: 155) could write that Marxism no longer had a place in Western culture, even in France or Italy where substantial sections of the intelligentsia openly adhere to Stalinism: "One searches in vain for economist worthy of the name that could qualify as a Marxist in the strict sense of this term." For two generations after Marx's death, there was almost no serious engagement with his opinions in France, although at times there had been an academic interest in Marxism even exceeding that in Germany. However, there was a "glaring gap [...] which can hardly be overstated", according to Judt (1986: 182), concerning Marxist economics. Thus, it was not until the decline of the Second International and the victory of Leninism in the East, and with the 'Hegelian' shift of emphasis within western Marxism from economic and material concerns to consciousness that French intellectual inhibitions no longer applied (perhaps a revenge of French utopian socialism). During the 1930s, a number of young philosophy graduates, among them Sartre and Henri Lefebvre, acquired an awareness both of Hegel himself and the hitherto-unavailable works of the younger, more Hegelian Marx. This meant breaking clear of the republican positivism, which had dominated the University since 1860, and going to Germany to think differently – Heidegger once commented that when the French start to 'think' they begin to speak German. For those unable to read German, however, the lectures of Alexandre Kojève and Alexandre Koyré served to domesticate Hegelian ways of thought and a thoroughly Hegelianised Marx, which was, in spite of Heidegger's flippant remark, an altogether original experience for the French (Lindenberg 1975: 198, Descombes 1980: 11, Judt 1986: 179f.). Lefebvre, who had joined the Parti Communiste Français (PCF) in 1927, published his *Matérialisme dialectique* in 1939, shortly after co-editing a selection of Hegel's work, and having already begun his *Le Marxisme* (although it did not appear until 1948), which was the first presentation in France of Marx as the theorist of alienation. Other important works on Hegel by Hyppolite and Kojève also appeared shortly after the war. Foucault retrospectively noted that "our entire epoch struggles to disengage itself from Hegel" (Descombes 1980: 14). French Marxist economists produced little original thinking between the 1920s and 1940s, following what had been said in the central European discussion, and if we believe Aron and Judt nothing of interest even by the mid-1950s. In spite of Marxism's strong standing in intellectual circles, it

is perhaps unsurprising, then, that the French are mostly absent from Howard's and King's (1989, 1992) history of Marxist economics, and that most histories of French Marxism simply do not include any section on economic thought. However, this may also reflect a bias towards Sraffianism in the former case, and philosophy in the latter.

Even within the intelligentsia the renewed interest in Marx as the philosopher of alienation awakened interest in other aspects such as his economics, even if this commonly remained strictly secondary and had to be taken on trust. Sartre simply assured that the argument of *Capital* and the labour theory of value were 'obviously true' and thus needed no commentary. Althusser asserted the scientific necessity of the theory of surplus value by ontological demonstration. Lefebvre believed Marx's work to be more objective than the classical economists, because the theory of fetishism made it both a science and a critique of economics, but what appealed was again, according to Judt (1986: 182f.), rather the sheer audacity of the conclusions than the credibility of the technical devices to obtain them: "It comes as no surprise, then, to find that some of the most powerful minds in France saw no reason [...] to dissent from Thorez's [leader of the PCF] claim in 1955 that the French working-class was undergoing absolute pauperization". For intellectuals and workers alike, France's largest party, the PCF, was not only the leading force of the Resistance, but above all the party of the working class, with five million voters by 1945, when Sartre and Merleau-Ponty launched the first issue of *Les Temps Modernes*. Sartre (1963: 20f.) would remember "wanting to fight on the side of the working class", Marxism thus appealing to him "as the moon draws the tides". Soviet Communism was raised in the eyes of partisans not only by its victory over National Socialism, but also because it was the workers' ally in the domestic conflict with capitalism. In the Cold War context, many of those in France who hated capitalism were willing to ignore and forgive Soviet evils, and, like Merleau-Ponty, to believe that anti-communism was rather a way of avoiding talk about capitalism, or even suggest that evils were images concocted by the other side.

If Marxist economists initially lacked institutional support at the universities, they had the all the more in the PCF, which had a special place in the field of economics from the early 1950s, producing its own journals, economists and books. This determined the character of the economic debate, which focused on the one hand on legitimising Marxism as a science, and on the other (e.g., Claude 1956) on criticising the industrialisation policies of successive governments as national treason led by 'monopolies'. In view of the interpretation of Aron and Judt, it was with a certain irony that an article appeared in the recently created party journal, *Économie et politique*, informing that 'the faculty rediscovers Marx' (1955), speaking of a book by Jean Marchal, in the corporatist tradition of G. Pirou and F. Perroux.

There was indeed a budding centre of discussion both around Christian humanists with a penchant for corporatism. At the economics department of the Faculties of Law under Henri Bartoli at Grenoble and under Henri Denis in Paris, Marx was reintroduced to a prominent place in course of the history of political economy. Denis argued against his humanist colleagues that Marx's critique was true economic science and analysis, as opposed to Catholic moral criticism (Pouch 2001: 43ff.). A more Trotskyist version could be found at the sociology department under Charles Bettelheim. At least in the 1960s flourishing in theory, and in the 1970s in publications, journals and doctoral theses, it all fell apart in the course of the 1980s and 1990s (*ibid.*). Thus, Emmanuel studied under Bettelheim and benefitted from Denis, Samir Amin found a place under the wings of Maurice Byé and Perroux, and Christian Palloix under Bartoli. Nevertheless, in the decades after the war, the perhaps most interesting Marxist contributions to French economic debate, sprang from immigrants or others writing in French: the Belgian Ernest Mandel, the (half-)Egyptian Amin, or Greeks such as Cornelis Castoriadis and Emmanuel.

Lichtheim (1966: 136) suggests that the successful implantation of Marxism in intellectual circles during and after the 1930s, “came too late from the standpoint of economic theory.” Too late for what? Roughly from 1870 to 1930, Marxian theory had furnished a critical counterpoint to the liberal defence of the capitalist system – it was in fact in this office it was to function also during most of the 1960s and 1970s (Pouch 2001). With the economic crisis of the 1930s, the established liberal set of theoretical propositions was hurriedly abandoned, and the defenders of capitalism turned instead to salvaging its practice; or rather, it was perceived as urgently necessary to pull theory and practice together, abandoning certain cherished axioms for a more pragmatic approach. This was what the Keynesian revolution accomplished, partly discarding the notion of self-regulation, and advocating state intervention to maintain full employment. Capitalism was saved but its standard theory discarded, and the new Keynesian model and policy recommendations could be placed at the service of both liberalism and socialism. Failure to secure a rate of growth adequate for full employment would count against free enterprise, *i.e.*, capital investment not regulated by the public authorities. “In principle this situation should have been gratifying to Marxists in France as well as elsewhere”, Lichtheim (1966: 138) observes, but the sudden ‘discovery’ of Marx by academic economists, who had been roused from their dogmatic slumber (notably Joan Robinson, but never Keynes himself), was only the negative side: “To make good the initial advantage they held as critics of liberalism and *laissez faire*, Marx’s followers would have to evolve a theory of socialist planning applicable to advanced industrial countries.” The golden age of Marxist economic theorising from 1910 to 1925 had centred on finance capitalism and imperialism, but had not considered planning of a socialist economy. What there was came either from socialist economists not bound by Marx’s value concept, or from the transition and industrialisation debates in the Soviet Union which were not really applicable to already industrialised countries.

Debate among French socialists and communists “remained suspended between planners who were not Marxists, and catastrophists who contented themselves with predicting the imminent collapse of the hated system” (*ibid.*: 140). It took until after the Second World War for French Marxists, to begin addressing the problem of planning, *i.e.*, Bettelheim (1946), who demonstrated an insistence that the choice for France lay between socialist planning, and planning in the interest of the ‘monopolies’. Lichtheim (1966: 140, n. 21) notes: “The more usual line of retreat for Marxist writers was to produce sociological studies of imperialism or fascism, in which the responsibility for these phenomena was mechanically attributed to the machinations of the capitalists and their political henchmen.” In the immediate postwar years, the Communists were in government and evidently had to differentiate themselves from the general vogue of Keynesianism, state planning and *dirigisme*, embraced and agreed upon by all the parties emerging from the wartime Resistance. That maintenance of economic growth could not be ensured by an unregulated market economy, but required central control of investment, was the common ground among the main political forces of the Fourth and Fifth Republics – from the Socialists and Christian Democrats to the Gaullists, although it might be disputed by more old-fashioned liberals. There was tacit agreement on the role of the government as arbitrator between employers and trade unions to keep prices stable and avoid inflationary pressures.⁶⁹ Although the preferred balance between private and public varied, all concerned accepted that the economy was mixed, *i.e.*, that most investment decisions were still taken outside the public sector.

⁶⁹ Fayol’s generation of engineers went into the public sector either as managers or researchers, taking service in newly created institutions or recently nationalized utilities, such as the *Electricité de France* (EDF), housing some prestigious economists of the day, the national statistics and research agency (INSEE), and the *Comisariat général du plan* (Nectoux 2000: 140).

The difference formulated by Lyssenko between ‘bourgeois’ and ‘proletarian science’ was to establish itself in the minds of French Marxists close to the PCF, who attempted to reveal the class character of political economy, on the one hand, but at the same time began to develop an economic theory of socialism, based on the experience of the Soviet economy. The interest was evidently nourished by Stalin’s 1952 work on the economic problems of socialism in the U.S.S.R, and by Ostrovitianov’s 1954 manual on political economy. The apparent robustness of the Soviet economy after the war had already stimulated Bettelheim to write a book on soviet planning in 1945, arguing that organised economic planning had demonstrated its capacity to accelerate economic development during the conflict with Nazi Germany. His *Problèmes théoriques et pratiques de la planification* (1946) argued, against Hayek, for the great prospects of economic planning as soon as the subjective theory of value was abandoned. The fascination with the Soviet economy went well beyond the circles of communist economists, and it was notably in this era that the work of Preobrazhensky was ‘discovered’ to a Western audience. The image of Soviet prosperity was strengthened by the party members’ accounts of their journeys (Pouch 2001: 41).

The principal difficulty for Communists and Marxists stemmed, rather paradoxically Lichtheim (1966: 143) argues, “from the collapse of traditional free-enterprise capitalism and the partial socialisation of the economy (discretely obscured as “planning”).” Hence if the Communists and the Marxist economists not formally adhering to the PCF were to differentiate themselves, they could do it only as Bettelheim did, “by stressing the class character of the state and the monopolistic structure of private capitalism” (*ibid.*: 141), or, as the communist party and the *Confédération Générale du Travail* did, by falling back on a strong syndicalist tradition of wage bargaining and on the emotional strength of the *ouvriériste* understanding of class struggle as a conflict between manual workers and the rest of society. The concept of ‘neocapitalism’ became the general formula, where “great private monopolies had entered into partnership with the government for the purpose of (a) underwriting their profits (b) ‘socializing’ the losses of the public sector, for the most part composed of older and less profitable industries (c) channelling public funds into investment areas where private capital lacked the ability or the will to provide the necessary infrastructure”, in addition to concealed inflation as a consequence of Keynesian monetary management: “any hint that the state no longer belonged to the capitalist class might disconcert the *militants*”, and such notions had to be left to the non-party left (*ibid.*: 141f.). Still in the post-Stalinist, post-Algerian 1960s and 70s, communist economists, such as Herzog, Boccara, and Delaunay, grouped around the communist party’s theoretical journal *Économie et politique*, further developed the concept of ‘state monopoly capitalism’ in order to account for the specificity of the French economic system, and to define an ‘anti-monopolistic alliance’, that would manage the capitalist system in the transition period towards socialism (Nectoux 2000: 142f.). The concern of this circle was not particularly in the international sphere, as is indeed demonstrated by the journal’s limited and perhaps not very stimulating contribution to the unequal exchange debate. Grouped around the journals *Politique aujourd’hui* and *L’homme et la société* and while sharing the concern for ‘monopoly’, another circle of Marxist economists, including Bettelheim and Palloix, were more actively engaged in the problems of the capitalist world economy and the Third World (turning towards Maoism).

Bettelheim’s writings of the early 1960s showed a clear and admitted influence from Paul Baran (he also referred to Samir Amin’s thesis from 1957). Though the dependency ‘school’ is usually said to have originated with Frank in the later half of that decade, Bettelheim wrote extensively of political and economic “dépendence” and the transfer of the Baranian economic surplus from dependent or exploited countries, not, incidentally, to the imperialist *countries*, but to the “monopoly capitalists” of the dominant countries. In a lecture on the

‘problems of underdevelopment’ at the University of Belgrade in October 1961, he spoke of such dependence and the financial exploitation, but also added a section on the strictly *commercial* exploitation suffered by those unfortunate countries. By financial exploitation he meant higher profits on capital investments, interests and royalties. Part of it showed up through the repatriation of profits in the balance of payments, while part of it was reinvested, thereby augmenting the country’s foreign debts, and obliged the underdeveloped countries to export more than they imported. Though the difference between foreign and domestic exploitation was not evident, since most of the foreign profits were apparently reinvested within the country, this was in Bettelheim’s view the most obvious and manifest form of exploitation. However, it was “not the only one, and not even the quantitatively and qualitatively most important one” (1961: 36f.).

Clearly diverging from the Baranian tradition and connecting rather with the Central or East European debates, this was instead the commercial form of exploitation, resulting from a “non-equivalent exchange”. Through numerous and complex mechanisms, “the products sold by the industrial to the exploited countries are actually very commonly sold above their value” (*ibid.*: 36). The position of monopolies was much stronger in underdeveloped countries than in industrial, assuring them a selling price and profit above the average. At the same time, their monopsonist position as dominant buyers on local markets allowed such countries to buy at prices below values. (Andersson [1972b: 98] has noted that Bettelheim here used the word ‘value’ in the sense of ‘price of production’, which was not always the case in later discussions.) He estimated that in the 1950s the losses suffered by underdeveloped countries in this way amounted at least to 10% of the annual value of exports and imports, or \$6 billion. Furthermore, he continued, hooking on to the Singer-Prebisch debate, imperialist measures made the level of income arising from exports in these countries rise very slowly, so that when productivity increased, export incomes might even decrease. Falling terms of trade by 10% in the years 1954 to 1960 had meant a loss of another \$3 billion as compared to 1954. Since Bettelheim paid no attention to the effects of the Korean War in previously ameliorating the terms of trade, he (1961: 39) could thus present a picture of a drastic yet continuous change to the disadvantage of the underdeveloped countries: “When considering these facts, one realises how misleading the term ‘underdeveloped’ is. In reality, one should not only speak of countries being exploited by imperialism, but stifled by it.”

To the politically and economically dependent situation of these countries, and the financial and commercial exploitation of them, was thus added the ‘blocking’ of the development of the productive forces. Apart from the above ‘spontaneous’ factors, there was also systematic action to suppress the development of productive forces. However, there were also ‘internal’ factors which nonetheless were also dependent on the dependent and exploited position of underdeveloped countries. Growth rates were lagging because not enough surplus was produced for investments but was consumed by growing populations. Unemployment, low productivity of labour, and inefficiency all contributed while low wages and purchasing power put a check on incentives for private investors to invest either in labour saving mechanisation or in expanding production. This pattern was reinforced by social and cultural factors peculiar to the still dominating ‘precapitalist’ stage: patterns of elite consumption reinforced by the imperialist powers, routine and respect for traditions, contempt of manual labour, lack of belief in the future, of a sense of responsibility, of technical knowledge, etc., all of which were dependent also on the foregoing colonialism and enforced feudal organisation. The perspective is clearly the same as Baran’s, and but for the word ‘pre-capitalist’ also of Frank (Bettelheim 1961: 40-3). Resolving the situation required first of all political independence, then the dispossessing of classes and political groupings connected with imperialism, nationalisation of large-scale enterprises, and finally a democratic, national and socialist revolution on the model of the Cuban revolution (Bettelheim 1961: 43-4). In the

next few years, Bettelheim was to function as economic adviser to the Cuban government, extensively engaged in a debate involving Ernesto 'Che' Guevara and Ernest Mandel. While differing on many points, all participants in that debate agreed on the 'monopoly capitalist' view of the world.

'Monopoly capitalism' has indeed become something of a standard Marxist interpretation of the 20th century, not only in France, but even more specifically so in evaluating the international economy. The reasons may be manifold, but there is an obvious political one in the necessity of depicting unproductive capitalists in general and the monopolistic state capitalism in particular as the common enemy of all working people, wherever they may find themselves. By contrast, Emmanuel with his Congolese experience was quite unconcerned with monopoly. As we shall see, he nevertheless shared a problem with his tutor Bettelheim in the importance of distinguishing the market economy, whether mixed or not, from a planned economy. This showed up, first, in an effort to clarify the differences between Keynesian and Marxist understandings of the internal dynamics of capitalism, on the line of his second Congolese article (1954b) and later book on profit and crises (1974, 1984); secondly, in various debates ultimately implying the necessity of central planning of the global economy (*e.g.*, 1975a): in demonstrations of the possibility (not necessity) of 'suboptimal' international specialisation under market conditions, a side-issue in his book on unequal exchange (1972a), but which became the main point in his (1978b, 1978c) debate with Paul Samuelson; in discussions of the imperfections of international coordination among the planned socialist economies, which would inevitably result in reinstalling market relations (1966b); in his arguments as to the relative progressiveness of multinationals (in terms of planning, efficiency, and technological transfers to the underdeveloped countries) (1976b, 1977, 1982); and in the necessity (in terms of the market economy itself) of controlling the international financial market (1988).

In the international sphere, the most immediate problem for French communism after the war was of course the problems raised by decolonisation, first in Indo-China but notably in Algeria, and how to relate to colonists, who in Algeria, as was pointed out at the time, consisted to 80% of workers that were still somehow privileged. The problem was similar to that in the Belgian Congo, although settlers were more numerous and influential (*e.g.*, in the army), ultimately enforcing the end of the Fourth Republic and threatening the Fifth. Much more could be said on the French relation to empire and colonialism than will be possible here, but at the time it was not self-evident that an internationalist stance necessarily implied support of independence, which would, some argued, expose Algeria to the monopolistic imperialism of the United States, rather than the more benevolent, paternalist (and messianic) one of France (Sorum 1977; Wall 1983: 181-201). It has been observed that whereas the British were shocked that subordinate peoples could even think of becoming English, the French were shocked at the revelation that some might actually *not* want to become French. One of the uglier responses to this revelation was perhaps that of Raymond Cartier – commented upon by Emmanuel (1972a: 182ff.) along with the Algerian question – who in the early 1960s appealed to the 'little people' of town and country, with his proposal for abandoning the ungrateful to their own misery (*cf.* the 'life-boat ethics' of Hardin 1974).

One of the more problematic areas to Marxists and the socialist movement in general concerns international worker solidarity. Based on his newly found historical materialism, Marx had proclaimed in the *Communist Manifesto*:

The working men have no country. [...] National differences and antagonisms between peoples are daily more and more vanishing owing to the development of the bourgeoisie, to freedom of commerce, to the world market, to uniformity in the mode of production and in the conditions of life corresponding thereto. (Marx & Engels 1848: 235)

Before the First World War, Hilferding, based on his own theory of finance capital, could argue in line with this statement that the close links between the state and capital revealed the class character of the former and lead the proletariat to oppose the state and the imperialist conflicts between the great powers. Just before the war, in line with Hobson, Kautsky had a vision of an 'ultra-imperialism', in which all the great powers would agree to exploit the world jointly, rather than fighting over its division. The tremendous inaccuracy of these predictions of proletarian internationalism, which had become an axiom to the Second International, became painfully evident with the outbreak of war, when Bukharin (1917: 161) observed: "The first period of the war has brought about, not a crisis of capitalism [...] but a collapse of the 'Socialist' International." The explanation proposed by him concerned the partial identification of certain workers with their particular enterprise, which in the current 'monopolistic' phase of capitalism had come closer to 'state capitalist trusts'. In a contemporary pamphlet arguing more directly than Bukharin against Kautsky, Lenin (1950: 540) was even more insistent than Bukharin that it was only a section of the workers who had anything to gain, explaining that "the economic possibility of such bribery, whatever its form may be, requires high monopolistic profits". Yet at the same time, Brewer (1990: 127) maintains, he referred to Engels's *pre-monopoly* description of the reactionary politics of the English working-class turned 'labour aristocracy'. In fact, Lenin did provide an answer which he found satisfactory at the time. In a slightly later article he (1964: 105) wondered over the connection between 'imperialism and the split in socialism': "Is there any connection between imperialism and the monstrous and disgusting victory opportunism (in the form of social-chauvinism) has gained over the labour movement in Europe? This is the fundamental question of modern socialism." The question was answered as before that through their monopolistic and imperialist profits, capitalists could *for a brief while* 'bribe' sections of the proletariat and workers organised in trade unions. The observations of Engels and Marx throughout the course of decades from 1858 to 1892, were explained by England's unique industrial and colonial monopoly position, and its duration was possible only because England was alone. In this way, Lenin could persuade himself and others that revolution was just round the corner. As the years passed and Western workers abstained from helping either by revolution or significant protests, he (1965: 500f.) concluded, in what turned out to be his last document, that the Western countries were not consummating their progress towards socialism as he had formerly expected, through the gradual maturation of domestic socialism, "but through the exploitation of some countries by others". The victory of socialism was nevertheless assured by the great masses of the East being drawn into the revolutionary movement, and it was by relying on them and their eventually becoming civilised, that the Soviet Union would survive and socialism triumph.

Yet though Lenin found it the 'most important question of modern socialism', neither he nor Bukharin (and Engels himself was of no help either) treated the subject in sufficient detail to resolve the question and the inconsistencies of their replies (Brewer 1990: 127). After the Bolshevik revolution, they were mostly too occupied to work out elaborate theories. The positions taken by Lenin and, after his death, by the Communist International nevertheless had a profound impact on Marxist thinking. By 1928, the International had reversed the traditional Marxist position on colonial territories, arguing instead that capital export and imperialism hindered development rather than accelerated it, a position taken up by the Peruvian Mariátegui the same year, and later by Baran, Bettelheim, and *dependistas* (Kay 1989).⁷⁰ If in the traditional Marxist view the revolution would come in the most developed countries, their place had now been taken by the less developed, but so far as the international

⁷⁰ Warren (1980) argued that this turn came already with Lenin's *Imperialism*, but Brewer (1990: 133f) feels that he is on firmer ground in locating the shift in the positions taken in the 1920s.

solidarity was concerned, most were still content to blame it all on monopolistic 'super-exploitation' being used to 'bribe' the working classes.

Thus in 1948, a century after the manifesto, Jean-Paul Sartre (1948: 11, 55-65; cf. 1957: 690ff.) described the poetry of black writers as "the sole great revolutionary poetry" in the contemporary world, seeing the oppressed peoples of the Third World as the vanguard of world revolution. However, this vision had mainly lain dormant, Sorum (1977: 171f.) explains, until the Algerian revolution "demonstrated both the dynamism of the overseas peoples and the immobility of the French proletariat", as well as the 'spinelessness' of the communist party. In spring 1960, while the Chinese began their attack on Soviet moderation, Sartre and de Beauvoir travelled to Castro's Cuba (as did Bettelheim, Baran, Sweezy and many others); they and their followers grouped around *Les Temps Modernes*, were by now "ready to abandon the traditional Marxist view that the important acts of revolution would be done by the proletariat in the developed countries" (*loc. cit.*; cf. Wall 1983: 189). In October 1960, Péju charged that western socialists had neglected the Third World, egotistically wanting "to construct a luxury socialism on the fruits of imperial rapine"; as a result, Sorum (1977: 172) reports, "they had lost their way, and the revolutionary actors in history were no longer the Western proletarians, but the combatants of the Third World. Traditional Marxists, however, such as the French Communists, continued to believe that the political and social consciousness of the peasantry could not be trusted." In 1961, Franz Fanon's *Les Damnés de la terre* argued in response that the more acutely experienced capitalist exploitation and oppression in the Third World made the revolutionary will of their rural masses more fervent and less susceptible to 'corruption' than that of Western proletariats. Sartre's preface echoed these views, declaring that Europe was in its death throes and that the peasants of the Third World had become the subjects of history. The Algerian war could therefore almost be seen as a blessing in disguise, offering the opportunity for the French Left of revitalising the revolutionary spirit and joining with the Third World rebels, in Péju's words, "to make contact again with the evolution of the world" (in Sorum *loc. cit.*).

Critics argued that Sartre and his affiliates were only transferring the 19th-century Marxist scheme from Europe, where it had proved inapplicable, to the world situation where it romanticised and distorted reality in suggesting that socialism was the common destiny of France and Algeria, thus neglecting current realities such as the importance of Islam: "In the ascetic universe of the intellectual of the far Left, a mythical Third World replaced the myth of the proletariat" (Crouzet 1962-1963: 54). "The critics charged", Sorum (1977: 172f.) reports, "that the neo-Leninist intellectuals had missed the opportunity provided by decolonization to revise a vision of the world based exclusively on Western and outdated models." Sartre (1963: 90, cf. 31) responded with his view of history as a 'totalisation in process', in line with Hegel and the young Marx, the world ultimately tending toward unity.

It is easy to agree that French ideologies underestimated the diversity of the world, and that, from this visionary point of view, *e.g.*, Lévi-Strauss is the more interesting and original. Whatever the truth about outdated 'visions', Emmanuel, returning to his economic studies the same year Fanon's book appeared, instead of either discarding 'Western' models or trying by mere philosophical conjurations to 'go beyond' them, simply updated them. However, the role ascribed to Western proletarians in this vision was, by contrast, *actively* counterrevolutionary, as opposed to their being 'corrupted' from above. In spite of Sartre & Co., and although maybe not necessary, this seems unfortunately sufficient to explain the unacceptability of Emmanuel's model to either French or any other Western Marxists or Communists. It's rejection is the common feature in all responses and elaborations of his original model. To Marxists of the Third World the difficulties were perhaps not as grave, but even here the monopoly and dependency tradition was predominant. With Bettelheim functioning as

economic adviser it is unsurprising that Emmanuel's (1964) second publication on unequal exchange appeared in Castro's and Geuvara's Havana, Cuba.

In these early years, however, the novelty of Emmanuel's economic model overshadowed the heresy of his vision. On the one hand, his first presentation (1962: 24) noted as the most important conclusion of his two-country model that any *augmentation* of wages in one country would aggravate the terms of trade of the other. On the other, he also told of how capitalism, in spite of all its efforts, had not succeeded in isolating the workers from general development, because of the inherent contradiction in capitalism between keeping wages as low as possible and the necessity of popularising its products, creating new demands, and thereby ultimately raising what is considered the normal standard of living and expectations, *i.e.*, the normal 'value' of labour power, in the Marxist sense. Suddenly, however, capitalism found itself confronted by the 'underdeveloped man', barely emerging from the tribal era so far as his needs were concerned, but with the same ten fingers and brain functions as 'developed' man: "*It is this difference between the capacity of underdeveloped man to handle the utensils of our époque, while still being a long way from having the needs of our époque, which in the final analysis provides the superprofit of unequal exchange*" (*loc. cit.*; trans. J.B.). We see the emerging contours of the importance attached to levels of *consumption* in a capitalist economy, particularly as they reverberate on the international scene (*cf.* Chapter 19).

However, the political implications were mostly confined to the last of his concluding 'interrogations', when he suspected unequal exchange to constitute one of the reasons why the call of revolutionary Marxism for the unity of the global proletariat had evoked only a familiar echo. Perhaps, he speculated rhetorically, the internal antinomy demonstrated in his model between wages in developed and underdeveloped countries respectively was one of the factors determining the phenomenon of desolidarisation observable between the working classes of these regions (*ibid.*: 32, trans. J.B.): "Must we, then, enlarge Lenin's notion of the labour aristocracy, by saying that the working classes of today's advanced countries constitute the labour aristocracy of the Earth?" As of yet, however, the active participation of the working class itself was hidden in the expression of an 'independent' variation of wages.

Bettelheim's comments partly tried to incorporate Emmanuel's idea into his own previous notion of commercial exploitation, but also distinguished between two kinds of unequal exchange. First, the 'broad' sense in which a high capital intensity (*i.e.*, organic composition) ensured a flow of value, and secondly the 'narrow' sense in which low wages (or a high rate of exploitation), caused a similar flow of value, and where Emmanuel only admitted the latter to be called unequal. There was already an observable difference between the 'independent' wage variations of Emmanuel and the 'low' wages of Bettelheim, in that wages in the former conception is an active determinant of prices whether they are increasing or diminishing. Bettelheim got this notion from the above quoted passage on the low established demands of underdeveloped man, which he did not consider sufficient explanation. Reflecting on the consequences of international specialisation, Bettelheim was close to seeing the primary importance of wages, when he himself suggested that the wage differential of Emmanuel's restrictive definition may also be what determined the *aggravation* of the situation for the low wage countries, and that Emmanuel's kind of unequal exchange thereby deserved to be held as particularly important. However, this is still not an independent variation, and only a few pages on Bettelheim instead referred to how the export of capital tended to lessen the 'demand' for labour in the less developed countries, thereby contributing to maintain their low wages (Bettelheim 1962: 5, 12). If labour 'demand' has an influence on wage levels, however, these would no longer be independent variables, showing that Bettelheim had not yet understood the assumptions of Emmanuel's model, or that Emmanuel had not yet expressed them with sufficient clarity; in particular, judging from Bettelheim's misunderstanding, he had not made clear that the forces of change behind the historical

establishment of wage levels were distinct from anything found in his particular model of unequal exchange. However wages were established, when put into his model – or, in the real world, whenever conditions began to match those assumed in his model – they were independent – ‘exogenous’, ‘given’ – variables, thereby ‘political’ or ‘institutional’. The only factors considered political or institutional by Bettelheim were those instigated by colonising metropolises on ‘dependent’ economies to maintain feudal or semi-feudal structures in the underdeveloped countries, which in themselves constituted an obstacle to accumulation and thereby contributed to miserable life conditions and low wages. Before returning to Bettelheim’s further objections in Chapter 16, along with those of other commentators in French, the object of their criticism, Emmanuel’s theory, should be spelled out in greater detail. Below, its differences to inherited classical and neoclassical trade theory will be pointed out. The shortcomings of this orthodoxy was the subject of much criticism in contemporary development economics, notably Myrdal, and Emmanuel’s theory was presented as a more consistent theoretical alternative. In Marxist guise, the critique of neoclassical theory had much in common with contemporary Sraffian, in which language, as we shall see in Chapter 17, it was soon reformulated. Paul Samuelson, who had been involved in these Sraffian debates as a defender, and himself furnished similar critique against the Marxist labour theory, again took upon himself the defence of the orthodox theory which he had himself largely set up.

Chapter 15. Marxian unequal exchange reversing assumptions of Heckscher-Ohlin

A self-defining characteristic of French Marxism, and a concern shared with Emmanuel, was its critical opposition to neoclassical economics. In fact, when the time came, even the most hostile of Emmanuel’s Marxist readers wanted to safeguard his critique of classical and neoclassical theory of international trade, not bothering that it was dependent on the assumptions and conclusions of his *theory*, which they rejected. Before turning to this debate (Chapter 16), it is high time to spell out more clearly in what the theory itself as well as its novelty consisted, in relation both to Marx and to neoclassical economics. As it happens, some of this novelty coincided with Sraffa’s rejuvenation of Ricardian-style analysis. The language of its original presentation was Marxist, and its attack on neoclassical economics inspired passionate defences also from this quarter, and these will be dealt with already in this chapter. First, however, we shall take a brief look at classical and neoclassical theory of international trade, and some complications regarding the relative mobility of factors, and the direction of causality between factor remuneration (wages, profit, etc.) and prices.

The limits of the classical theory of value were identical with the limits of factor mobility/competition. Walter Bagehot and F. Y. Edgeworth even *defined* the nation as a group of producers where labour and capital can move freely. At equilibrium (at least the expected) remuneration of a unit of labour or capital would be equal, and, as seen in Bauer’s exposition above (Chapter 5) any deviation in the rate of wages or profits in different branches would set in train movements of labour or capital in search for higher wages or profits, ultimately reinstalling equilibrium. By contrast, in a famous essay, Edgeworth (1894) said that *international trade means* exchange with immobile factors of production. In fact, as pointed out by Emmanuel, to the extent Ricardo and the classical economists assumed subsistence wages, the only assumption needed for the theory of comparative costs was the international immobility of *capital*. Allowing wages above subsistence, as in Marx’s and certainly Emmanuel’s theories, would again introduce the problem of the international mobility of

labour. A complication for the classical, ‘objective’, ‘labour’, or ‘cost of production’ approach to the determination of relative equilibrium prices – implicit in Ricardo and explicit in Mill – was that it had to be abandoned in international trade, where one instead fell back on what Mill referred to as “a *prior* law, that of supply and demand”. Maintaining the assumption of *intra*-national mobility and homogeneity of the factors while accepting their *international* non-competition, late classical economists such as Cairnes, Nicholson, and Taussig, ran into problems, confusion and indecision on the question whether wages determine prices or the other way around. Following Senior (1830: 11-30), Taussig (1906) came up with the most logical, but unsatisfactory solution that the national direction of determination is from wages to prices, whereas international prices determine national wage levels (cf. Emmanuel 1972a: 67f.). Pure liberals such as Jevons (1879) and Walras (1954) could solve the problem without contradiction by assuming a limitless number of categories and prices of services, so that each market price of services affected only the service specific to its branch. Thus abandoning the assumption of intra-national equalisation of wages or profits, ruling out competition between different occupations, Jevons (1879, preface) concluded that “wages are clearly the effect, not the cause, of the value of the produce.”

The further development of this approach by Heckscher, Ohlin, and Samuelson resulted in standard neoclassical theory in which the state of international demand determine the prices of export products, the prices of these products determine the level of national revenue, which in turn, together with the relative scarcities of factors, determines the distribution of revenue, and therefore wages and profits. Ultimately, one is poor or rich because one sells cheaply or dearly. Furthermore, whether one is rich or poor the resulting international specialisation is bound to be optimal. Ultimately, the marginalist revolution’s reversal of the order of causation added to the prestige of the theory of comparative costs with Bertil Ohlin (1924: 163; cf. Andersson 1972d: 32; Emmanuel 1972a: x, 68f.) arguing that the theory of international trade would become a consistent whole if only the labour theory of value was abandoned (although he too vacillated into an ‘interdependence’ of wages and prices). Much of Emmanuel’s argument consisted in arguing precisely the opposite, *i.e.*, for the superiority of a cost of production approach to price determination, *particularly* as demonstrated in international trade, *if* the assumption of international immobility of capital was abandoned. Thus, in addition to the stance on capital mobility, Emmanuel also differed from the classical approach in (explicitly) allowing for wages above subsistence, while, contrary to post-Jevonian economics, retained the classical determination of wages from the cost of production side. By contrast, in his theoretical works, Lewis (Chapter 11) skipped between the classical subsistence and the neoclassical approach on wage determination, only to reintroduce political factors in *ad hoc* comments and more empirical work, while at the same time avoiding any clear-cut position at all on the determination of the rate of profit.

The principal difference between classical and neoclassical theory is often considered to be that according to the latter the remuneration of productive factors (wages, profit, rent, taxes) is determined by prices of goods, and in turn by their relative scarcity and consumer ‘utility’, whereas according to the former prices of goods are determined by relations or costs of production, input-coefficients, Emmanuel’s ‘established claims’, etc..⁷¹ To the classical economists, and even more to Marx, the interpretation of exchange values began with the

⁷¹ Although Samuel Hollander does not admit it – *e.g.*, (1979: 683): “There is no sharp distinction between Ricardo and Walras” –, at least *on this difference* between two main and rivalling frames of reference within political economy, there is no dispute between Jevons (1979: xlviii-lvii), Walras (1954: 44f) and Dobb (1973). I have followed the interpretation offered by Dobb & Co, not only because I find it more plausible than that presenting the history of political economy as one big happy Whigish family (although presenting it as *two* such families is little better as Hollander would probably agree), but also because it resembles Emmanuel’s, significantly prospered following Sraffa’s and Dobb’s edition of Ricardo in the early 1950s, or more particularly following Sraffa’s (1960) book, and in the present context will be the more informative.

socio-economic circumstances which create class relations, the laws governing the distribution of Earthly goods being, in Ricardo's (1951: 5) words, "the principal problem in Political Economy" (cf. Dobb 1940: 16, n. 1). In Dobb's (1973: 32) summary, "for them Political Economy was a theory of distribution *before* it was a theory of exchange-value". Marx's main accusation against Proudhon and the post-Ricardian 'vulgar economists' (from 1830 onwards, and not including Mill) was that they concentrated on exchange relations as if they were something separate from historical and societal circumstances – a charge he summed up in *Capital* under the concept of 'fetishism of commodities' (Marx 1867: 77). In Dobb's (1973: 33) view, then, the political economic mainstream after the marginalist, or Jevonian revolution, is not so much distinguished by its formal application of marginal increments, as by considering individuals, their structure of demands and choices as "the ultimate and independent data of the economic problem", beyond which the analysis did not go. The theory of distribution was derived as a side-effect of the process of price determination – in Dobb's (1973: 34) view question-beggingly so, since a structure of market demands could only be derived from consumers' desires, preferences or behaviour-reactions on the assumption of their being equipped with a given money-income, thus implying an initial distribution of income between individuals as one of the determinants of the same structure of demand from which all prices (including those of productive factors) were derived. The important, but all too seldom noticed, consequence of this contrast between the classical and modern approaches, Dobb (*loc. cit.*) continues, is that in the former the distribution of income is treated as a result of social institutions (property relations) and circumstances, whereas in the latter it is the result of exchange relations. In one case it is determined from without and in the other from within the process of market prices (*loc. cit.*). From the classical perspective the distribution of income (*i.e.*, the ratio of wages to profits), was a *pre*-condition for the determination of relative prices, whereas the opposite is true for the post-Jevonian and Austrian schools, whose theory of income is derived as part of the process of price determination. The distribution of income hovers above history, institutions, and property relations, at least so far as the distribution between factors is concerned.⁷²

Emmanuel based his theorem on what he argued to be Marx's position, where the system is 'open' towards the dimension of class struggle, and where wages were not merely held at subsistence through population pressure, as in the Malthusian or Ricardian iron-law of wages, but were somehow determined by 'historical and moral elements'. Emmanuel considered his only innovation in this respect to lie in the application of such Marxian wages as independent variables in the international context. In clarifying his theory's assumptions, he (1975a: 36) also noted some historical facts which were not on Marx's agenda, but which by contrast should have been familiar to his followers as well as neoclassical theorists:

- 1) A particularly efficient trade-union movement since the end of the nineteenth century, in the developed countries, coincident with
 - a) the repression of similar activities in the underdeveloped countries under colonial or semi-colonial regimes, and
 - b) the draining off by direct means of surplus which could have enabled negotiated wage increases in these countries.
- 2) A growing mobility of capital throughout the same period, which put in motion the mechanism of the equalization of the rate of profit on an international level.

⁷² If Sraffa-inspired critics of the neoclassical school have mostly been concerned with formal inconsistencies, but their eventual point was well caught by Harcourt's (1969: 395) attempt to revive Marx: "The theory of production relations was meant to be independent of the institutions of society; that is, relations between men were treated as irrelevant for an explanation of distribution. It was Marx's insight that this separation is invalid, even in the world of pure logic, and the significance of this distinction by the modern critics of the neo-classical parables."

Remembering our discussion at the end of Chapter 5, as well as Innis's later work (Chapter 9), these changes seem intimately related to changes in means of communications, particularly to the expansion of the press, enhancing the level of political organisation, consumer demands, and nationalist bias of the labouring masses, and to ocean shipping, railways, and telecommunications, enhancing not only the international mobility of capital, but also of labour. Although not commented on by Emmanuel, the latter in turn emphasised the problems of wage disparities and put the 'international solidarity', worker or not, to the test in which it failed so miserably in the World Wars and notably, as had been pointed out both by Lewis (1954, 1978a; cf. Chapter 11) and in Gunnar Myrdal's *An International Economy* (1956), in the political restrictions on Chinese and Indian immigration (instead guided to other tropical low wage areas), encouraged by worker protests in the British Dominions (pioneered in Labour governed 'workers paradises') and the United States, and then generalised. We will not go over again the obvious intellectual stimulation offered by the growth of development economics in general and the problematic of the falling terms of trade in particular, but only point out the stimuli offered by Myrdal to a reevaluation of international trade theory and a reversal of its assumptions.

Though Myrdal did not, like Lewis and Emmanuel, relate these phenomena to the terms of trade (though he had other stimulating proposals in that area), and cannot be considered a theorist of unequal exchange, he was just as observant on the implications for international solidarity. While Europeans had moved internationally as free men for many generations, 19th century Indian migration functioned for a period, somewhat like the foregoing slave trade, as 'indentured labour' before being allowed to move freely within their designated regions. The First World War marked an abrupt end to the era of relatively free labour mobility, and that "vicious instrument for state control of its subject citizens. The national passport [...] became increasingly a requisite for passing all frontiers", indicating "a totally new regulative and restrictive attitude towards people's movements" (Myrdal 1956: 90). Throughout this new era of restrictions three main impediments had nevertheless been immigration bars, with America taking the lead in "closing the doors to those from the backward countries of Southern and Eastern Europe and elsewhere." The immediate cause of the new legislation, a closure which was of course much felt in Emmanuel's Greece, was "the powerful upsurge of nationalism in the United States as a result of her participation in the First World War." European countries soon followed but here, as in the British Dominions, the emphasis lay on a licensing system for the foreigner's permission to work. "Vested interests on the part of trade unions and professional organizations developed speedily, and these vested interests became more vocal as unemployment rose during the Great Depression" (*ibid.*: 91). This licensing system gradually came very close to prohibiting international movements of labour in Europe, and the same trend had continued after the Second World War and in other parts of the world.

Myrdal estimated, however, that the poor countries would first have to solve their 'population problem' before proposals to the rich countries to open up their boundaries could reasonably be made. This problem, should it be so allowed, was never even mentioned by Emmanuel, although it was the defining characteristic of the neo-Malthusians (Chapter 22), but he observed that Myrdal has recourse to the Lewisian idea of a 'surplus labour'. From a wider perspective Myrdal concluded that this enclosure of national boundaries is "frankly one of the most reactionary trends of our time and intrinsically damaging to strivings for international integration", instead strengthening a parallel process of national integration. Narrowing the elbow room of the common man and closing the doors precisely at a time when cheaper travel made movement easier and the spread of knowledge opened up new vistas and horizons, it was also "one of the many factors leading to an absurd intensification of national allegiances which is continuously weakening that basis of international solidarity upon which international policy has to be built." Instead the sights were lowered and the

horizons restricted of individuals and of nations (*ibid.*: 95). “The improved economic status and security of employment of the working classes have given even the labourer vested interests at home as a professional” (*ibid.*: 96). As the network of ever quicker and progressively cheaper transport is rapidly drawing the countries of the world closer together, the rich everywhere and not so rich of the wealthier countries would be able to travel for pleasure. While certain types of specialised workers would be have an international labour market, Myrdal prophesied, the common people “will be tied to their land of birth as firmly as in feudal times the serf was tied to the estate of his lord. He could go sightseeing or visit the market, but he had to return. This national bondage for the common man is a deeply dismaying trait of the worlds now coming into being. It operates against the feeling of belonging to a world and not merely to a small part of it” (*ibid.*: 97).

International capital movements had closely followed those of labour, apparently without similar political restrictions, though focusing on the wealthier countries and on enclaves in the poorer, where close relations were retained with the metropolitan state. Emmanuel would see a causal link in this connection, but in the context of his specific theory preferred to emphasise the tendency towards international equalisation of profits.

In the years preceding the publication of Emmanuel’s theory, Myrdal in particular had underlined the unrealistic assumptions and counterfactual conclusions of the then traditional international economic theory, *i.e.*, the so called Heckscher-Ohlin theory, more recently in new formalisation by Samuelson (1948). Facing half a century of increasing protectionist sentiments and economic nationalism, Heckscher, in the wake of the First World War, had written an article which was to become one of his few contributions to economic theory (as opposed to economic history). In it he demonstrated the benefits of free trade, reinstalling confidence in comparative costs but without having recourse to the problematic labour theory of value of classical economics. Instead he based it on the newer theory in which prices were determined by relative scarcities. In a world where international movements of capital and labour, although they had been higher than ever before, were again becoming restricted, he argued that free international trade could achieve optimality and equalisation of factor remuneration, even without mobile factors.

Thus, under conditions of free trade a country would specialise in that branch which set her most abundant factor at work, increasing its demand and price, while lowering demand and price for the scarce factor. Ultimately an equilibrium was reached, where all factors were fully put to work at equalised factor prices, and corresponding to the optimal specialisation for the whole world and each of its participants. Since it is not countries but individual producers who make the economic decisions, a crucial assumption for this theory is that the relative scarcities of productive factors determine their prices, ensuring that enterprises, to minimise their costs, will choose the most abundant factor. Thus, if the price of a factor diminishes or increases, this is explained by the Heckscher-Ohlin theorem as the result of a corresponding decrease or increase in the number of workers, the amount of land or capital. The mobility of goods replaced the mobility of factors, so that instead of capital one imported capital intensive goods, etc.. In this manner, trade would tend to equalise not only prices of goods, but also the price of each factor. This was the crucial point of Heckscher’s (1919: 12) original argument, and that it was not fulfilled – indeed, gravely falsified – in the ensuing years, was one of the principal stimulants for the postwar development economists such as Myrdal.

The basic assumptions of Heckscher’s and Ohlin’s theorem on international trade were (1) that the distribution of income was proportionate to the relative scarcities of factors (Heckscher 1919: 6), and (2) international immobility-immutability of these factors (principally labour and capital) (*ibid.*: 13). The first assumption set marginalist and neoclassical theories in general apart from the foregoing classical (Ricardian) and Marxist ones, and was a common point of criticism emerging from Sraffa’s (1951, 1960) and various

Marxist attempts at classical revival (e.g., Emmanuel 1962, 1969, Dobb 1973). As for the second assumption, Heckscher (1919: 13) article was not greatly concerned about “the premises’ correspondence or non-correspondence to reality”, but he believed factor immobility to be “generally true for capital and even more so for labour power, and of course absolutely true for ‘land’, i.e., natural resources.” Oddly, in view of this characterisation, the only alternative to complete immobility of factors he then considered was *complete* mobility – which would obliterate any specificity for international trade – and not the more reasonable case with merely internationally mobile *capital*. Developing a theory based on this contrary assumption was Emmanuel’s unique contribution.

In Emmanuel’s view, the first assumption ruled out any idea of the distribution of national revenues being influenced by the struggle between antagonist classes and groups, or more generally the relationship of power between them, which, he said, went against all historical experience. Wages did not decrease or increase depending on whether the number of workers per unit of capital decreased or increased, and neither did the rate of profit change according to the amount of capital per inhabitant in a country (Emmanuel 1975a: 19f.). It was one of Emmanuel’s standing arguments that at least the price of one factor, that of labour, which was also the most important of all, could not be considered a commodity, and that it was not and never had been negotiated under market conditions.

The second assumption, he (1975a: 20) protested, “not only denies capital any mobility on the international plane, but does not allow at all for the fact that, with the exception of certain geo-climatic factors which are indeed given and immutable, factors of production are themselves produced within each country and consequently cannot be considered as inelastic, however immobile they are on the international plane.” It implied that specialisation in chemicals depended on a country-specific abundance of chemists, and ultimately a congenital predisposition for handling test-tubes, not that chemists were formed, or ‘produced’, because there were so many chemical plants offering attractive employment. However, following Kindleberger, Emmanuel reminded: “instead of making her foreign trade fit the proportions of factors, a country can modify these proportions to make them fit the orientation of her trade.”

For Heckscher-Ohlin’s two basic assumptions: the determination of wages by the market and the immobility/immutability of the factors of production, Emmanuel’s theorem of unequal exchange thus substituted:

- for the first, an extra-economic, institutional determination of wages, qua the effect of the relationship of power between social classes in each country at each epoch;
- for the second, a relative mobility of capital, sufficient to give rise to a tendency for world-wide equalization of the rate of profit, and a relative immobility of labour allowing considerable predetermined disparities in the wage rates of various countries. (Emmanuel 1975a: 36.)

Emmanuel was clearly in line with certain Sraffa-inspired Marxist critics of neoclassical theory, such as Dobb, but applied it directly to international trade theory. He followed Marx and went beyond Lewis or traditional Ricardianism in substituting a socially determined wage for the physiological subsistence wage, and challenged the fundamental assumption of comparative costs of international immobility of capital. In spite of the similarity with the Sraffian rejuvenation of Marxism, his earliest presentations were still in Marx’s traditional price-of-production schemas, on which ground the French debates were conducted.

Although, in principle, Emmanuel’s theorem of unequal exchange is applicable to any internationally immobile and exogenously determined factor of production (in the presence of one internationally mobile factor of production, i.e., capital, or an equalised rate of profit), he most often chose to put it in terms of the labour factor (wages). Remembering this, what Emmanuel had set out and needed to do in order to demonstrate the phenomenon of unequal exchange, was the following (here conflated from Emmanuel 1973: 70 and 1975a: 38):

- 1) to show that, *if* the wage is an exogenous (institutional, independent) variable, and *if* a tendency exists for the formation of a general international rate of profit, then any autonomous variation in the wage-rate in one branch or in one country will entail a variation in the same direction of the respective price of production and a variation in the opposite direction of the general rate of profit;
- 2) to justify the realism of these two hypothesis.

A variation in the same direction of the price of production means that its equilibrium price will increase *relatively* to other equilibrium prices, thus favouring the terms of trade of that branch, country, or region, and which was of course the phenomenon Emmanuel's model purported to explain. Emmanuel (1973: 70) also remarked that it would be readily observable to any reader that it was not the first, but the second of these tasks that constituted the essentials of his (1969, 1972a) work. The formal demonstrations below and in Chapter 17 concerns exclusively the first of these tasks, to which his book had only consecrated a dozen or so pages, and which he in fact considered so basic as not to need any mathematical proof. The real issue was over the second point, on the choice of independent variable, in Emmanuel's case whether wages really *were* exogenous. Whether it was prices, themselves determined by demand, that determined revenue, or the distribution of revenue that determined prices could not be determined in any model, whether by Marx or Sraffa or anyone else, and had to be resolved outside the model, by empirical and historical considerations (Emmanuel 1973: 71). It is a pity that so much commentary and effort have been spent on formal instead of historical matters, but while agreeing that the historical implications are the much more important, Emmanuel's various demonstrations will nevertheless be reviewed below. Starting with the most intuitive, and turning to the Marxist (this chapter), and Sraffian (Chapter 18), more formal and general forms, as well as in certain modified versions (Chapter 19). The 'intuitive' demonstration read simply as follows:

At any moment, the total of world revenue, that is the sum of world wages and profits, is a given magnitude. It follows that any variation of wages in a particular country, leading to an identical variation in the world total of wages, must entail an opposite variation in the total amount of world profits and, therefore, in the profits of the country [in] question. However, this variation of the profits is spread out among all the countries and it is only a part of it that affects the products of the country [in] question, while the equivalent but opposite variation of wages is passed on in its entirety to these products alone. Consequently, the *relative* prices of these products will vary in the same direction as that of the supposed variation of wages, whereas the general rate of profit will be in the opposite direction. (Emmanuel 1975a: 39.)

The general reader might wish to stop here, but in order to follow the debates and add precision we will have to proceed. Historically first, most debates have centred on the formulation in terms of the Marxian prices of production. The one preferred by Emmanuel, however, was as Sraffian input-output matrices of varying degrees of generality. When turning to these in due course, the reader will have to bear with the level of formalism he can muster. The most general case ought to be the most interesting for those wishing to criticise it, or reach the more general understanding, and I will treat it as expressible in plain language. For now, we shall keep to the Marxist price-of-production schemas of Emmanuel's original demonstration in both 1962 and 1969, and the exercise was repeated one last time in 1975.

The presentation in 1969 seems to have caused some confusion regarding precisely where the exact definition of unequal exchange was to be found, and also with what equal exchange the unequal was to be compared. At the time of Emmanuel's first presentation in 1962, Sraffa (1960) had recently been published, but seems not to have made much impression in France, where traditional Marxism remained the only school developing the classical tradition of price determination from the cost-of-production side. Marx's own exposition of prices of production (in the 9th chapter of the 3rd book of *Capital*) as a truer representation of price formation under capitalism than the value schemes (in the 1st volume of *Capital*), implied that capital intensive branches (*i.e.*, with 'high organic composition') would gain 'value'

compared with labour intensive ones, as the surplus value of each branch was ‘transformed’ to an equal rate of profit.

In the same manner, countries with an above average capital intensity would gain ‘value’ from lower than average ones, assuming an internationally equalised rate of profit (cf. Part II). *Distinguishing* his definition from this conception, Emmanuel first gives a schema with differing capital intensity ($K_A/K_B \neq 1$), but equal rate of surplus (*i.e.*, $m/(c+v)$), *not* considered unequal in his sense, but against which to compare it (Table 8).

Table 8. *Price of production schema with non-equivalent exchange due to different organic composition*

Region	K	c	v	m	V	R	r	p	L
	Total capital invested	Constant capital consumed	Variable capital	Surplus value	Value $c + v + m$	Cost of production $c + v$	Rate of profit $\Sigma m / \Sigma K$	Profit rK	Price of production $R + p$
A	240	50	60	60	170	110		80	190
B	120	50	60	60	170	110	33 ⅓%	40	150
	360	100	120	120	340	220		120	340

Source: Emmanuel 1972a: 62.

According to the more traditional Marxist conception, non-equivalent exchange would be expressed as the difference between exchange at values and at prices of production, $170A/170B < 190A/150B$. The schema encompassing unequal exchange in Emmanuel’s book is expressed in terms of unequal rates of surplus (Table 9).

Table 9. *Price of production schema with unequal exchange due to wage differential*

Region	K	c	v	m	V	R	r	p	L
	Total capital invested	Constant capital consumed	Variable capital	Surplus value	Value $c + v + m$	Cost of production $c + v$	Rate of profit $\Sigma m / \Sigma K$	Profit rK	Price of production $R + p$
A	240	50	100	20	170	150		80	230
B	120	50	20	100	170	70	33 ⅓%	40	110
	360	100	120	120	340	220		120	340

Source: Emmanuel 1972a: 63.

Thus in the former case 190A corresponds to 150B, whereas in the latter 230A corresponds to 110B, giving the precise expression of unequal exchange as $190/150 < 230/110$. The former was called unequal exchange in the ‘broad’, and the latter in the ‘narrow’ sense in Bettelheim’s 1962 commentary, and in his book Emmanuel adopts this terminology for the sake of argument, preferring to refer to his own usage as the ‘strict’ sense. Delarue (1973: 150, n. 1), who was apparently unaware of the 1962 presentation, accuses Emmanuel of making this differentiation, which in Delarue’s opinion forces him to make an invalid comparison between situations with and without trade. So far as it concerns the book presentation his observation is partially true.

Since the rates of profit, r , in these two cases were identical, his numerical definition did not correspond to his above proposal, as his 1975 and, in fact, already his 1962 presentation did (Emmanuel 1975a: 39; cf. schemas 2 & 3 in Emmanuel 1962: 20, 23). Thus, in his 1969 presentation it looked as if the rise in wages in region A had somehow *directly* lowered the wages in region B instead of the general rate of profit, and counter to his argument for wages as independent variables. Thus, to Emmanuel’s (1973: 80) great surprise, *e.g.*, Somaini (1971: 45) had interpreted him as saying that a wage-rise somehow *caused* a lowering of wages in the other countries. To be in accordance with his 1962 presentation, as well as his later ones, the above schema (Table 9) should instead have been compared with something like the schema in Table 10.

Table 10. *Price of production schema with equally low original wages and equal exchange*

Region	K	c	v	m	V	R	r	p	L
	Total capital invested	Constant capital consumed	Variable capital	Surplus value	Value $c + v + m$	Cost of production $c + v$	Rate of profit $\Sigma m / \Sigma K$	Profit rK	Price of production $R + p$
A	240	50	20	100	170	70		133 $\frac{1}{3}$	203 $\frac{1}{3}$
B	120	50	20	100	170	70	55 5/9%	66 $\frac{2}{3}$	136 $\frac{2}{3}$
	360	100	120	120	340	220		120	340

An autonomous fivefold increase in the wages of region A from this starting point, with the equal (assuming equal labour intensity) exchange $203\frac{1}{3}A = 136\frac{2}{3}B$ and the rate of profit 55 5/9%, would result in the above Table 9 schema, where $230A = 110B$ and the rate of profit 33 $\frac{1}{3}$ %. Unequal exchange would thus be defined instead as $203\frac{1}{3}/136\frac{2}{3} < 230/110$.

The book definition of unequal exchange, repeated from his 1962 exposition, is in terms of different equilibrium prices because of ‘institutionally’ different rates of surplus value:

Regardless of any alteration in prices resulting from imperfect competition on the commodity market, unequal exchange is the proportion between equilibrium prices that is established through the equalization of profit between regions in which the rate of surplus value is “institutionally” different – the term “institutionally” meaning that these rates are, for whatever reason, safeguarded from competitive equalization on the factors market and are independent of relative prices. (Emmanuel 1972a: 61, 64; cf. 1962: 22.)

It is in fact not the event of ‘equalisation’ of profits between regions that gives rise to unequal exchange, as one (*e.g.*, Samuelson 1976: 101f.; Evans 1976 but cf. 1980, 1981a; Clunies-Ross 1976: 58ff.; Shaikh 1979: 298f.; and even after decades of debate Darmangeat 1991: 94, Howard & King 1992: 190f.) might be mislead to believe from this formulation, but precisely the institutionally determined wage levels (‘rates of surplus value’) in the presence of an internationally equalised rate of profit.

The presentation given here is consistent with the three general conclusions of Emmanuel’s (1962: 23f.) initial presentation, which from this point of view is superior to that in his book: (1) Values are unchanged, both individually and taken together, and the total is also equal to the total of prices of production (The problems involved in assuming *total* value to be equal before and after equalisation of wages was one of the reasons to revert to the Sraffian system); (2) The augmentation or diminution of wages influence inversely, but non-proportionally, the general rate of profit; and most importantly (3) any increase in wages, in one or other of the countries, has detrimental effects on the terms of trade of the other country, just as the effects of any lowering of wages will be beneficial.

The presentation in terms of labour values was not only a source of conflict with Marxists, as we shall see, but also a source of confusion among neoclassicals. One of the earliest and certainly most renowned commentator in this camp was Paul A. Samuelson, although he cannot also be said to be the most insightful. There is both a positive argument and a critique of Emmanuel in Samuelson’s articles. His first comment appeared in an essay examining the possibility of “deadweight loss in international trade from the profit motive”, whose findings, he admitted, did not have a direct bearing on what he (1973: 149) rather confusedly called “the Emmanuel thesis that equalization of the profit rate, by capital mobility from the low-interest advanced world to the capital-poor less developed nations, represents *unequal exchange*”, though it did have bearing on claims that such an event implied an overall ‘inefficiency’. His positive argument and actual mission consisted in the defence of optimality and efficiency under the assumptions of Ricardo’s comparative costs. Since, “as Marxian and non-Marxian economists recognize, steady-state autarchy price ratios will differ from ratios of embodied-labor costs, the degree of the differences depending upon the height of the rate of profit”, the *opening* of trade could lead to a situation of ‘perverse specialisation’, in which the world as a whole was worse off, even under free-trade, as compared with the no-trade

situation, thus providing arguments for the relative benefits of prohibitive tariffs. In Samuelson's world this was a 'paradox', which he formulated in more technical language: "the free-trade equilibrium cum competitive profit differentials is alleged to be non-Pareto-optimal and to involve loss." Now, Samuelson concluded otherwise, that "*there is no deadweight loss in the strict sense of the term. [...]* The argument founders on a subtle pitfall involved in steady-state comparisons" (*ibid.*: 151, 153). His point was that it was not possible to go from one steady-state competitive equilibrium to another, better steady-state configuration, in such a way as to make *every* citizen better off in the transition. Consequently, as he was to elaborate at greater length, the system was still 'intertemporally efficient'. His (1975: 318) intention was to demonstrate that such neo-Ricardian losses or Pareto-nonoptimalities were 'intertemporal tradeoffs'. He admitted, however, that one of the reasons for expounding this intertemporal efficiency "was my wish to examine the merits of the views on unequal exchange by A. Emmanuel" (*ibid.*: 322), and the reason why he had at all bothered to give this "fair-minded examination" was that the two "distinguished savants, Professors Charles Bettelheim and Henri Denis, have thought it valuable enough to have given the author the benefit of their criticisms" (1976: 96).

Believing Emmanuel's to have devoted "more than four hundred pages" to refuting Ricardo's theory of comparative advantage (Samuelson 1976: 96), and to have purported to show "that there is substantial deadweight loss in a competitive trading world", with claims "that Ricardian comparative advantage is logically erroneous in its claims for efficiency" (1975: 322), the other part of his mission, – a critical 'post-mortem', or 'negative autopsy' of Emmanuel's 'illogical' 'nonsense', 'romantic dilettantism', and other such colourful denominations – was evidently inspired by his principal positive mission, but was much less successful, demonstrating a severe slackness of reading.⁷³ Samuelson's (*loc. cit.*) argument on 'dead-weight' or 'neo-Ricardian losses' established "that any analysis that attempts to trace dead-weight loss to the equalization of profit rates, rather than to their nonequalization [...] is 180° off the correct reason." As Evans (1980: 16) observes, this "is quite correct but beside the point." Such losses were strictly secondary phenomena, on which Emmanuel (1972a: 256) had already observed: "it must not be forgotten that we are not concerned to prove that in *all* circumstances calculations based on comparative costs will lead to disadvantage". He also noted that whereas in Samuelson's argument the independent variable was the *profit-rate*, in

⁷³ Raffer (1987: 46) observed that Samuelson "proves most convincingly that the attitude of criticising without troubling to read the criticised theory beforehand is in no way restricted German-speaking region", but at least admitting how earnestly he had gone about, informing that at the request of students he had "invested some hours" in studying Emmanuel's arithmetical tables and syllogisms (Samuelson 1976: 96). Apparently the first two pages of Emmanuel's preface (1972a: viii) were not included in Samuelson reading, since there it was pointed out that any purely logical flaw in Ricardo's theory would have been discovered during the first few months after its publication, and that thenceforth any refutation must relate to validity of the theories assumption: "It is therefore not surprising that the theory of comparative costs could not be and has not been refuted within the framework of its explicit assumptions. The few attempts that have been made in this direction [...] have failed, and rightly so." In the final chapter of the original book, Emmanuel had indeed shown that if Ricardo's assumptions were abandoned – if, for example, one were to follow Graham (1928) in abolishing the assumption of constant returns to scale – then 'perverse' specialisation did become possible. International immobility of capital was both a necessary and sufficient criterion for comparative advantages, but since his own thesis on unequal exchange proper abandoned both the assumption of the international immobility of capital, and the assumption of subsistence wages, though the wage-rate was still the independent variable, he naturally felt obliged to address the possibility of 'inefficiency' and 'perverse' specialisation under these altered assumptions. If Samuelson (1976: 107) initially commended Emmanuel's book for being "clear [...], a compliment that not all critiques and defenses of modern economics can warrant", and if it was "[u]nlike much of the Marxian literature that seems sterile as far as any application to the real world is concerned" (1975: 322), half a decade of clarifying debate left an unintended irony when he (1978: 148) chucked it up: "Mr. Emmanuel is not an easy author to decipher". Samuelson's Charge of the Light Brigade nevertheless provided an elucidative opportunity for Emmanuel, from which at least later interpreters have profited.

his own it was the *wage-rate*, thus violating, Raffer (1987: 48) concurs, “*the crucial assumption of his model*”. As Emmanuel (1978: 87f.) pointed out: “In order to revalidate the basic neo-classical doctrine, Samuelson invents a numerical example, in order, first to present a “paradox”, and then to refute it. However, since what is suggested by the theory of unequal exchange in this domain is a mere possibility, one positive numerical example is certainly enough to demonstrate this possibility, but a thousand contradictory ones not enough to refute it. It follows that, if Samuelson wants to criticize my statements, he should question *my* numerical examples, not his.” Furthermore, “the findings of his model contradict *my* findings only to the extent that *his* assumptions contradict *my* assumptions”, while to the extent that Samuelson’s premises respected his own “and therefore utilize the same *logic*,” even Samuelson’s own examples could be used to refute the traditional theory. Thus, Evans (1980: 18) confirms, “given the choice of wages as the independent variable, it is possible for their to be neo-Ricardian trade losses with equalised rates of profit.” Samuelson’s argument was incorrect, he (1981a: 123) concludes, first because it dealt with “the simultaneous processes of the opening of trade and the equalisation of the rate of profit, rather than Emmanuel’s problem of unequalisation of wages given equalised profits and an unchanged pattern of specialised trade”, and secondly, because it reinterprets Emmanuel using a model in which profits rather than real wages are given, a procedure which might be justified if it made no difference to the point at issue. Since this is not the case, Samuelson’s claim that ‘unequal exchange’ can be removed by international capital movements is entirely beside the point”.

The root of Samuelson’s misunderstanding, Evans (1980: 16) proposes, was his exclusive reliance on Emmanuel’s numerical examples of non-equivalent exchange arising from unequal organic compositions of capital. Or in Raffer’s (1987: 49) plainer words: “To explain Emmanuel’s model, Samuelson picks the very examples out of Emmanuel’s book that are expressly referred to by the author as not unequal in his sense”. Emmanuel (1972a: 60) was certainly not unclear or hard to interpret on this point: “I do not regard this type of exchange as unequal.” Evans (1980: 16) also explains how “Samuelson’s analysis is further confounded by interpreting all these numerical examples as being pertinent to the opening of trade.” Apart from choosing the wrong examples, he (*e.g.*, 1976: 101f.) had also compared the wrong situation, namely with and without the international equalisation of profits, and his argument therefore directed against the idea of *autarchy* not unequal exchange.⁷⁴ The exercise amounts to the same thing as comparing ‘values’ with ‘prices of production’ in domestic trade, and he was probably under the influence of his own recent critique of that particular ‘transformation problem’ (Samuelson 1971). As Evans (1980: 16) observes, the examples of unequal exchange in the Bettelheimian ‘broad sense’, could “give the illusion of harm from profit equalisation, but this result stems not so much from the problem of the Marxian tableau analysis but from confusion over whether or not these examples pertain to the opening of trade *and* profit equalisation or just profit equalisation *given* the existence of specialised trade. Given the latter interpretation, the tableaux are perfectly consistent with a Sraffian analysis.” Clunies-Ross’s often sensible review and critique was similarly based on the belief that his theory concerned a comparison before and after trade and capital mobility were opened (1976:

⁷⁴ Cf. Evans’s (1976) similar mistake, as he (1981a) admitted confusing Emmanuel with Amin, and misled by Emmanuel (1972a: 54; quoted by Samuelson 1976: 99): “Let us now suppose that free circulation of capital is introduced between countries, and, as a result, equalization of profit takes place.” Apparently having stopped pursuing his “careful and valid exercise” shortly after this point, Samuelson (1976: 104, cf. 106f.) could then ask rhetorically: “Does the theory of unequal exchange succeed in any sense in undermining the theory of comparative advantage? Or in limiting its realism and relevance? Or in amplifying and improving it in any way?” The answer was given, that “any analytically trained fair-minded reader who goes to the trouble of examining unequal exchange seriously will conclude as I have that the answers are No, No, and No.” Pretending that autarchy would confer any benefits was “romantic dilettantism” and a cruel hoax on the labouring masses: Whether wrapped in Marxis[t] symbolism or otherwise, logical nonsense is logical nonsense” (*ibid.*: 107).

58ff.), while observing that value concepts “do him doubtful service” (*ibid.*: 47) by introducing confusion on the organic-composition and wage factors. Although he apparently believed the argument on the terms of trade to be incidental (*ibid.*: 50, n. 10), he also noted that a Sraffa-type model was “implicit” (*ibid.*: 48).

It seems as if Emmanuel’s (1969a) presentation, and the subsequent reception, was led astray by the necessity to relate to his tutor Bettelheim’s early commentary on broad and narrow senses. Perhaps the 1969 presentation could also be seen as an intellectual short-cut, because of his ambition to illustrate high-wage worker ‘exploitation’ of low-wage workers. The dynamic of Emmanuel’s argument assumed that continuous exogenously enforced wage increases over the preceding century or so had created crucial incentives to invest and thereby helped ‘save’ the capitalist system from its inherent blocking. In a closed system such an increase would rapidly have reduced the rate of profit to nothing, and it was made possible only by letting the rest of the world (the periphery) pay for these (centre) wage increases through the terms of trade, *i.e.*, through unequal exchange. To show this, Emmanuel again reverted to the Marxian schemas in a presentation before the London School of Economics (LSE) in March 1979 – again because they were more easily deciphered than Sraffian systems, but thereby leaving us without a presentation of this ‘dynamic unequal exchange’ in the generally preferred Sraffian terms. It could perhaps also be said to reintroduce some confusion over whether or not the question was over the opening of trade. Until then, at any rate, there was some substance in LSE-member M.A.M. Smith’s (1979: 240) comment that “Emmanuel nowhere makes clear the connection between his comparative static analysis and the dynamic process of changes in terms of trade”.⁷⁵ Some of Smith’s points were also rehearsed in John Spraos’s critique on that occasion.

Beginning with the closed system, without external gains from trade, Emmanuel constructed a schema (Table 11) for extended intensive reproduction, similar to that of Bauer which Grossman had used to demonstrate the collapse of capitalism (Chapter 5). Here, however, wages increase, as well as the technical composition, $c/(v + m)$, from period to period (intensive reproduction), in order to mirror technological progress in the real world, while the organic composition, $c/(c + v)$, is the same in both departments and every period (0.8).

⁷⁵ Siding with Samuelson, Smith (*loc. cit.*) equalled an ‘exogenous’ variable with an ‘arbitrary’ one, identified it as the wage ‘differential’ rather than the respective wage-rates, mistakook international mobility for “the international flow of investment from high-wage to low-wage countries”, thought, even after Emmanuel (1978), that his examples “can only [*sic*] be interpreted as comparisons between trade with and without capital [m]obility”, and finally (*ibid.*: 247) believed that he must have had some profound intention subtitling his book ‘a study of imperialism of trade’, apparently unaware that the original French read ‘an ‘essay on the antagonisms in international economic relations’.

Table 11. Wage increase in closed system (no external gains from trade). Extended intensive reproduction

Period	Department	c Constant capital	v Variable capital	m Surplus value	V Value $c + v + m$	r Rate of profit $\frac{\Sigma m}{\Sigma(c+v)}$
1 st	I	3840	+ 960	+ 960	= 5760	20.00 %
	II	960	+ 240	+ 240	= 1440	
		4800	+ 1200	+ 1200	= 7200	
2 nd	I	4608	+ 1152	+ 768	= 6528	13.33 %
	II	1152	+ 288	+ 192	= 1632	
		5760	+ 1440	+ 960	= 8160	
3 rd	I	5222	+ 1306	+ 614	= 7142	9.41 %
	II	1306	+ 326	+ 154	= 1786	
		6528	+ 1632	+ 768	= 8928	
4 th	I	5713	+ 1429	+ 492	= 7634	6.88 %
	II	1429	+ 357	+ 122	= 1908	
		7142	+ 1786	+ 614	= 9542	

Source: Emmanuel 1979a: 192.

Both products grow at the same rate and the demand for means of production in department II increases in the same rate as production in department I (1306/1152:6528/5760, and 1429/1306:7142/6528), so that nothing impedes realisation of the products. The only problem is the drastic fall in the rate of profit, approaching zero at a tremendous speed, and it was this that could be resolved by unequal exchange.

Opening the system to external gains from trade through unequal exchange with the periphery and letting these compensate for the wage increase in the centre, the opposition between internal outlets and an acceptable rate of profit can be resolved.

Table 12. Centre wage increase with external gains from trade (equalised profit rate). Extended intensive reproduction

Period	Region	Department	c Constant capital	v Variable capital	m Surplus value	V Value $c + v + m$	r Rate of profit $\frac{\Sigma m}{\Sigma(c+v)}$	L Price of production $c + v + p$
1 st	Centre	I	3840	+ 960	+ 960	= 5760	20.00 %	
		II	960	+ 240	+ 240	= 1440		
			4800	+ 1200	+ 1200	= 7200		
2 nd	Centre	I	4608	+ 1152	+ 768	= 6528	19.75 %	6898
		II	1152	+ 288	+ 192	= 1632		
			5760	+ 1440	+ 960	= 8160		
	Periphery		7800	+ 1000	+ 2200	= 11000	18.79 %	10538
			13560	+ 2440	+ 3160	= 19160		
3 rd	Centre	I	5222	+ 1306	+ 614	= 7142	18.79 %	7754
		II	1306	+ 326	+ 154	= 1786		
			6528	+ 1632	+ 768	= 8928		
	Periphery		7900	+ 800	+ 2400	= 11100	18.33 %	10336
			14428	+ 2432	+ 3168	= 20028		
4 th	Centre	I	5713	+ 1429	+ 492	= 7634	18.33 %	8452
		II	1429	+ 357	+ 122	= 1908		
			7142	+ 1786	+ 614	= 9542		
	Periphery		8000	+ 600	+ 2600	= 11200		10176
			15142	+ 2386	+ 3214	= 20742		

Source: Emmanuel 1979a: 193.

The fall in the rate of profit has been considerably softened, thanks to the mass of surplus value extracted in the periphery, and the terms of trade have improved along with wage increases for the centre. The contrast between the situation with non-equalised rate of profit with that of equalised was not what gave rise to unequal exchange, but it apparently still had a role to play for Emmanuel, at least in illuminating how unequal exchange could have helped saving capitalism, if not from itself – an honour bestowed on the continuous exogenous wage-

increase itself as we shall see (Chapter 19) – then at least from that same increase in centre wages. Unequal exchange was thus offered as the solution to the problem of the fall in the rate of profit, in a way similar to that suggested by Grossmann in the 1920s, although, by contrast, in Emmanuel’s case the rise in wages was the source both of unequal exchange and the fall in the rate of profit.

Spraos (1983: 38) was well aware that Emmanuel’s definition of unequal exchange did not refer directly to worsening terms of trade, but to the equilibrium prices at which the exchange between developed and underdeveloped countries takes place at a certain time. It compared the factual situation with the hypothetical situation where the international mobility of labour has equalised wage levels. However, the above dynamic unequal exchange nevertheless had “implications for the trend of the NBTT that deserve serious consideration”, and (*ibid.*: 4) “shades into” “a theory of deteriorating terms of trade”. Spraos’s initial conference counter-report stated disagreement both concerning the static model and the dynamic.⁷⁶ After the exchange of views, Spraos, in his subsequent book on *Inequalising Trade?*, had somewhat revised his interpretation of the static model, seeing that Emmanuel assumed trade between different branches. As to the dynamic model he still seems to have doubted the empirical plausibility of trade-unions raising wages. The model assumed: (a) “continuously growing trade union power in the M-producing regions while unions are non-existent or powerless in the C-producing regions”, and (b) “immobility of labour between M- and C-producing regions but perfect capital mobility which equalises rates of profit regardless of location”. Any similarity between Prebisch and Emmanuel with respect to trade-union power was spurious, Spraos explained, since for Prebisch they could merely maintain constant the share of wages in value added accorded to them by market forces, whereas for Emmanuel they had steadily growing powers and could actively raise labour’s share. Spraos agreed that “[a]lmost any plausible model which incorporates (a) and (b) will yield a presumption of deteriorating NBTT for C” (*ibid.*: 38). I will let Spraos (*ibid.*: 38f.) himself wield the pen in this uncommonly generous passage:

The growing market power of trade unions which enables them to raise labour’s share in the value added in M-making is critical. Without it, a money wage push in excess of productivity growth would lead in the long run to pure inflation, with little effect on relative prices.

⁷⁶ Unfortunately, Spraos’s contribution to the conference has proven hard to obtain, and my reading of it has been through the lens of Emmanuel’s response of which a French translation has been published. Naturally, Emmanuel thereby had replies to each of the objections. The initial points of disagreement concerned Emmanuel’s static model. (1) Spraos accepted formally that it really had a stable equilibrium point: if technology and the volume of work in each of the n industries are given, then there also exists an allocation of the total capital stock among these industries, so as to produce exactly the assortment of goods satisfying the state of demand, which would be compatible with the $n-1$ relative prices corresponding to the n rates of ‘arbitrary’ wages. However, Spraos added, for some of these wages to be self-supportive, notably those of the periphery, there had to be an inflow of part of the capital so as to raise productivity. Now, this was impossible because of the flight of capital caused by the very augmentation of wages itself. Thus, even though there really existed an equilibrium point there was no route leading there (Emmanuel 1985: 199f.). (2) Spraos also found the exogenous determination of wages implausible, as if Third World countries could just raise their wages to any level whatever and expect them to stay there (p. 205). (3) Since there were indeed limits to wages, Spraos discovered, Emmanuel’s theory was just a variation or special case of standard theory: profiting from pre-existing and unexploited monopolistic opportunities, the principle of which economic science acknowledged well before Emmanuel was old enough to write (p. 206). As to the dynamics of Emmanuel model, (4) Spraos objected that wage increases were not dependent on trade-union struggle and could equally well be explained by forces endogenous to competitive capitalism (p. 209). (5) In an appendix, Spraos also tried to demonstrate that Marx himself had believed that a continuous rise in the share of wages would come about through the normal workings of capitalist accumulation (pp. 212ff.). (6) Spraos’s last question was to ask why, if it were so beneficial to the internal workings of capitalism, had the capitalists not made use of the ‘manna’ of unequal exchange before the arrival of trade unions (p. 216).

Nevertheless, in Emmanuel's conception the growth in labour's share in value added in the M-making sector is small ex post, the reason being that the improvement in the NBTT is the princip[al] source from which at the end of the day faster growth in real wages than in productivity is validated. This improvement makes possible the continuing operation of this process over a long period without capitalism collapsing from rapidly declining rate of profit.

Whether or not empirically tenable, the logic of the argument is beyond reproach.

Since Spraos did not name any of his empirical objections at this point, we can only guess that they concerned the implausibility of letting too much depend on the trade-union factor. As to the rest, his only restriction was that "a NBTT deterioration, or from Emmanuel's preferred optical angle, an increasing real wage inequalisation, is not an unambiguous relative welfare signpost since it fails to take into account the additional employment which is generated by the very process which inequalises wages" (*ibid.*: 39).⁷⁷

Spraos's objections concerning the dynamics of Emmanuel's model all suggest that he has an alternative interpretation of *wie es eigentlich gewesen [ist]* (to borrow Ranke's well-known expression), where growth and wage-increases somehow follow more automatically than by political and trade-union struggle, through the working out of endogenous forces of competitive capitalism. Thus, based on a decreasing ratio of capital per product and given wage-rates, all growth of total output would translate into a growth of net profits. This would enhance competitive capitalists' demand for labour, resulting in a wage-increase, up to the point where the consumption goods sector constituted a fairly constant proportion of the total product, and so there was no need for trade unions.

Were this the only alternative to Emmanuel's solution, he would have had no problem in defending his case merely by pointing out the empirical implausibility of a century and a half of trade unionism, collective agreements, strikes, sometimes even bloodshed, in the industrial countries, as being simply the result of a formal error on behalf of the working class movement – it would all have come about anyway through the workings of the invisible hand, and the workers could better have economized on trade unions. Whereas Spraos had wondered why capitalism had not made use of the manna of unequal exchange before the trade unions, Emmanuel (1985: 208-12) wondered why, in the above case, the invisible hand had not intervened before the trade unions, for example in England during the foregoing century of industrial revolution, and why in the same country, wage-increases did not start accelerating until the end of that century when the increase in productivity slackened. As to Spraos's argument that Marx, too, believed in automatic wage increases under capitalism, he had bit off a little more than he could chew, and was rather too easy to refute (*ibid.*: 212-16). Finally (in great contrast to Wallerstein it might be added), capitalists had not 'made use' of unequal exchange before trade unions because it simply did not exist before the elevation of wages, and they had not raised wages, simply because that would have diminished their profits. Being 'developed' wherever they happened to be, capitalists had no interest in developing 'their' country, *especially* not when it was poor; even though they had an interest in rising wages of their competitors, the interest in keeping wages down in their own firm remained, and the same went for nations in competition as long as there were nations competing in the same branch; for capitalists taken together unequal exchange was not an additional source of profit, as Spraos thought, but involved a decrease of the general rate of profit, even while 'saving' certain capitalist countries from blockage at the expense of the

⁷⁷ If I understand this correctly, according to Spraos, not only a deterioration of NBTT but also of DFTT follows, though not a deterioration what he himself was presently engaged in working out, namely the 'employment-corrected DFTT'. Spraos believed the tendency towards unemployment to be inherent in Emmanuel's model, apparently either unconvinced by Emmanuel's argument to the contrary, or completing Emmanuel's gallery of traditional neoclassical economists from who's analysis the compensatory effect of the income elasticity of demand is absent. We shall return (Chapter 17) to the implication that capital would flow to low-wage countries.

blocking of others; finally, should the capitalists of the world manage to unite and coordinate their actions regarding wages and investment, most of the problems he had discussed would disappear, Emmanuel admitted, and the system would have been so much transformed that he would have felt himself obliged to change his analysis (*ibid.*: 216ff.).

Still, it could be argued that Emmanuel leaned too heavily on the conscious will of the working classes to raise their standards. Elsewhere, he had no objection to relating political strivings to transformations in the basic ‘productive forces’ of society, but pointed out that they must first transform *man himself*. It must be said that he himself provided nothing more than suggestions of historical interpretation on these lines. So far as the theory of unequal exchange is concerned this, and not some real or imagined defect in the formal economic model, is probably his most serious shortcoming, and there has so far been no one willing or able to provide it for him. In particular, as I have suggested on several occasions in this work, such an undertaking would have to take into account developments in the means of communication accompanying the industrial revolution, such as the newspaper industry, international steam shipping, railway traffic and the telegraph.

There are, however, serious objections to Marxian schemas, concerning the ‘transformation’ from value to ‘prices of production’, referred to by Emmanuel as ‘Bortkiewicz’s objection’. Howard & King (1989, 1992) probably give the best overview of the transformations of this problem over the past century and a half, and the interested reader should turn to them for greater elaboration. Bortkiewicz’s problem had been rediscovered to the English-speaking world by Sweezy (1942) in the United States, but was absent from Robinson (1942) in Britain, where, similarly, Dobb (1937) had not considered the problem, and whose review (Dobb 1943) of Sweezy described Bortkiewicz as “little known” and believed this to be the “most novel part” of the book. Sweezy for his part believed that no significant theoretical issues were involved in the divergence of total value from total price, and that it was a mere question of the unit of account, a view initially shared by Emmanuel. The first criticism of Bortkiewicz by an English Marxist was a short note by Winternitz (1948), which was commended by Sweezy (1949: xxxii) in his translation to Bortkiewicz (1949), and generalised by Sweezy’s compatriot Kenneth May, in an application Leontief’s input-output model. Joan Robinson wrote in 1950 that “the whole argument is condemned to circularity from birth, because the values which were to be “transformed into prices” are arrived at in the first instance by transforming prices into values”, and, apparently, some controversy was provoked among British Marxists before the Winternitz-May solution was publicly endorsed by Dobb (1954: 273-9; cf. Howard & King 1992: 233-7). In 1957, however, the debate was more or less closed by two contributions by Francis Seton and Paul Samuelson. Seton’s article vindicated that prices could be derived from labour values in a multi-sector economy, and was taken over by later mathematical economists. However, “the same can certainly not be said of the body of the underlying doctrine, without which the whole problem loses much of its substance and *raison d’être*”, he (1957: 160) pointed out, and no justification had ever been offered for the “assumption of equal “rates of exploitation” in all departments”, nor “the notion that the “organic composition of capital” must needs be higher in the capital goods industries than elsewhere in the economy”, and above all, not for “the denial of productive factor contributions other than those of labour, on which the whole doctrine of surplus rests”, which doctrinal preconceptions “must remain the center of any reappraisal of Marxian economics”. Samuelson had even stronger reservations. While agreeing that it was certainly possible “to evaluate all the Marxian expressions as functions of these same variables”, he reminded that “logically this transformation goes from exchange values to Marxian-defined values – not vice versa!” The Marxian theory of value explained the deviation of prices from values only in the sense that truth always equaled “error plus a variation”, accurate only when profits were

zero, as recognised by Ricardo, not Marx, whose postulate of an equal rate of exploitation in all industries, along with the whole theory of value, was merely a “complicating detour”: “Marxolators, to use Shaw’s term, should heed the basic economic precept, valid in all societies: Cut your losses!” (Dorfman, Solow, & Samuelson 1957: 890, 891f.; quoted in Howard & King 1992: 240, 241f.)

Samuelson’s strictures fitted well with the atmosphere of the Cold War and McCarthy era in the United States, while the unveilings of the Stalinist era and the sequel to the Hungarian revolution brought fissures to Western European Communist parties. Having had to peruse almost 900 pages of technical economics before arriving at, or in order to refute, Samuelson’s conclusions, no one in the Marxist camp had the stamina or academic standing to try to take it on. This was the situation in which Sraffa’s book appeared, and it is easy to see how it could be perceived, in Harcourt’s words, as turning Marxist economics, almost overnight, from a semi-moribund theology to one of the liveliest branches of economics. Already with Keynes, ‘macroeconomic’ questions and some classical debates had received renewed attention; similarly, Lewis’s theory on the ‘unlimited supply of labour’ argued specifically from a classical perspective. These trends were substantially reinforced by Sraffa’s attempt to rehabilitate classical political economics, both through the edition of and introduction to Ricardo’s complete works in 1951 and his book in 1960.⁷⁸ While historical, radical and institutional economic criticism of the marginalist-neoclassical paradigm all failed to capture its attention, the ‘purely’ economic and formal presentation in Sraffa’s book could not be avoided. As Joan Robinson (1961: 53) wrote shortly after its publication: “Addicts of pure economic logic [...] have here a double-distilled elixir that they can enjoy drop by drop, for many a day.” In Harry Johnson’s (1974: 21f.) rather McCarthyite judgment, on the other hand, it was nothing but “an apparently purely scientific rallying point for [...] anti-Americanism”, while Robert Wolff (1982: 230f.) likened it to “a Gregorian plainsong of the middle ages”, evoking “a deeply moving experience”, with the result (*ibid.*: 234) that “Marxian economics, almost overnight, went from being a semimoribund branch of secular theology to being a lively, developing, controversial and innovative branch of theoretical economics”.⁷⁹ However, Sraffa’s minimalist economic model lacked all historical, societal, cultural, geographical, or in general other economic circumstances. To fill in the presumable deliberately omitted details of the model, it must according to some be ‘embedded’ in these historical, etc. circumstances. The anthropologist Gudeman (1986) saw Sraffa’s work as analogical to that of his debating friend Ludwig Wittgenstein, according to whom the most crucial things had to be left unsaid in philosophy, and Sheppard & Barnes (1990: 9) are probably aware of this when writing: “In this sense, what Sraffa excluded from his analysis is as important, if not more so, than what he included.” Sprung from the Marxian tradition, Emmanuel was much less of a formalist purist than either Sraffa or his followers when it comes to including historical or other circumstantial material, or applying his models to the world.

For a time, then, the Sraffa’s book greatly strengthened the position of Marxian economists, setting of the so called ‘capital controversies’, where neoclassical economics was shown to be logically incoherent, and factors of production as not rewarded according to their ‘marginal

⁷⁸ Meek (1961: 119) observed concerning Sraffa’s 1960 book could it be seen either as “simply [...] an unorthodox theoretical model [...] designed to solve the traditional problem of value in a new way”, “an implicit attack on modern marginal analysis”, or as “a sort of magnificent rehabilitation of the Classical (and up to a point Marxian) approach to certain crucial problems relating to value and distribution”. These three aspects are not unrelated and have reinforced one another.

⁷⁹ This renaissance for Marxist economics went completely unnoticed by Anderson (1974), and even in his update from 1983 on French Marxism he noticed none of the contributions of French Marxist economics, such as those by Bettelheim, Emmanuel and others, which produced at least some contributions just as noteworthy as those of ‘classical’ Marxist economics (Hilferding, Lenin, Bauer, Luxemburg, Bucharin, etc).

productivities'; the 'productivity of capital' played no role in explaining the rate of profit, but social relations of production did. This and other criticism seemed to confirm the Marxian conception of neoclassical ideas as 'vulgar economics'. Samuelson and other exponents of economic orthodoxy accepted the Sraffian strictures against the Clarkian and Austrian versions of their theory, but the mainstream Walrasian general equilibrium analysis remained unscathed. Of course, certain lasting problems of that theory also remained, such as the non-inclusion of an equalisation of the rate of profit between industries. However, Sraffa's presentation also confirmed the observation by Samuelson and others that Marx's 'complicating detour' was redundant, by deriving commodity prices and the rate of profit from data on conditions of production and income distribution, but its implications went further, as was revealed in the second round of debates set off by an influential article Samuelson (1971).⁸⁰ By this time, however, the debate on unequal exchange was already conducted in terms of the Sraffian system.

Emmanuel (1972a: 99, n. 33) initially tried to avoid the problems of the Marxian prices of production formula by treating the values of 'inputs' of products of past labour "as having *already* been transformed into prices of production", *i.e.*, his figures were said to correspond not to values but to international prices. This was expressed already in the first paragraphs in his definition of a 'factor of production' as "every established claim [Fr. *droit*] to a primary share in society's economic product" (1972a: 1),⁸¹ including wages, profits, rents, and indirect taxes, and which, in order to avoid any question-begging should, really be talked of as "factors of price, provided, of course, we accept that it is the quantities and rewards for these factors that determine prices, and not the other way round" (*ibid.*: 2).

In the ensuing debates, Emmanuel (*ibid.*: 390f.) was much more outspoken on the limitations of Marx's formulas, thinking a reading on the line of Bettelheim, or any other "modern disciple of Louis Althusser", would have been "highly embarrassing" to Marx if his Volume 3 of *Capital* had been a work as finished as Volume 1. Whether Marx believed in an 'absolute value' or not, he was, like Ricardo, unable to find one, and his 'transformation' formulas were unsatisfactory, Emmanuel went on, because as Bortkiewicz had showed – and he "has never been refuted on this point" – transformation "must take place either completely or not at all". The reasons for still holding on to the Marxian schemas of prices of production was basically because of their comprehensibility (Emmanuel 1973: 71), but also indicates something of the intellectual climate of French Marxism at the time (1972a: 391f): "I chose in Chapters 1 and 2 of my book to avoid dealing with this question, in order not to overload my text and also in order to keep to the structure of Marx's formulas [...]. I thought it best to do this so as not to call in question the sanctified concept of "transformation," and because the practical conclusion of my demonstration, in regard to unequal exchange, was in any case not affected. In view of the reactions provoked by my presentation of the matter, and the

⁸⁰ In this second round of debates, Sraffa's book again contributed to criticism, but this time of the labour theory of value, particularly, perhaps, after the publication in 1977 of Ian Steedman's *Marx after Sraffa* – "possibly the angriest bit of mathematical economics ever written" (according to Wolff 1984: 235). The Sraffian point is similar in both controversies and can basically be reduced to the impossibility of finding a common measuring rod for capital, independent of some 'extra-economic', socio-political determinant, whether in Marxian embodied labour or some neoclassical *Urstoff* of capital. Joan Robinson ridiculingly referred to it as 'ectoplasma', while Dobb (1973: 251) reminds that this evokes Lord Ravenstone's 1821 critical characterisation as a metaphysical 'subtle ether'. On the similarity between Marxism and neoclassicism, cf. Dobb (1973: 253), and Hodgson (1991: 42 f).

⁸¹ He (*loc. cit.*) continues: "These claims, which have been called primary incomes, are indeed essentially different from secondary incomes in that they are directly connected with the realization of the product, which is effected through the exchange of different commodities, so that (whatever may be the determinant and whatever the determined) there is a precise correspondence between the relative size of these incomes and the rate of exchange, or exchange value, of the commodities concerned."

theoretical misunderstandings to which it has given rise, I am now convinced that I made a mistake.” This was written even before the non-Marxist misunderstandings began to set in.

Bettelheim and other Marxists charged that by utilising prices of production, Emmanuel remained within the ‘sphere of circulation’ – which, it should be remembered, is something very contemptible in Marxist language, similar to the ‘fetishism of commodities’ in Marx –, chastising him as a ‘bourgeois’ economist, and therefore as not penetrating into the ‘sphere of production’, where the more essential ‘values’ reigned supreme. This was not evidently a position from which discussion could progress, and neither does that appear to have been Bettelheim’s intention, for Emmanuel was even reproached for having stated that he was not “particularly concerned about orthodoxy and aimed at addressing myself to economists of all tendencies in a common language” (Emmanuel 1972a: 323; cf. Bettelheim 1969b: 349). For his own part, Emmanuel (1962: 12, trans. J.B.) declared that the price phenomena observable in the falling terms of trade for underdeveloped countries, illustrated a general rule: “Now, as with all economic phenomena, unequal exchange reflects relations among people, by no means relations between things – in the present case the relations of underdeveloped man with developed man.” Similarly, he (1972a: 401) rejected Bettelheim’s assertion *cum* accusation that his theory is confined to the sphere of circulation by instead referring it to the social and historical sphere of the class struggle:

The reality is that neither profit nor wages are engendered by the process of circulation, but by that of production, and that, on the other hand, these two magnitudes are inversely proportional to each other, which fact gives rise to the inevitable antagonism between the classes, since the share taken by one can increase only at the expense of the share taken by the other. It is this and this alone that enables us to go from economic laws and categories to historical ones. This can be shown and illustrated, however, without resorting to the transformation quibble.⁸²

Entering into that debate, we risk sliding down a slippery slope from which there is no elevation in either time or space. Looking at the French debate, one easily gets the impression that the concerns were primarily with Emmanuel’s faulty political conclusions, and that criticism of the economic means of reaching them acted rather as a pretext for arriving at the correct ones. It should be remembered, however, that French Marxist economics largely defined itself in terms of its monopoly on the critique of neoclassical theory. The polarised institutional setting, where editors and academics belonged to either camp benefited the more orthodox thinkers, and put strains on contributors to define themselves in terms consistent with its language. Those who did not tended to be placed in the opposite camp and thereby risked falling between chairs.

⁸² The best non-technical summary of the whole issue has surely been given by Samuelson (1971: 400): “As the present survey shows, better descriptive words than “the transformation problem” would be provided by “the problem of comparing and contrasting the mutually-exclusive alternatives of ‘values’ and ‘prices’.” For when you cut through the maze of algebra and come to understand what is going on, you discover that the “transformation algorithm” is precisely of the following form: “Contemplate two alternative and discordant systems. Write down one. Now transform by taking an eraser and rubbing it out. Then fill in the other one. *Voila!* You have completed your transformation algorithm.” By this technique one can “transform” from phlogiston to entropy; from Ptolemy to Copernicus; from Newton to Einstein; from Genesis to Darwin – and, from entropy to phlogiston”

Chapter 16. Marxist dispute on unequal exchange in France and Britain

French debate on unequal exchange was conducted almost exclusively in terms of the correct interpretation of Marxism and the labour theory of value, and of the political implications concerning international worker solidarity. Participants almost exclusively had deep political commitments, and were often active in party politics. There was not so much argument and evolving debate as a statement and restatement of various positions. The consensus resolution probably consisted in the view that Emmanuel was a cunning, if un-Marxist and bourgeois, critic of orthodox trade theories, who misunderstood the profounder layers of the labour theory of value, neglected productivity differences, had erroneously tried to hide class struggle by emphasising national struggles, mistook the developed-country working class as the cause and beneficiary of an unequal exchange, both of which were actually attributable to monopolies and 'monopoly capitalism', and was thereby mistaken on the question of international workers solidarity. The new synthesis was basically in line with the old dependency approach, and was perhaps best stated in the work of Samir Amin. With the exception of some brief notes by Henri Denis, there was commonly no mention of, and certainly no argumentation on the terms of trade. Except for the connection observed by Christian Palloix, Sraffa was more or less unknown, but a dispute evolved between Emmanuel and his opponents which was similar to that between Sraffian and orthodox Marxists later in the 1970s. Furthermore, most or all of the charges which reappeared throughout the debates, economic as well as political, and as it turned out not only in France, had been made in one form or another by Bettelheim.

Many Marxists take pride in the fact that their labour theory of value demonstrates that only labour is 'productive' of value, and that all above what they receive is 'surplus' value, illegitimately appropriated by capitalists. For them, the ultimate meaning of the 'law of value' is not merely that society and the appropriation of output is based on class struggle, and that thereby differences in relative appropriation will show up on the long-term prices, but that society's total output – everything of economic and social value – is created by labour and labour alone. If this 'fact' does not show when economic schemes are drawn up, purporting to explain long-term price differentials, then it has in effect been 'hidden', and the author of such explanations becomes per definition a 'bourgeois' or 'vulgar' economist. Emmanuel in fact denied that labour was the sole producer of value, whether in capitalism or in any other type of economy, and according to the Marxist opponents of this ilk, he was thereby un-Marxist, no matter what his arguments on the internal contradictions of capitalism or the ultimate necessity of a globally planned economy seemed to imply. Others too who define Marxism by way of this characteristic have either also found him un-Marxist, or, not bothering with what he says, simply assume that he too believed in the labour theory of value. Emmanuel believed by contrast that the strict adherence to this interpretation of the labour theory of value was one of the reasons why Marxists had failed to 'win' over orthodox economics.

Taking this into account, three schools of economic thought have been identified, which can be referred to as 'Marxist', 'Sraffian', and 'neoclassical', where Bettelheim belongs to the Marxists, and Emmanuel would have to be classified among the Sraffians, while, *e.g.*, Paul Samuelson belongs to the neoclassicals. This is what Edwards (1985, cf. xv) has done in a study of international economics, which originated in an attempt to make Emmanuel's theory of unequal exchange comprehensible to undergraduates. It is also the reason why a reviewer of the French debate found that "Professor Bettelheim's style of argument will be less congenial than Emmanuel's to those accustomed to analytic methods of thought" (*sic*), though

still referring to both as Marxist (Clunies-Ross 1976: 57). Edwards perspective is a great improvement to a common dual classification by Marxist into true believers and vulgar economists. Neoclassicals, though some have suspected a communist conspiracy, also seem to want to reintegrate the Sraffians into a general equilibrium approach where all is always for the best again. Sraffians, for their part and like Emmanuel, while fighting a two-front war have found similar types of problems in both Marxist and neoclassical economic theory. Edwards's classification goes a bit further, however, because he finds corresponding differences in respective policy proposals, from communist revolutionaries, via state interventionists, to free-traders, where the middle group comprises Keynesians, Sraffians, and most development economists. The problem, so far as Emmanuel is concerned, is that he thought himself a Marxist all the same, and shared the view of the old-style liberal Jacob Viner that with a *mixed* economy one would have the worst of two worlds.

Another consequence of the more traditional Marxist view of labour as solely productive is the belief that socialism and the planned economy would certainly become more efficient than capitalism because it would eliminate the 'unproductive classes'. By contrast, for Emmanuel the efficiency issue was secondary: he found no evidence of it in socialist reality, though he gladly pointed out that, with realistic assumptions, efficiency was not secured under free trade even in theory. The principal economic difference between the market and planned economic systems was the *elimination of crises* of overproduction in the latter, because *ex ante* decisions would determine investment and consumption instead of the contrary market solution where investment decisions were determined by consumption and changing purchasing power. This perspective has no evident connection with either Sraffian analysis or neoclassical, nor with the obsession with the determinants of static equilibria in the struggle between them.⁸³ Here Emmanuel is closer to the Keynesian, or rather post-Keynesian view, which is also that of a certain Marxist tradition, though it was not one favoured by Bettelheim.

Bettelheim's comments had followed Emmanuel's original presentation in 1962, and his preface and theoretical comments were appended to the book (Bettelheim 1969a, b, d). Serge Latouche (1966, 1968) also made some early contributions, but they were left unpublished, although he was to contribute later. Some of the differences between Bettelheim and Emmanuel have already been touched upon, but since the views of the former was to have such a great impact on the ensuing debate – indeed, to the extent that only rarely were any new points brought in – it will be instructive briefly to restate them here more on their own terms. Having pointed out the importance of the subject and the usefulness of Emmanuel's critique of Ricardo's theory comparative advantage, he still felt the necessity to critically examine the certain of Emmanuel's theoretical foundations which he found problematic. This, he felt, was "unavoidable because some of the theses upheld in the book strike me as being [...] capable of leading to incorrect conclusions that could be the source of political and economic practice that would prove disappointing and eventually dangerous" (Bettelheim 1969a: 274).

Bettelheim's examination thus began by questioning Emmanuel's use and understanding of the labour theory of value: Emmanuel had failed to recognise that 'prices of production' (as presented in Marx's *Capital*, Vol. III) were intimately dependent on 'values' (as presented in Marx's *Capital*, Vol. I). Emmanuel assumed that 'factors of production' could be interpreted as 'established claims' to a primary share in society's economic output, in the sense of the

⁸³ Cf. Kalder's (quoted in Targetti 1992: 133) reflection on Sraffa: "In my opinion, price theory and distribution theory occupy a disproportionate place in both classical and contemporary economics; economics ought not to concentrate on equilibrium conditions which are never attained (or even approached), but on the forces which produce change and which themselves are subject to constant changes of direction." However, as long as the reasons for disequilibrium have not been demonstrated on the same level of analysis in which equilibrium has been assumed, any extension of its apparatus into 'disequilibrium' analysis would appear to be superficial.

monetary payments (wages, profits, etc.) of those factors (labour, capital, etc.), which added up to the equilibrium prices of goods. This was not the Marxist concept of a ‘factor of production’, he explained, because it meant *isolating* the monetary aspects from the domain of production relations (class struggle, ownership of means of production) and productive forces (the objects and instruments of labour), with which Marx had *also* been concerned, and placed Emmanuel’s analysis on the level of mere appearances. Emmanuel had reduced Marx’s formula’s to play the part of mere models of ‘dependent’ and ‘independent variables’, fostering the illusion that to abandon the inequality of exchange it was enough to change wage levels, *i.e.*, the ‘independent’ variables. One consequence of this, which particularly vexed Bettelheim, was that Emmanuel had discarded the notion of unequal exchange in the ‘broad sense’, suggested to him in 1962, *i.e.*, of unequal exchange as expressing differences in ‘organic compositions’, or as expressing differences of the development of the productive forces: “Because Emmanuel’s problematic tends to “reduce” the inequality or unevenness of the development of the productive forces to inequality of wage levels, without setting the latter in a law-governed relation with the former, he is also prevented from appreciating the importance for “unequal exchange” itself of the lower organic composition of capital in the economically weakest countries, which is why he rejects the idea of “unequal exchange” in the broad sense” (Bettelheim 1969a: 285; cf. 275-85).

Bettelheim also observed that although wages were treated as the ‘independent variable’ of the system, because they cannot be determined solely by capitalist production relations, this did not – even to Emmanuel, though this is not clear from Bettelheim’s account – mean that they were wholly undetermined. The ‘historical element’ included economic, political, ideological, etc., factors neither of which could be singled out as the determinant, but which were “nevertheless entirely integrated in the complex structure of a concrete social formation and are thus in no way “independent” of this structure.” The problem, over which Samir Amin was to make great fuss as his own particular revelation, was that in capitalism one could not separate an element such as wages from the rest as ultimately causal:

In Emmanuel’s problematic, however, changes in wage levels appear as automatically determining changes in the whole system of prices of production and in the positions of different countries in relation to each other. Hence the apparent possibility of drawing this “practical conclusion”: if the countries with underdeveloped productive forces were to “modify” upward the level of wages they pay to their workers, these countries could only become “richer” and so escape from unequal exchange and “underdevelopment.” (Bettelheim 1969a: 288)

For Bettelheim, low wages would instead have to be “related” to the low level of development of the productive forces and to such production relations as hindered the growth of these forces. Though he carefully avoided saying that wages ‘depend’ on the development of the productive forces, this is in essence what he means, or that developments in the sphere of production are prior to changes in the sphere of circulation and monetary rewards. That an increase in wage-levels could actually drag development with it was simply too much to muster. This was, at any rate, the conclusion Emmanuel would ultimately come to (not only with respect to Bettelheim), and for whom an established rise in wages functioned *precisely* as a siphon, both geographically and chronologically (cf. Chapter 19). Answering how and why, according to Emmanuel, this was so in a monetised capitalist society and thus as reflected in the theory of value, will in due course take us through the argument in his *Profit et les crises*.

Through their dispute, Bettelheim explained in his preface, he had come to realise where, to him, lay their basic difference. As both he and Emmanuel agreed, every model had to rely on something external to the model itself, which in this sense “lies beyond political economy”. For Emmanuel this ‘something beyond’ consisted in the study and analysis of ‘established claims’, and he also believed that this was what had enabled Marx himself to found a real economic science. Bettelheim accepted that to Emmanuel these ‘claims’ [les ‘droits’] were

not intended in a merely juridical sense of ‘the law’ [le ‘droit’], but as referring to relations of production, though he disagreed to Emmanuel’s understanding being either correct or the one intended by Marx. For Bettelheim, this ‘beyond’ was instead “the structure of production relations and productive forces”, and *this* was what constituted Marx’s revolution in theory (1969b: 345; cf. 355, n. 1). The difference, then, would seem to be that Bettelheim, in his own view, had a more complete picture since it included both *relations* and *forces* of production (*i.e.*, class struggle and the techno-economic foundation of society), whereas Emmanuel’s ‘claims’ could only refer to the former. In this philosophical sense, a similar kind of dispute reappeared, *e.g.*, in the debate over the fundamental determinant of feudal society between Robert Brenner who, inspired by Sraffa’s Marxist colleague Dobb, argues that ‘relations’ in a sense determine the ‘forces’ of production, and Guy Bois, who by contrast holds that ‘forces’ determine ‘relations’. Of course, either side would deny that it is voluntarist and determinist respectively, claiming their own argument to be ‘dialectical’ and accusing their opponent of being formalist, mechanical, theological, ideological, etc..

Thus, Bettelheim (1969b: 346) quickly reverted to his judgement that the ‘established claims’ to which Emmanuel referred as lying beyond political economy, were merely the “expression” of production relations in their various “ideological forms”. To Marx, along with “the broadest Marxist tradition” including himself, what lay beyond “economic forms” was not “other forms (legal, political, etc)”, but “the doubly articulated structure of the production relations and the productive forces.” This structure was “*not directly visible*”, by contrast with Emmanuel’s ‘established claims’, but “*hidden* by the forms under which the relations constituting it “manifest themselves” (while concealing themselves)”. All his talk of forms, hidden essences, epistemological breaks, etc., soon revealed Bettelheim as an adherent of Louis Althusser, making him an easy target for others who were not under the party-philosopher’s spell, even when they did nothing but repeat Bettelheim’s critique. The problem with Emmanuel was that he was “precritical”, in more habitual language suffering from the “reformist illusions” of Proudhon, of petty-bourgeois revolutionary movements, anarchists, ‘ultra-Lefts’, and revolutionary trends in Latin America. As is often the case, alongside hoards of economic and sometimes philosophical arguments, there somewhere lies a political grudge. However, while disputes as to the adequate strategy or ultimate goal of ‘reform versus revolution’ will be heard of often enough, there also seems to be something more personal, or almost religious, at stake, not so much directed towards the future as to the past, and which can partly help explain the great concern over the correct interpretation of Master authors.

Bettelheim’s Preface is rather odd for being a preface, and he finds himself having to answer in advance the objection: “Why do you not let the reader “judge for himself” how to place Emmanuel’s thesis ideologically? And why, if you regard these theses as “precritical,” are you publishing them?” He (1969b: 348) was obviously hurt by Emmanuel’s (1972a: 323) reply that he was unconcerned with “orthodoxy” and had wished to avoid bringing “scholastic discussion” into the book. The hurt was probably both personal, since Bettelheim had certainly done his student Emmanuel a favour by adding his prestige and ‘theoretical comments’ to the book, and the spot the sorer for challenging the fundamental Marxist self-perception of being *scientific*. He therefore felt himself obliged to reaffirm the basis of true science, though in the process he may have done himself the disservice of strengthening the religious image, speaking as he does of “those who do not see”. Having reminded both the reader and Emmanuel who was editor of this series – which was “intended to *assist the development of historical materialism*, the basis of scientific socialism” – he (1969b: 348) was also “responsible for emphasizing [...] the existence of the division between science and ideology, and the consequences, implicit or explicit, of not recognizing this division.”

In reply to the question why he had at all published it, he informed that “it was not until after a very prolonged analysis that I “saw” the profundity of what had seemed to me to be

mere “divergences”.” Are we to presume, then, that if he *had* ‘seen’ he would not have done so? The ‘hoax’, so to speak, had been accomplished by using Marxist terminology in ways “that are still those of political economy” (*ibid.*: 349), thereby suggesting accord even behind mere ‘divergences’ over the respective influences of relations and forces of production, the meaning and conditions of ‘unequal exchange’, the part played by the organic composition of capital, wage-level determination, and the ‘bourgeoisification’ of the proletariat. One may perhaps suspect that Emmanuel had ‘seen’ some of these divergences before Bettelheim, but, perhaps wisely as things turned out, had chosen not to pursue them. Now, Bettelheim resumed, Emmanuel had finally revealed himself when saying: “I aimed at addressing myself to economists of all tendencies in a common language”. However, it was not merely *language*, Bettelheim revealed, but *logic*, and truth itself, that was different after one had seen the light of Marx’s ‘epistemological break’. “True, at the end of work conducted in this way, we shall “rediscover” the notions of political economy, but their real meaning will then have been *unveiled*”. Addressing oneself to economists of all tendencies was illusory, since the conclusions reached after such unveiling “are not directly comprehensible to those who have not undertaken the double leap thanks to which scientific knowledge becomes possible.” Scientific conclusions “are not directly “obvious”; on the contrary, they contradict the immediate evidence”, with which “we will have to break before we can grasp the truth.” It “would be a great mistake not to locate the field of conflict where I see it”, he concluded, since “[o]n this basis the reader will be able to make up his mind for his own” (*ibid.*: 350).

As long as he sees things the way Bettelheim does, the reader can make up his mind for his own? Bettelheim had once studied philosophy, but this was perhaps not him at his best. It is interesting nevertheless to see so bluntly stated the mixture of revealed and scientific truth, which most would probably prefer to hide, and yet others may write lengthy books to ‘unveil’. It was also the reason why he was reprimanded by his fellow party-man Jean Suret-Canale (1970: 91). If the battle was transferred to the “epistemological field”, he explained, where no debate, only “confrontation of theses” was possible, then one had opened the gates of scholasticism. From syllogism to syllogism and with an apparent ‘rigour’ (for which Bettelheim had unfortunately praised Emmanuel), students would learn to demonstrate opposing and possibly absurd theses. True rigour was not merely internal coherence, the historian Suret-Canale reminded, but an aptitude to reflect reality, taking ‘facts’ into account. This was reasonable enough, but it seems that Suret-Canale had a special relation to facts.

Jean Suret-Canale (1923–) had entered and obtained a responsible position in the communist resistance, where he also met his future wife whom he married on liberation. From 1946 to 1949 he was a member of the communist study group in Dakar, which very much later occasioned him to make a study of such groups in all of French tropical Africa. For the most part the militant Frenchmen in these study groups were not members of the PCF, but belonged to that segment of the colonial population who were sensitive to the increasing prestige of the U.S.S.R. after 1943. Notably, the so called *Amis de l’URSS* in Dakar presented Kazakhstan as the model of development for Africa. According to one of his reviewers, Suret-Canale was ‘absolutely uncritical’ in his treatment of the PCF, nor did he explain why the groups, who were important in the birth of the Rassemblement démocratique africain, ultimately turned neo-colonialist, disavowing communism, except for the possible corruptive bourgeois influence (Suret-Canale 1994; Cahen 1999: 210f.). In the early 1960s, he authored works on French colonialism in tropical Africa, and as geographic historian, Docteur d’État, and honorary professor he has continued to specialise on capitalism and colonialism in that area (e.g., 1962-4, 1973, 1993). At the time of entering the debate with Emmanuel he was director of the Centre d’Etudes et de Recherches Marxistes, and in general a defender of scientific Marxism (e.g., of the idea of an Asiatic mode of production; cf. Godelier 1970a; 1970b’). Signs of his past were clearly visible in the critique of Emmanuel in 1970.

Suret-Canale began his criticism by briefly but faithfully rendering Emmanuel's basic ideas in non-technical language, focusing on the international immobility of labour, the connection between the trade-union struggle for higher wages in the rich countries and the falling terms of trade in the poor, the serious implications for the orthodox Marxist view of international worker solidarity, and finally quoting Emmanuel's proposed solution requiring "at least" world-wide mechanisms and politics of income redistribution such as those already installed, "however imperfectly", on the national level. This solution was not good enough for Suret-Canale, however, who ultimately found hardly any progress towards solving the problems of the world in Emmanuel's work. It was a mere reflection of the general and unavoidable interest in international socialism in university studies, which still retained the methodology and ideology of bourgeois political economy, and refused to take into consideration the concrete facts (Suret-Canale 1970: 76f., 94). These facts consisted first of all, and as a recent book had demonstrated, in the historical experience of socialism in the underdeveloped countries: "The only 'poor' countries [...] to have succeeded in defeating poverty and underdevelopment are the socialist countries" (*ibid.*: 77; cf. Poncet 1970). Yet they had done this not by the means proposed by Emmanuel, but by socialist accumulation beneficial to the whole population, especially the working class and not to the owners of the means of production. Suret-Canale, who was apparently still under the influence of the 'Friends of the U.S.S.R.' group from his days in Dakar, thus concluded that there was no hope of elaborating a scientific study of underdevelopment without consideration of these facts, whereas Emmanuel, "deliberately disregarding" the only historical experience against which to test his theory, had only consecrated 'the socialist road' a few lines, and then only with reference to 'dirigisme' (*ibid.*: 78).

Because of state monopoly capitalism, as well as private monopolies, Suret-Canale (1970: 78ff.) did not believe in the international equalisation of profit, and in favour of the mobility of labour he suggested the "massive inflow" of manual labourers from underdeveloped to developed capitalist countries, as well as the brain-drain. Like Bettelheim, he reminded that increased wages did not necessarily imply lessened rate of surplus value (rate of exploitation). The identification of falling terms of trade for poor countries was just as much an 'optical illusion' as that for agricultural products, because in truth there were falling terms of trade for non-monopolised sectors against monopolised. A few lines further on this was nevertheless denied as the "most fundamental" factor, and later we find that the difference in productivities are responsible. He seems to have been unfamiliar with the reasonable idea and observation that increased productivity lowered relative prices, and since the point of his argument at that point was that wages were not the independent variable, he can be said implicitly to admit that increased wages were responsible all the same. Workers did not benefit from it, however, or only so much as they were allowed to by the increased productivities (the ultimate limit set for trade union struggles) and in order to satisfy "indispensable elementary social needs". By contrast, in dominated countries wages were forced *below* these needs. The exploitation of workers by workers thesis was also refuted by the facts, which again consisted in the 'monopolies', and the crumbs they let fall to the minuscule aristocracy of labour only consisted in a diminished rate of exploitation. In spite of Emmanuel's "affirmations", the workers of the rich and poor countries had very much a common interest because they were both exploited and the spoils from the one was used to exploit the other even more (*ibid.*: 80-85). Interestingly, Suret-Canale (*ibid.*: 83f.) quoted the specialisation between imperialist and dominated countries in different branches as an argument against Emmanuel's theory, whereas many others, by contrast, refer to the *persistence* of such non-specific branches in *their* argument against him. All these "factual errors", which he – oddly for an historian – had demonstrated without a single factual reference, lead up to Emmanuel's basic fault, that he adhered to "a non-scientific ideology and [was] a stranger to Marxism". As Bettelheim had

demonstrated, and like ‘vulgar’ and ‘bourgeois’ political economy, Emmanuel did not penetrate through the “level of circulation and exchange”. He thus exemplified an utter “contempt for history and ignorance of class relations” (*ibid.*: 85, 87).

Apart from having been fooled by Marxoid terminology, Bettelheim (1969b: 351) also gave a positive reason why the book was worth publishing. So far as it did not extend its critique to Marxist views, it brought out “the profound inadequacy and illusory character of the classical and “neoclassical” theory of international trade”, and thereby offered what seemed to be the most “radical” criticism that could be made, from a position that was still “precritical” itself, of the conclusions of political economy regarding the effects of international trade between countries at different levels of development. If Ricardo was the precritical economist who had gone the furthest in working out that theory, Emmanuel had gone still further. Ultimately, then, Bettelheim’s was a very generous opinion, putting Emmanuel on the level of Marx’s favourite economist Ricardo, and even maintaining that any progress would have to start by a “critical transformation” of the propositions Emmanuel had worked out.

The book revealed the inevitable shortcomings of any such precritical stance, the more telling perhaps because Emmanuel, apparently, was both rigorous and, above all, his approach sustained by “a politically correct attitude [...] of solidarity with the peoples oppressed and exploited by imperialism” (*ibid.*: 352). The danger of Emmanuel’s book, then, could be stated in more profane, or rather political terms. While it was written in “strictly scientific [*i.e.*, Marxist] style” and was at the same “rich in revolutionary feeling” (*ibid.*: 351), it thereby risked strengthening certain illusory political movements. Emmanuel seemed to deny the existence of true class struggle in the industrialised countries, replacing it with struggles between nations. “In reality what is involved is a whole ideological tendency, very broad and very deep, that can divert thousands upon thousands of young people, especially in Latin America, from real struggles in order to lead them into a hopeless battle. Because Emmanuel’s book may foster this ideological tendency and the various ideological currents inspired by it, the book cannot be presented to readers in an “academic” way” (*ibid.*: 353). However heroic and revolutionary such struggles were, Bettelheim explained, – notably that of Guevara, with whom he had debated in 1962-63 (Guevara, in press), and who, he now maintained had held views similar to those of Emmanuel, but also such revolutionary militants as adhered to Rosa Luxemburg, or the Russian ‘Narodniks’ –, they were nevertheless dominated by petty-bourgeois tendencies and cut off from the proletariat. Bettelheim may well have been right in seeing political affiliation between Emmanuel and Guevara, though not with respect to economic analysis. The latter’s (1961) highly influential manual on guerrilla strategy and tactics advocated peasant-based revolutionary movements in the developing countries, and may well have been the kind of revolutionary political struggle Emmanuel had in mind at the time, though to my knowledge there is no published evidence to sustain this view. They apparently shared the idea that in socialism the state would ultimately have to disappear, but at least Emmanuel came to the conclusion that the state had to be fought and torn down from outside. As noted, his theory of unequal exchange was published in 1964 in Havana, and both Guevara and Castro adopted the term (‘intercambio desigual’). For Guevara (quoted in Braun 1977: 9), however, only in the sense of price injustices attributed to monopolists and ‘imposed’ on the exploited countries, and for Castro (quoted in Bernal 1980: 167) meaning that “the produce of one hour’s work in the developed countries is exchanged for the product of ten hours’ work in the underdeveloped countries”, and (quoted in Koont 1987: 15) used as reaffirmation that “unequal exchange is impoverishing our peoples; and it should cease”, but not otherwise defined.

According to Bettelheim (1969b: 354), the fundamental characteristic of this tendency was that it ignored, “*explicitly or implicitly, the fact that the modern proletariat is to be found in the industrialized countries, and that it is, to an increasingly decisive extent, the principal*

producer of wealth.” His argument here was evidently based on the assumption that the revolution will come when and where the forces of production have been fully developed, as in the standard historical materialist view – though it was perhaps not evident from that perspective how it was that revolution had come to Russia and China, and not to the developed West. The true difference between Bettelheim and Emmanuel in this respect lay perhaps in the former seeing the complex of class struggle and economic development as first of all an intra-national affair, whereas for the latter both were primarily global in scope. It can be said that Bettelheim’s perspective was truer to the *Communist Manifesto*, but then also to a 19th century perspective, whereas Emmanuel was more akin to the 20th century global village view, though on the other hand he left it rather unclear, and in all probability did not know, how class struggle and revolution would be conducted on that scale, since there was no state apparatus or global monopoly to usurp.

If Suret-Canale’s contribution, appearing in the communist party’s theoretical journal *Économie et politique*, noted the dangers of conducting, and apparently losing, a philosophical debate against Emmanuel, it could perhaps be seen as an attempt to reassert Emmanuel’s basically political error. Suret-Canale’s (1970: 88) vehemence was probably not only due to Communist faith, but can also be traced to his seeing a link between Emmanuel’s bourgeois and reformist Third-Worldists’ notion, placing rich and poor countries on opposite sides, to the Hitlerist notion opposing ‘plutocratic nations’ and ‘proletarian nations’. Realising this it is easier to begin sympathising with Suret-Canale. Perhaps the actual economic reasoning, all of which had been gathered from Bettelheim’s comments, was merely an obligatory wall of words, used as armour or protective shield, and irrelevant to the real and political point he wished to make. By allegedly substituting geographical conflicts for social ones – and thereby implicating the U.S.S.R. as belonging to the rich – Emmanuel had paid too much homage to bourgeois ideology. This much is clear, and this was a common reaction among fellow Marxists. Emmanuel was claiming that all, workers and capitalists, were equally responsible for the pledge of the Third World, indeed, primarily the former. To resolve it he suggested a mere policy of distribution of income, the primary bourgeois mystification and reformist illusion, only now on a global scale. The problem, Suret-Canale (*ibid.*: 89f.) emphasised, was that Emmanuel presented this ‘just’ redistribution, and not the revolutionary transformation of the relations of production, as the *fundamental* remedy: “Of course this does not mean that ‘reforms’, either on the international or on the national level, should be rejected. Revolutionaries do not distinguish themselves from the reformists by rejecting reforms! On the contrary, they struggle with great seriousness for the slightest claims. But in it they see only a means, a step on a road which leads to revolutionary changes”. Although, to my knowledge, never replying to this article, Emmanuel (1982: 161) nevertheless adopted this very argument for himself. Not, however, as Suret-Canale would perhaps have wanted, to support also the claims of the working classes in rich countries, but as yet another argument for their impoverishment and the international redistribution he had proposed. This would undo the foundation for counter-revolutionary rich-country workers, as well as an economic aberration of continuous, crisis-free growth within capitalism, and speed up world-wide revolution.

A central pillar of the reaction against Emmanuel was the defence of international worker solidarity. The ideal of internationalism is a common to both liberalism and Marxism. Liberal belief in the mutual benefits of free trade, which in 1846 appeared to come out victorious, was partly a reaction against the protectionist beggar-thy-neighbour policy, which, however, if it ever disappeared, was nevertheless soon revived. In the *Communist Manifesto* (1848) Marx and Engels revelled in the disbandment of the ‘Reactionists’ through industrialism and free trade, and thought that it was the way of the future. They did not deny that nations could be exploited by others, but declared that it would all be naturally solved as communist society

began to make itself felt, and more or less took an international worker solidarity for granted, simply because they had a common foe: “In proportion as the exploitation of one individual by another is put an end to, the exploitation of one nation of another will also be put an end to. In proportion as the antagonism between classes within the nation vanishes, the hostility of one nation to another will come to an end” (Marx & Engels 1848: 236). After the revival of protectionism, Keynes had a similar, albeit intra-capitalist, vision of international hostility ending as unemployment vanished.⁸⁴ This and other such visions may have enforced the Marxist reaction against Emmanuel as a reformist – Emmanuel himself (Chapter 19) was very much concerned with distinguishing the more fundamental contradictions of capitalism, identified in the necessity to sell, as they appeared in business cycles and international mercantilist strife, from Keynes’s.

The Marxist stage on which Emmanuel’s thesis and book arrived was ripe with conflicting and heavily politicised opinions. Sino-Soviet tensions had hardened, manifestly putting in question socialist internationalism. Chinese convictions that the Soviet model had gone astray provoked Mao’s attempt to renew an anti-urban, anti-elitist, anti-educational revolutionary spirit. With the Cultural Revolution in full swing, the Prague Spring and the Soviet invasion of Czechoslovakia made Mao think more of restoring order than restoring seal, and in March 1969 Chinese and Soviet troops clashed in the disputed Ussuri river area. The confusion in the traditionally Soviet-friendly PCF was enforced by wild strikes and the revolting students in Paris and elsewhere in the world. While students were full of idealist internationalism, U.S. trade unions and international policy at the same time demonstrated an undisputed nationalism both versus Cuba and Vietnam, not to mention the Cold War itself, which was hardly an expression of grass-root international solidarity. Emmanuel (1972a: 179) reminded of some of these experiences: “It is in the name of the national interest and with reference to this interest that the communist parties defend the line they choose to adopt in foreign policy”, he observed; “yesterday and today, as between the United States and the Soviet U.S.S.R., today and tomorrow, as between the U.S.S.R. and China, the latter choice of position confirming already in deeds, if not so far in words, that the antagonism between rich and poor nations is likely to prevail over that between classes.” If international conflict had entered between socialist states, in the richest countries international conflict had even taken precedence over class struggle. “The workers in the most advanced capitalist countries now hold frontline positions in the defense of the national interest”, Emmanuel (*ibid.*: 181) argued, reminding of President Kennedy’s common reference to American trade-union leaders as “pressure from my Right”, and of President Johnson’s facility in stopping any strike by American dockers by reference to the harmful effects it would have on the Vietnam war, while failing with some bourgeois elements, or more particularly their sons and daughters in the universities: “In former times dockers went on strike precisely in order to prevent imperialist interventions. Today they stop strikes they have begun for other reasons in order to avoid embarrassing these interventions in any way. They even go on strike rather than unload ships trading with Cuba, against the advise of their own government. The persuasive argument behind the struggles of American blacks, Emmanuel suggested, was that they could not fight in Asia for principles that the whites denied them at home, thus implying that once these privileges are accorded they would have no objections to fighting the Vietnamese

⁸⁴ Robinson (1977: 201) wrote: “The Keynesian revolution began by refuting the then orthodox theory that there is a natural tendency in a market economy to establish equilibrium with full employment.” Speaking of Keynes (*ibid.*: 205: “At the end of his life, feeling obliged to defend the Bretton Woods agreement against his better judgement [...], he lapsed into arguing that, *in the long run*, market forces would tend to establish equilibrium in international trade [...]. He had forgotten his old crack, that in the long run we are all dead.” “The hopes which accompanied the Keynesian revolution of reforming capitalism so as to ensure continuous prosperity with full employment, are now all but extinguished” (*ibid.*: 206f.).

people. (In fact, the argument itself can be traced at least to post-Napoleonic Britain, when it could be combined with revulsion at slavery and perhaps even some sympathy with the Irish.) The only 'internationalism' left to the communist parties of the rich countries was a certain loyalty to the Soviet Union, and even that was no longer unconditional, or if it were, none would dare to say that it was, *i.e.*, independent of the national interest. By contrast, early in the century, revolutionary parties had unconditionally declared that any external conflict should be taken advantage of to overthrow their country's ruling classes (*ibid.*: 198, n. 24).

The traditional approach attempts to explain away such embarrassing facts relied on the seduction of monopolists and corruption of politicians (cf. Chapter 14). Now, political parties were by nature opportunist, Emmanuel (*ibid.*: 179) reminded, since their business was the conquest of the masses and the seizure of power at a given historical moment: "To explain a historical fact that has endured for nearly a century by the corruption of the leaders and the deception of the masses is, to say the least, hardly in conformity with the method of historical materialism." Parties could neither afford to renounce on principle any interest in the men of the present moment, nor "ignore structural objective conditions persisting for generations, on the excuse of service to a transcendental truth" (*ibid.*: 180). In the event of such changes, a party could still go on, through inertia and "living outside the realities of its epoch", but eventually must either transform itself or disappear:

Due to this time lag between base and superstructure, however, when the objective antagonisms are intensified the masses are more revolutionary than their parties, but when the antagonisms soften the parties remain for a long time more radical than the masses. [...] It is not the conservatism of the leaders that has held back the revolutionary élan of the masses, as has been believed in the Marxist-Leninist camp; it is the slow but steady growth in awareness by the masses that they belong to privileged exploiting nations that has obliged the leaders of their parties to revise their ideologies so as not to lose their clientele. (*Loc. cit.*)

If Emmanuel's style was sometimes provocative, this was more true of his conclusions, challenging fundamental beliefs in international worker solidarity. Going beyond, *e.g.*, Sartre in this direction, the argument was both novel and gruesomely logical – much more so than the still conventional idea ascribing world inequality and environmental disruption to malicious multinationals and politicians.

Unsurprisingly, if only in view of official party policy, French reactions were strong from the start. The debate between Emmanuel and Bettelheim was soon brought to the press, with an exchange of views in *Le Monde*, which reverberated to an English-reading audience in the *Monthly Review* (Emmanuel 1969b; cf. 'P.F.' 1969; quotations will be from the uncut trans. Emmanuel 1970b; Bettelheim 1970). Naturally, the editors rather consistently chose to focus on the question of international worker solidarity rather than any dispute over economic theory behind it. As soon as the debate went public, it centred on what Lenin (1964: 105) had once, after the collapse of the Second International in 1916, referred to as "the fundamental question of modern socialism". The fire that stirred about the debate – when she stirred – was due to the conclusion, on which Emmanuel had ended already in 1962 and now advertised in the titles of his articles, that the working classes of the rich countries of the world participated in the exploitation of the poor, and that, accordingly, their well-meaning intellectual spokesmen suffered from 'delusions of internationalism'. "The most bitter fruits of my work on *L'échange inégal*", Emmanuel (1970b: 13) began, "were the negative conclusions arrived at regarding the international solidarity of the working people." If his quince of knowledge had first made itself evident in the phenomenal world, the bitterness was no less for having a reasonable explanation. It was not "merely a matter of acknowledging that manifestations of this solidarity are becoming feebler and feebler throughout the world – this is a fact of life which it would be hard for anyone to deny." Instead, he (*ibid.*: 13f.) continued, the issue was "the question whether the objective basis itself for this solidarity has gone or whether it is only a passing wave of opportunism that is preventing the peoples of the rich countries from

becoming conscious of their long-term interests.” His critics argued on the latter presumption, but since ‘awareness’, whether ‘opportunist’ or not, also formed part of reality, he (*ibid.*: 14f.) suggested, “if the working people of today decline to take account of the long run, this is perhaps because this long run is longer than ordinary people can look ahead. And that constitutes an *objective* obstacle to internationalism. In the long run we are all dead, as someone [*i.e.*, Keynes, J.B.] has already observed.” The increased living standards not only of white-collar but also of blue-collar workers, organised by trade unions, had expanded the former ‘labour aristocracy’ of certain well-off countries into wholesale ‘aristocratic nations’ of the world.

Bettelheim’s article replied already in its title (presumably the choice of the editors) by reaffirming that ‘the workers of the rich and poor countries have common interests of solidarity’, but chose not to comment on the lack of any observable expressions of international worker solidarity. Instead, he now observed that the basis for Emmanuel’s claim was the role of wages as ‘independent variable’ in determining the level and structure of prices. This prominent role for wages was perfectly arbitrary, he countered, in a way that risked appealing to ‘common sense’ because of the immediate evidence for it, and which ‘science’ therefore had to question. A rise in wages would lead to a fall in profits, he explained, and so prices were not determined by wages. Instead, both theory and concrete analysis (apparently as opposed to ‘immediate evidence’) showed that international wage differentials were the result of unequal development of the intensity and productivity of labour, which tended to rise with capitalist development. Indeed, this differential was so great – a ratio even as high as 1 to 40 – that it exceeded the wage differential between the most and least developed countries – a ratio of some 1 to 20 or 30. This had the apparently ‘paradoxical’ consequence that the ‘rate of exploitation’ was much higher in developed countries than in underdeveloped ones, even when the level of consumption was very much lower in the latter. Bettelheim (1970: 22) thus concluded that when workers in developed countries raised their wages, they helped workers, despite their ‘miserable wages’, by increasing the competitiveness of poor country industries and thereby stimulating a higher rate of development:

Ultimately it is the unequal development of the productive forces under conditions of world domination by capitalist production relations that is the basic fact explaining the international economic inequality of wages. This is what manifests itself in the form of “unequal exchange.” This is the basis of imperialist exploitation (which in turn worsens still further the inequality of development). This is what, finally and above all, manifests itself in the form of a “blocking” of the productive forces of the less developed capitalist countries.

This ‘blocking’ of the economically less advanced countries, Bettelheim (*loc. cit.*) continues, “is nothing but the expanded reproduction of existing economic inequalities.” The enrichment of the more highly developed countries was founded less on the ‘exploitation’ of the underdeveloped countries, which technically speaking would have required that they become developed, but rather on keeping them undeveloped. In itself this was perhaps not so different from what Emmanuel had said, partly inspired, no doubt, by his tutor Bettelheim’s comments in 1962. Emmanuel asked who were the principal beneficiaries of the low prices ensured by low costs of production, and came up with the principal consumers, *i.e.*, the ‘proletariat’ of the rich countries. For Bettelheim (*ibid.*: 23f.) it meant, by contrast, a reconfirmation of standard political conclusions. He instead emphasised that any contradictory interests between rich and poor workers were subordinated to the basic conflict within capitalism over the control of the means of production. There was indeed an objective basis for international worker solidarity, he reiterated, and felt that a “reminder” of this was “particularly necessary today”, at the time of the open war in Vietnam and the Middle East and civil and guerrilla

warfare in Asia and Latin America, when peoples were at the mercy of national and international crises, produced, he maintained, by the capitalist mode of production itself.

Of course, Emmanuel agreed as to the desirability both of international solidarity and of a socialist mode of production, and seems not to have needed such a reminder. The problem for Bettelheim, then, was to ‘remind’ the *workers* of their ‘objective’ interest in international solidarity, which they ‘subjectively’ tended to forget, and the problem with Emmanuel’s theory was that, in his and any historical materialist’s view where history is determined by ‘objective’ economic interests, it could not serve as such a reminder. Emmanuel, himself a believer in historical materialism, had nothing to offer by way of a political program for communist parties in rich countries (cf. his ‘Preface’ in Communist Working Group 1984) – his political point was that workers tended rather to be counterrevolutionary. Observing similarities with Rosa Luxemburg and Henryk Grossmann, Bettelheim (1969d: 95; in Emmanuel 1972a: 309) pointed out that a theory like Emmanuel’s, where the overturning of capitalism implied the revocation of benefits from imperialism, would serve to ‘pacify’ the workers of the rich countries. That the principal problem with Emmanuel’s theory was of a ‘political’ kind was emphasised by the intervention of another Marxist economist, Henri Denis, and soon reiterated throughout the debates. The problem, then, became one of reintegrating the concept of unequal exchange with the ‘correct’ political conclusions.

The continuing French debate was kept almost wholly outside the economics department, thereby having to rely on the channels provided by various political fractions. Apart from personal communication and symposia at C.E.R.M. (Centre d’Études et de Recherches Marxistes), the principal media were the series “Débat sur l’impérialisme” in the journal *Politique aujourd’hui* – which in addition to Bettelheim (1969d) and Emmanuel (1970a) included articles by Denis (1970a; adding a review in *Revue économique*, Denis 1970b), Granou (1970), and Dhoquois (1970) – the journal *L’homme et la société* – which contained important articles by Amin (1970), Palloix (1969b, 1970, and esp. 1970b) and Emmanuel (1970d) –, and various books – notably in the series on ‘économie et socialisme’, edited by Bettelheim for Maspero. François Maspero’s political engagement and friendly bonds with Castro are known, and his editions constituted the “principal channel” (Pouch 2001: 58) in which the problem of imperialism, unequal exchange, and underdevelopment was disseminated from 1960 to the mid-1970s.⁸⁵ Amin added his article to his 1957 thesis to make *L’accumulation à l’échelle mondiale* (1970), and by 1973 declared himself to have successfully ended the debate, though he continued his extensive writings, helped introduce the Argentinean Oscar Braun’s theory, and collaborated, among others, with Frank.⁸⁶ Palloix’s book on ‘problems of growth in the open economy’ was inspiring to both Samir Amin and Jan Otto Andersson, and later permitted Gunder Frank to handle the concept of unequal exchange as well as disposing of Emmanuel. By attributing unequal exchange ultimately to ‘monopolies’ and multinational corporations rather than to wage levels, they strengthened the attempt to harmonise unequal exchange with a politically acceptable interpretation in line with the ‘monopoly capitalism’ of the Baran and dependency tradition. Additional contributions appeared, as we have seen in the communist party’s theoretical journal *Économie et politique* (Suret-Canale 1970), the Trotskyist *Quatrième internationale* (Lahire 1970; Emmanuel 1971), and *Critiques de l’économie politique* (Florian 1973;

⁸⁵ The series had previously published books by Bettelheim himself, but also translations of Baran 1957 (No. 7), Baran & Sweezy 1966 (No. 11), followed by Emmanuel 1969 (No. 12); Emmanuel 1974 was No. 22, and the important collection of articles by Emmanuel, *et al.*, 1975, No. 26. Palloix 1969 was not published in the actual ‘Économie et socialisme’ series, but by the same editor and was compensated by the rapid succession of Palloix 1971, Nos. 16-17; 1973, No.19; 1975, No. 23; 1975, Nos. 24-5.

⁸⁶ Amin was an exception in not being published by Maspero: Amin 1970a by Anthropos, who also published Amin & Saigal 1973; Amin & Frank 1978; and the French translation of Braun 1973, to which Amin wrote the preface. Amin 1973 appeared at his other principal publisher, Éditions de Minuit.

Chatelain 1973; Bush 1973). Presumably there were many other and scattered references in the French debate which I have not attempted to trace. While citing a sample of mostly non-French authors, Gibson (1977: 65, n. 1) observed that “the majority of Emmanuel’s detractors have provided little more than an elaboration of Charles Bettelheim’s basic methodological critique”. At the same time he regretted (*ibid.*: 27) that the “sometimes heated polemic which followed Emmanuel’s work has afforded little opportunity for clarification of the logical aspects of the theory.” This, on the other hand, was little more than a restatement of the conclusion reached by Denis, which in turn could be seen as the cooler variant of Bettelheim’s assertion that Emmanuel’s political inferences were wrong or dangerous.

Observing that this was not how Emmanuel saw it, Henri Denis (1970a: 95) wanted carefully to distinguish between Emmanuel’s economic analysis, which focused on the terms of trade and which he considered novel and interesting, and Emmanuel’s political conclusions, which he considered hasty and hazardous. Speaking on behalf of economic understanding, he was afraid that if debate centred on politics, as they had come to do with Bettelheim, the theory of unequal exchange would suffer by being thrown out with the bathwater. While Emmanuel’s theory was “solid”, Denis (*loc. cit.*) argued, his claims as to the lack of international worker solidarity left the reader with “a profound sense of astonishment”. As Denis understood it, whereas one had previously thought, with reason, that the development of consumption was due to the development of the productive forces, Emmanuel now claimed that if workers of the industrial nations benefited from higher levels of consumption than a hundred years ago, it was essentially because the underdeveloped regions were poorly paid. Without any empirical proof of transfers on any comparable order of magnitude, Denis (*ibid.*: 96f.) concluded, the least one could say was that it was legitimate to remain extremely sceptical about proclaiming the progressive atrophy of international worker solidarity. Like Bettelheim, Denis, too, had nothing to say about actual expressions of international worker solidarity, or the lack thereof, which apparently was not something in need of explanation. But neither did he follow Bettelheim in disclaiming, as he felt Bettelheim did, that there were actual net transfers of surplus value, or in proclaiming his paradox that it was in fact the workers of the developed countries that strictly speaking were the most exploited, ‘seductive’ though such an argument were. In essence, the theory of unequal exchange found itself restored, but without Emmanuel’s political conclusions. For the sake of clarity, he further pointed out that any likeness with Luxemburg’s theory was superficial, whatever the relative merits or faults, if only because it had nothing to do with the terms of trade. As to more strictly economic objections Denis confined these to his note in *Revue économique* (1970b). Noting Emmanuel’s justified ambition to fill in the gap in Marx’s political economy on international trade, he nevertheless felt that Emmanuel made overly strong claims for wages as the ‘independent variable’, demonstrating a corresponding neglect or setting aside of questions of demand. The possibility that demand played a larger role in international trade than it did domestically, indicated possible problems concerning, and restrictions set by, the balance of payments which Emmanuel’s book had not answered.

In *Politique aujourd’hui* the debate on the possible objective basis for proletarian internationalism continued with an article by ‘André Granou’ (1970), on the transition from economic analysis to revolutionary strategy. Behind the pseudonym hid André Gauron (b. 1944), who earned his D.E.S. in economics the same year and was at the time commissioned advisor for the National Institute for Statistics and Economic Studies (INSEE). Later he became advisor to Pierre Bérégovoy, minister of social affairs and then of finance under François Mitterand’s socialist government in the 1980s and early 1990s, and is currently Chief Advisor at the French National Audit Office and President of the High Committee on Education, Economy and Employment, and could therefore be suspected to provide a good illustration of the French state-functionary variant of the peaceful road to socialism. Not

wanting the problem to be confined to its economic dimension, he, by contrast to Denis, thought that it was precisely the political ramifications which made Emmanuel's analysis important, complementary, for example, to Herbert Marcuse's philosophical analysis in trying to give a scientific foundation to the idea that the Western proletariat was no longer revolutionary. Yet, unsurprisingly, he found no support either for unequal exchange or for Emmanuel's political conclusion, pointing to the higher productivity in rich countries assuring higher wages (the 'value of labour'), quoting Marx, and Luxemburg extensively in support of Bettelheim and his 'paradox'. Granou/Gauron's argument was summed up in three points: (1) differences in national wage-levels did result in German or French workers consuming more use-values than Brazilian, which phenomenon affected *subjectively* the consciousness of their common interests; (2) however, this difference in consumption did not imply an exploitative relation, because, on the one hand, relatively speaking the well-paid labour force was even more productive, meaning that well-paid French workers were more exploited than their poorly paid Brazilians, and on the other, one could only speak of exploitation with respect to classes, not nations, as Bettelheim had demonstrated; (3) finally, as Luxemburg had demonstrated, capitalism could only realise its surplus value by embracing the earth as a whole, and this fundamentally global character of the capitalist mode of production ensured the international solidarity of workers in their struggle against a common enemy (Granou 1970: 87f.).

To his credit, and unlike both Bettelheim and Denis, Granou/Gauron was not content merely to pass over in silence the miserable lack of consciousness of this solidarity among the masses of the population. Objective circumstances – which he had outlined above – were not enough to explain it, he professed; even according to Emmanuel himself the problem was only that the long term interests of the workers were too far away. Granou/Gauron was perplexed at how, in that case, Emmanuel could conclude that his argument 'profoundly modified the nature and constitution of revolutionary frontiers'. In fact, he continued, as Luxemburg had observed, the explanation was to be found in erroneous socialist tactics, starting with Lenin continuing under Stalin, of preferring to secure the Soviet Union and the *status quo*, rather than advancing world revolution. Doing so, they fostered a national mentality among Western workers, who had so far only been defeated in practice, not in soul. Even after the Second World War, when the strategic position of the Soviet Union had so greatly progressed, did the communist parties of the West invoke the ideal of socialist and revolutionary internationalism as a unifying principle for national struggles. This insistence on the national struggles of liberation against the common enemy and sole remaining American imperialism, continued to turn attention away from the true international worker solidarity, which included those of America. To Granou/Gauron's outrage, even his contemporary Parti Communiste Français continued to follow the destructive principles directed from Moscow. This, it seems, was ultimately the reason for his intervention in the debate, *i.e.*, to help formulating a politically viable program based on more internationalist ideals (Granou 1970: 88-92) – but which was nevertheless compatible with the actual political striving for a peaceful, non-revolutionary transition to socialism.

Next in line was Guy Dhoquois, who describes himself as a 'militant' and a child of the Second World War. He was active in the Parti Socialiste Autonome (PSA), dissident from the Section Française de l'Internationale Ouvrière (SFIO) after their support of the Gaullist *coup-d'état* in 1958. There he met his partner and later co-author Régine in 1959, and they both participated in the founding in 1960 of the Parti Socialiste Unifié (PSU), which comprised mostly social democrats and reformist socialists, but also more or less revolutionary Marxists, some of whom professed Luxemburgianism or Trotskyism.⁸⁷ In his debate with Emmanuel,

⁸⁷ At least until 1963 the party's cohesion was assured by the struggle for peace and against the war in Algeria. In 1961, Pierre Mendès-France adhered to the party, lead by Édouard Depreux, but, like the SFIO and the PCF,

Dhoquois wanted ‘bravely to confront theoretical contradictions’, but started out by making some peculiar and rather revealing comments. Emmanuel was one of those theoreticians, who, like Tugan-Baranovsky and Grossmann, had gathered analyses from Marx, abstracted them from their context, and, mechanistically developing them in the sphere of abstractions, had reached absurd results. The proof that Emmanuel’s economic analysis was erroneous was the political consequences he had reached. Like those other theorists before him, Dhoquois continued, Emmanuel wanted to suppress the “primordial opposition between bourgeoisie and proletariat”, and reinforce the idea of their common interests (Dhoquois 1970: 147). The passage from ‘values’ to ‘prices’ in the international sphere was still unknown, “because Marx and Lenin did not have the possibility to devote themselves to it, because R. Luxemburg broke her teeth on it”. Although Emmanuel had attempted a solution he was therefore destined to be mistaken.

Yet, since the tendency towards an international equalisation of rates of profit represented a considerable discovery, Emmanuel’s theses, unlike those of his reformist predecessors, nevertheless merited some consideration: “In a sense, his opinions on the economic plane are much better than his opinions on the political plane” (*loc. cit.*). Similar to Bettelheim’s conclusion and proposed also by Denis, this was, in another sense, the perfect solution for committed Marxists, who could thereby keep their ideals of an international worker solidarity, whatever the theory or reality of economic interests seemed to indicate. However, to avoid reaching the erroneous political conclusions, one would still have to search and find the error(s) in the analysis.

Dhoquois (*ibid.*: 148) challenged the possibility of comparing the wages of masons in developed and underdeveloped countries – there were no international, only national ‘exchange values of the labour force’. One would also have to compare the average national productivities, as well as in the export sectors, etc.. ‘Profits’ were not the only way in which ‘surplus value’ was transferred. In particular, Dhoquois emphasised how the struggle against the continual tendency of the rate of profit to fall, had driven capitalists to capital exports, and thereby the very internationalisation of prices of production, augmented productivity and the rate of exploitation. Emmanuel had forgotten, he continued, that the increased wages for which trade unions had struggled, was only a compensation for the higher productivity and rate of exploitation, which had been enforced under the pressure of the falling rate of profit, and corresponded to “a different definition of physiological needs”. However, admitting ‘Bettelheim’s paradox’ would imply that the poor workers of the world exploited the rich and would be going too far (*ibid.*: 149) – uncertain why. Finally, even if unequal exchange (*i.e.*, in the ‘broad sense’) did benefit the poor, capital exports to the same poor regions ensured that any benefits would be repatriated as profits. Perhaps sensing a subliminal concession that the workers might actually have opposing interests, Dhoquois was careful to remind of the all-important thing that, whether rich or poor, workers would still benefit from the revolution by which they would all gain more than they would lose (*ibid.*: 150).

Emmanuel’s political motivations surged in replying to another of his critics, Jacques Lahire. Lahire presented his views in *Quatrième internationale*, the main theoretical French-language paper of the International Executive Committee of the Fourth International, edited (from 1946 to 1971) by the Trotskyite activist Pierre Frank. The latter, naturally, had collaborated with Ernest Mandel, and, incidentally, had a history of being arrested, both

supported Mitterand in the presidential election 1965, offering no candidate of their own. From 1967 to 1973 the party was lead by Michel Rochard, who managed to gain the support of the principal students union in 1968, and in 1969 gained 3.61% in the first round of the presidential election, and behind whom a fraction rejoined the Parti Socialiste in 1974; the PSU disappeared in 1990. Dhoquois has also taught history at Paris 7, is the author of a history of historiography, and more recently co-author, with Régine, of a book on ‘the contradictory militant’.

during World War II as a ‘dangerous foreigner’ in Britain, in 1956 for his support of anti-colonial revolution in Indochina and Algeria, and again during the recent events of May–June 1968. He willingly agreed to let Emmanuel respond, but due to the economic character of the debate it would have to be continued in the journal *Critiques de l’économie politique*.

Lahire questioned Emmanuel’s empirical estimate of wage differentials, and challenged certain minor points, mistaking Emmanuel as denying that underdeveloped countries tended to export primary products, and thinking that to Emmanuel ‘risk premiums’ played a part in the equalisation of profits. He also felt that Emmanuel had presented ‘value’ as the sum of the remuneration of factors. Emmanuel responded by admitting that Lahire had been a more attentive reader than many, but clarified his position on these points, reaffirming his belief in the large wage-differential, and reminding that whereas ‘value’ was a physical quantity, the product of labour alone, or so he said at this point, ‘prices of production’ were indeed the sum of factor remunerations. More fundamentally Lahire argued that whereas in Marxist analysis ‘unequal development’ in the sphere of production as the cause of unequal exchange in the ‘broad’ sense, Emmanuel had reversed the relation, making unequal exchange in the ‘strict’ sense responsible for unequal development. Emmanuel objected to this description, which even if true only stated that the argument was un-Marxist, not that it was false. Lahire also reproached Emmanuel for attributing unequal exchange to a ‘dysfunction’ within capitalism and not to capitalism as such, indicating that capitalism could survive the abolition of unequal exchange. In his reply, Emmanuel wondered what difference this would make to the actual activist practice of the underdeveloped countries. If the suggestion was that they should not waste their time with commercial exploitation, but instead concentrate on the socialist revolution with which unequal exchange would, along with all other problems, disappear automatically, it was likely to be badly received, particularly so since this exploitation appeared to retard the revolution in the advanced countries. Emmanuel further noted that even the socialist revolution could only eliminate unequal exchange if it was *universal*, or else an international capitalist ‘reference’ market would form by its side and the poor countries continue to be subjected to unequal exchange. This universalism would have to recover the ‘socialism in several countries’, not the current Stalinist model of several ‘socialism-in-one-country’s, which had never been previewed by anyone, and which had already been left behind by reality. If this model was unlikely to be favoured by the journal’s readers, no one – least of all Marx, Lenin, or Trotsky, as Lahire wanted to believe – had as yet answered how, at the time of the future (true and good) revolution, the victorious proletariat of a wealthy industrial nation could be persuaded to integrate their economy with an equally sized and populated, but thirty times poorer country (Lahire 1970; Emmanuel 1971: 54).

As announced, the debate was continued, by Patrick Florian (1973) and Eugène Chatelain (1973), in *Critiques de l’économie politique*, which also published a translation of an early German contribution by Klaus Bush (1973). Florian (1973: 98, 101) read Emmanuel as saying that the repartition among productive factors was their respective mobility, conveniently ‘forgetting’ the contradiction between wages and profits. His thesis was thereby best understood as a ‘reformist mythology’. Though Emmanuel’s thesis was curiously coherent from a certain point of view, Florian was incredulous, adding three exclamation marks, of his proposal to Lahire that the disadvantaged countries of the world were justified to think that gains from international exploitation retarded the socialist revolution in the advanced countries, and that ‘to dry up this source might well be the fastest way to arrive at this end’. Calling Emmanuel a pompous, counter-revolutionary sycophant, Florian could thereby place him among the ‘philistines’ Kautsky, Plekhanov, and Bernstein, who had all denied the antagonism between the proletariat and the bourgeoisie. Orthodox Marxism, Florian informed, and this was apparently an argument in itself, had always denied “this ‘objective’ basis” behind a proletarian consciousness of “solidarity of interests between capitalists and

workers in imperialist countries” (*ibid.*: 103ff.). Emmanuel’s coherence was strictly formal, and consisted in a refusal to confront capital and masking the true relations of production under capitalism. “The extent to which Emmanuel’s problem is not that of the struggle of the proletariat against the bourgeoisie, he places himself objectively, if not, of course, in words or intentions, on the side of the bourgeoisie”. Florian still hoped that comments such as his own could entice Emmanuel over to the greener fields of true Marxism, to which he unfortunately had never pledged allegiance (*ibid.*: 106).

Emmanuel’s book was both ambitious, paradoxical, and polemic, Chatelain (1973: 107) began, but ultimately his schemas were not simply false, going against actual events, but absurd, because they went against the internal logic of the capitalist mode of production (*ibid.*: 115f.). To prove this point, Chatelain (*ibid.*: 117) proposed an example of two countries which differed only with regard to the ‘intensity’ of labour, which showed up, he argued in different rates of surplus value. With the equalisation of profit rates, the country with the higher intensity of labour/rate of surplus value would, according to Emmanuel’s theory, loose from an unequal exchange – thus, the more intensely one worked, speeding up the working pace, the more one would loose, and vice versa, the more sluggishly one went about the more one would gain. The schemas lead to these absurd conclusions, he continued, because Emmanuel did not use them as Marx had done, but in the international context. Amin (1970a; 1974, II: 597), simply responded by reaffirming the permissibility and even necessity of applying the law of value to the international economy, but without confronting Chatelain’s argument. Darmangeat’s (1991: 95ff., 105) doctoral dissertation found Chatelain’s argument in itself sufficient to demonstrate the inadmissible logic – the “logical catastrophe” – of both Emmanuel and Amin. In fact, the absurdity is all in the heads of Chatelain and Darmangeat, and to the extent that it is so in the international context it is equally so in the national. If differing rates of surplus value are to indicate different intensities of labour, they must do so at equal wages. Thus, if a group of labourers in one branch work twice as efficiently as another, but receive the same wage because they are, for one ‘institutional’ reason or another, excluded from entrance into the other branch, one is indeed justified in speaking of unequal exchange in the Emmanuelian sense. If they happen to work in the same branch, the loss will show up in the lower rate of profit of the employers of sluggards, whose firms will then, according to the accepted logic, be driven out of business.

Many commentators have difficulties distinguishing Emmanuel’s argument from that of other unequal exchange theorists, notably Amin, as the most prolific and well-known of these. If some of the foregoing writers have been highly hostile, Amin and Palloix, another prolific writer, to whom we shall dedicate the rest of this chapter, were basically positive, even enthusiastic, over Emmanuel’s new ideas. Their function, I will suggest, was however rather to attempt a reincorporation of Emmanuel’s unequal exchange into the general dependency framework, and one may perhaps suspect that this in part explains his popularity derives. If much of the French debate has rather obstinately hinged on the correct interpretation of Marxian values, Palloix’s contribution occasioned Emmanuel’s explicit turn instead to Sraffian in-out-output formulas, to which we shall turn in Chapter 18.

The son of an Egyptian father and French mother (both doctors), Samir Amin was born in Cairo 1931, grew up in Port Said, and went to the French Gymnasium. Having passed his *baccalauréat* in 1947, he studied in Paris for ten years, starting his doctoral thesis in economics in 1954, “immediately after gaining the necessary higher diplomas” in political sciences, economic law and statistics (Amin 1994: 42f.). During his time in Paris he claims to have “spent most of my time in militant action and only the minimum on university work” (*ibid.*: 23). On arrival it was “axiomatic” that he immediately joined the French Communist Party, where he became active in the school cell. In the Communist cell at the Institute of

Political Studies he met his future wife. Amin opted for militant action in the overseas student movement, comprising Egyptians other Arabs and Africans, Vietnamese and other Asians, and their journal, *Étudiants anticolonialistes* (published from 1949 to 1953), was not always looked benevolently upon by the headquarters of the Central Committee of the PCF. Accusations of nationalist and petty bourgeois deviation later encouraged them towards Maoism: “from 1957 to 1980 I was in almost total agreement with the analysis of the Communist Party of China” (*ibid.*: 107). While entirely sharing the Maoist view (“and nothing more”) from 1960 to 1975, in the ebb after the Chinese Cultural Revolution and the national liberations in Vietnam and Cambodia, Amin (*ibid.*: 108; cf. 135) and his Egyptian/Arab comrades “gradually realized [...] what the historical limits of Maoism had been”, that “the battle was far from being won, and that even in China the forces of capitalism were to have it their way.”

During the early years in Paris, his readings included Paul Sweezy’s *Theory of Capitalist Development* (1942), which “proved – and convinced me immediately” – that Marxism could be used more creatively than the fashion of making ‘Comments of the Koran,’ then repeating endlessly ‘Comments of the Comments’ (Amin 2000: 42). He had long since decided to contribute to a Marxist analysis of the origins and course of ‘underdevelopment’ (Amin 1994: 42), and with a clear idea of what he wanted to do, did not have to hunt for a topic: “to examine the birth of underdevelopment and its implementation as a product of worldwide capitalist expansion – and not as a backward form of capitalist development.” Both his supervisor Maurice Byé, and François Perroux were always very supportive, making detailed comments and encouraging him “to be more precise.” It is not evident that this advice was ever taken: “I wrote the thesis fairly quickly and have maintained this habit. [...] I do not take the academic approach of an illusory quest for “perfection” sustained by an excess of footnotes. I prefer to be a militant whose writings aim to carry the debate forward” (*ibid.*: 43). If it demonstrates an absence of ‘false modesty’, as Amin believes – recalling his observations over the years as “highly perceptive”, or “almost prophetic”, he (*ibid.*: 134) does suspects that “such a statement may seem lacking in modesty” – or of self-criticism, is not for us to decide, and his voluminous dissertation included “a critical reading of conventional economics and the basic principles of the law of value, the system’s dynamic of accumulation and reproduction, money, the business cycle, international exchange, and so on” (*ibid.*: 44). The dissertation being well advanced by the autumn of 1955, he “virtually completed it in the first half of 1956.” Then the nationalisation of the Suez Canal and the attack on Egypt in October kept him busy until early 1957. A busy man, he presented his thesis in June, married in August, and returned to Egypt in September (*ibid.*: 43).

Having completed his studies, Amin went back to Cairo where, in January 1958 he took up a post in the Economic Development Organisation. Headed by a friend and comrade of Amin’s, it had been established in the wake of the 1957 nationalisations and was to manage the state sector in industry, trade, banking, insurance, and transport. The Nasser regime’s benevolence towards communists was shortlived, and on 1 January 1959 thousands were arrested. Amin escaped this round and did not await a second leaving for Paris in January 1960. In September he accepted an offer to act as an advisor for the Ministry of Planning in Bamako, Mali. Due to the unpromising situation he was, by 1963, grateful to be offered joining the staff of the UN directed *Institut Africain de Développement Économique et de Planification* (IDEP), where his conclusions and criticism of the World Bank earned him “the director’s total enmity” (*ibid.*: 143). Meanwhile, he was part-time professor at the University of Poitiers, then at the universities of Dakar and Paris (Paris VIII, Vincennes), until 1970 when he became the superintendent of IDEP. This became the ground from which to launch other African and non-governmental organisations: the Council for the Development of Economic and Social Research in Africa (CODESRIA), the Program for Environment and Development

in Africa (ENDA) – “concerned with environmental issues in 1972, when their significance was not understood” –, and finally the Third World Forum in Allende’s Chile in 1973 (*ibid.*: 145). In Amin’s estimation, before his leaving the IDEP in 1980, to become the Director of the Third World Forum’s African office in Dakar, Senegal, a veritable battalion of about 1000 young African intellectuals had been educated in the same critical spirit as his own. The Forum’s ambition is to develop and promote a Latin American, African, and Asian perspective on the intercontinental development discussion, through worldwide common projects, conferences, and platforms, including a *Lettre d’Information/Newsletter*. In 1996, Amin resumed the Presidency of the World Forum For Alternatives, whose 1997 Manifest proclaimed the time to shift the helm of history (Senghaas 2001: 196). Amin is a prolific writer, having written or co-authored (at least) 36 books between 1957 and 2000, and in spite of his years he appears to be very much active. The point of all these books, it must be said, is not to reveal ever new discoveries, but to stand on par with his other militant activities as a participation in social debate: “I regard writing as a significant social act” (Amin 1994: 9). Many studies concern particular Third World countries, but his most important general works, certainly the most influential, remain the books *L’Accumulation à l’échelle mondiale* (1970a) and *Le développement inégal* (1973), to some degree a reworked version of the former book, which was in turn a reworking of his thesis.

For his doctoral thesis, Amin had proposed the title *Aux origines du sous-développement. L’accumulation capitaliste à l’échelle mondiale*, but Byé persuaded him to adopt what Amin considers “a more esoteric title”, *Les effets structurels de l’intégration internationale des économies précapitalistes. Une étude théorique du mécanisme qui a engendré les économies dites sous-développées*. In his universe the underdeveloped economy could not be understood as an autonomous (self-referential) entity, but must be seen as a building block in the capitalist world economy, peripheral societies undergoing a continuous structural adjustment to the reproductive dynamics of the centres of world capitalism (cf. Senghaas 2001: 196). “Never before”, Amin (1994: 43f.) prides himself, “had underdevelopment been seen as a product of capitalism. The central idea was that an “underdeveloped” economy did not exist of itself but was an element in the world capitalist economy. The societies of the periphery were subjected to a constant structural adjustment [...] to the demands of capital accumulation on a world scale. In other words, there was no answer to polarization within the framework of capitalism.” He nevertheless could not have been unaware of Baran’s (1952a) well-known article, and he also carefully avoids any mention of Baran’s book (1957), published the same year as Amin scurried through his thesis. Upon completion, Amin maintains, his thesis was put in hibernation until the *desarrollismo* ideas became popular: “Much later when the dependency school popularised the ideas that I had pioneered, I was invited to publish the thesis, and did so as *Accumulation à l’échelle mondiale* in 1970” (Amin 1994: 44). Judging from some of the published book’s references and discussions (e.g., Baran & Sweezy 1966, Emmanuel’s 1969), there must have been some amount of reediting. However, the book struck a chord and earned him a widespread reputation.

Amin maintains that his doctoral thesis reached certain “conclusions to which I have remained attached and regard as definitive”, although some have wondered whether he distinguishes ‘conclusions’ from ‘axioms’ (e.g., Smith 1980). As he put them in 1994 (*i.e.*, when he identified more with Wallerstein’s world-system perspective), these were:

(1). Underdevelopment is not a backward phase of development but a modern phenomenon of worldwide capitalist expansion initially polarizing and shaping the distinction between centres and peripheries by continual structural adjustment of the peripheries to the demands of worldwide expansion of capital which dominates the centers.

(2). The analytical framework for all the major problems of society that gradually reached modernity after 1492 is the world system and not the local and national social formations that compose it.

(3). The world system is based on the capitalist mode of production whose logic overturns the order of previous dispensations and is expressed in economic alienation. This means that the law of value dominates not only economic life (which becomes autonomous) but all other aspects of social life (which become subject to it).

(4). Bourgeois economic science ignored the specific character of capitalism from the outset. It had no genuine scientific foundation; it was tautological and nothing more than an ideology used to legitimise the system and avoid the real issues.

(5). Bourgeois economic policy based on this so-called science was at best the art of managing capitalist expansion and effective only in some circumstances.

(6). The development policies pursued in this spirit were always ineffective and could never achieve the stated goal of reducing the North-South gap. (Amin 1994: 68.)

Confining ourselves to positive statements, and disregarding the negative claims for other theories and policies, his axioms are confined to the first three: the world is divided into centres and peripheries, where underdevelopment of the latter is a consequence of the development of the former, it must be analysed as a whole, and functions according to some expansionist capitalist logic, an internationalised version of the law of value.

In the years from 1965 to 1972 Amin (*ibid.*: 69) claims to have “concentrated on elucidating the concept of the law of value worldwide”. *L’accumulation* begins with an analysis of the international division of labour between centre and periphery and the consequent unequal exchange between them. Among the additions to this book, as compared with his thesis, must be the discussion of Emmanuel’s theory of unequal exchange, through which he attempted to attach the idea of international capital mobility without modification of the basic argument. Brewer (1990: 185) claims that Amin “took the analysis of international prices from Emmanuel, adding his own account of unequal specialization to complement it”, but this clearly mistakes the order. Amin’s efforts in this period consisted in using the new tools revealed by Emmanuel to confirm or elaborate his previous conclusions/axioms. Already in 1973, Amin proclaimed, with some help from Jagdish C. Saigal, to have conclusively ‘ended’ the debate on unequal exchange for good – “formulated in the way I still regard as definitive”, as his intellectual autobiography has it (Amin 1973; 1994: 75). If his *L’échange inégal et la loi de la valeur: la fin d’un débat*, contains the perhaps clearest formulation of his theory, it is nevertheless hardly surprising, not only because of the internal inconsistencies in his and Saigal’s model, that no one else seems to agree. At least some of the inconsistencies and contradictions can be understood as the result of trying to add international equalisation of profits to his pre-Emmanuelian argument based on centre-periphery productivity differences.

Amin’s (1970a) book and thesis were to large extents commentaries on the works of others, and this approach was continued in his article in *L’Homme et la société* in 1970. In the form of a commentary on international trade theories, Amin was unusual in his concern with spelling out his own perspective rather than debating or criticising Emmanuel (Amin 1970b; it will be quoted from the corresponding sections of his book Amin 1974 esp. 53ff.). Amin generously described Emmanuel’s theory of unequal exchange as a fundamental contribution and gave the appearance of basically agreeing. However, though Emmanuel was “quite right” to say that exchange was not unequal merely because branches or countries had different capital intensities, which was an immanent feature of a competitive economy, it nevertheless remained “true” that “exchange is unequal, all the same, and that this inequality reflects the inequality in productivity” (Amin 1974, II: 55). So, on this point the criticism of Emmanuel made by Bettelheim apparently *was* “fully justified”, and exchange *was* unequal: “(1) mainly because the productivities are unequal (this inequality being linked with different organic compositions) and (2) only secondarily because the different organic compositions determine, through the working of the equalization of the rate of profit, prices of production that differ from values in isolation.” Amin’s argument seems to be rather confused. Giving an example in which the same commodity is produced with different productivities, and assuming (or at

least speaking as if there is) an international equalisation of the rate of profit, he nevertheless arrives at two different prices of production (*ibid.*: 56; actually, his example assumes equal *profits*, while rates of profit are 24% and about 26% respectively). This was not Emmanuel's argument, he admitted, but he apparently believed that it was "at this point that Bettelheim's argument is aimed", thus explaining their "dialogue of the deaf". Instead, he continued and still speaking of a case in which the same kind of commodity is produced, Emmanuel's argument assumed that organic compositions/productivities/level of development were similar, but wages/rates of exploitation dissimilar: "Emmanuel properly describes this kind of exchange, *and this kind alone*, as really unequal exchange". What Emmanuel should have added, according to Amin, because it was the strong point in his argument, was that this case corresponded to the real world. The exports of the Third World were not in the backward sectors, but in the branches with equally high productivity as in the developed North. Defining equality as equal wages at equal productivity wage, he proceeded to make an estimate of 'unequal exchange' as originating, first, from those 'ultramodern' branches where wages were lower, but productivity equally high as in the developed countries; second, from the remaining backward branches, where productivity was lower.

However, either 'productivity' is definable and branches competitive between high- and low-wage countries, in which case equally high productivity and lower wages would mean a competitive advantage and, if the rate of profit equalised, an unstable situation; or branches are different and not competitive, in which case 'productivity' is not comparable.⁸⁸ Amin never resolved this contradiction, but instead referred to dialectics and historical materialism. At the time, Amin probably had a more commonsense view in which the level of development/productivity, like an elephant, was simply something recognised when seen but difficult to define. Dhoquois (1970: 149) referred to Amin's affirmation, that 80% of the value of peripheral exports were in these competitive high-productivity branches, as an argument in favour of Emmanuel's thesis. The latter declined the honour, however, pointing out that his own argument concerned not the "highly mechanised" but rather those "other" branches, by which he meant those not competing with high-wage countries, pointing out that it was precisely in these branches that their comparative advantage was highest. Presumably accepting his commonsense view, neither seems at the time to have observed the contradiction within Amin's argument (Emmanuel 1970: 80, n. 7). In his 1973 attempt to end the debate with Emmanuel, Amin (1977: 209) charged that most goods are not specific or have irreducible use values, mentioning crude oil and some goods with close substitutes. Here, Brewer (1990: 193 f.) objected that even if differences between goods are minor,

they must still be distinct from each other, or there is no basis for exchange or for a social division of labour. In particular, if use values are not 'specific', there is no room for unequal specialization, and Amin's analysis

⁸⁸ "It is not, of course, possible to compare productivities in the strict sense of the word except between two enterprises that produce the same product [...]. Between one branch and another one can speak only of different *profitabilities*, as Emmanuel has reminded us" (Amin 1976: 215 ff.). But Amin nevertheless wants to say that 'productivity is lower' if conditions are such that, at a given price structure, capital or labour is not rewarded at the same rate in two branches of production. In a capitalist economy factor remuneration tends to equalise between branches, he (*ibid.*: 216 f.) explains, continuing: "If, however, this price structure, corresponding at the centre to homogenous rewards for labor and capital, is transferred to the periphery, the result will be that the factors cannot be rewarded at the same rate in different branches if the technical conditions (and so the productivity) are distributed otherwise than at the centre. [...] Now, the price structure of the center is, in fact, transferred to the periphery. For there is a world market through which transference is inevitably effected to the periphery of the essential structures of relative prices that prevail at the centre." It looks as if Amin already after a few lines has reverted to the normal usage of the word 'productivity', as a consequence of technical conditions and not factor rewards. However this may be, Brewer (1990: 193) protests that if the price structure of the centre determines world prices, then unequal exchange in the sense of Emmanuel is excluded, since the point of that theory is that low peripheral wages result in low prices for their products.

evaporates, along with the theory of unequal exchange. If the periphery produces the same range of goods as the centre, they must sell at the same prices, and super-exploitation must appear as super-profits for firms producing in the periphery, rather than through unequal exchange.

In Amin's conception of 'unequal exchange', contrary to that of Emmanuel, the level of 'productivity' is of primal importance; this is at least what one may derive from his own terminology. That 'labour productivity' is somehow relevant in wage determination is an idea common among Marxists and neoclassical theorists alike. In order to have a common measuring rod for exchange between both capitalist economies and between these and backward economies, Amin (1976: 148 f.) defined clearly what he considered to be unequal exchange: "exchange is unequal whenever labor of the same productivity is rewarded at a lower rate in the periphery". I will suggest that 'labour productivity' is nevertheless not the relevant measuring rod, but 'labour intensity', 'labour qualifications', or the like. Somewhat later this the above definition was supplemented with the following in terms of the DFTT:

Precise analysis of the significance of the worsening terms of trade for the underdeveloped countries requires that systematic studies be undertaken in order to compare the evolution of relative prices (net barter terms of trade) with that of productivities. The concept of double factorial terms of trade answers to this need, as it is the quotient of net barter terms of trade by the index of progress in comparative productivities. Unfortunately, very few studies have been devoted to evolution in the double factorial terms of trade, which are the only terms that signify from the standpoint of the theory of unequal exchange. (*Ibid.*: 168.)

In *Accumulation*, Amin wrote of how the benefits of technical progress could find expression in two ways: "either prices fall, money incomes remaining the same, or money incomes rise, prices remaining the same". If prices fall and money wages remain the same, real wages will of course have risen for consumers of the product in question. Just how and why money wages would rise as a consequence of a productivity increase was not explained, or why a productivity increase could not raise profits at equal wages. What he was trying to do was probably to repeat Singer's dictum that a rise in productivity could benefit either producers or consumers. Now, he (1974, I: 81f.) explained, if in both countries prices fell as a result of technical progress, "then the changes in the terms of trade merely reflect the uneven speed of this progress." Fair enough, but the next sentence was not: "The same is true if incomes in the two types of country rise with productivity." He provided an example (cf. Table 13, A-C) in line with the Prebisch, Singer, Emmanuel interpretation of the worsening terms of trade. If there was a 50% increase in the productivity index for manufactured goods, and a 20% increase for 'basic products', the price indices of respective groups of products, and the terms of trade for underdeveloped countries should, under 'normal' circumstances, change from A to B, whereas instead, according to Prebisch's (*i.e.*, Singer's) data, C had occurred (I have added columns 4-6 assuming the initial value of DFTT to be unity).⁸⁹ And so he (1974: 82) concluded: "The terms of trade have worsened for the underdeveloped country, whereas they should have improved." As we illustrate in the last columns, what determines the 'should' in Amin's view, is the $DFTT = 1$ in A and B, which we can compare with the actual situation in C where $DFTT = 0.64$ for the periphery. However, as can easily be seen, if "incomes", *i.e.*, factor remuneration, "in the two types of county rise with productivity", we would have the situation, *e.g.*, in D, which of course stands in contradiction to what the terms of trade 'should' have been.

⁸⁹ *I.e.*, $(P_x F_x)/(P_m F_m) = 1$, where P is price index, F productivity index, x and m suffixes stand for exports and imports respectively.

Table 13. Relation between changes in productivity and terms of trade

Manufactured goods		Basic products	Net Barter Terms of Trade		Double Factoral Terms of Trade	
			Peripheral	Centre	Peripheral	Centre
A	100	100	100	100	1	1
B	50	80	160	62.5	1	1
C	100	80	80	125	0.64	1.5625
D	100	100	100	100	0.8	1.25

Double factoral terms of trade equal to unity, Raffer (1987: 113) maintains, “is but another way of expressing that factors of production are paid equally according to their contributions to production.” One may nevertheless wonder at this way of putting it, more precisely over what is intended by ‘contributions’ to production. “Apart from being an old demand of the trade-union movement,” he continues, “this also satisfies neo-classical ideals that postulate that the same degree of workmanship, or homogenous factors of production, should have the same ‘price’ – in the case of labour the same wage.” Unfortunately, the vagueness of what is considered ‘workmanship’ in the real world appears to be sufficiently great and open to political debate so as to make this definition rather difficult to use. Raffer (*loc. cit.*) admits that “[e]xact measurements and comparisons, of course, pose hardly surmountable problems”. How does one determine the ‘degree of workmanship’ with pen and paper at the desk? One thing which is certain already from the definition of DFTT = 1, is that it is *not* the same thing as ‘productivity’, although neither Amin nor Raffer appears to realise this. In Marx’s world it was determined ‘in the field’ in the daily lives by the workers themselves, according to achievement and the qualifications required for a job. If labour-unions have made demands these have certainly not aimed at testing this hypothesis internationally, which in the neo-classical sense would imply opening up the global labour market for competition. Internationally, or to the extent the underdeveloped countries are concerned, trade unions have of course ‘traditionally’ been concerned with precisely the opposite. Eighty years before Raffer wrote, Otto Bauer (1907; Chapter 5) seems to have had this picture clearer in mind.

Somewhat before the above exercise, Amin had tried to determine the scale of ‘unequal exchange’ by another standard.⁹⁰ He started with an estimate of the total 1966 value of underdeveloped countries’ exports to be \$35 billion. The ‘ultramodern capitalist sector (oil, mining and primary processing of minerals, modern plantations, such as those of United Fruit or Unilever, etc. – Amin apparently assumed that developed countries could have tropical fruits production) provided at least three-quarters, or \$26 billion. If these products had been provided by the developed countries, with the same productivity, an international rate of profit

⁹⁰ Raffer has reviewed a number of estimates of ‘unequal exchange’, and he considers Amin to be the first in Western debate to offer its rough dimensions. This neglects the rough draft thrown down previously in the debate between Bettelheim and Emmanuel. Bettelheim challenged the quantitative importance of unequal exchange by pointing out that the sum of the prices of the goods exported by the Third World to the advanced countries were about \$25 billion, whereas the national income of the latter group exceeded \$1,000 billion. Thus, he contended, the possible gain made by the advanced countries must be less than 2.5%. Emmanuel replied without difficulties, that Bettelheim had made a simple mistake in arithmetic, implying that if all prices were to be halved, so that the same total Third World exports only valued \$12.5 billion, the gains made by the advanced countries would only be a fraction of 1.25% instead of 2.5%, and so on with every halving of price. As the terms of trade worsened for the poor countries, the lesser would the gain be to the rich countries. Instead, of course, the \$25 billion represented the present *depreciated* value, and nothing hindered the plundering from trade to be as high as \$200-300 billion. ‘What is the quantitative importance of unequal exchange?’ Emmanuel asked. The only honourable answer he could give was: “It is what it is”, and everything depended on the estimate of the amount by which present value has been reduced. Emmanuel seems not to attach any great importance to these kinds of estimates. The central point of his own argument was that unequal exchange allowed wages to increase in the centre without proportionately lowering the local rate of profit. His above suggestion was based on the assumption that wages represent 50% of the costs of these exports, and the relevant rate of wages is one twentieth of that in the advanced countries (Emmanuel 1972a: 367f.).

of 20% of capital invested, and a wage rate 5 times higher, they would, Amin explained, instead have cost 34 million as illustrated in Table 14.

Table 14. *Amin's price of production schema*

Region	K Total capital invested	c Constant capital consumed	v Variable capital	m Surplus value	V Value $c + v + m$	R Cost of production $c + v$	r Rate of profit $\Sigma m / \Sigma K$	p Profit rK	L Price of production $R + p$
A	70	10	2	18	30	12		14	26
B	70	10	10	10	30	20	20%	14	34
	140	20	12	28	60	32		28	60

Source: Amin 1974, I: 57.

Thus, Amin (1974, I: 57) concluded, already under this heading alone the transfer of value from the periphery to the centre would be a considerable \$8 billion. Amin referred to this 'realistic estimate' as the very case Emmanuel had in mind with his unequal exchange: "Emmanuel properly describes this kind of exchange, *and this kind alone*, as really unequal exchange"). Although the way Amin put it, A and B are not even exchanged in the first place, there was an implicit assumption that such an exchange takes place. To be an estimate of unequal exchange, the above 'actual' situation would have to be compared with another hypothetical one, where, *e.g.*, A wages have risen to B levels, the rate of profit accordingly having decreased to about 14.3% (20/140). Alternatively, the above schema could be interpreted as having arisen from the lower equal wage level, in which case the original rate of profit would have been 25.7% (36/140). Prices of production would become 30 units for both products in both cases. If this was how Amin conceived it, his repeated claim that the rate of profit is '14' and 'about 15', which in Raffer's review has become simply '15' – *i.e.*, at all events not the 20% of the actual schema – indicates that he had the former comparison in mind. Such comparisons, however are not estimates of the actual double factorial terms of trade, but of a hypothesised change.

Andersson (1976: 93) is also uncertain of Amin's criteria for comparing worker output in centre and periphery, and his related definition of unequal exchange. Is the value of output simply comparable, and unequal exchange a reflection of unequal remuneration of labour in spite of equal productivities, or is a labour-hour in centre and periphery of equal value, because "the product of the labor in either one is international goods" (Amin 1977: 187; orig. 1973: 18)? The numerical example above supported the second option: countries are held to produce the *same* type of product, with the same technology and productivity, and an equal rate of profit at 20 percent (Andersson pays no attention to Amin's confusing textual statements). Wage rates, on the other hand, were five times higher in the developed country, and accordingly underdeveloped country prices of production only three quarters. How it is possible for the developed country "to get so much higher a price for the same product in the world market is not explained by Amin." If on the other hand prices are the same, then the rates of profit must differ. To make the theory consistent one must assume either that the same good is not produced in both regions, prohibiting comparisons of productivity, that prices in the two regions are different, or that profit rates are not equal, making the whole idea of an unequal exchange related to differences in wage rates problematic. Reverting to 'monopolies', as Amin did, seems to indicate favouring the latter possibility, but this "at once makes his definition of unequal exchange unacceptable. If labour in the underdeveloped countries is remunerated at a lower rate than equally productive labour in the developed countries, this difference need not show up in unequal exchange, but in different profit rates" (Andersson 1976: 94). It is indeed difficult to see why 'monopolistic' profits would necessarily oblige capitalists to share their extra remuneration with centre workers, rather than to stimulate them to increased, perhaps conspicuous, consumption, or to further investments in the

underdeveloped regions or branches from whence these profits originated.

As to the remaining \$9 billions worth of exports from 'backward' sectors with low productivity, both the estimate and its relation to the DFTT were equally problematic. The goods were defined as "agricultural produce provided by the traditional peasantry", which apparently included tropical products which "are not usually comparable: tea, coffee, cocoa, etc.". The difference between these and the above 'modern plantations' is not evident, but the real vagueness lay in Amin's claim that an equal exchange implied a comparison at equal levels of 'productivity'. "It can be suggested," said Amin (1974, I: 58), "that rewards [of labour] are proportionately much lower in the periphery than are productivities." To arrive at his 'equal' exchange for these goods, he took the case of an African peasant with an annual wage 15 times lower than a European skilled worker, and tried to estimate how much of it was ascribable to lower 'productivity'. The African peasant worked only a 100 days a year, whereas the European skilled worker works 300, explaining two thirds of the wage differential; the hourly productivity was only half as high, explaining another half. The remainder was attributable to unequal (or perhaps unfair) remuneration. Thus, he continued, "if the reward of labor were proportionate to its productivity", the value of the remaining low-productivity exports "would not be of the order of \$9 billion [...], but 2.5 times as much, that is, around \$23 billion, and the transfer of value from the periphery to the centre would be about \$14 billion." In Andersson's reading this meant estimating worker remuneration with the hypothetical productivity it would have were it endowed with modern technology. One can only agree with him (1976: 95) that "[t]his way of defining and calculating non-equivalent exchange is, to put it mildly, problematic." What Amin said in effect, however, seems not to even to have been that labour in the centre is 6 times more *productive* per annum, but that it was 6 times more *intense* – the peripheral worker is on vacation for 265 days a year, or busy doing other unproductive things, compared with only 65 days in the centre, and when working is only half as apt.⁹¹

Altogether, then, Amin summed up his eight plus fourteen billion dollars,

if exports from the periphery amount to about \$35 billion, their value, if the rewards of labor were equivalent to what they are at the center, *with equal productivity*, would be about \$57 billion. The hidden transfers of value from the periphery to the center, due to the mechanisms of unequal exchange, are of the order of \$22 billion, twice the amount of "aid," both public and private, received by the periphery. In this connection it is certainly not exaggerated to talk of "the plundering of the Third World." (Amin 1974, I: 58f.; 1976: 144)

Taking Amin at his word, an exchange was assumed to be equal precisely when the wage differential was equal to the productivity differential. Since the agricultural productivity differential between an African peasant and an American farmer has by now become greater than the wage differential, making the same comparison today would imply that the former, as in 'Bettelheim's paradox', was exploiting the latter. Following the above suggestion that Amin really tried to compare exchange under conditions of equal labour intensities would yield a different result.

Amin has probably had a wider reception than any other theorist of unequal exchange, himself causing some debates between followers and detractors. Quite a few of the former would agree with Moffitt (1977: 25f), that Amin "is one of the most important and original Marxist scholars of our era", and speak of his "brilliant analysis". In reviewing Emmanuel (1972a), Barbara Stuckey (1974: 149f.) at the *Institut africain de développement économique et de planification*, Dakar, found that "neither Emmanuel nor his critics – with the exception

⁹¹ Amin would perhaps say that the 'other things' with which the peasant is busy is actually in providing his own and the community's subsistence in the non-export sector, but then the comparison with the 300 days labour of the centre worker breaks down, since there is no reason to suppose that all of these 300 days goes to exports. The problem of relative unemployment levels is not included in this formulation.

of Samir Amin – exploit the potential richness of his formulation.” She noted the basic difference that for Emmanuel unequal exchange was valid only for non-substitutable goods and occurred when the wage rate in two societies exchanging products was different, and irrespective of the level of development of productive forces, whereas for Amin it was valid only for substitutable goods and occurred when the gap between wage levels was greater than that in productivity. From then on she seems instead to have taken the opportunity of spelling out the position of Amin, who was currently head of the *Institut*, and of advertising some of his publications.⁹² By contrast, a reviewer of Amin, Nigel Disney (1976: 22), found that only on a very general level of abstraction did Amin’s presentation have a certain appeal. Unfortunately, however, Amin demonstrated a general “lack of theoretical clarity”, belabouring points of criticism *ad nauseam*, presenting “extremely tedious reading” and being “ultimately disappointing”: “It is difficult to understand the enthusiastic reception this book and his other prolific writings have had. His central concepts remain undeveloped and unspecified. His analysis is frequently contradictory and confusing, and often falls back onto uncritical acceptance of concepts that he criticizes elsewhere in his book.”⁹³ This can cause problems for malevolent and benevolent interpreters alike.⁹⁴

⁹² Doing this, she seemed not always clear on whose theory she was actually describing, for example, finding only criticism of non-Marxist theory in Emmanuel, explaining his position as if “it is the very integration of the Third World and the industrialised countries that led historically to ‘underdevelopment’,” and as if “it is the continuance of the relationship in the framework of the international capitalist economy that reproduces and intensifies this condition”, conveniently forgetting Emmanuel’s heretical argument on the nationally delimited efforts of the working classes giving rise to and maintaining the rift between developed and underdeveloped. She was familiar with the French language debate, where the clear answers she sought had unfortunately been lost in theoretical and mathematical formulation and elaboration, and finally maintained that an understanding the mechanism of unequal exchange – not specified in which sense but clearly Amin’s – offered a clear definition of economic dependency.

⁹³ From what Amin himself has said of his writing routine, this would not be all that surprising. “Amin does not devote enough space to defining the concepts of center and periphery, although the concepts are clearly central to his analysis” (*loc. cit.*). Furthermore, although he stressed the distinction between the concepts of ‘mode of production’ and ‘social formation’, “again, he frustratingly avoids the task of delimiting the distinction between the two concepts. The distinction as used by Amin remains just an assertion, and consequently when he uses it in his analysis, it is of little help.” In the centre the ‘pure’ capitalist mode of production is totally dominant, whereas in the periphery it is only in the process of becoming dominant, and is linked to other, pre-capitalist modes of production. But, as Disney says, “all social formations are combinations of several modes of production, so Amin’s notion of the center tending towards a ‘pure’ mode of production does little to define the center” (*ibid.*: 23). Moffitt (1977: 26) defended Amin, believing him to be “quite emphatic” that central can be distinguished from peripheral capitalism, by being “self-centred” and by moving “on its own initiative” as opposed to having capitalism imposed from without. “Because the growth of the center (and not the development of the periphery) is the principal motivation for the integration of the periphery into the system, capitalism has an interest in preserving backward sectors alongside a modern sector within the peripheral countries.” He contends that in the centre, capitalism is not merely the *dominant*, but the *exclusive* mode of production, whereas in the periphery, capitalism, while surely dominant, “co-exists with pre-capitalist formations”, *i.e.*, ‘modes of production’ (apparently, he too tended to mix them up). But there was apparently no end to the lack of clarity. Adopting Baran’s notion of ‘surplus’ as distinct from ‘surplus value’, Amin stated that ‘surplus’ was “a wider concept than that of surplus value, including non-productive incomes and state revenues”, but this was “palpable nonsense!” said Disney (1976: 24): “Anyone with even a fleeting acquaintance with Marx’s work knows that the holy trinity of profit, rent and interest are all derived from surplus value.” Ultimately “neither Baran nor Amin ever give an adequate explanation of why the term is preferable.”

⁹⁴ In the interpretation of one of Amin’s more sympathetic readers, Dieter Senghaas, in spite of the programmatic ‘accumulation on a global scale’, Amin does not maintain that early capitalist and mercantilist plundering of the South by the successful early industrialisers has caused the breakthrough to agrarian and industrial capitalism, or even that centre industrialisation would not have been possible without the peripheral south. Centre development followed its own inherent logic of accumulation, which was dependent on the agrarian revolution following defeudalisation (Senghaas 2001). But Amin himself claims to “agree with Immanuel Wallerstein’s minority view that Britain had minor and dubious advantages in the agricultural revolution and the area of technological innovation”, and to “see how Britain benefited from its direct and indirect colonial exploitation of the

Amin divided history into stages following standard 20th-century Marxist procedure in dividing the post-feudal era into (1) a 'mercantilist' stage, when capitalism emerges in its homelands and exchange relations are established with precapitalist socio-economic formations; (2) 'competitive capitalism', lasting through the 19th century, which was characterised by roughly equal exchange between centre and periphery, described somewhat inconsistently as a 'pause' when "Europe and the United States withdrew into themselves" (Amin 1976: 187) and a period when "external extension of the capitalist market [...] was of prime importance as a means for realising surplus value" (*ibid.*: 188), as well as the period in which the pattern of specialisation and dividing line between centre and periphery was established (cf. Brewer 1990: 188); (3) the imperialist stage of 'monopoly capitalism', began at about the turn of the 20th century, when centre wages start to rise (with productivity), capital became internationally fairly mobile, markets integrated, creating the conditions in which 'unequal exchange' emerged, and capitalist development was 'blocked' in the periphery. Amin (1974, I: 123) was adamant that the growth of 'monopoly' was to blame for unequal exchange, not centre workers' struggle for and achievement of higher wages, remaining faithful to standard Leninism: "it is from the appearance of monopolies at the center that unequal exchange between the center and the periphery has resulted. It is the rise of monopolies that has made possible an increasing divergence between the wages at the center and the periphery, for the same productivity, which in turn explains why exchange can be unequal even though the underdeveloped countries export products of modern high-productivity enterprises."

As Brewer (1990: 183) reads him, the kernel of Amin's theory of both 'accumulation on a global scale' and 'unequal development' consists in his exposition of 'unequal specialisation' between centre and periphery. What was 'unequal' in the specialisation was that technologically advanced heavy industry, so central in the 1950s Stalinist conception of progress, was concentrated in the centre, although there was also raw materials production and exports, etc., while the periphery was confined to light industry, the production of raw materials for the centre, and an undeveloped agriculture. In a sense, rather like Kohlmey and Mandel, Amin maintained that the international division of labour followed absolute, not comparative costs, and also that cost levels were dependent on productivity and wages. Where capitalism developed earliest there was a rise in productivity, but with maintained low subsistence wages in both centre and periphery establishing an unequal pattern of specialisation. When wages started to rise in the centre, the head start in higher productivity was enough to ensure lower costs in most sectors. While capitalism was allowed to oust precapitalist modes of production in the centre, in line with standard Marxist predictions, in the periphery it was 'blocked', as Bettelheim had argued. Ultimately, Amin's 'unequal specialisation' also bore a striking family resemblance to what others call 'structural heterogeneity' or 'dualism'. On the ways for the periphery to end *blocage*, Amin's principal policy recommendation was that, since "accumulation always takes place to the advantage of the center [...] development is possible for the countries of the periphery only if they break out of the world market" (Amin 1974, I: 136).

Underdevelopment was defined as the blocking of the transition to capitalism of peripheral

Americas": "I agree that it was this dominant position in the center-periphery relation of the time that gave Britain the advantage over its competitors in the implementation of the Industrial Revolution." (Amin 1994, pp. 85f.) Of course this could reflect a change in perspective unobserved by Senghaas. Brewer finds Amin's treatment of feudalism "inconsistent", and suspects this to be "a reflection of the unsatisfactory state of the definitions. The point, of course, is that capitalism emerges from 'peripheral' feudalism", just as socialism will emerge from peripheral capitalism, although to Brewer (1990, p. 187) "the analogy cannot really be regarded as proof of anything." The emergence of capitalism from its feudal origins is "a familiar story, explained both by the formation of a landless proletariat and by mercantile accumulations of loot; which is the determining factor is not clear."

social formations by advanced capitalist social formations. The former were prevented from accumulating capital indigenously, because it was transferred to the latter either through direct repatriation, 'primitive accumulation' in Marxian terminology (in the early stages), or unequal exchange (after *circa* 1880). The centre capital that did affect the periphery, did not develop but distort its economic structure. Foreign investment reinforced asymmetry, concentrated in the tertiary sector (such as banking, which did not promote a balanced development) and in sectors oriented towards the export market, which developed only light, not heavy industry. Any possibility of a capitalism based on the internal market was thereby forestalled, Amin explained, and internal accumulation blocked because profits were exported rather than reinvested. Peripheral capitalism was thus characterised by a lack of investment opportunities and large differences in levels of productivity between the export sector and the sectors not participating in capitalist production. At the same time, however, Amin (1976: 200) refused to believe that "inadequacy of the home market" was to blame for the "distortion towards export activities (extraversion)".⁹⁵ Peripheral industries were not sufficient to absorb the available productive resources, thus causing massive unemployment, and trade with the more developed region somehow created additional unemployment, while money capital was diverted from productive use. This description could very well coincide with historical experience, Brewer (1990: 190) admitted, but "the exact mechanisms involved are not clear from Amin's account": "It seems that his argument is incomplete; falling wages (and other factor rewards) should restore the periphery's capacity to compete in enough areas to offset the fall in demand", Brewer (*ibid.*: 191) proposes, but: "In fact, his analysis is in an even worse position." According to Brewer, trade can only cause unemployment, as Amin claimed it did, when capital is internationally mobile and productivity differences outweigh differences in wages. Peripheral unemployment will result if the more developed country has a higher rate of profit, whence capital will flow out of the less developed country. Amin said it does, but in contradiction to this solution he simultaneously claims that peripheral rates of profit are higher, so called 'super profits'.

It was on the question of 'independent variable' and Amin's attempt to mediate in the debate between Bettelheim and Emmanuel on the ultimate primacy of wages or productivity, that controversy was sparked. Andersson (1976: 96) has noted that Amin saw the increase in working class consumption as the 'normal' solution to the capitalist problem of finding an outlet for increasing production. On the other hand, Brewer (1990: 183) finds Amin's explanation of the rise of centre wage rates "both obscure and inconsistent." According to Amin (1977: 194f., 1973: 30f.), wage rates were determined on the one hand by class struggle, referred to as the "subjective forces" or "subjective element", and on the other, by the level of development of the productive forces, "the relations of accumulation", passing as the "objective forces" or element. Neither Emmanuel nor his critics had the true historical materialist understanding of Amin himself into the dialectic between these subjective and objective elements. The critics believed that wages "depend" on "productivity", or the "level of development of the productive forces", which was false because it was marginalist. The principal Marxist critic of Emmanuel was of course Bettelheim, but as a representation of him, Amin's interpretation was unfounded. Bettelheim's views seem in fact very much similar to Amin's own. He maintained that the inequality in wages is an effect of inequality in the development of the productive forces, but he admits that there are other elements – how could a faithful Marxist confronted with Marx's 'historical and moral elements' do otherwise?

⁹⁵ Amin's previous argument that the "ultramodern" peripheral export sector had the same high productivity as in the centre (Amin 1970a, I: 42, 57) did not hinder him from later emphasising the "decisive" distortion resulting from "the superior productivity of the centre in all fields," confining the periphery to specialise on products in which it "possesses a natural advantage" (Amin 1976: 200), *e.g.*, "exotic agricultural produce" and certain minerals.

– such as the class struggle and international relations of forces, operating on the political and ideological level. This did not, in Bettelheim’s view, make for wages to be an ‘independent variable’. Emmanuel, on the other hand, was criticised by Amin for only considering the subjective aspect, the ‘historical and moral element’, and for using the wage level as the ‘independent variable’ of his system of equations, which Amin claimed to mean that they were “arbitrary” and can be “anything” (Amin 1977: 205f; 1973: 44f.).

This misunderstanding is perhaps not so uncommon, but unfortunately an example of ‘disarticulated’ scholarly standards, at least so far as Emmanuel is concerned. Debating with Bettelheim, he (1972a: 368) had pointed out that any system of analysis “must ultimately be based on one or more *data* taken from outside this system. These data are independent variables. Without them analysis comes to a dead end and argument becomes circular.” ‘Independent variable’, he (*ibid.*: 335) had explained, “does not mean undetermined variable, nor does it mean extraneous variable: it means predetermined variable.” To Amin, whose discussion was no improvement on Bettelheim, the “very notion of an “independent variable” seems meaningless” (1977: 192; 1973: 25), the question whether wages determined prices or prices wages was “pointless” (1976: 151), and an expression of “mechanistic economism”, because, he (1977: 185f.; 1973: 15) unveils, in reality the relation is a “dialectical” self-perpetuating process. Apparently overlooking the long chapter in *Unequal Exchange* entitled ‘Wages’, Amin (1977: 194; 1973: 29) claimed that Emmanuel “simply evades the question”, agreeing with Palloix that “wage is left out of economic analysis”.

End of debate? Even while elaborating on the limitations of formal models Amin nevertheless let his theory – or one sufficiently like it to be referred to in concert – be put into a system of equations, thus of necessity having to choose the preferred ‘independent variable’. While Sheila Smith (1980) has examined what she considers to be Amin’s tautological and illogical reasoning, and Brewer (1990 [1978]) the inner contradictions of his closed model of accumulation, Evans (1984: 215f.) regrets that they have not, like Andersson (1976), profited from Jagdish C. Saigal’s neo-Ricardian centre–periphery model. Evans felt this to have been more or less approved by Amin as a fair description of his own theory.⁹⁶ For this reason one has been obliged to reconstruct Amin’s views indirectly through his “voluminous and often imprecise writings”. Evans characterises this theory as follows. While Emmanuel’s theory concerns the imperialism of free trade, that of Amin-Saigal is the opposite: the imperialist centre imposes unequal exchange on the periphery “through a whole army of hypothesised extra-market forces”, and contrary to what is the case in Emmanuel’s, Braun’s, Andersson’s or Delarue’s versions the possibility of disengagement from international trade, ‘delinking’, plays a major part. Peripheral wages are determined by the cost of reproduction of the workers and are influenced by the non-capitalist sector, where wages can sometimes be found to lie *below* the cost of reproduction, as Evans believes in contrast to the historically and institutionally negotiated wages of Emmanuel (though this possibility was admitted by both Marx and Emmanuel), while the relation between centre wages and the international rate of profit “is determined by a rather loosely specified notion of class struggle.”

Like Brewer, Evans demonstrates that the Amin-Saigal model does not have a stable equilibrium point under free trade and complete competition. It will always pay for capitalists in the low-wage region to produce the imported good domestically. Capitalists in the high-wage region will always try to export capital to the low-wage region, but will never be able to export enough for the rates of profit to be equalised. The situation is inherently unstable and can only be maintained by forcing unequal exchange on the periphery through extra-market means. The same is true of Saigal’s extended model with different productive technologies. Even disregarding this, Mainwaring (1980: 29; 1991: 184) has already shown that the Amin-

⁹⁶ Saigal’s model is not to be found in the English translation, which Evans believes can explain this neglect. Apart from the original joint publication, cf. the recognition in Amin 1977: 194; 1973: 29.

Saigal definition of unequal exchange as a situation where the wage differential exceeds the difference in productivity, does not necessarily imply a transfer of surplus value in the supposed direction.

In essence, Brewer argues against Amin's exposition of capitalist expansion because it was based on a mistaken or confused theory of wages. Amin wanted to make the point that because investments were ultimately dependent on the production of consumer goods, increased productivity could, in the end, only show up in increased real wages. Brewer criticises this standard 'underconsumptionist' argument by reminding of Tugan-Baranowsky's hoary refutation that there was no material impossibility of capitalists investing their profits in means of production which produce means of production, etc.⁹⁷ Amin demonstrated Rosa Luxemburg's almost equally hoary indignation at this closed-circuit expansion of 'Department I' (in Marxist terminology), repeating again and again how "absurd" he thought such a thing was, adding little in terms of argument.⁹⁸ He believed himself to have demonstrated the "necessary relationship between the value of labour power and the level of development of the forces of production" (Amin 1990: 105). Repeating Luxemburg's characterisation of it as a "merry-go-round running empty", he (1977: 195-205; 1973: 30-43) appears to have believed that capitalists were too sensible to behave in such a manner, and would prefer to raise wages.⁹⁹ Emmanuel (1984: 374, n. 75) was not impressed: Amin "believes himself to be original," but was only rehashing an old Marxist stew from the time of Lenin, Luxemburg, etc., on the contradiction between a rising organic composition of capital and the stagnation of final consumption, which could be summed up as follows:

The increasing productivity of labour in the course of extended reproduction goes along with a rising organic composition of capital, in relation to which it is defined and measured. A rise in the organic composition means an increase in the quantity of means of production set to work by a given quantity of living labour.

So there are two alternatives: either the consumption of these living workers stays constant, or it increases at the same rate as the growth of means of production. In the first case, Department I – production of means of production – must develop in a closed circuit alongside a stagnant Department II – production of means of consumption. This would be Tugan Baranowski's merry-go-round, and is therefore ruled out. (The writer does not tell us why. He doubtless considers that the combined force of such a striking image as a merry-go-round and such a heterodox man as Tugan Baranowski is enough.)

So we are only left with the second possibility (and here the writer differs from orthodox Marxism, which denied capitalism's ability to take this path) to allow the system to work: a parallel growth of consumption, and therefore wage-increases.

Thus, the growth of productivity determines the growth of wages, and the latter are not exogenous. Q.E.D.

However, Emmanuel objected, the fact that the Soviet Union behaved in exactly the manner proposed by Tugan-Baranowsky to build up an industrial base, demonstrated that the merry-go-round did not necessarily run empty. If it appeared to do so under capitalism, "this is because each capital is taken separately and has no interest in joining in." There was no objective contradiction, only a subjective one, *i.e.*, in the motivation of capitalists, and if an external force, or incentive, obliged them all to join in, "then each would find himself better

⁹⁷ Unnoticed by his Marxist detractors, he does not appear to have considered it a likely option, requiring capitalists to be "carried away by their passion for accumulation" (Tugan-Baranowski 1913: 216f, n. 1; trans. in Emmanuel 1984: 159, n. 23), but the point is that there is no *technical* impossibility.

⁹⁸ He (1970a, II: 498) assumes that the quantity of capital corresponding to each quantity of goods is given: "A certain volume of ultimate production necessitates a certain volume of intermediate production. This latter quantity is merely a way of looking at the volume of investment required to produce the desired volume of ultimate goods." (Cf. critique by Emmanuel 1984: 157.)

⁹⁹ He (1977: 201; 1973: 38) thus wrote: "There are only two sets of mathematical solutions to the problem: an absurd one corresponding to Tugan Baranowsky's "roundabout" approach, and a realistic one, introducing the consumption of the surplus value." The 'carousel' solution is absurd because of Amin's (*ibid.*: 202; 40) conviction that "the balance between consumption and capital equipment [...] cannot be indefinitely postponed", which amounts merely to a repetition of his belief.

off at the end of the day than before” (*ibid.*: 374). It was possible to imagine circumstances where capitalists could be induced to accomplish some kind of cooperative long-term planning, but “it is infinitely easier to make capitalism work by means of a ‘previous’ extension of the market resulting from a rise in wages. This still does not allow us to conclude with Samir Amin that this rise is ‘endogenous’” (unless, as Amin perhaps wanted to do with his ‘historical materialist’ approach, one includes as ‘endogenous’ industrial and political organisation in all countries, state intervention, imperialism, *i.e.*, more or less everything):

For while a capitalist is incapable of investing without a rise in wages, he is even less capable of increasing wages with the sole aim of making his investments rational. To show, as Samir Amin does, that without these increases the industrial countries would not have been able to increase their growth and surmount their contradictions does not prove that these increases flowed automatically from the system’s internal logic. This logic also contains the end of the system’s career, and in this light the system could just as well have perished. Consequently these increases can perfectly well be exogenous and adventitious, the conjunction of trade union struggle which in a sense saved the system from itself [...] and of a transposition of its contradictions from the national level to the world level. (*Ibid.*: 375.)

Having for his part ended the debate, Amin seems not to have replied. Nevertheless, he apparently retreated partially with respect to Tugan-Baranowsky. Using some similar distinctions in responding to Brewer (1990 [1978]), he pointed out that the possibilities of a planned economy such as the Soviet Union of the 1930s were not applicable to a capitalist system. Tugan-Baranowsky’s “perpetual roundabout could function only if the sole owner of profit (the state for example) decided to invest indefinitely in the production of means of production, without being concerned with final consumption whose growth might then be held back indefinitely” (Amin 1990: 106; cf. 120).

Evans observes the great similarities between the Amin-Saigal view of the importance of extra-market means and the sketched transfer of ‘economic surplus’ from periphery to centre in the model of Frank (1967), and suspects that the latter might suffer from similar internal problems. Of course, both have been influenced by Sweezy and Baran on ‘monopoly capital’ which also moves in a world relatively unaffected by market laws. While admitting the historical importance of extra-market force in colonialism and trade, Evans (1984: 219), with his concern for policy, also fears whatever the merit of semi-autarkic delinking from the world market as a development strategy, the optimistic implications of Amin-Saigal’s unconvincing version and set of assumptions “would be a recipe for disaster”. Similarly, Smith (1980: 20) thinks it “fortunate that Amin’s political influence has not been extended” to every Third World country. Still, which theory can pride itself with brilliant, successful, and, notably, applied policy advice? More interesting than scolding Amin for his engagement in Third World policy, institutions, education, and communication, which ultimately could be considered his most important work, would be to note the similarity, not only with Baran, Frank, and that blend of Marxism and nationalism referred to as the dependency school (Chapter 12), but with another prolific writer and advocate of delinking such as Fitzhugh (Chapter 8). Amin’s influence has been greatest not as a headpiece but as a mouthpiece of dependency thinking. He was important in naturalising the notion of unequal exchange to the broader Third World Marxian tradition, which involved a reemphasis from wealthy workers to malicious monopolies as cause and beneficiary of unequal exchange, a mission in which he was accompanying Palloix.

Christian Palloix (1970b, trans. 1972) began his critique with the interesting observation that the expression the ‘deterioration of the terms of trade’ “is precisely the mystified form of the inequality of exchange.” To him this meant that, “on the contrary, the concept of unequal exchange implies above all the non-equivalence of the value produced and exchanged when one takes into account differences in the level of the productive forces in different places.” Another problem with the deterioration of the terms of trade was that it simply stated a *shift*

in, or *increased*, inequality, but “*it does not measure the inequality*”, which, like many Marxists, he apparently felt was one of the great benefits of the Marxist labour theory of value (Palloix 1972: 67f.). For the most part, however, his contribution centred on the necessity and intricacies of translating from values to prices of production.

Palloix (1972: 68) felt that Althusser’s great influence risked leading Marxists in either of two regrettable directions. They may “reject political economy”, saying it is non-Marxist, or they may “proclaim their economism, while taking care to limit themselves to that economism.” Althusser (1965) had correctly separated between essence and appearance, but proclaimed his indifference to the latter as lying outside the scientific field. That was, by contrast, the road Emmanuel and Henri Denis had exclusively chosen, placing themselves at the level of the concrete. Either way was “ignoring the bases of Marxist political economy, in particular its method, *the translation of essence into appearance*” (Palloix 1972: 69). Palloix (*ibid.*: 71) proceeded to draw up a table of translation from “abstract, theoretical knowledge (dialectical knowledge)”, where Marx’s value schemas resided, via “historical materialism”, which was the plane of the “law of unequal development” and the “law of the tendency of the rate of profit to fall”, to the “concrete theoretical knowledge (dialectical materialism)”, where prices of production and the process of realisation appeared.

Palloix’s intervention in the debate was important because it was what for Emmanuel tipped the scale against using the Marxist labour theory of value in the first place, and in favour of the Sraffa-style presentation. The following passages (*ibid.*: 72) may well have been decisive: “The price of production is the re-determination of value in the concrete essence of the phenomenon [...]. Forgetting this determination, Emmanuel [...] draws wrong conclusions because he is the prisoner of a concrete reality of which he no longer perceives the essence.” The main theoretical question to be solved in political economy, he continued, was “the ‘passage’ from value to the price of production in order to explain the inequality of exchange and unequal economic development on the world plane.” The rest of his article is a long elaboration of this multiple-stage approach to the so called ‘transformation problem’.

Emmanuel (1970d: 35; cf. 1972a: 387) replied that he “very much appreciated” the initial pages of Palloix’s article, “where the author treats the essence and the phenomenon. It was about time that someone reacted to this wave of neo-Hegelianism, or rather neo-Kantianism, which consists in creating systems of autonomous and, in a sense, autarchic concepts, whose validity resides in their internal coherence and their own structure.” In fact, Emmanuel was here reacting rather to Bettelheim’s preface: “According to this conception, any argument that tends either to harmonise the phenomenon and its concept or to set them in mutual contradiction is sacrilegious. Between different levels, it is said, no dialogue is possible.” But how had Palloix come to the conclusion that his, Emmanuel’s, analysis was situated on the level of mere phenomena? Because, Emmanuel replied, Palloix had committed the fundamental error of taking the price of production for a phenomenon. In this version value became the ‘essence’ and the transition to price of production a transition from the abstract to the concrete. Others, his book version (1972a: 387) of this reply continued, “accept that price of production is an abstract magnitude that regulates concrete price, but they argue as though, behind the phenomenon, there were several levels of essences, arranged hierarchically – price of production being more abstract than concrete price, but less so than value, which then appears as a sort of essence of the essence, a second-degree essence. One group blames me for situating my analysis at the merely phenomenal level, while the other complains that I do not go far enough behind mere visible appearances.” Both, he maintained, including Palloix, were in fact victims to the same French wave of neo-Hegelianism or neo-Kantianism. His own view of ‘values’ and ‘prices of production’ was more nominalist than essentialist:

Personally, I think that a concept is nothing more than an instrument of cognition, a means of reproducing the concrete in thought; therefore, the measure of its validity is its power to grasp and apprehend reality, its

effectiveness for cognition – in other words, its capacity to explain. As to what is “greater” and what is “less” in the realm of essences, I do not quite know what this means, and I am unable to join in this game, which proceeding from the prime essence to the secondary essence, will doubtless bring us eventually to the quintessence. (*Ibid.*: 387f..)

It seems that French Marxism suffered greatly, as economic theory, from the basically and peculiarly *philosophical* reading and understanding of Marx, which characterised the French scene since the introduction from the 1930s.

Nevertheless, Palloix’s (1969) book on ‘problems of growth in the open economy’ was inspiring to both Amin and Andersson, and later allowed Frank (1978a) to handle the concept of unequal exchange as well as disposing of Emmanuel. By attributing unequal exchange ultimately to monopolies and multinational corporations rather than to wage levels, they strengthened the attempt to harmonise unequal exchange with a politically acceptable interpretation in line with the ‘monopoly capitalism’ of the Baran and dependency tradition.

I have suggested that most, if not all of the foregoing contributors have had primarily political motives for entering the debate, which has not hindered their argumentation from entering into ‘normal science’, *e.g.*, in the form of doctoral dissertations. Naturally, an argumentation is not erroneous merely because it is political, but when it *is* erroneous and still lives on, there would seem to be other motives for its repetition. These other motives are in themselves much more interesting than French academic Marxism. Whatever the truth about the economic argument to support it, the *political* argumentation of Bettelheim and Suret-Canale, for example, is not necessarily erroneous. On the one hand, as Denis perceived, a debate which is primarily political is unlikely to advance economic understanding. On the other hand, restricting oneself to economic argumentation will deprive theories of much of its importance and interest, and for the most part will merely result in political assumptions becoming unconscious, and probably subliminally determine the outcome of economic argumentation anyway.

While one may dispute it, Bettelheim’s strategic analysis of the poor prospects of Third World nationalist struggles to awaken the revolution has so far not proved any more mistaken than the contrary view of its poor prospects in the developed part of the world. As Bettelheim observed, the Third-Worldist perspective which was Emmanuel’s favoured angle was more likely to appeal to those affiliated with that region of the world, whatever the strength or weakness of the economic argument. More important in framing the long-term consensus view of the meaning of ‘unequal exchange’ was its association with the dependency tradition, notably through the work of Samir Amin. In the process, it conveniently lost its radical and politically suspect conclusion of an inherent antagonism between workers, and hostilities could again be directed against the common foe of ‘monopolies’ and ‘capital’. Whatever we may feel about this turn from a political point of view, it has certainly not represented an advance from the point of view of economic theory or historical analysis. The reason why Emmanuel’s interpretation has won no adherence is not merely political, nor strictly theoretical, but has very much to do simply with the novelty – and many would certainly think implausibility – of his approach, which would have had difficulty winning adherence under any circumstances. Although very much politically motivated and with an evident wish to combat orthodoxies, Samir Amin, can in many ways and perhaps because of a certain lack of originality, be seen as the mediating voice of Marxist common sense.

As we have seen, French Marxism had to rely on the institutional support of a communist party. Excepting, *e.g.*, Oscar Braun and others whom Amin helped introducing to a Western audience, most important early contributions to the unequal exchange debate seem to have sprung from Western European countries with strong communist parties (France, Italy, Finland), where accordingly populations and perhaps academia generally had a more positive

view of Marxism. At the end of the Second World War the French and the Italian communist parties had 800,000 and 1.7 million respectively. By contrast, the Communist Party of Great Britain, founded in 1920, had reached its peak in 1943 with 60,000 members, while trying, for combined patriotic reasons and in line with Soviet directives, to direct action of its members into channels which would not harm the war effort. In the 1945 general election it received 103,000 votes, earning them two Members of Parliament (both of which were lost in the 1950 general election), while the victorious Labour Party won a huge majority of 146. In 1951, by which time membership had steadily decreased to just over 35,000, the Party issued its program, *The Road to Socialism*, which explicitly advocated the possibility of a peaceful transition to socialism, while, much like in France, attacking the Labour Party and others in the name of patriotism: "The Communist Party declares that the leaders of the Tory, Liberal and Labour parties and their spokesmen in the press and on the BBC are betraying the interests of Britain to dollar imperialism. Our call is for the unity of all true patriots to defend British national interest and independence" (CPGB 1951: 10). They nevertheless welcomed Jamaican immigrants, but for Cold-War reasons they opposed that of 'fascist Poles' and other Eastern Europeans wishing to abandon their Communist homelands (cf. Black 1970: 211). While the support of Lysenko had antagonised leading party scientists such as J.B.S. Haldane (Branson 1997: 174f.), it could still boast some outstanding intellectuals, in addition to Meek and Dobb, particularly historians.

Reactions to Emmanuel in the Anglo-Saxon world had to await the 1972 translation. Perhaps in part because Marxism was not as dominant a force, they were more diversified, in addition to Marxists including also neoclassical and neo-Ricardian economists. As is common with the reception of new ideas, the type of reaction still seems to have been dependent on the type of school represented. The relative closeness of perspective with Emmanuel, have resulted in the neo-Ricardians seeming more comprehensive, but, in essence, even these commentators have been much concerned with reintegrating Emmanuel in the pre-established perspective, discarding or simply not seeing anything that goes counter to respective mindset. We have already seen some of the neoclassical reactions (Chapter 15), and shall now end this chapter by turning to the more traditionally Marxist contribution of Kidron, on lines staked out by Bettelheim, before engaging in Chapter 18 with Emmanuel's Sraffian formulations, and the debate occasioned from that camp.

Michael Kidron (1930–2003) was born in South Africa to a Zionist family, and became a political activist in the mid-1950s, publishing his first articles in the *Socialist Review* in 1957, and in the 1960s founding and editing the journal *International Socialism*. There he argued his case that the arms economy had altered the preconditions for revolution as compared with Lenin's analysis, notably "Imperialism – Highest Stage of Capitalism but One" (1962) and "International Capitalism" (1965). In his days, Kidron (1965: 162) admitted, Lenin had good reason to believe that the weakest point of capitalism was in the colonies, so that revolution would come from through struggles for national liberation. However, this was no longer the case, because capitalism had found a new source of profits. "In sum," he explained, "to believe nowadays that the short route to revolution in London, New York or Paris lies through Calcutta, Havana, or Algiers, is to pass the buck to where it has no currency. To act on this belief is to rob the revolutionary socialist movement of the few dollars it still possesses." "In the most general terms", he (*ibid.*: 163) explained, "the transition from imperialism to an arms economy in the mature capitalist countries has corroded a system in which backward countries fulfilled a special function in the world capitalist economy; in which, consequently, revolutionary strategy differed significantly from place to place." New conditions obtained, he (*ibid.*: 164) ended, which "demand a practical internationalism based on the growing uniformity in the conditions of exploitation, the growing irrelevance of national struggles as such, the growing fusion of national and class struggles and the growing similarity in the

immediate aims of the working lass the world over. The greatest service we can render international socialism is to help stoke up the fires at home.” Presumably, stoking up the fires included trade union action to raise wages. The Third World was not so lucky.

Occasioned by the Lanka Samaja Samaj Party, the Ceylonese Trotskyist party, joining the Sri Lanka Freedom Party and the Moscow-line Communist Party, Kidron reflected in 1969 on ‘the cruel dilemma of socialists in a poor country getting poorer’. Not that the coalition could not win – they were supported by the falling price of tea on which the economy depended – and the Trotskyists even planned monster demonstrations, etc., in order to impress their partners and enthuse workers and lower middle-class supporters for their scheme of taking over the tea industry and trade. This was all very well, Kidron mused, and yet here “the tropical poison” began to sap the party’s socialism. If Ceylon were to avoid becoming poorer, she needed to “break into new export markets for manufactured goods”, but this could only be done in competition with Hong Kong, Taiwan and Singapore, he explained, and only by persuading workers to willingly lower their wages even more. They were a socialist party, and yet their program was concerned with making Ceylon capitalistically competitive, thereby bound for isolation: “It is intimations of this isolation that bring marxists to boy before the Buddha” (Kidron 1969, n.p.) Kidron seems not to have believed in the similar ‘temperate poison’, sapping the life out of socialist parties in well-to-do countries, concerned more with employment and the corresponding necessity to break into new markets, and keeping those in which export prices were rising, etc..

With the appearance of Emmanuel’s *Unequal Exchange* in English, Kidron felt the calling to react. Having written on reformism and revolution throughout the 1960s, he now discovered a ‘Black Reformism’ in the theory of unequal exchange. Posing as an explanation for the unending misery of backward countries, it instead constituted one of these reasons. Reviewing the theory’s content, Kidron observed the conclusion regarding the inverse effects conferred on the group of workers outside the group achieving a wage increase, and that the only options which Emmanuel could see – apart from an international organisation with sufficient power to will it otherwise, and still within capitalism – was a choice between unequal exchange and autarchy – for the Third World as a whole. Although quoting the passages where Emmanuel explained that the principal mechanism ‘blocking’ development was not unequal exchange but the low wage levels themselves, Kidron (1974b: 114) concluded that “there is no doubt” in Emmanuel’s and his followers minds, “that these other ‘blocking’ mechanisms play subordinate parts” to the plunder of surplus they suffer. Kidron’s first objection, however, was empirical, apparently mistaking the 1:30 nominal wage ratio proposed by Emmanuel for a real wage difference. Kidron countered by referring, first, to the net disposable income per wage-earning household which merely differed on the order of 1:7 between the countries. Secondly, he referred to the government recognised subsistence minimum in Britain and India as the common baseline for each country. Since this level was higher in Britain than in Indian, Kidron estimated that British workers were paid less than twice as much as Indian. This was, he maintained, an example taken “in order to present the unequal exchange argument in the most favourable light”, but he seems not to have been concerned with the possibility that what the government recognised as ‘subsistence’, so far from being a ‘physical minimum’, was precisely the ‘normal wage’ on which Emmanuel based his case for unequal exchange. In other words, whereas in India ‘subsistence’ might actually have meant a physical minimum, in Britain (or Sweden) it was by contrast considered ‘subsistence’ to own a TV and go to the cinema once a week, have comfortable public transport, and a couple of weeks paid vacation, etc. (*ibid.*: 98f.). Kidron went on to take into account the higher ‘intensity and quality’ of British ability to work, estimating that the British were almost four and a half times more ‘productive’ than their Indian colleagues. This was a rehearsal of Bettelheim’s ‘paradox’ that, in fact, well-to-do British workers were actually

being more 'exploited' than poor Indian. This was not enough, however: the average competence of the British was so much higher than the Indian, because of their education, ability to read and drive, etc., and since this was expected of them, "their parents' wages need to contain therefore a child-support and -education component." This was not expected of Indians and so they were not paid for it. There was, indeed, as Kidron said, "no end to the comparisons that can be made" (*ibid.*: 100f.). While not referring to Kidron but to Bettelheim, Clunies-Ross (1976: 43) found to the contrary: "It strains belief to suppose that a single New York railway guard could do the work of thirty or fifty guards in Calcutta or that a team of Australian textile machinists, replacing the same number of workers in a factory in Taiwan, could produce five times as much".

It was, Kidron (*ibid.*: 101f.) went on, these differences in "competence" which explained "why free international migration of workers has very nearly disappeared in the last fifty years despite an astonishing growth [...] in its mobility between countries." He accepted that "the immediate reason for forming and reforming the apparatus of migration control has always been political", though this was not the fault of the working class majority, but of "pressure groups" and "capital's balking at the prospect of having to pay the full wage and welfare cost of relatively skilled labour-power to workers who command [...] an impaired competence." Nonetheless, he admitted:

Skills are costly to create and maintain, which is not to say that the workers who possess them do not *enjoy* the higher incomes they command. On the contrary: the car that might be necessary for the British worker to get to and from work – it is clearly necessary for the American one – incidentally provides services that are valued for themselves. High standards of health and education are enjoyable in spite of being necessary. In the circumstances, the fundamental distinction between cost and luxury can easily be blurred, particularly by writers from the peripheral countries of capitalism where the luxuries of the rich are often what workers in the centre use as necessities. (*Loc. cit.*)

Though these real gains had not been achieved "without a fight", this was only "appearance" enforced by "capital's propagandists". The system needed better workers and accordingly had to pay for them. As his calculations had proven, it turned out that what seemed at first sight to be an enormous gap between developed and underdeveloped country wages, was "more than explained by the cost of maintaining the very different average abilities to work". As it turned out, then, in accordance with Bettelheim, the rich and clever, not the poor and stupid, were the truly exploited ones:

It has little to do with militancy, little to do with trade unionism, little to do with 'institutional factors' which are supposed to have helped labour extract a rent from capital. *Workers in the North get more because they need more in order to produce much more better. In fact they are relatively underpaid in terms of the quantity and quality of their ability to work. They get much more per head than workers in the South, but they get much less per unit of labour-power. They are richer, but more exploited.* (*Ibid.*: 103.)

What is most interesting about this argument is perhaps the profound conviction with which it is stated, revealing an almost emotional incomprehension of his opponents in levelling the following attack: "Intellectual disarray on this scale provokes probing, and since the theory's exponents are not fools, they must be judged to be naives, politically-motivated" (*ibid.*: 114). Kidron is making it too easy for himself, and I would not want to charge him similarly. As to his sensibilities, which is something more than mere political 'ideology', I cannot but wonder if there is no connection between having grown up in South Africa. Perhaps when he rejected the Zionist nationalism of his fathers he fell victim to another nationalist sin, inherent in the set of beliefs with which he liberated himself. The perspective is perhaps not so different from that in other 'worker's paradises' of the British Dominions, but could this also help explain his repugnance before the so called 'black reformism'?

To my knowledge, Emmanuel never answered Kidron directly and, the argument being a rehearsal of points already made by Bettelheim in the French debate, probably did not consider it worth his while. At any rate he participated at various seminars in England starting in 1975. In one such seminar referred to above at the London School of Economics in 1979, he suggested various ways of approaching the problem of the rift between developed and underdeveloped countries. If the origins of underdevelopment was neither racial, due to some congenital incompetence of certain peoples regarding economic efforts, nor geo-climactic, due to natural disadvantages in the environment, both explanations of which were excluded by the general consensus, there only remained the historical and institutional factor. This last he identified with his own position, as “in the final analysis” a unilateral transfer from the one to the other (1979a: 171). This was perhaps not the most convincing way of putting his case, but apparently it was an abridgement of a slightly more elaborate one published early the following year.

If production of wealth was a function of the tools and raw materials, with which human hands were ‘assisted’, and if humans were all born naked, then a cleavage in our one world between levels of annual income at \$8,000 and \$200, of average life-expectancies between 70 and 50 years, and of literacy at 100% and 25%, can be explained in one of three ways. Two ‘internal’, namely: 1) what Kenneth Boulding had referred to as ‘differential cultural history’, or, in the final analysis, a congenital propensity towards saving and accumulating; or 2) the cumulative effects of natural resource endowment; and one ‘external’, namely: 3) the peculiar rules of the game of international relations. The first argument was not necessarily racist, since on the plane of human values there was nothing intrinsically admirable in such a comportment. Even if true, however, the problem remained that the developed part of humanity had not only inherited the riches allegedly hoarded by their far-sighted ancestors, but *continued* to enrich themselves, even though, *today*, the one or the other could not add more than a certain amount of labour hours. As a ‘rule of the game’ such a conception of ‘original sin’ would be sufficiently questionable on the ethical plane, as to be transformed from an intrinsic to an extrinsic factor. The same was true should the difference have sprung from geo-climatic disadvantages, since someone had to inhabit these poor regions, whose products humanity had somehow made part of their business (Emmanuel 1980: 22f..).¹⁰⁰

Kidron’s own argument on the Third World did perhaps not gain as much enthusiasm. Chris Harman’s (2003: np.) obituary summed up Kidron’s case in this respect. Having achieved independence, local and foreign capital collaborated in establishing new manufacturing industries, leaving workers fighting alone, and thereby spelling the end for the old union of classes in Third World liberation movements led by local and petty bourgeoisie. In the above essays, two elements were added to this analysis, Harman explains. First, he had “showed by a combination of rigorous argument and empirical research that Western workers did not benefit from the exploitation of people in the Third World as claimed by theories of ‘unequal exchange’.” Second, “he claimed that the sheer scale and level of productivity of industry in the West made it all but impossible for Third World countries to achieve the successful development their rulers craved.” This analysis, Harman continued “was as important as that of the permanent arms economy, cutting through fashionable views about Third World revolts substituting for working class struggle in challenging the system as a whole.” And yet, though Kidron was apparently correct in criticising unequal exchange, the same Harman observed how he “ignored the ever greater dependence of the whole system on one raw material, oil”, not to mention all the other raw materials which, as we shall see, constituted the ultimate material basis for the impossibility of equalising consumption in line with Emmanuel’s

¹⁰⁰ He defended himself against the charge that this was merely an ‘ideological’ or ‘ascientific’ stance, by counterattacking that what was ‘ideological’ was precisely the – formerly bourgeois, now neo-Marxist – illusion of an non-ethical and non-political ‘science’ of man.

argument. Furthermore, flowing from his dependence on Lenin's *Imperialism*, he had "confused the end of colonialism with the end of imperialism".

In the end, Kidron's revolutionary fervour did not last: "Like many of his generation, Mike began to drop out of active political engagement with the downturn in struggle internationally after the mid-1970s. He also began to suggest that there had been some holes in the analyses he had played so much part in developing earlier." His new solution, to Harman's regret, "saw little room for the old economic struggles between unionised workers and their employers". As Kidron had put it: "If trade unions neither reflect the extent and composition of the working class nor fulfil their earlier role as independent representatives of working class interests, a political strategy structured around them is bound to fail" (quoted in Harman 2003). Contrary to Kidron's previous complete rejection of the phenomenon,¹⁰¹ the absolute international mobility capital was now emphasised. Even in his (1977) new, self-critical stance, and not even in the section on "the labour market and state capitalism", did he touch upon, or in the least acknowledge any special problem with having to work in a Third World country rather than "Britain, the US, or Russia". In the foregoing 'private capitalism' the workers' freedom to work "was often curtailed by influx and migration controls", he observed, but in the modern 'state capitalism' nothing like that appeared, apparently because the labour market itself had disappeared. As before (cf. 1974b: 113), 'unequal exchange' was acknowledged for a previous, in this case 'private capitalist' period, not for the contemporary one (1977: n.p.): "For most of the private capitalist period it was divided into protected spheres in each of which a group of metropolitan capitalists monopolized the forced, unequal exchange of functionally different products between themselves and their country's colonies."

All through his adult life, Kidron struggled on behalf of the 'working class', and though Kidron did not approve, Marxist historian Edward Thompson (1961) put his finger on this problem of western Marxism already in 1961, when reviewing Kidron's new journal *International Socialism*:

The word 'working class' is about the most dangerous word in the rhetoric of the labour movement [...] the sectaries employ it platonically to indicate ideas not actually held by significant numbers of working people but ideas which they *ought* to hold, or which it would be in their interests to hold, if they conformed to an approved doctrinal system. In this case, a 'working class idea' is an idea of which Michael Kidron approves.

The sin of unequal exchange theorists such as Emmanuel was their ease of "substituting labour for capital as the enemy in practice" (Kidron 1974b: 115). This was the reformist marrow of their theory: "It is a black, 'third-world' and gutsy-sounding variety, but a reformism nonetheless" (*ibid.*: 114).

Kidron's review was not ill received in the Anglo-Saxon world, and Harris – while confusing unequal exchange with the opening to international capital mobility in an attempt to rectify the "fundamental asymmetry" between high-wage/low-profit and low-wage/high-profit areas (1991: 179) – believed him to have made a substantial point by pointing to the immobile, and apparently all-powerful, factor of production constituted by the State, which could raise both taxes and wages at will so as to increase or enhance unequal exchange (*ibid.*: 180). In Howard & King's (1992: 194) history of Marxist economics Kidron's, or Bettelheim's, argument that British workers are "richer, but more exploited" is related as "an important weakness in Emmanuel's analysis." Emmanuel had assumed that the huge wage differentials were also "reflected in correspondingly large differences in rates of exploitation", but the argument of Bettelheim and Kidron demonstrated that if the "productivity" differentials were larger than wage differentials, it was on the contrary the rich who were

¹⁰¹ E.g., when he (1974b: 113) wrote: "all capitals are now so irreducibly huge and so embedded in national political structures they simply cannot be mobile in any real sense. A theory that rests on the assumption of mobility is built on sand."

‘exploited’ by the poor. Apparently Howard & King confused ‘intensity’ and ‘quality’ of labour with its ‘productivity’. This meant, following Shaikh (1979) and de Janvry & Kramer (1979), that Emmanuel had “failed to adapt the labour theory of value to the problems posed by international trade”, by not giving enough “serious thought [...] to the ‘reduction’ of complex to simple labour, and to the definition of ‘socially necessary’ simple labour, when conditions of production vary” (Howard & King 1992: 194). They noted, however, that by assuming each country to specialise in its own line of production, Emmanuel had made it impossible to compare ‘productivity’ and the notion of ‘international value’ redundant. Apparently, then, in his position there was “no ambiguity”, although the assumption of complete specialisation was too strict. They seem not to bother that from the Sraffian position he adopted from 1970 onwards (Chapter 18), he considered not only ‘international value’ but national and, indeed, *the very notion of labour ‘value’ itself* to be redundant, along with the Marxian definition of the ‘rate of exploitation’.

Unfortunately, although Howard & King noted that Emmanuel had formulated his theory in Sraffian language, their presentation suffers from both the exclusive dependence on Emmanuel’s *Unequal Exchange* and from a faulty reading of it, without benefiting from his more elaborate Sraffian demonstrations. Nor are they acquainted with the many other Sraffian presentations, with which their work in other parts is so much concerned, *e.g.*, by David Evans or Lynn Mainwaring, and they rely rather on Andersson and the Marxist critics of Sraffianism. Although published in 1992, their presentation bears all the intellectual marks of 1970s (Anglo-Saxon) Marxism. Thus, as it turns out and not surprisingly, they fail to render it correctly. Finding Emmanuel’s presentation unsatisfactory, they employ an example of their own, “framed in terms of labour values and ignoring all problems with Marx’s transformation algorithm”. Their examples compare the ‘values’ of output for a situation in which there is no international mobility of capital, equal organic compositions (to avoid ‘transformation’ complications), and unequal ‘rates of exploitation’, with the ‘prices of production’ arising when the ‘rate of profit’ has been equalised (Howard & King 1992: 190f.). This interpretation is understandable if one limits oneself to *Unequal Exchange*, and as we have seen, initially, intelligent economists such as Paul Samuelson and, in 1976, even Evans thus misunderstood it. However, as Evans came to realise, Emmanuel’s theory was not at all about the opening of trade and the equalising of the rate of profit, not with the comparison of national prices of production (or ‘international values’) with international prices of production, but with the effects on prices of production of an exogenous wage increase in the presence of an internationally equalised rate of profit. In effect, and this was perhaps not realised by Emmanuel, it is not even about the (net) transfer of ‘values’ in the Marxian sense.

As may be guessed from its reappearance in as eminent a work as that of Howard & King, the difficulties Anglo-Saxon critics have had in rendering Emmanuel’s position were not limited to neoclassicals. As with Samuelson, the problems appear to have sprung from the Bettelheimian distinction between unequal exchange in the ‘broad’ and ‘narrow’, or as Emmanuel preferred ‘strict’ sense. Thus, Geoffrey Pilling (1973: 178) manages to portray wages as something secondary and added to the basic ‘transfer of value’ due to different organic compositions. First, there was the ‘broad sense’, where organic composition of capital varied but wages were uniform. Second there was the ‘narrow sense’ “where both organic composition and wage tend to vary”, neglecting that the definition of unequal exchange consists in the *difference* between the latter and the former. And so he could charge that “it is quite misleading to speak of this transfer of surplus value from sectors of low organic composition to those of high organic composition as constituting ‘unequal exchange’”, oblivious to the fact that this is precisely what Emmanuel refuses to call ‘unequal exchange’. In an uninformed rendering, Fine & Harris (1979: 166), while apparently aware of Emmanuel’s Sraffian presentations, do not even mention wages:

Emmanuel argues that one country is exploited by another and that this occurs through unequal exchange. The argument is developed in a neo-Ricardian manner, theorising unequal exchange in terms of exchange of values which result from unequal value compositions of capital. Unequal exchange, therefore, is simply the idea that since the ratios of exchange values are not the same as those of living labor embodied, the countries with the higher value compositions of capital appropriate through exchange more labor than has been expended in their own lines of production.

Bernal (1980: 167) claimed to agree with Bettelheim and Pilling that Emmanuel was “employing a basically neoclassical approach”, while curiously believing (*ibid.*: 152; emphasis added, J.B.) him to have argued “that the cause of underdevelopment is the *transfer of value* [...] from underdeveloped countries to developed countries”, which hardly seems compatible with that school. Anwar Shaikh (1979: 298f.) observed that labour immobility “gives rise to large and persistent differences in wages among the developed and underdeveloped regions of the world wage differences”, whereas capital mobility equalised rates of profit, but similarly discussed the whole issue as a ‘transfer of value’ accompanying this equalisation of profits. Not only did he thereby confuse the issue of Emmanuelian unequal exchange arising from an *increase* in wages, and reflected in the terms of trade, but he also implied that the wage-inequality itself was due to the unequal development at the time of profit equalisation. Thus, he (1979-80: 53) eventually summed Emmanuel’s “path-breaking work” up as assuming specific goods, *i.e.*, *inter-industry* trade, and “that the high organic composition industries of the world market are concentrated in the DCR [Developed Country Region], while those with low organic composition are concentrated in the UCR.” While he did mention wage-barriers – and indeed noted that for Emmanuel “it is only the transfer occasioned by interregional wage disparities which is specific to the UCR-DCR relation” – focusing on transfers, these became merely complementary: “Since the formation of prices of production transfers surplus-value from high to low organic composition industries, and since interregional wage disparities greatly exacerbate this transfer, Emmanuel concludes that the very existence of international prices of production implies a large and persistent drain of surplus value for the UCR.” (As for Kohlmey, for Shaikh an overarching consideration appears to have been whether a theory could truly be seen as an extension of Marx’s ‘law of value’, and his own contribution similarly focussed on ‘absolute costs’.)

It was apparently in such a context that John E. Roemer (1983), based on his neoclassical reformulation of a ‘general theory of exploitation and class’ (1982), made a noteworthy excursion into ‘transfers of value’, labelled ‘unequal exchange’. He (1983: 40) thus observed (with respect to equilibrium prices): “The traditional notion of unequal exchange is that some countries export goods embodying a lot of labor and import in return goods embodying little labor. That is, a country may be able to purchase only goods embodying less labor than its population expended in production. [...] The proponents of the term “unequal exchange” generally view the countries that export more embodied labor than they import as being exploited or cheated, or suffering from unequal exchange.” The only proponent mentioned (*ibid.*: 34) was Emmanuel, for whom it was not relevant. Roemer’s definition thus read:

A country will be said to be *unequal exchange* (UE) *exploited* at equilibrium *p* if, no matter how it spends its national income on goods, it cannot purchase goods embodying as much labor as it supplied. A country is *UE exploiting* if, no matter how it chooses to spend its national income on goods, it always commands more labor than it supplied. (*Ibid.*: 41.)

Based on this he analysed various cases, starting with two of which either can be said to correspond to Ricardo’s case of comparative advantage. For the first, a system without either capital or labour mobility, he eventually reached the unsurprising conclusion that any country with a higher capital to labour ratio will be the gainer from unequal exchange, but that this does not exclude gains from trade (*ibid.*: 35-44). Observing that the common procedure of

unequal exchange theorists was to introduce international capital mobility, he preferred first to introduce international labour mobility instead, *i.e.*, an international labour market. The resulting story, involving equalisation of both wages and profits, was equivalent to that without mobility (*ibid.*: 52): “With the advent of international labor migration not only does unequal exchange exploitation exist, but countries become divided into labor-exporting and labor importing ones.” According to his above definition it was not enough for a country to be found exporting labour to be called exploited, only if it *had* to do so in order to maximise national income. If instead, the contrary, ‘actual’ definition was adopted, “then almost all countries [...] will be exploited or exploiting, and not exploitation independent”. Finally, introducing an international labour market instead came to the same thing from a theoretical point of view. According to his analysis “an international capital market sets a common wage in all countries” (*ibid.*: 54) and, as before, a capital rich country will gain by Roemerian ‘unequal exchange’, in his sense of non-equivalent exchange of embodied labour hours. However, ‘unequal exchange’ proper, due to differing and exogenously determined wage-levels, never entered the argument.

As Koont (1987: 14) observes: “A very different problematic here. And, it seems to me, not an improvement on the original concerns and focus brought to bear upon the concept of unequal exchange by Emmanuel, Amin and others.” Thus, for Roemer “it is all a question of whether the national income of a country can purchase (command) goods with a higher labor content than was provided”, *i.e.*, the exchange of non-equivalent quantities of labour, which, he (*loc. cit.*) reminds, “strays far afield from the spirit of Emmanuelian unequal exchange.” In Roemer’s “striking and original formulation” the answer whether one gains or loses depends exclusively on the ratio of the capital and labor endowments of the country in question. Pushed to its extreme, however, Roemer’s formulation would state the following:

In an ordinary capitalist economy[,] create two artificial countries: one made up of all the capitalists (Country A), the other of all workers (Country B). Then, Country A will be an unequal exchange gainer, as it earns all of its income from capital. Similarly, Country B will be an unequal exchange loser. Roemer’s unequal exchange is seen to apply, in the context of a country with perfectly competitive labor and capital markets, uniform wages and profit rates, directly to the relation between labor and capital. (*Ibid.*: 15.)

Indeed, as Schweickart (1991: 23) observes, “Roemer’s condition that national income be maximized, taken together with the requirement that profit rates be equal, *entails that wages must be equal also*.” This Roemer is even at pains to demonstrate, but it of course means that Emmanuelian unequal exchange, with an equal rate of profit and unequal wage rates, is *impossible*, along with international wage differentials in themselves. Since this is reasonably the case in the actual world, Schweickart (*ibid.*: 24) finds Roemer’s model wanting. On the other hand, believing Emmanuel’s argument to consist similarly in the ‘transfer of labour hours’ due to the opening of trade while apparently being unfamiliar with his Sraffian formulations or caveats regarding the labour value ones, he also concludes that his “critique of free trade” (*ibid.*: 29) contains “mathematical inconsistencies” (*ibid.*: 25). As to the ‘moral’ and political significance of Roemerian unequal exchange, which is a central question to Schweickart and presumably of interest to Baiman (2001), the following can be observed.

Unsurprisingly, Roemer (1983: 56) could finally reveal that “there is nothing more unfair or unequal about “unequal international exchange” [...] than there is about the exchange of labor power for the wage in capitalism in one country”, which Marx himself had been at pains to show was equal even while constituting an exploitation. Roemer’s (*ibid.*: 57) counterfactual definition of equality (similar to that of ‘Morishiman’ Sraffians, rather than of Emmanuel) posed the question: “How well off could the workers be if everyone had equal access to society’s capital?” It relates to the “unequal access of agents to the non-human, alienable means of production.” In fact, as a derivative from the ‘law of value’ in volume I of Marx’s

Capital, it is equally applicable to a society consisting exclusively of individual, ‘petty capitalist’ producers, as long as they have equal shares of capital goods. As an aid to interpretation of historical situations its value is nil, and neither has it anything to do with the collective ownership assumed to characterise an eventual ‘communist mode of production’. Although the latter is not an objective of Roemer, he has subsequently become much more sceptic about the usefulness of Marxian labour values. By the mid-1980s, Elster (1985: 131) could observe that “labour value fails because there is no use to which the concept can be put”. As has been noted, however, the attempts to find some, if only metaphysical, ‘utility of value’ is an end in itself to many Marxists, and in this context Devine (1990) also brought in various and disparate forms of ‘unequal exchange’ as surplus-transfer subcategories in the divergence between values and prices and between contributions and claims. Devine’s (*ibid.*: 35) conclusions on the “incomplete and abstract” nature of his analysis, from which “[n]o concrete or testable hypotheses have been developed” – nor, indeed, any historical interpretation – perhaps did not so much “indicate the fruitfulness” of this “New Solution approach” as the contrary.

Most of the attempted ‘measurements’ of ‘unequal exchange’ similarly has not had much to do with unequal exchange as defined by Emmanuel, notably that of Webber & Foot (1984: 932; cf. Foot & Webber 1983) which assumed that “a worker who is paid twice as much as another worker is judged to have added twice as much value”, and then went on to calculate how such labour values deviated from prices. More *useful*, if only because it has implications for the real world and implies connections with exchange rates, would appear to be the approach of calculating unequal exchange as “the difference between purchasing power values and values at nominal exchange rates”, giving an “exchange rate deviation index” (Köhler & Tausch 2002: xiv). It was suggested as such, *e.g.*, by Ranjit Sau (1993), a prominent figure in the 1970s and 1980s Indian debates on unequal exchange, and has similarities with the ecological approach of Odum (Chapter 21).

The Marxist transfer of labour values approach was inherent also in most other attempts to reformulate Emmanuel’s theory, notably that of Andersson to whom we shall now turn. This was so even when reformulating the theory in Sraffian, or perhaps rather Morishiman, language, as did both Amin-Saigal above and Andersson, Braun and many others below. Since we will not go very much into their formal demonstrations (cf. Evans 1984), it will also be possible to present them before having presented the actual Sraffian language in Chapter 18. It seems even more appropriate to present them here, when considering that the political implications of these attempted reformulations so largely coincide with the foregoing French Marxist critics. Andersson is of particular interest, not only because of his unique theoretical contributions in the 1970s, but because of his reappearance in the 1990s as a theorist of *ecological* unequal exchange. The former have so far been the more influential and original and so we will present him here rather than in Part V, although this will involve some terminology which will be clarified only then. It also allows some comparison with the different approach to and the ecological implications of Emmanuel’s model.

Chapter 17. From Marxism to Ecology with Jan Otto Andersson

The Finland-Swede Jan Otto Andersson (1943–) seems to be the only one to have been significantly involved in both the original debate on unequal exchange after Emmanuel and in the recent attempts to formulate ecologist variants. Contrary to Emmanuel’s theory, as we shall see, which is the same whatever the unit of measurement, there is no evident link

between his two formulations, apart from a penchant for classification and an insistence that unequal exchange must be unambiguously defined, whether in Marxian (or Morishiman) ‘labour values’ or in ‘ecological footprints’. We shall first look at his critique of Emmanuel, which in many ways resembled those we have already examined, although more thorough than most. The most significant charge was an alleged lack of stable equilibrium point in Emmanuel’s definition, or at any rate an alleged tendency for his system to produce capital outflow from, and therefore unemployment and decreasing wages in rich countries. The point has been disputed on several occasions as we shall see. Andersson introduced theoretical modifications to rectify the perceived shortcomings, first by making wages endogenous and instead relying on an elaborate system of protectionism, much as Oscar Braun’s theory, which will also be presented. The most important of Andersson’s later modifications was the introduction of a third branch of production, common to both centre and periphery. This turned it into something of a Marxist version of Lewis, although without the historical elaboration, notably with respect to restrictions on migration. Apart from enhancing realism, the purpose of this commodity was mainly to make productivity levels, and thereby labour values, comparable between countries, so that one could unambiguously say whether, or under what circumstances, there would be net-‘transfers’. As may be guessed, this implied a rather different approach than Emmanuel’s, even without the common branch. As with every approach comparing values and prices of production, it reintroduced Bettelheim’s ‘paradox’ that if the productivity differential was more in favour of rich workers than the wage differential, then they would be net-exporters of ‘embodied labour values’ and it would be the poor who exploit the rich. Even without this, the political conclusions Andersson drew from his model were precisely the opposite of those Emmanuel had drawn from his, namely that *any* wage increase would tend to *decrease* unequal, or rather non-equivalent, exchange – by bringing values closer to prices of production. There is some ambiguity in Andersson with respect to the ‘labour aristocracy’ and international worker antagonism, which is not resolved even when turning to ecology. As an active party politician of the left, he may be more sensitive to realistic domestic solutions, and in the international sphere has followed the more traditional line of criticising monopolists and multinationals.

Andersson was born in Åbo, Finland, into a family adhering to the Swedish People’s Party (Svenska Folkpartiet). He obtained his Bachelor’s degree of Political Science in 1966, at Åbo Academy, after which he went to Stockholm (for biographical material Ekberg 1992; Eriksson 2003, Andersson pers. comm.). While communism is a stronger force in Finland than Sweden, it was there he came in closer contact with Marxism, founding ‘Kritiska Ekonomer’ (critical economists), participating in the leftist group ‘Unga Filosofer’, with whom he founded the journal *Häften för kritiska studier*. Its first issue appearing in 1968 was devoted to bourgeois political economy with a contribution by Andersson. It was through his friends in Unga Filosofer that he first came to hear of Emmanuel’s “stimulating and provocative work”, *L’échange inégal*. At the time he was also influenced by Samir Amin and Christian Palloix, and had written an essay on André Gunder Frank. He returned in 1969 to become junior research fellow (‘Assistent’) in political economy at Åbo Academy, and obtained his Licentiate of Political Science in 1972 on unequal exchange and the theory of foreign trade. It was reprinted the same year almost in full in two articles in *Häften för kritiska studier*, provoking a debate with Stefan de Vylder the following year. From 1973 to 1976, he was researcher at the Academy of Finland, and had the opportunity to visit the Institute for World Economy in Moscow, from where he brought back some knowledge of the Soviet debate on non-equivalent exchange. Andersson’s writings in Swedish have presumably been unavailable to most authors, or else unknown, such as the Åbo Akademi ‘Communications from the Faculty of Social Sciences’, where his licentiate’s thesis and some essays in English appeared. His “Reflections on the Theory of Unequal Exchange” (1971), gained some international

recognition, and is perhaps that “first contribution to the discussion” for which he received “kind comments” by Emmanuel (Andersson 1976: ‘Acknowledgments’, n.p.). However, it was his doctor’s dissertation in Political Science, *Studies in the Theory of Unequal Exchange between Nations* (1976), which made him known. On its appearance Evans (1978: 1055) called it “easily the most interesting work on the theory of unequal exchange to appear in English since the publication of Arghiri Emmanuel’s *Unequal Exchange* in English translation”, whereas Raffer (1987: 58) thought it to constitute “the most prominent contribution to the discussion on Unequal Exchange from outside the Romanic language region”, and Howard & King (1992: 195, 199) believed it to contain “a more rigorous formulation” than Emmanuel’s which furthermore “meets several of the objections” to it.

In 1972, Andersson first set out to define what constituted the *equality* of exchange, finding that only the labour theory of value had anything to offer in this respect. The value of a good must be equal in terms of the direct and indirect quantities of socially necessary labour needed to produce them. According to the ‘vulgar’ conception of the labour theory of value, Andersson explained, the price of a commodity tends to coincide with its value, *i.e.*, the labour socially necessary to produce it. This was quite mistaken, he went on, quoting his colleague Ante Farm to the effect that the theory of value was instead the theory about the *difference* between value and price, and the consequences (Andersson 1972a: 69, 1972d: 8f.). One of those who subscribed to the contrary ‘vulgar’ conception was apparently Ernest Mandel, with whom the young Andersson had disputed the issue, and where he maintained that the theory instead must be understood as normative, since otherwise it would have to stand a comparison with other theories of relative prices. As Paul Baran before him, Andersson wanted to see the labour theory of value as a ‘critical theory’ (Andersson 1968b, 1972d: 9). Perhaps to Andersson’s surprise, Mandel (1968: 58) responded, pointing out that Marx already in his debate with Proudhon had criticised such a normative interpretation, noting that if the problem was only one of exchanging one quantity of labour for an equal quantity of labour, then capitalism had already more or less accomplished this feat.¹⁰² Mandel went on explaining the difference between ‘value’ (*alias* exchange value) and ‘market price’, where the latter oscillated around the former, through the law of supply and demand. Under capitalism ‘value’, in this sense, became ‘price of production’ as a consequence of competition among capitals. The principal theoretical distinction, therefore, was between ‘price of production’ (*alias* value, *alias* exchange value) and ‘market price’ where the latter oscillated around the former. Marx was certainly not trying to ‘prove’ the justness of the workers’ cause, Mandel reminded; instead, he wanted to explain the inner workings and laws of motion of the capitalist mode of production.¹⁰³ Andersson responded, but did not really reply, rather oddly, by referring the interested reader to Mandel’s extensive treatise on Marxist economic theory.

As we have seen, however, he retained the idea that the labour theory of value was something after which to define a norm, and this criterion is repeated throughout his writings even as late as his doctoral thesis and principal work on unequal exchange, where non-equivalence is defined as the difference between prices and values (Andersson 1972b: 88, 1976: 100 [eq. 5.25], 160; cf. Raffer 1987: 64). Having previously critically reviewed what he felt to be the shortcomings in orthodox economic theory, he proceeded to review what

¹⁰² Incidentally, in arguing against Proudhon, Marx quotes the Ricardian socialist John Francis Bray (1839: *e.g.*, 48ff.), who must have been one of the first, at least in English socialist literature, to use the actual expression ‘unequal exchange’, precisely in the sense of a nonequivalent exchange of ‘labour’.

¹⁰³ Cf. p. 59 f, where he reminds that, to Marx, the labour theory of value had no role whatever to play in a socialist society, just as (under normal circumstances) it has no role to play within families, for the simple reason that production would not be directed towards the production and exchange of ‘commodities’, and therefore, neither towards the production of ‘values’.

Emmanuel and many of his predecessors had had to say on unequal, or ‘non-equivalent’ exchange, consistently applying the above criterion. Indeed, he reproached Emmanuel for not relying on labour values, and could not even see how he could at all speak of non-equivalence without it. In his licentiate’s dissertation Andersson (1972b: 81) claimed that Emmanuel’s suggestion (regarding the use of Sraffa’s industrial equations) to calculate relative prices and the rate of profit directly from physical quantities, meant renouncing the possibility to determine the ‘value’ of a product independently of its price, and pulled away the foundation for any theory of unequal exchange. He was adamant that Emmanuel was in error to have criticised the usefulness of the labour theory, and apparently could not even conceive of value as anything but an ‘invariant’ entity, thus seeing “no reason why one should take one price – the price of production – and use it in the comparison between market prices, particularly since this price is not invariant at different distributions between wages and profits” (*ibid.*: 88; trans. J.B.). There was a confusion here with respect to ‘market prices’ which have no place in Emmanuel’s definition of unequal exchange, and it could seem remarkable to put forth as *criticism* of Emmanuel’s theory of unequal exchange, precisely what he himself considered its *cause*, namely how prices of production varied according to the success of societal claim-staking. The point appears to have been that Emmanuel could not numerically define an isolated state of equality, *i.e.*, which of the many possible levels of equal wages, against which to measure the unequal one. Andersson seems to have felt an irresistible urge for a standard of measurement which was somehow ‘objective’ or ‘absolute’, independent of wage levels and the rate of profit, *i.e.*, of social and class struggle. He is nevertheless correct in that to evaluate the degree of inequality of an exchange, one must establish another relation between the exchanging parties than those expressed through prices (1972b: 74; 1972d: 12).

In his doctoral dissertation, Andersson catalogued various types of exchange relations, distinguishing between what he called:

(1) ‘Disjunctive exchange’ is connected with the unequal *effects* of exchange *on development* at large. Exponents of this perspective could be found from the earliest mercantilists, via Friedrich List, to modern economists, such as Balogh, Myrdal, Hirschman, Myint, and even to a certain extent included in orthodoxy under the name of ‘Graham’s paradox’. Sideri’s history of Anglo-Portuguese trade in the 18th century was one illustration, but the most telling example was given by Walter Rodney’s description of ‘how Europe underdeveloped Africa’, through the slave trade (Andersson 1976: 25-33).

(2) ‘Asymmetric exchange’ focused on the distribution of ‘gains’ from exchange, for example in terms of labour-time, as is, indeed, the case already in Ricardo’s classical example. Andersson (*ibid.*: 33-8) further quotes John St. Mill, L. B. Shyrtne (who had also used Ricardo), Prebisch and W. A. Lewis as examples, but they could be multiplied extensively, even among mercantilists. In a nutshell, Rafter (1987: 59) sums it up as “an outflow of benefits of increasing efficiency”.

(3) ‘Non-equivalent exchange’ consisted in an exchange of “unequal amounts of labour”, he (1976: 38-42) argued, and was as such present already in Smith, although first developed by Marx, and continued in the Marxian tradition from Bauer, Grossmann, Preobrazhensky, and many others, including, in his opinion, Emmanuel. This was also the type of exchange with which Andersson’s thesis and thoughts themselves were occupied. In spite of his definition of equality as the identity of value and price of production, he did not consider it fruitful to call all deviations of price from value a non-equivalent exchange, but only those in which some obstacle hindered equalisation and in which the deviation was relatively permanent (*ibid.*: 49). An exchange may be non-equivalent without being disjunctive, *i.e.*, without unilaterally detrimental or beneficial effects on economic development.

Reviewing a number of authors, Andersson ended up with four increasingly broad sub-types of non-equivalent exchange. First, “a divergence between the actual price paid and the

prevailing world market price”, which reflected some kind of monopoly position of one country vis-à-vis another, but in his opinion was too restrictive (1976: 65). More inclusive was the second, “a divergence between the world market price and the international price of production” (*loc. cit.*). Treating prices of production as the norm of equivalence, this definition suffered from fact that these could not, even in principle, be determined unambiguously: “Any change in the distribution of income between labour and capital automatically gives rise to a new set of prices of production, and since there is no “natural” distribution, which could be taken as the “proper” one, the magnitude of non-equivalent exchange would have to be subjectively determined” (*ibid.*: 66). By contrast, the third, “a divergence between the world market price and the international value” (*ibid.*: 65), could indeed be so determined “as soon as it is possible to reduce different national labours to each other. It then shows the magnitude of international value that is transferred from one country to another as a consequence of the international price formation” (*ibid.*: 66). This was evidently Andersson’s preferred usage, the one he considered most appropriate to explain the international distribution of income. Finally, the fourth, “a divergence between the world market price and the national value” (*ibid.*: 65), showed “how much national labour one country must give up in order to import a certain amount of another country’s national labour” (*ibid.*: 66), and could only be used to indicate how much a country would gain (or lose) in international exchange if its productive forces were as developed as that of its rivals on the world market, not to measure or explain international income distribution.

Raffer has observed the curious fact that none of Andersson’s types covered Emmanuel’s definition of unequal exchange, as constituting a difference between prices of production and prices of production at different wage relations. In spite of the merits of his classification, Raffer (1987: 60f.) finds the omission deplorable, especially since Andersson’s ambition in writing the book had been to further develop Emmanuel’s ideas and to make them more consistent. It is also a bit surprising, since, in reviewing Emmanuel’s ideas in the subsequent chapter, Andersson had no more difficulty than Raffer in reproducing Emmanuel’s definition in terms of an actual set of prices of production and a hypothetical set of prices of production. Andersson seems to have been convinced that any non-equivalent exchange must be unambiguously defined, which could not be done with Emmanuel’s hypothetical state, since one cannot know which would become the equalised wage-level. Judging from Andersson’s criticism above and in the same chapter, he appears to have considered Emmanuel as included under the second heading.

In order to briefly illustrate the different approaches, let us look at the schemas in Table 15.

Table 15. *Price of production schemas illustrating difference between net-transfer and wage-equality approach*

Region	K	c	v	m	V	R	r	p	L
	Total capital invested	Constant capital consumed	Variable capital	Surplus value	Value $c + v + m$	Cost of production $c + v$	Rate of profit $\Sigma m / \Sigma K$	Profit rK	Price of production $R + p$
Schema <i>i</i>									
A	1800	50	100	20	170	150		60	210
B	1800	50	20	100	170	70	3 1/3%	60	130
Schema <i>ii</i>									
A	1800	50	60	60	170	110		60	170
B	1800	50	60	60	170	110	3 1/3%	60	170
Schema <i>iii</i>									
A	600	50	100	20	170	150		20	170
B	3000	50	20	100	170	70	3 1/3%	100	170
Schema <i>iv</i>									
A	600	50	60	60	170	110		20	130
B	3000	50	60	60	170	110	3 1/3%	100	210
Schema <i>i-iv</i>									
Total	3600	100	120	120	340	220		120	340
Schema <i>v</i>									
A	1800	50	20	100	170	70		60	130
B	1800	50	20	100	170	70	11 1/9%	60	130
Total	3600	100	40	200	340	140		120	260

In schema *i* there is both according to Andersson and Emmanuel an unequal exchange in favour of A, definable as $210/130 > 170/170$. For Andersson, this is expressed a difference between prices of production and values in the schema itself, whereas for Emmanuel it is because it should, at least as presented in his 1969 book, be compared, *e.g.*, with the exchange in schema *ii*, where wages are equalised. Andersson's point, made also by many others, is that in referring only to prices of production, Emmanuel's definition of equality is equally applicable, *e.g.*, to schema *v*, where wages have been equalised downwards, or indeed any other wage-profit constellation. Now, this was well understood by Emmanuel, but – apart from explaining the terms of trade in which case the problem was irrelevant – he was interested in pointing to the underlying social conflict between national populations. As we shall see (Chapter 18), he would only have reminded that, in the real world, such a centre lowering was impossible for political reasons in the centre, and that a corresponding high-wage equality was impossible for physical and ecological reasons. Like most Marxists, Andersson was instead interested in the non-equivalent 'transfer' of labour value between the regions, which, as Bettelheim insisted with his 'broad' sense, involved also the different capital intensities. In this respect schema *iii* of Table 20 is equal because values are equal to prices of production, while in schema *iv* it is unequal in favour of B, because prices of production are higher than values, $210/130 > 170/170$. By contrast, in Emmanuel's sense schema *iii* is unequal in favour of A because it should be compared with the situation, *e.g.*, in schema *iv*, where exchange is equal because wages have been equalised.

Andersson (1972b: 107; 1972d: 18) believed this difference to represent an attempt to interpret all fundamental conflicts in terms of nations instead of classes, and to express an "ideological bias" on Emmanuel's behalf, forcing him to "accept" all profits as as a just remuneration for 'previous' (*i.e.*, embodied) labour. The charge appears to be that in this Emmanuel is ultimately a 'bourgeois' economist.

Someone may recall the New England transcendentalist Margaret Fuller's repeated exclamation: "I accept the universe", in response to which Thomas Carlyle is reported to have muttered: "Gad! she'd better" (James 1958: 49). There is a difference in the way one 'accepts' the world, and since Emmanuel strove to abolish capitalism in practice, he nowhere denied that it was based on class conflict. He even underlined (already in 1962) that the point of

Marxist political economy, including his own, was to disclose the social relations underlying the surface of commodity exchange and market prices. He also argued, however, that the theory of value is an interpretative tool to this end, which is either helpful or not in understanding how reality works, and that whereas ‘values’ have no meaning in the present capitalist economy (where capital is competitive between branches), prices of production do. Neither did he adopt his Sraffian formulations only so as to be able to make the ‘complicating detour’ (in Samuelson’s term and as repeated by Steedman to Morishima) to labour values. Whereas the equalisation or not of wage rates (due to the competition or not of workers) makes perfect sense, both economically and socially, and (I hope) to both Andersson and the present author, the latter admits to his failure to comprehend the economic or social – or even moral – meaning of a net transfer of ‘objectively’ normative labour values; or, ‘critically’ conceived, of a net transfer of values as compared with what they would have been had socialism reigned the economy in accordance with the theory of value as outlined in volume I of *Capital*, or with some Morishimian analogue where all ‘profits’ befall the workers (and where there consequently are no investments?).

Andersson had nevertheless set out to rectify the theoretical shortcomings of orthodox neoclassical theory, not primarily capitalism’s moral ones. Applying Kuhn’s (1970) notion of paradigm to neoclassical international economics, Andersson identified five ‘anomalies’ which had not, or only *ad hoc*, found explanations within the existing frame of reference: (1) the existence of protectionism; (2) falling terms of trade for raw materials; (3) increasing international wage disparity; (4) the ‘Leontief paradox’, *i.e.*, the revelation that the world’s most capital-rich country, the United States, nevertheless exported labour intensive goods; (5) ‘perverse’ factor movements, *i.e.*, capital which tended to flow (investments, etc.) towards already capital intensive regions. Reviewing the three alternative models of Lewis, Prebisch, and Emmanuel, the latter came out most favourably, able, in Andersson’s evaluation, to explain four of the five anomalies. Relative wages were determined ‘institutionally’ outside the model proper, but accepting this the falling terms of trade of underdeveloped countries became easily explicable, protectionism became a means by which high wage countries kept their large markets to themselves, which attracted capital from outside, while ‘unequal exchange’ continually transferred resources from poor countries, leaving their limited domestic markets unattractive even to domestic capital, which was thereby exported. However, if capital was internationally mobile it would tend to flow towards low cost areas, Andersson objected, and together with increased capital intensity in high wage countries it would lead to unemployment. Therefore, he argued, it was not possible to maintain that wages were institutionally given (Andersson 1972b: 5-12 on the neoclassical paradigm, 16-49 on anomalies, 50-58 on alternative explanations, esp. 58 on Emmanuel; cf. also Andersson 1972c). How this objection squared with Emmanuel having successfully explained ‘perverse’ capital mobility is not evident.

In his doctoral thesis, Andersson (1976: 73) went even further in this line of criticism, maintaining that there was “a glaring inconsistency in the comparative-static version of Emmanuel’s theory,” namely, “the fact that there exists no equilibrium point where the international division of labour is stable.” Thus:

In every instance there exists a set of branches or industries, which get a high price for their products because they are located in the advanced countries, but these products could be produced cheaper if their production was transferred to the underdeveloped low-wage countries. Since Emmanuel assumes capital to be internationally mobile[,] the logic of his theory demands that there should be a constant pressure for capital to be transferred to the less developed countries, speeding up their development and raising their wage levels, thereby causing the unequal exchange to fade away. His completion of the theory with a historico-dynamic version does not alter this tendency. [...] The greater the wage differentials become[,] the less will differences in transporting costs affect the location, and the stronger will the tendency for capital to move out of high-wage countries become. As it stands[,] the theory is clearly self-contradictory. (*Loc. cit.*)

Further on, this conclusion was reaffirmed: “As we have seen, one of the major inconsistencies in Emmanuel’s theory is the lack of any stable equilibrium point. There always exist[s] a set of branches and industries which could produce more cheaply if they were transferred from high-wage to the low-wage countries (*ibid.*: 87). Andersson’s case against Emmanuel can be summed up in the following assumptions: (1) workers are as productive and of the same ‘quality’ whether in centre or periphery; there is (2) free trade and transportation between areas; (3) equal rate of profit in centre and periphery; (4) the same world price wherever a commodity is produced. Under these conditions every good would be cheaper to produce in the low-wage countries. Emmanuel held institutionally determined unequal wage rates in centre and periphery. Thus, capital would start flowing to the low-wage area until no employment opportunities were left in the centre. However, as Raffer (1987: 60) has observed, Andersson claims too much for his demonstration: “Unfortunately Andersson has not understood some of the main ideas of Emmanuel’s version of non-equivalence.” His “main error is arguing with production costs instead of profit rates, as Emmanuel does.” Of course, there always exists ‘a set of branches and industries that could produce more cheaply if they were transferred from the high-wage to the low-wage countries’, Raffer agrees,

but why should an Emmanuelian entrepreneur do so? As must be remembered, the rate of profit is [every]where equal in an Emmanuelian world, and only differences in the rates of profit induce capital to move. Thus equality provides a rather stable point of equilibrium. Disturbances, for example, by increases in wages, must finally lead to another equilibrium where the rate of profit is again universally equal. (*Ibid.*: 60 f..)

That is to say, in Emmanuel’s world, if industries move to low-wage areas it can only be because the rate of profit is higher there, in which case the system is not yet in equilibrium, not merely because the wage rate is lower. Elsewhere, Andersson (1976: 127) did agree that the “direct interest” of the entrepreneur “is the rate of profit, and he chooses the composition of workers with this in mind”. “Andersson’s misunderstanding of Emmanuel”, Raffer (1987: 61) believes, “is easily explained by his assumption of one price for one commodity, be it produced in the centre or in the periphery”, whereas Emmanuel argued with specific goods. Whereas Andersson was wrong in principle he was right in practice, Raffer (*loc. cit.*) continues, and his criticism should have been directed not against the internal consistency of the model, but against the realism of its assumptions. Since goods were actually not specific, a sophisticated system of protectionism would be needed to keep production sites in the high-wage countries, just as Andersson argued. By contrast with Andersson, and rather surprisingly, Raffer failed to discover any explanation of protectionism in Emmanuel’s writings.

The same argument as Andersson’s has been put forth on many occasions, *e.g.*, by Mandel (1972a, 1975; cf. Chapter 7) and de Janvry & Kramer. The latter (1979: 4, 9ff.) had three principal objections: (1) Under free trade conditions and equalisation of profits, the theory was only valid under the assumption that commodities are ‘specific’, *i.e.*, only produced by one of the trading partners; trade in non-specific goods could not transfer value either in the long or short run. (2) Whether there was such complete specialisation or not, there would be a long run tendency for initial wage disparities to disappear, because of the free trade and international mobility of capital. (3) The amount of trade in specific commodities was so small as to deprive the theory of empirical significance. There was soon a reply from William Gibson, who had recently delivered his doctoral dissertation on unequal exchange at the same University of California, Berkeley, as the foregoing authors, and with de Janvry in the examination jury.

(1) The persistence of trade in non-specific goods, de Janvry & Kramer (1979: 10) rightly pointed out, would oblige Emmanuel to introduce one of three additional conditions: (a)

Perfectly competitive free trade must be abandoned, and monopolies and/or state imposed restrictions introduced so as to “establish a worldwide price structure that captures the per-unit cost advantages of periphery producers.” Whereas they considered this an objection to Emmanuel’s theory, it seems that he (1972a: 132) himself had readily admitted it, apparently considering it a matter of historical fact: “in all countries where the wage level has historically been in advance of economic development, this problem has been solved by repudiating free trade. It was the main purpose of protectionism in these countries, and especially in the United States, between independence and the end of the nineteenth century. Today the purpose of protectionism and the regulation of agricultural prices in many of the developed European countries is to protect the high wages prevailing in the backward branches of the economy.” De Janvry and Kramer objected that this would not be ‘unequal exchange’, as defined, but ‘unequal trade’. If so, it is a theory of ‘unequal trade’ which clearly specifies the underlying mechanisms behind which goods are deemed worthy of protection, and it would seem a more important question whether it is consistent with historical reality. I believe the same type of answer could be given in the following two cases. (b) Wage differentials are compensated by corresponding productivity differentials, implying a situation which is not defined as unequal. (c) Differential rates of profit remain, implying that capital has not been sufficiently mobile. There is certainly no truth in de Janvry’s and Kramer’s (1979: 13) allegation further on, to have shown “that unequal exchange in non-specific goods is logically inconsistent”. It is consistent under the above assumptions, which do not imply that wages cannot still be exogenously given.

Gibson (1980: 21f.) for his part was more concerned with constructing a formal theory of international value and unequal exchange which does incorporate non-specific commodities. Taking a two-country, two-commodity Sraffian model, Gibson assumed one of the commodities to be produced in both countries. If both centre and periphery wages were taken as given, there were three equations to determine but two unknowns (the rate of profit and the corn-steel terms of trade), which made the system mathematically overdetermined. Gibson solved this by taking centre wages as being endogenously determined. Having thus abandoned what may be considered Emmanuel’s single most important assumption, he was oddly satisfied with an ensuing demonstration that an exogenous increase in the remaining peripheral wage rate could lead either to no change, a deterioration, or an amelioration of the terms of trade. The reason for his satisfaction was apparently that unequal exchange became a purely ‘empirical’ question, with which he (cf. 1977) was much concerned. Even if both his reply and my own turn to ‘empirical’ solutions, they are wholly different in kind, one aiming to reveal or explain historical tendencies and behaviour, and the other to measure transfers.

(2) While de Janvry & Kramer (1979: 11) accepted that the international mobility of labour was one way for wages to be equalised, so that its immobility would tend to have an obverse effect, this was not the only way in which wages could be equalised. Since capital was perfectly mobile in Emmanuel’s model, all else being equal, “what is to keep it from moving to those countries where wages are lower in order to take advantage of lower production costs and realize higher profits?” This would accelerate accumulation and increase employment in the low-wage countries, “causing an increase in the bargaining power of labor as the reserve army shrinks and workers are increasingly concentrated in large-scale capitalist enterprises”, and ultimately an upward pressure on wages. Conversely, the outflow of capital from the high-wage countries would cause employment to fall, the reserve army to grow, bargaining power of labour to decline, and put downward pressure on wages. “Export of capital from high-wage to low-wage areas will tend to narrow the wage differential between them. Everything else being equal, capital export should continue until it gains no further advantage in doing so – i.e., until wage rates are nearly equal.” Of course, the authors admitted, everything else was not equal, but neither had Emmanuel explained which countertendencies

were generated to maintain the wage differential. On the theoretical level, they (*loc. cit.*) conclude, “the fact remains that Emmanuel’s assumptions contain a definite tendency for wages to be equalized in the long run, even with labor totally immobile, as long as products and capital are mobile.” Mandel had advanced the same criticism, and in 1978, Brewer (1990: 222) agreed that: “The major weakness in Emmanuel’s arguments is that he was unable to explain why all capital does not flow into low-wage areas.” We have already seen Raffer’s reply to the same objection, and in Emmanuel’s world, where wages are exogenous, the old high-wage branch would indeed first become a low-wage branch. For wages to rise there would have to be political struggles, and to become established as ‘normal wages’ they would have to change ‘man himself’, thus, a dialectical change.

Gibson’s (1980: 15) reply was the same as Raffer’s, that “capitalists are not attracted to the periphery by low wages but by high profits, which depend on transportation costs and nontraded goods as much as low wages.” Capital mobility, he explained, “does *not* imply that investment continually flows from rich to poor countries until the reserve armies of the latter are exhausted. If prices adjust such that an “unequal exchange equilibrium” exists (i.e., an equilibrium with unequal wage rates) then nothing in the model would necessarily imply a flow of investment funds from center to the periphery and unequal exchange is *not* necessarily self-cancelling in the long run.” The theory itself did not necessarily imply an uninterrupted flow in either direction, Gibson (*ibid.*: 23) reminded (as noted also by Mainwaring), and so: “The alleged reduction of the wage differential over time cannot therefore be deduced from the theory alone.” While it was certainly possible to produce a coherent story of how unequal exchange disappears in the long run, the theory itself was also “entirely consistent with a persistent drain of surplus from periphery to center over time.” In Gibson’s eyes, “the essential confusion is between the concepts of “capital mobility” and accumulation of capital through foreign investment.” The mobility of capital was a sufficient condition for the equalisation of the rate of profit, whereas the long-run exhaustion of unequal exchange required a continuous flow of investment funds from the centre to the periphery. However mobile, what determined if capital would actually move was the incentive of higher profits. In the long-run steady state equilibrium of the theory, prices were such that all branches earned the going rate of profit, so there could be no incentive for capital to move anywhere. The very existence of a set of reproduction prices guaranteed that unequal exchange need not be self-cancelling over time (*loc. cit.*). In the case where the same goods were produced there would, indeed, appear to be such a tendency, as there would within any branch experiencing a wage differential. Here, Gibson countered instead the assumption of ‘everything else equal’, and in particular thought that transportation costs and non-traded inputs would tend to undo the cost advantage of low-wage countries. He (*ibid.*: 24f.) did not deny the possibility of unequal exchange disappearing in the long run, but it was not enough to refer this to the *ceteris paribus*: “Unfortunately, nothing short of a complete, dynamical theory of the laws of motion of the capitalist mode of production is required, the crux of which must be some theory of the time-path of investment.” However one wished to formulate the theory, it was nevertheless both incorrect and counterproductive to let discontent with such dynamic analysis lead one to reject also unequal exchange. Although none of the participants in the debate took any notice of it, Emmanuel (*e.g.*, 1974a) had of course already extensively worked out what he considered a foundation for such investment dynamics.

(3) The last objection concerned the possible magnitude and importance of unequal exchange as an explanation of underdevelopment. The reply given in Emmanuel’s book to the same objection was that unequal exchange was as big and important as it was, and that he had never claimed the mere transfer of ‘surplus value’ to explain the abyss between developed and underdeveloped countries, which was instead explained directly by the very wage gap itself. As to estimates Emmanuel paid it all but no attention at all, merely as an aside while debating,

whereas Amin had tried to make a more precise estimate, at the same time providing his own definitions. As to Gibson (1977, 1980: 25f.), this was where he felt most at home, using his Peru-United States dissertation example of unequal exchange to estimate its global extent.

Nevertheless, believing in the inconsistency of Emmanuel's model, and wishing to amend it, Andersson (1972b: 59-65; cf. also 1972a) set out to 'expand' it by making wages endogenously given. In this new model, he explained, wages were determined partly by various institutional factors such as trade union power, employment and income policy, and partly by the level of employment. The latter, in turn, was dependent on the level of production and average worker productivity, which depended on the amount of capital per worker, which depended on the wage level. The higher the wage level, the more capitalists tried to save labour by raising capital intensity, but how much depended on the support and protection received from industrial and trade policy. This model of wage determination, which he admitted was similar to Prebisch's, was then combined with an Emmanuelian one in which commodity prices and the levels of production were included as dependent variables. Using Frank's (1967) terminology, Andersson divided the world into a metropolis and a satellite. In the metropolis, economic policy was conducted so as to keep up the level of production and thereby employment. Production in the satellite was by contrast dependent on exports to the metropolis, the amount of which depended on its 'willingness to import'. This in turn depended on its level of production and the terms of trade, but ultimately on the metropolitan trade policy or 'protective structure'. In this way, Andersson argued, all five anomalies of neoclassical theory became explicable. He assumed that the satellite was unable to raise domestic wages by employment policies, which instead made them determined by the trade policies of the metropolis; not even by lowering prices, could the satellite raise production, or consequently employment and wages. By contrast, the all-powerful metropolis could assure itself a high level of employment and, depending on the efficiency of employment policy, high wages, which was further aided by protection of labour demanding branches, stimulation of labour intensive exports and capital intensive imports (cf. the Leontief paradox). Wage disparities increased as did relative capital intensities (notwithstanding that labour demanding branches were located in the metropolis), and therefore the terms of trade turned increasingly in favour of, and capital flowed towards, the metropolis. Appearances notwithstanding, Andersson maintained, his model was not conspiratorial, since the actions of the all dominating metropolis were guided by domestic concerns to maintain employment and raise wages.

In spite of Andersson's disclaimer and the admitted need to criticise those in power, the general image of an all-powerful metropolis, determining everything in the world according to its wishes, and the corresponding impotence of the satellite, whose inability to raise wages through employment policy was not explained, makes the explanatory value of his model very limited. As an aid to historical interpretation it faces the same problems as the dependency school, with which perspective it has more in common than does Emmanuel's model, notably of explaining the anomalous United States and British Dominions. The same is true of the Argentinean economist, Oscar Braun's similar model, which has indeed been seen as 'conspiratorial' (Evans 1984: 211; 1981b: 608), and in which instance the links to Prebisch and the dependency tradition become evident.

Braun's (1977 [1973]) book was written in 1968-1971, to which was added an 1974 article as postscript, summarising the most important ideas. According to Evans (1981b: 601ff.), these were important in the debates on unequal exchange in the 1970s, particularly in the periphery.¹⁰⁴ Braun began by dividing the history of centre-peripheral relations into four

¹⁰⁴ Apart from the Argentinean 1973 original and its three editions until 1977, there was an early 1972 French translation published in Dakar, Senegal, by the African Institute for Economic Development and Planning (IDEP) headed Samir Amin, and a full translation in 1974, including Braun's postscript and prefaced by Amin

principal phases, which clearly demonstrate what Raffer (1987: 74) calls “a very typical dependista-understanding of the international economy”, though it was inspired partly by Mandel (1962): (1) the stage of ‘colonial pillage’ in the service of ‘primitive accumulation’, beginning in the 16th century and leading up to the industrial revolution; (2) the stage of commercial expansion, covering most of the 19th century, in which dependent countries become established in the role of suppliers of raw materials and an outlet of industrial products from imperialist countries; (3) the period of capital exports, from the final decades of the 19th century to the crisis of the 1930s, during which the dependent countries absorb a large part of the surplus capital generated in imperialist countries, whose domestic markets has not kept pace with the development of the productive forces; (4) finally, the current stage of unequal exchange, during which dependent countries supply primary and some industrial products *at low prices* (Braun 1977: 13f.).

This contemporary stage, Braun summarised, was characterised by imperialist countries selling dear and buying cheap. The low export prices of dependent countries were linked to their low level of real wages. The imperialist countries obliged them to sell at low prices by applying a discriminatory commercial policy, imposing tariffs and duties on dependent country exports, forcing them to expand their low price exportations to equilibrate the balance of payments. This discriminatory policy was possible because of the limited development of the productive forces in dependent countries, which made them precisely ‘dependent’ on manufactures from the imperialist countries. Finally, unequal exchange absorbed part of the ‘surplus’ generated in dependent countries, curbing the development of the forces of production thereby perpetuating or reproducing the dependency relation. Thus, according to Braun, contemporary imperialism manifested itself on the plane of commercial exchange, being immediately determined by the economic policy of the imperialist states, and in the final instance by the unequal development of productive forces (Braun 1977: 27f.).

Based on a Sraffian presentation, slightly modified from Emmanuel’s Marxian (apparently unaware that Emmanuel had presented his ideas in Sraffian terms already in 1970), Braun’s first chapter showed how exploitation through unequal exchange was possible. In the second chapter he demonstrated how commercial restrictions could force dependent countries to trade at disadvantageous prices, thereby inverting Emmanuel’s order of causality. While agreeing with Emmanuel on the connection between wages and prices, pointing out their formal similarities Braun thus diverged on the most fundamental point. Emmanuel had considered the idea that prices determined wages ridiculous, but Braun (1977: 121) nevertheless wanted to reverse the direction of determination, which would both add much to the model and make it logically satisfactory. Like Andersson and many others, Braun believed that international capital mobility in Emmanuel’s model would imply a massive capital outflow to the periphery. How was it that low-wage peripheral countries did not drive industrial ones out of the market, if their prices of production were correspondingly lower? The relevance of Braun’s opinion on this is questionable, since he (1977: 57, 75) apparently was under the misconception that the independent variable for Emmanuel concerned only peripheral wages, but even so his argument only applies to branches in which competing goods are produced, which was not the case studied even by Braun himself. However this may be, Emmanuel had pointed out that it was not plausible for, let us say, the price of cocoa or artichokes to

(Braun 1972, referred to, *e.g.*, by Andersson 1976; Amoia & Braun 1974). The English translation is an unfinished draft cut short by Braun’s death in 1981, and the ‘Italian and German editions’ mentioned by Evans, proved either difficult for Raffer to find or consisted only of the 1974 article added to the second edition as postscript. Raffer’s review showed him to be all but completely unknown at the time of his death in the German speaking area. I have found no trace of him in Andersson’s writings before the 1976 doctoral dissertation, where the similarity with his own earlier approach is noted. The model is referred to as the Andersson-Braun modification of Emmanuel, in which capacity he functions also in Evans’s 1984 review of neo-Marxian theories of unequal exchange (Raffer 1987: 73f.; Andersson 1976: 87ff.; Evans 1984: 210).

determine all other variables of the system. However, even if they could not determine any particular price, Braun (1977: 58) maintained that it was perfectly possible for imperialist countries to influence the export prices of dependent countries. He (1977: 28; trans. J.B.) thus wanted to demonstrate that “the independent variable is the price and not wage, and that the price at which dependent countries sell their products can be determined by the imperialist countries through the manipulation of tariffs and other restrictions imposed on trade.” Such restrictions did not appear anywhere in Emmanuel’s model, he protested, and yet they were so important a mechanism of exploitation through unequal trade.

True to his Argentinean origins, Braun pointed to the ‘structural’ deficit in the balance of payments, caused by commercial restrictions in the centre, as the principal curb on peripheral development. Such restrictions were the cause of low dependent country export prices, and thus the variable producing unequal exchange, and in turn forcing down their wages. Although restrictions on commerce of course were not imposed deliberately in order to exploit dependent countries, Braun (1977: 76f.) admitted, they were the natural tendency of monopoly capitalism, and of state bureaucracy under capitalism, since a favourable balance of trade would increase the volume of profits and employment. As Raffer (1987: 88) has noted, what Braun described resembles very much the standard mercantilist policy, whether this was aimed at creating effective demand or at some other purpose.

Andersson (1976: 91) noted how Braun saw dependence as caused by the low-wage country’s need for imports, whereas he himself had only spoken of their need to increase exports, and how Braun saw a striving to attain full employment on behalf of the underdeveloped country, which he himself had found in the developed country. Whereas Andersson derived non-equivalent exchange from the protective policies on the part of high-wage countries, striving to maintain full employment in spite of their high wage level, Braun derived unequal exchange from the need of the dependent countries to import a certain amount of goods in order to achieve or maintain full employment. The similarities between Braun’s and his own earlier model were nevertheless striking. They identified the same problem within Emmanuel’s theory of why low-wage countries did not produce and export the goods which give the higher price, and both finding “the same crucial cause in the dependence of the low-wage upon the high-wage countries, and the commercial policy of the latter” (*loc. cit.*). We have already noted Raffer’s disagreement on the alleged inconsistency.

Andersson (1976: 70f.) was certainly aware of Emmanuel’s assumption of non-competing groups of producers, so that if a high-wage branch was adopted in a low-wage country, it became degraded, at least so long as there was no compensating productivity differential. Raffer (1987: 61) nevertheless explained Andersson’s misunderstanding as caused by his assuming one price for one commodity, whereas for Emmanuel prices were related to countries, so that “wood from Sweden and wood from Zaire are different products with different prices, and not one good sold at one world-prices.” As part of his argument Emmanuel (1972a: 172ff.) had compared timber and oil with respect to certain criteria outlined by Nurkse (1959), which purported to explain the inherent disadvantages of raw materials. Using Kindleberger’s figures Emmanuel pointed out that since timber (and related products such as wood pulp, paper, etc.) was a Swedish product, its terms of trade had increased remarkably. Oil, on the other hand, which to an ever greater extent was produced in low-wage countries in the Middle East, had not seen a comparable evolution. In spite of the fact that oil should have been favoured by every one of Nurkse’s criteria, the terms of trade had turned to the advantage of the high-wage Swedish products.

Andersson (1976: 75f.) challenged Emmanuel’s statistics, pointing to more favourable figures for crude petroleum up to 1953 than those quoted by Emmanuel for oil, and to the global price index for lumber. One could have wished Emmanuel to have been clearer about his sources, but Andersson did not observe that he had referred specifically to the Swedish

terms of trade, while at the same time pointing out that tropical timber products certainly had not followed the same trend. Whatever the oil or crude petroleum statistics may show for the period up to the 1950s, it was only after that period that the Middle East came significantly onto the market and the United States, which (together with Canada) “still in 1955 accounted for half of world production” (Yates 1959: 153), became a net importer. And, as Andersson himself acknowledged, in that period petroleum did fall continuously behind until the OPEC-related price rises in the early 1970s.¹⁰⁵ More than in the increasing wage-disparities between Sweden and the Middle East, Andersson was interested in the high rates of profit of US oil companies (compared to those in U.S. manufactures), which indicated a significant degree of monopolisation, and gave, he (*ibid.*: 76) said, “the demand side an increased role in the price formation” (though hardly in the sense that demand determined the rate of wages or profits).

Andersson had many other empirical objections, but the most important concerned Emmanuel’s assumption about the developed and underdeveloped countries as non-competing groups (*e.g.*, Andersson 1976: 77f.). This was what motivated Andersson’s early modification of Emmanuel, and it was also the point of his subsequent elaboration. Believing it to overcome the perceived inconsistency in Emmanuel’s model, he also maintained that by introducing protectionism it “directly rejects the assumption of the two groups of countries as being completely specialised.” Thus, he (*ibid.*: 91) praised himself, the Andersson-Braun modification “is certainly a step in right direction.” However, the model’s heavy reliance on protectionist trade policies, implied that unequal exchange would tend to disappear with the introduction of free trade, which Andersson agreed was unrealistic. Neither could the whole wage disparity be ascribed to trade policy, he (*ibid.*: 92) admitted, though both he and Braun had ultimately ascribed it to unequal development of the productive forces.

Andersson’s (*ibid.*: 97) three objections to Emmanuel’s model were (1) that it did not, so he believed, have a stable equilibrium point, (2) that it assumed labour to be directly ‘comparable’ between different branches and countries without resorting to (international) value calculations, and (3) that it assumed the two groups of countries to specialise in non-competing branches. The first point is in principle mistaken on Andersson’s behalf. The second assumes by contrast that unequal exchange can only exist as a comparison between values and prices of production, thus representing what Raffer (1987: 64), paraphrasing Andersson, calls “a step [in] the wrong, or at least problematic, direction”. The difference between Andersson and Emmanuel lies in the use they want to make of the ‘theory of value’, where Andersson was searching to find an ‘objectively’ measurable unit of comparison, and Emmanuel used it to point to conflicting social interests under the surface of observable prices – any comparison of labours could only be something undertaken and worked out in the everyday lives and decisions of workers, thereby pointing to the struggles internal to this sphere. This leaves the third objection, which may be legitimately advanced, though I would argue that this, too, is something which could work itself out first of all in reality rather than theory, so to speak, *i.e.*, through transport costs, trade barriers, productivity differences, qualitative differences, consumer preferences, marketing, differentiation of production, (perhaps temporary) super- or sub-profits or -rents, or, ultimately, elimination. I fail to see how, *e.g.*, the textile or clothes industry could be advanced against this view. It would be mistaken to see this objection as pertaining to the case where the same (final) good is ‘produced’ not in one or the other group of countries but, *at different stages* in the chain of production, in both, perhaps even by the same multinational enterprise, in which case nothing could be more evident than wage differentiation and specialisation of low-wage countries in labour-intensive branches, while the rate of profit is necessarily equal. However, an

¹⁰⁵ The latter he oddly presented as an argument against Emmanuel’s perspective of institutionally determined factor remunerations. Once higher prices had been established in this way, high-wage countries such as the United States could once again expand their production, and new operators such as Norway enter the market.

assumption of non-tradable goods was “quite unrealistic”, Andersson (*ibid.*: 101) believed, and made the model “hypothetical in the bad sense of the term”. “This assumption is so unrealistic that the whole theory [loses] its credibility” (*ibid.*: 103). However this may be, Andersson concluded that an improved Emmanuelian model must resolve these three things.

This Andersson did by introducing a third and common branch, serving as basis for the comparison of productivities and the calculation of international values, while at the same time eliminating complete specialisation: “This change makes it possible both to compare the different national labours to each other and to find a causal connection between the national wage rates” (*ibid.*: 111). Although the model is Sraffian, the comparison is still between calculated values and prices of production (*i.e.*, Morishiman). The three commodities, or sectors of production, chosen were (1) ‘equipment’, which was always produced in and exported from the centre (and which was the only ‘basic intermediate good’ in the Sraffian sense); (2) ‘cloth’, a manufactured competitive good which could be produced in the centre or the periphery; (3) ‘coffee’, a tropical product produced and exported exclusively in the periphery. Andersson thus retained characteristics of Emmanuel’s model in that both ‘equipment’ and ‘coffee’ were specific noncompeting goods, while ‘cloth’ was potentially competitive on the world market depending on commercial policy. In his review of the book, Evans (1978: 1056) was very pleased with these changes: “By introducing competing goods and commercial policy into the analysis, Andersson’s work is a vast improvement in both theoretical and empirical terms over Emmanuel’s pioneering work.”

There are four equations in the model – one each for the price of ‘equipment’ and ‘coffee’, and two for the price(s) of the common commodity ‘cloth’ – and seven unknown variables – the four prices, the two wage rates, and a common rate of profit (cf. Emmanuel’s two-country model in Chapter 18). Andersson assumed a given relation between the two common commodity prices, and took one of the prices as *numeraire* (the ‘money’ good in which all the others are expressed), thereby reducing the number of unknowns to five. With four equations and five unknowns, one of the latter had to be taken as the independent variable determining, together with the structure, the rest of the variables. Emmanuel’s assumption of both wages as independent was inconsistent with the given relation of prices in a common branch, which, as we have seen, could only be resolved either by having to introduce discriminatory commercial policies (and thereby the free-trade or the equalisation-of-profits assumption) or by denying that goods were tradable (which was ‘unrealistic’). Instead of assuming that the prices of cloth have nothing to do with each other, Andersson passed on to the case where there was only one price of cloth, while taking either only one of the wage-rates as independent or the rate of profit as given, the remaining rate being thereby determined automatically. He then examined the case where a duty was imposed on the price of cloth-imports from the tropical country, and the non-equivalent exchange between cloth and equipment.

As it turns out, though enthused by Andersson’s extension, Evans (1984: 212) was less so about its execution. The elimination of the “unsatisfactory monopoly power determination” of prices in the previous model “has given way to a distribution closure based upon an assumed pattern of trade and commercial policy, together with the strong assumption that only the centre produces basic goods – a most unsatisfactory procedure. As a consequence, all costs of commercial policy are imputed to peripheral workers only.” Enterprising as Andersson’s attempt was in scope, “it ultimately fails because of its restrictive assumptions and analytical errors” (*ibid.*: 213). As to the ‘laws of motion’ of the capitalist system, these were superficially and unconvincingly developed in the Braun and early Andersson views – insufficiently analysed with respect to the interests of either workers or capitalists, and based on implausible assumptions “that the imperialist states have sufficient conspiratorial capacities to operate their market power and commercial policy against the interests of peripheral workers”. Andersson’s later perspective tried to “introduce more general

considerations of laws of motions and uneven development through a discussion of his concept of non-equivalent and disjunctive exchange”, but this endeavour was “severely hampered both by the difficulties in his formal model [...] and the well-known analytical problems which arise when one attempts to draw inferences from hypothesised non-equivalence in exchange” (*ibid.*: 214). There was “a lack of distinction between the trade theoretic points of the analysis and the “gains” or “losses” of non-equivalent exchange”, something which was further complicated by arguing from nominal instead of real wages as the independent variable. Finally, “it could be argued that all the points made under the heading of “non-equivalent” exchange could have been made without any concept of nonequivalent exchange at all” (Evans 1978: 1056).

Andersson (1976: 112) himself noted that his three-commodity model resembled most of all that of W. Arthur Lewis, where his own ‘cloth’ took the place of the latter’s ‘food’, ‘equipment’ that of ‘steel’, and ‘coffee’ that of ‘cocoa’. The similarity is particularly relevant in that both makes wages depend on productivity. Raffer agrees that this was indeed the case, and that Andersson thereby “abolishes one of Emmanuel’s main pillars – the independence of wages, at least their independence from market forces and productivity-relations.” However, Raffer (1987: 61) continues, Lewis’s productivity-linked approach was classified as ‘on the fringe’ of unequal exchange: “Andersson’s ‘modification’ of Emmanuel thus produces a model Emmanuel has already rejected as inaccurate to his perceptions [...]. Contrary to his own belief, Andersson may be pointedly called a modification of Lewis rather than of Emmanuel.” In Lewis’s model the terms of trade were wholly determined by productivities, leaving no room for independent wage variations. However, Andersson (1976: 113) observed, all the factors included in Lewis’s model “work in the same direction as in our model,” but the latter was more specified, including the effects of changes in wages on the terms of trade. Lewis’s model was silent on the rate of profit and, important in Andersson’s eyes, could not be used for value calculations.

Summing up, although Andersson was inspired by Emmanuel, he assimilated the early Marxist critique of wages as a variable independent of productivity, as well as a strong conviction that the labour values were indispensable for any ‘objective’ formulation of unequal (non-equivalent) exchange, and over the years worked his way towards a model which looks like a Marxist labour value version of Lewis, expressed with the help of Sraffian equations. It is perhaps not to be expected that such an accomplishment should pass without contradictions. Another theme has been the problem of protectionism, which for Andersson was closely related to the problem of the labour aristocracy.

Andersson is unusual, if not unique, among Emmanuel’s early Marxist commentators, in actually at one point agreeing with him that there was a clash of interests between the working classes in high- and low-wage countries. Since Emmanuel’s wages were independent variables, Andersson (1972a: 118) argued, he could not show in what way a change in the wages of the one will affect the wages of the other, and that a necessary condition to do this was to introduce protectionism. By contrast, Braun seems to have drawn no such conclusion about the conflicting worker interests from his model, where it was all up to manipulating monopolists. Andersson also noted that this was the common denominator behind all the various attacks in France, some wishing to discard the concept of unequal exchange altogether, others trying to reformulate it so that the international worker solidarity would not be questioned. Seemingly, at any rate, Andersson, too, fell in line, arguing that whereas temporarily and locally unequal exchange could be in the interests of some workers, under the condition of protectionism, but that in the long run and with political independence this antagonism would disappear. Thus, there would nevertheless be a common interest: “The long-run interests will be victorious over the short-run ones” (1972b: 135; 1972c: 32). Andersson (pers. comm.) challenges this interpretation saying that though this sentence was

‘ins Blaue’ he had never denied the possibility that international contradictions would remain even under socialism.

In his doctoral dissertation Andersson (1976: 85) informed that Emmanuel afforded an objective basis for an international solidarity of *capitalists*, in that any wage increase would diminish the common rate of profit, giving the workers at least a common *enemy*. He adjourned giving verdict on whether and why “this enemy manages to split up the international working class into competing blocks”. As this way of putting it shows, the idea that the majorities of the populations could actually be held *responsible* for their antagonisms was too much even for Andersson, who preferred to find the source of evil in the usual villain, who now divided and conquered where it had formerly bribed. The perspective is obviously related to the unwillingness to take wages as the ‘independent variable’, and the great effort to place it somewhere – anywhere – else. Whereas Andersson is more circumbendibus, Braun chose the easiest way out, simply to reverse the order of determination so that prices determine wages and not the other way around. Yet others, as Andersson himself observed, had searched and found their own variants. It is curious that a tradition such as the Marxist, which allegedly places so much emphasis on the labouring masses as the basis of society and history, should have produced and continue to produce such an enormous multitude of theories and politics where the agents of history are instead assumed to be entrepreneurs, monopolists, and state capitalists.

In his doctor’s thesis Andersson faced directly the question of the ‘labour aristocracy’, quoting Hobsbawm’s (1970: 51) definition that an aristocracy arises “when the economic circumstances of capitalism make it possible to grant significant concessions to their proletariat, within which certain strata manage, by means of their special scarcity, skill, strategic position, organizational strength, etc., to establish notably better conditions for themselves than the rest.” Andersson (1976: 154) commented: “If we look at capitalism as a global system, [then] the mass of the workers in the developed countries undoubtedly form[s] a “certain stratum” which has managed to “establish notably better conditions for themselves than the rest”, and they could thereby be considered an “aristocracy of labour” in relation to the proletariat of the “Third World”.” Case closed? No, said Andersson, because “even though the workers of the industrialized countries are considerably better off than in the underdeveloped countries, this need not mean that they are living at the expense of the “Third World” proletariat.” Reverting to Bettelheim’s old ‘paradox’, he concluded that they “may even be subjected to a greater degree of exploitation.” Having thus paid homage to the idea that ‘exploitation’ is a relation of production rather than one of appropriation, Andersson (*loc. cit.*) can comfortably shift the meaning of the aristocracy concept: “the crucial question is not whether the proletariat of the imperialist countries have succeeded in considerably improving their conditions in relation to the proletariat of the “Third World” [...] but whether this has happened *at the expense* of the latter.” This, of course, amounts to the same thing as Bettelheim’s point that if productivity has increased as much as wages, then there is no exploitation, and if it has increase more, then ‘exploitation’ goes the other way around, the rich being exploited by the poor – just as the unemployed on the dole are exploiting those who have productive work. So long as there is no mention of worker-enforced restrictions on labour mobility, this will offer great reassurance.

Andersson (*ibid.*: 155-160) distinguished four possible views on ‘non-equivalent exchange and the labour aristocracy’. The first denied the importance of non-equivalent exchange and therefore also its relation to the labour aristocracy. The second admitted considerable non-equivalent exchange but denied its relevance in bettering the condition of certain sections of the working classes. The third accepted both the existence of non-equivalent exchange and its importance for the raised standards of living of the workers of the developed countries. This position was distinct from the fourth, where the working class not only benefitted from non-

equivalent exchange (as a 'bribe'), but was actually responsible for its existence. If one were not to revert to "very complex and laborious empirical studies", one could test them all by examining them within the confines of his model with a common third sector. Doing so Andersson reached different conclusions depending on various assumptions as to in which sectors the "equipment-labour ratio" was the higher. In the event of a wage increase in one country, the relevant example in the comparison with Emmanuel, he (*ibid.*: 158) found that this led, on the one hand, to a wage increase in the other country, and on the other to a reduction of non-equivalent exchange. This seemingly paradoxical conclusion, he observed, the opposite of Emmanuel's, followed necessarily from the structure of this model. It gave "the unambiguous result that high wages in the developed countries cannot *per se* cause a non-equivalent exchange. On the contrary, any wage increase which reduces the rate of profit brings the prices closer to the values" (*ibid.*: 160). As can be seen these conclusions assumed the definition of equivalent exchange as the identity of values and prices of production, but even so, the conclusion seems to be mistaken. As observed by Evans (1984: 212), Andersson "argues incorrectly that centre-periphery worker antagonism is eliminated in his formulation", when in fact merely introduces a qualification, but leaving the outcome an undetermined, "open empirical matter" (cf. Mainwaring 1980, Howard & King 1992). Indeed, it would have been surprising if the result of Andersson's introduction of a common branch would have been other than Gibson's (1977, 1980), making that one of his principal points.

In the end, Andersson's (1976: 164) confrontation of non-equivalent exchange and the labour aristocracy, which also concluded his book, established that (1) there probably *had* been a non-equivalent exchange detrimental to the development of most underdeveloped countries, but (2) these gains "have not been sufficient to support a labour aristocracy consisting of the majority of the workers of the developed countries. As to wages, (3) there *may* exist an objective basis for intercontinental worker antagonism so that a rise in wages of the one may decrease those of the other, but (4) *all else equal*, "any wage increase will tend to reduce the non-equivalent exchange between nations, provided that the direction of non-equivalence due to differences in the organic compositions of capital has not been changed through some other factor, such as monopoly pricing or protectionism."

The most interesting of Andersson's writings over the next few years were those on the relation of the nation state and capital, where, parallel to the 'capital logic' of which much was spoken in those years, a 'nation-state logic' was identified and described (1981a; 1981b; 1982). The perspective is similar – more systematic and structured but less historical – to that later adopted by Tilly (1992). In the early and mid-1970s, although not denying the fact of environmental destruction, he had followed the Marxist midway in treating ecology as an ill-considered bourgeois ideology, in spite of writing in his dissertation that "the flowing away of non-reproducible natural resources – even though the prices [have] corresponded to the labour outlays – certainly quite often has implied a disjunctive exchange." Inspired by his daughter (now a well-known Green politician) and some colleagues, his interest was awakened for more active reflection on the relation of 'red', 'blue' and 'green' ideals, where the latter had previously simply been associated with the 'Asiatic mode of production' (1974: 202). The revelations from the ecology of the Soviet bloc, the new winds arriving with Gorbachev, and the ensuing crackling of the left, tipped the scale in favour of the elements more open to renewal. Andersson's political involvement gave him a prominent place in the redirection of the communist party towards a 'Third Left' beginning in the latter half of the 1980s.

After his doctoral thesis and with some minor exceptions, Andersson seems more or less to have abandoned the field of unequal exchange. Recently, however, he has again returned to the question, but now in the ecological context. Except for the connection with disjunctive exchange, there are no evident links to his previous work. Not much economic theory has been involved this time, although he evokes the work of Patnaik (1997, with whom he shares

a weakness for Rosa Luxemburg). Instead, he adopted the concept of 'ecological footprints' to provide a new basis of measurement where 'labour values' had previously stood, and supplied a classificatory pattern of the possible losses from trade, perhaps inspired by his previous one of 'asymmetric', 'disjunctive', and 'non-equivalent' exchange.

Andersson and his co-author Lindroth began by observing that "even though rich countries consume more resources, the most acute environmental problems seem to be concentrated in the poor countries." According to the so called 'environmental Kuznets curve' this was part of a general trend, according to which environmental damage is seen to increase over time as a country industrialises, but then level off and decline again as the importance of the service sector increases and 'de-industrialisation' sets in, or as technological improvements decrease the dependence on nature. In line with much of the criticism levered at this concept, Andersson & Lindroth (2001: 113) suggested that "there may be a gloomier explanation", consisting in rich countries in some way 'importing' sustainability and so "preserve their local ecological capital even though they consume more biomass and sink-capacity than what is produced within their own nation." Thus, even if trade may be balanced in monetary terms, it could be "unequal in terms of the exchange of biomass and sink-capacity".

As before, Andersson set out to find a unit of measurement in which to measure whether an exchange was equal or not, and for this purpose the authors adopt the area-based concept of 'ecological footprints' (cf. Chapter 22). The authors (*ibid.*: 116) inform that "The ecological footprint is a measure of how much a certain population consumes, not a measure of how much the ecological capacity of a certain territory is exploited." In fact, it appears that Wackernagel & Rees use *global average* yields, both when estimating the area needed for *consumption* of agricultural products and when estimating the area of bio-capacity *available*. Alternatively they might use global average yields for consumption and *national* yields in the latter case. The assumption on consumption may perhaps seem roughly adequate when seeing the world as a well-supplied metropolitan shopping window – and quite so, the footprint concept has been launched for the metropolitan market. In either case one could have a discussion on the Marxist lines of 'national' vs. 'international value' and rehearse all the arguments and conflicting ideas on non-equivalence appearing there. Andersson & Lindroth spare us this, agreeing with Costanza (quoted *ibid.*: 114) that an EF deficit "at national and regional scales is simply as a net input from outside the region converted to equivalent land area units." However, if EF-consumption is taken locally from high-yielding agriculture such as that in Bangladesh, China, Egypt, or the like, but is calculated as originating from agriculture with global average yields, then it is easy to believe it "a shocking fact [...] that although ecological footprints for some important demographically important countries – Bangladesh, China, Egypt, Ethiopia, India, Nigeria and Pakistan – are low, they still exceed the nationally available capacity" (*ibid.*: 115). One cannot deny the possibility that some of these countries are still shockingly close to the ecologically available bioproductivity, but unfortunately it is not revealed by the data presented by Wackernagel & Rees, and could probably be more easily confirmed by looking directly at trade statistics. More seriously, it may present areas where local yields are lower than average as unproblematic. In general, the global average approach tends to exaggerate external dependence of high-yielding areas and those consuming their goods (which in general would implicate developed countries although this is compensated by greater fossil fuel inputs). This is immaterial, however, to the main contribution of Andersson's & Lindroth's article, which consists in an enumeration (a) of ways in which countries may preserve national natural capital through trade, (b) of types of ecologically unequal exchange, and (c) of ways in which trade may affect the use of bio-productive areas and the way this use is perceived.

(a) The 'net-use' of foreign biocapacity, the authors explained, could take the form either of a specialisation effect or a dispersal effect. A country may specialise in goods that require

little by way of biocapacity in inputs, exporting this in exchange for biomass, or it may consume more goods whose environmental effects, or use of biocapacity, were spread globally – just as the decrease in profits is internationally spread out in Emmanuel’s model in case of a wage increase. Using these concepts countries could be categorised into six groups, depending on ecological surplus or deficit and on the relative size of net exports or imports. An ecological surplus could coincide with (1) net import of biomass and sink-capacity, resulting in increased biocapacity both as a result of external factors and moderate domestic consumption; (2) a relatively smaller net export of biomass and sink-capacity, resulting in an increased ecological capacity; or (3) a relatively larger net export of biomass and sink-capacity, resulting in a decreased ecological capacity, despite sustainable domestic consumption. Similarly, an ecological deficit could coincide with (4) a relatively larger net import of biomass and sink-capacity, resulting in increasing ecological capacity in spite of local overconsumption; (5) a relatively smaller net import of biomass and sink-capacity, resulting in a decreased ecological capacity, or finally (6) net export of biomass and sink-capacity, so that ecological overuse locally was reinforced by external factors. Degradation of biocapacity could be hazardous if a country had specialised in a good depending on it, or if the country became dependent on the rest of the world for its consumption, which could also foster conflicts over access to resources and thereby accelerate degradation to the potential loss of everyone (*ibid.*: 115f.). (The latter a well-known scenario in Hardin 1968.)

(b) After the above classification, the authors (*op. cit.*: 118f.) attempt a typology of ecologically unequal exchange. (1) ‘Simple ecologically unequal exchange’ was influenced by changes in the terms of trade and expresses simply the net flow of biocapacity ‘embodied’ in imports and exports. This is analogous to Andersson’s previous understanding, where goods ‘embodied’ a certain amount of labour values which could be measured as equal or unequal, and as with this former conception the authors conclude that such unequal exchange is the general rule. Since it says nothing about sustainability neither can anything be said a priori about its ultimate desirability, and as in Ricardo’s comparative costs it is consistent with mutually beneficial effects on biocapacity. (2) ‘Unilaterally unsustainable exchange’ is next cousin to Andersson’s previous disjunctive exchange, and meant that one of two countries was both net-exporter of and had decreasing domestic biocapacity, whatever the monetary or economic effects may be. If not rectified, such trade would in the long run deplete ecological capacity to the extent that the country could no longer sustain its net-exports. (3) ‘Mutually unsustainable trade’ meant that both countries have ecological deficits, and may be the result of excessive competition, perverse signals on the market, or simply overconsumption.

(c) The *allocative effects of trade* may improve efficiency, thereby increasing world average yields, but since bio-productivity was not the only factor determining international specialisation, there may be ‘perverse’ allocation where world average yields decrease. The *income effects* of trade could be such that local, and therefore global, consumption of biocapacity increased, or they could make profitable certain exports of biocapacity which would not otherwise be used. Rich countries might suffer from an *illusion effect*, because they could buy biocapacity elsewhere and convince themselves that their life-styles were actually sustainable (*e.g.*, the environmental Kuznets curve), which could ultimately prove fatal if it leads to the conclusion that richness is a condition for ecological responsibility. The most illuminating of these effects is the *terms of trade distortion effect*, which consisted in the capitalists and rich country workers being strong enough to protect their interests, turning the poor countries into a kind of buffer for the whole system: “Falling terms-of-trade for the poor countries can be seen as a distortion of the global relative prices from an ecological point of view. Despite a deterioration of the global natural capital, this need not manifest itself in rising prices for biocapacity intensive products. Instead, it may show up as worsening standards of living in the periphery, and as falling prices due to the growing reserve army of

labour” (*ibid.*: 120). In fact, the observation that falling terms of trade for the poor countries may systematically distort possibly corrective signals from increasing costs of production is not dependent on any definite explanatory theory. Notably the intergenerational implications tended to become wholly brought out of touch with ecological reality: “The poorer the producers of primary commodities, the more easily can they be forced to give precedence to short-run considerations.” While the world ought to economise of the existing biocapacity, world prices give distorted signals because of asymmetric power relations, increasing the risks of ecological overshoot (*ibid.*: 120f.).

Finally turning to the “ethical and political dilemmas”, one would perhaps have suspected a revision of the theses on the ‘labour aristocracy’ in the light of the new experiences and the approach adopted from the perspective of *appropriation* of the limited global output. In this hope the reader is disappointed. Like Emmanuel in the 1960s, however, Andersson & Lindroth (*ibid.*: 121) nevertheless agree that their exercise “points to several painful dilemmas.” Trade can function in an uncannily subtle manner to preserve ecological capacity among the overconsumers, lead to ecological deterioration not only in the poorer countries but also generally. Moreover, adopting the assumptions of Emmanuel’s model they continue, free trade and free movement of capital imply that

any agent which is rich enough may decide – directly or indirectly – how global biocapacity is used. In a sense, we have a zero-sum game in which some have to lose out if those who are richer want to use the limited biological resource for a competing purpose. The losers can be the less rich and the poor, other living beings, or, if the global natural capital is reduced, future generations. (*Loc. cit.*)

This is partly a repetition of Emmanuel’s conclusion; for surely the ‘rich’ who decide how to use the world’s output through their purchasing power cannot honestly be restricted to the upper strata, but must include the majority of the populations of the rich countries – else the use of biocapacity could not have been of any very great concern. But it is also an improvement on it, because of the inclusion of other living beings and future generations, which implies that the solution cannot ultimately be the fullest possible ‘development of the productive forces’, with which Marxists – including Emmanuel as we shall see (Chapter 19) – of every shade over the last century and a half have been so greatly concerned as a condition for the revolution. However, Andersson’s plunging into the problems of the nation-state seems to have purged him of every conception of ‘revolution’, if indeed he had had one. This attitude was perhaps reinforced by his parliamentary political activities, something tending to turn the fiercest *fundi* into the gentlest *realo*. Now classes were absent and it was he (and Lindroth) who worried exclusively in terms of nations and their possible conflicts. The ghost of protectionism, haunting Andersson from the start, reappeared, but now a new worry had been added, namely that analyses such as theirs may be turned against their ideological ambition to reduce inequalities. People may be converted to chauvinism:

If the situation is recognised to be a zero-sum game, people may once again start to think in terms of *Lebensraum*. It may become more difficult to reach consensual and solidaristic global solutions as the rich feel that they can only sustain their way of life by using external biocapacities, and as the poor get a stronger feeling of being exploited. If the beliefs that ecological sustainability is best reached through economic growth is shattered, we enter into a world the ethical dilemmas of which will be much harder to face. (*Ibid.*: 122.)

We should not read this so that *thinking* in terms of *Lebensraum* should be more disturbing than its *praxis* in the form of overconsumption of biocapacity. This would make one wonder to whose ears such warnings were intended: the ‘overconsumers’ who feel the need to veil the system in words and theories, or the ‘underconsumers’ who may feel the need to overthrow it. National chauvinism can be equally dangerous among poorer countries as among richer – it is for instance in no way given that it will find expression at the expense of the rich and well-

armed rather than poorer neighbours. One may hope that decreasing wealth and employment of youths in well-off countries will not primarily find expression in chauvinism but in some more sympathetic way. It is certainly true, at least in the opinion of the present author, that that mindset is obsolete which is intent on grabbing the largest possible spoonful out of the necessarily limited fleshpots of Egypt, whether it is drenched in conservative, liberal, Marxist, or even ecologist cant. The ease with which the self-appointed intellectual spokesmen of the well-to-do workers of the world have convinced themselves that these workers were also among the ‘underconsumers’, or ‘exploited’, is one of the most disconcerting things in this affair, and does not bode well for those species and future generations who happen to have no proper voices and not enough spokesmen.

If Andersson presented his economic theory in Sraffian equations, it could be argued that the insistence on ‘labour values’ was pouring new wine in old bottles. As we have observed, Emmanuel abandoned his labour value formulations soon after the publication (1969) of his thesis, and we shall now turn to the subsequent and more precise presentation of his theory in Sraffian terms. We shall also look at some of the debates occasioned with scholars belonging to that school of thought, whether they classify themselves as Marxist or not, and ultimately suggest that, although much more relevant and understanding of Emmanuelian unequal exchange, even in this tradition responses have been conditioned by common concerns and assumptions already decided upon. Having considered many labour value- and transfer versions of ‘unequal’ or non-equivalent exchange, and the wealth of confusion reigning in this area (as suggested by Part II and the above Chapters 15 through 17), it is easy to agree with Koont (1987: 10): “It would be desirable to extricate the concept of unequal exchange from the morass it has sunk into on the terrain of value transfers.” This is part of what we shall do in Chapter 18. Such demystification of ‘values’, in pointing directly to physical inputs, makes it more in harmonious with ecological accounting. Thus, the relevance for ecological unequal exchange lies partly in trying to avoid falling into a similar morass, based on an analogeous ‘naturalistic’ approach and definition of value. The Sraffian formulations below may seem hard to digest for some of these ecologists, but some such understanding will be required if one wishes to retain any theoretical orientation or relevance also with respect to (unequal) *exchange*. I will also suggest that Emmanuel’s explanatory politico-economic logic, which will be presented more fully in Chapter 19, can coherently relate his exogenous wage-increases both to ecological overconsumption and postwar economic ‘overdevelopment’.

Chapter 18. Sraffian unequal exchange and debates

If the French were predestined to conduct their debates in traditional Marxian language and value theory, English and Italians have been more open to, or perhaps forced to face, some of the fundamental objections raised against it and to search for reformulations, notably the Sraffian. Piero Sraffa (1899–1983) was born in Turin, where he attended university, came under the influence of socialist ideas, and became friends with Antonio Gramsci, who, along with Amadeo Bordiga, led the split by the Leninist *comunisti puri* tendency from the Italian Socialist Party to form the Communist Party of Italy in 1921. The party was outlawed by the Mussolini’s Fascist government in 1926, forced to go underground, its left wing (led by Bordiga) defeated and replaced by a new leadership around Gramsci. (Gramsci was soon imprisoned, and the leadership passed to Palmiro Togliatti, who would lead the party until it re-emerged from illegality in 1944.) The same year, Sraffa’s article attacking Marshall’s

theory of value in the *Economic Journal* earned him a reputation as a brilliant economist. The following year, he accepted a position at Trinity College, Cambridge, where he remained the rest of his life. At Cambridge he greatly inspired Maurice Dobb, co-editor of Ricardo's works, Joan Robinson, and a large number of influential students, including Ronald Meek, Pierangelo Garegnani and Luigi Pasinetti. Building on Sraffa's *Production of Commodities by Means of Commodities*, as well as his introduction to the works of Ricardo (to which Dobb is given as co-author), Meek and particularly Dobb attempted to bring about a full-scale renaissance of political economy. Dobb began to isolate himself from many of his fellow-communists by insisting that Sraffa's book offered a vindication of Marx. In a very influential article which appeared in the Dutch journal *De Economist* in 1970, Marx, Bortkiewicz, and Sraffa were all placed in the same classical tradition, where the rate of profit was held to depend on "the conditions of production of the input-producing industries (whether wage-goods or constituents of constant capital) and on these alone" (Dobb 1970: 356). Dobb's last book, *Theories of Value from Adam Smith* (1973), of which we have made use above, presented the history of political economy from a clearly Sraffa-inspired perspective, highlighting the similar approach in the classical tradition, particularly Ricardo, in Marx, and in Sraffa, where distribution was logically separate from and prior to exchange, and where prices were derived from the distribution of income, along with conditions of production, not the other way around.

Sraffian economics may well have been the form Marxist economics had to take in the Anglo-Saxon world. On the one hand, as we have just seen in Chapter 16, British Marxism lacked the organisational support of a strong Communist party, at least as compared with the Italian, French, or Finnish. On the other hand, the strong tradition of political economy in Britain (not mentioning the mercantilists, e.g., Smith, Ricardo, Malthus, Mill, Jevons, Marshall, and the anti-Marxist J. M. Keynes), which had already seen the overcoming of classical economics by neoclassical, a tradition which became particularly emphasised in postwar United States (cf. Samuelson), and the Keynesian overcoming the neoclassical, Old England economists were unlikely ever to allow to pass by the shortcomings and logical deficiencies in traditional Marxist economics – notably the notorious 'transformation problem', briefly reviewed in Chapter 15 above.

The links between unequal exchange theorists and neo-Ricardians has occasioned David Evans to interpret the former as a subset in the general neo-Ricardian challenge of comparative advantage and neoclassical orthodoxy. The neo-Ricardian, or Sraffian school, as commonly referred to, has focused on efficiency and not included unequal exchange theorists, being rather a continuance of the 'capital controversy' of the 1960s between neoclassical theorists, Samuelson in particular, and those inspired by Sraffa. Since the theoretical literature on the neo-Ricardian theory of international trade grew out of the Cambridge, England, side of the capital controversy, Evans refers to it as the 'English' neo-Ricardians, whereas the 'unequal exchange' theorists are called 'French' neo-Ricardians.¹⁰⁶ This is a more or less appropriate denomination, although it should perhaps be remembered that *none* of the theorists considered by him were wholly 'French'. Emmanuel was an expatriated Greek, Amin was born in Cairo, although with a French mother, Saigal was Indian, Oscar Braun Argentinean, and Jan Otto Andersson a Finland-Swede (for the latter two cf. Chapter 17). Only Paul Antoine Delarue was actually French, but he was on the other hand educated in the

¹⁰⁶ There is possibly more to this distinction than was really intended, as indicated by the similar distinction made between Anglo-Saxon, 'analytical' or linguistic, philosophy and Continental, 'hermeneutic', Thomist, Marxist, structuralist (with one or other prefix), etc., philosophy. In the English case economists and logicians, even (utilitarian) moralists, have often followed similar paths, even when they have not been unified in one person, and as we have indicated earlier, the Sraffian 'revolution' against neoclassical theory has a more than accidental parallel in Wittgenstein's reaction against the standard philosophy of his day.

ordinary 'English' neo-Ricardian fashion in California. An early contribution not considered by Evans was also made by the Dutch Theo van de Klundert. As it turns out, and perhaps hardly surprisingly, compared with the French, the Italian debate seems to have been much more open to the Sraffian perspective. Finally, most if not all would probably designate themselves as Marxists rather than Ricardians. Nevertheless, as we have seen, the debate originated, and most of it was available in or conducted by French, notably critics such as Bettelheim and Palloix.

There is no doubt where Evans's (1981a: 126, n. 1) own preferences lie when pointing out that "a distinction should be made between the careful analytical development of a new theoretical basis for international trade theory in the writings of Mainwaring, Metcalfe and Steedman, and the 'unequal exchange' authors such as Emmanuel, Saigal, Amin and Braun. The latter writers are often sloppy in the penetration of their analytical argument and attempt to generalise from their simple models to general theses on imperialism and underdevelopment." Another way of looking at it would be to say that whereas the former have conducted much valid and useful criticism of orthodox theory, they remain, as their favoured object of criticism, obsessed with elaborating every formal possibility, confined within a formalist bias already present in Sraffa, and are not enough concerned with establishing which versions and variables are most useful for understanding the world. The latter understand the priority of understanding the world, in historical fact as well as theory, but are often consumed in making politically 'relevant' observations, while using formalism to boost pre-established views. In politier and more specific terms, this is implied in Evans (*ibid.*: 124) concluding stocktaking of the whole neo-Ricardian/unequal exchange approach:

There are at least four major problems with the neo-Ricardian critiques of the theory of comparative advantage as developed so far. First, although the issue of income distribution is dealt with in a more satisfactory manner than in the neo-classical model, it remains determined by factors which are not the subject of systematic analysis. This is a problem at the level of specification of abstract models in which alternative distribution closures are merely stated for the simplest cases without further analysis, as can be seen from a reading of the collected essays by the 'English' neo-Ricardians [...]. [...] Secondly, the theory remains essentially static with no attempt to move beyond comparative statics or comparative dynamics to a more fully dynamic view. A problem here is the gap between formal theoretical models which cannot deal satisfactorily with such matters, and more general analyses which can potentially reach beyond the precision of formal theoretical model building but which run the danger of being reduced to more or less interesting speculation or empty theorising. Thirdly, there has been little analysis of concrete situations to establish likely tendencies or patterns in the movement of a more dynamic system. The neo-Ricardian theory, still in its infancy, has so far performed mainly a critical function. Fourthly, there has so far been little or no attempt to relate the economic with political, social and historical factors to build a more unified theory of international trade and value.

The English branch has been the one most involved in debates on international efficiency or optimum, such as the one reviewed above between Samuelson and Emmanuel. Their critique of orthodox international trade theory is an elaboration of Sraffa's revelation that "it is not possible to define capital as a part of 'factor endowment', unless it is assumed that capital goods are homogenous (which obviously they are not)" (*ibid.*: 120). Neoclassical theory predicts, with qualifications, that trade will raise the income of the factor intensively used in export productions. "The neo-Ricardian theory entirely removes this presumption", Evans explains, continuing (*ibid.*: 121): "For example, it can be shown that opening trade between capitalist countries can lead to a loss of per capita consumption." "Thus, whereas for 'pure' capitalism in the neo-classical case, free trade must lead to a gain in economic welfare, capitalism in the simplest case is fundamentally flawed in the neo-Ricardian model and is unable to guarantee gains from trade."¹⁰⁷

¹⁰⁷ Evans (*loc. cit.*) elaborates: "In the neo-classical analysis, losses of economic welfare arise when there are imperfections in the competitive market mechanism, such as in the markets for capital and labour. Under these

In this English, Sraffian tradition, Lynn Mainwaring analysed Marxist theories of ‘non-equivalent’ or ‘unequal exchange’. While the latter concept was found to have multiple meanings, the former denoted an exchange of goods between countries at prices that diverge from the proportion of labour embodied in them. Examining these theories he found that nothing could be said *a priori* about the direction of non-equivalence, that is, of the transfer of labour value (the same would be valid for the DFTT, to the extent that that concept is taken to imply labour values or its neoclassical counterpart). He (1980: 30) concluded: “As it is, the concept of unequal exchange does not appear to be particularly useful in helping us to understand the process of underdevelopment.”¹⁰⁸ One may wonder why he did not stick to his unproblematic terminology of ‘non-equivalent exchange’. Although his conclusion struck at the theories of Amin, Saigal, Andersson, and Braun, it did not concern that of Emmanuel – not an insignificant theorist of ‘unequal exchange’ – for whom he found quite the opposite: “for him unequal exchange arises not as a consequence of equalised profit rates but as a consequence of unequal wages (in the presence of equalised profit rates). Unequal exchange is, therefore, reflected not in the deviation of prices from values but in the deviation of prices, as they are, from prices as they would be had wages been uniform. Since Emmanuel’s definition does not refer to values, only to prices, it is not affected by our result.” On the contrary: “What his basic proposition amounts to can easily [be] seen” from Mainwaring’s exposition (*ibid.*: 29).¹⁰⁹ The corresponding chapter in his later book-length study was correctly titled ‘non-equivlent exchange’ (Mainwaring 1991: 176-86), and underlined the difference in this respect between Emmanuel’s version and that of other exponents. Indeed, he (*ibid.*: 133-40, 144-9, 159-64, 171, 185, 192, 203, 212, 230, 232, n. 3) even included the former’s argument on wages and the terms of trade as the ‘Emmanuel effect’.

The French branch of unequal exchange theory, Evans observes, had appeared several years in advance of the English neo-Ricardians, who seemed nevertheless to have been quite independent – or perhaps one should say ‘uninformed’. With a certain unintended irony in view of later Sraffian Marxist developments, Joan Robinson’s (1973) review of Emmanuel charged it with being ‘formalistic Marxism’. In Evans’s historiography, Emmanuel’s & Co critique of the accepted theory of international values “attempted to place economic, social, political and historical forces and their interaction as central determinants of the terms of trade and the distribution of the gains or losses from trade.” Emmanuel had first developed his theory using Marxian ‘price of production’ schemas (not ‘reproduction’ schemas as Evans writes) but, as pointed out on several occasions by both Emmanuel himself and Evans, a Sraffian or neo-Ricardian framework would have worked just as well – indeed better. “Similarly, the other main ‘unequal exchange’ theorists [...] have utilised the neo-Ricardian framework. However, unlike the ‘English’ neo-Ricardians, the analytical arguments in the

circumstances, it is quite possible for free trade to lead to specialization away from ‘true’ comparative advantage, leaving economic welfare lower after trade than with no trade. This ‘special case’ in the H-O-S-model [Heckscher-Ohlin-Samuelson] is the general case in the neo-Ricardian model because of the differences in the specifications in capital.” There is in the neo-Ricardian model no relation between the ‘marginal product’ and the rate of profit, which instead “plays a similar role in the market mechanism to the factor market distortions in the neo-classical case, opening the possibility of loss from trade.”

¹⁰⁸The specific question he (*loc. cit.*) set out to answer was: “In a two-country world in which profit rates are equalised, in which wage differences exceed productivity differences and in which the high wage country employs the more capital intensive technique, is it possible to say that international trade must lead to a transfer of value from the low to the high wage country?” This is a question of central concern to theories of non-equivalent exchange, but not to the theory of Emmanuel, although he, too, may initially have been under this impression.

¹⁰⁹Oddly, indeed, after having reviewed what they believe to be Andersson’s “more rigorous formulation” of Emmanuel’s thesis and concluding that thus formulated none of Emmanuel’s claims can be substantiated, Howard & King (1992: 199, 204), claim that Mainwaring has reached “a similar conclusion”, when the truth is precisely the opposite.

‘unequal exchange’ literature are often critically dependent on particular strong assumptions (quite apart from numerous analytical flaws).” Therefore, Emmanuel’s theory remained, in Evans (1981a: 122) view, the most interesting one, and although he gave a formal presentation of all of the ‘French’ school, including Andersson, he accordingly concentrated his efforts on Emmanuel.

Emmanuel’s first published demonstration of his theory in terms of a system of equations of the Sraffa type appears to have been in his reply to Christian Palloix (1970). Responding to Somaini, Emmanuel admitted that at the time of writing his thesis and book he had not gone deeper into the question of transformation, as with Sweezy (1942) having only seen a quantitative gap in Marx’s error. It was thus “in responding to those who reproached me of not having respected the logical subordination of prices to values that I subsequently studied the question more closely” (Emmanuel 1973: 68; trans. J.B.). In Chapter 15 above, we reviewed both the ‘intuitive’ and Marxian demonstrations of his theorem. Turning to the demonstrations in terms of Sraffian input-output equations below, I will confine myself to a numerical example and the demonstration for a two equations system (Emmanuel 1973: 72ff.; 1975a: 40f.). The general demonstration for n equations systems, with which Emmanuel himself was provided by Antoine Delarue, is considerably more abstract (Emmanuel 1973: 74ff.; 1975 41ff.), but the point of it was also given ‘in plain language’.

Let us first remind of that the phenomenon of unequal exchange that Emmanuel (1973: 70; 1975a: 38) had set out to demonstrate, was “that, *if* the wage is an exogenous (institutional, independent) variable, and *if* a tendency exists for the formation of a general international rate of profit, then any autonomous variation in the wage-rate in one branch or in one country will entail a variation in the same direction of the respective price of production and a variation in the opposite direction of the general rate of profit”. Thus, a wage increase would result in improved terms of trade.

Let us start with the numerical example. Assuming two countries producing the goods A and B, which are at one and the same time consumption goods and means of production and thereby included as invested capital in both countries. Country A disposes a stock of 70A and 35B, and of 200 hours of labour force, with which it produces 32A, spending 6A and 1B on intermediate consumption and depreciation. Country B disposes 20A, 45B, and 300 hours, producing 21B, by spending 16A. If the wage rate is $1/40B$ per hour and B is as the money good (*numéraire*), if p_a is the price of a unit of A, and r the rate of profit we get the situation in Table 16.¹¹⁰

Table 16. *Two-country Sraffian input-output system with equalised rate of profit system before wage increase*

Region	K Total capital invested	c Constant capital consumed	v Variable capital (wages)	p Profit	L Price of production
A	$70p_a + 35$	$(6p_a + 1)$	5	$+(70p_a + 35)r$	$= 32p_a$
B	$20p_a + 45$	$16p_a$	7.5	$+(20p_a + 45)r$	$= 21$
Total	$90p_a + 80$	$(22p_a + 1)$	12.5	$+(10p_a + 7.5)r$	$= 32p_a + 21$

Sources: Emmanuel 1970d: 46ff; 1972a: 402ff; 1973: 81f.; 1975a: 40.

Here we have two simultaneous equations, one for country A and one for country B, which have been presented so as to be easily comparable to the Marxian price of production schemas used so far, thus illustrating that prices of production can be found without the ‘complicating

¹¹⁰ Arguing with Marxists that his solution in no way was confined to the ‘sphere of circulation’, Emmanuel’s (1970d: 46ff; 1972a: 402ff.) first demonstration instead assumed a real wage, a physical basket of goods, $(A+2B)/100$ per hour, something which in all probability has contributed to the uncertainty whether his independent variables are real or nominal wages, in spite of his insistence on the latter.

detour' of labour values. While the total amount of profit is known from given physical parameters of production thus, before the problem of prices has been solved, *i.e.*, $(32A + 21B) - (22A + 13.5B) = 10A + 7.5B$, and even the share of profits for each branch/country is given, *i.e.*, $(70A + 35B)$ to A and $(20A + 45B)$ to B, the proportion accorded to each cannot be determined until the respective values/prices of A and B have been found. This requires the introduction of an additional unknown variable, the rate of profit, $r = (10A + 7.5B)/(90A + 80B)$, which, however, "can be determined only *at the same time as prices*", by solving the system of simultaneous equations. Taking B as *numéraire* we have: $p_a = 0.5$, $r = 0.1$ (10%).

According to Emmanuel (1972a: 403), this further illustrated his point in taking wages rather than profits as the 'independent variable':

if we want to solve the problem of quantifying commodities while basing ourselves exclusively on the conditions of production, the only magnitude we are obliged to rely upon is wages, [...] profit being merely a residue. If we lack this magnitude, if wages are not "given," if they do not constitute an *independent variable*, then the problem of defining value on an objective basis is insoluble, and no abstract equilibrium price (of production) can be found. In this case all that is left to us is the marginalist solution, which gives us the momentary concrete equilibrium price on the market.

Now, if wages are doubled in A (from $1/40B$ to $1/20B$), the equations turn out as in Table 17.

Table 17. *Two-country Sraffian input-output system with equalised rate of profit system after wage increase*

Region	K Total capital invested	c Constant capital consumed	v Variable capital (wages)	p Profit	L Price of production
A	$70p_a + 35$	$(6p_a + 1)$	10	$+(70p_a + 35)r$	$= 32p_a$
B	$20p_a + 45$	$16p_a$	7.5	$+(20p_a + 45)r$	$= 21$
Total	$90p_a + 80$	$(22p_a + 1)$	17.5	$+(10p_a + 5)$	$= 32p_a + 21$

Sources: Emmanuel 1973: 81f.; 1975a: 40.

Solving the equations after the wage increase gives: $p_a = 0.614$, $r = 0.0641$. The price of A has accordingly varied in the same direction as wages, while the rate of profit has varied in the opposite direction.

Generalized for a two equations system, and assuming for simplicity that all invested capital is consumed in a single production cycle ($K = c$), this can be expressed as follows. If A_a and B_a denominate the quantities of A and B consumed (as depreciation and intermediate consumption) in country (A), and A_b and B_b the corresponding quantities in country (B), if w_a and w_b are the wages, and if A and B are the quantities produced in each of the two branches/countries, then we have the following equations:

Country	c	+	v	+	p	=	L
(A)	$(A_a p_a + B_a)$	+	w_a	+	$(A_a p_a + B_a)r$	=	$A p_a$
(B)	$(A_b p_a + B_b)$	+	w_b	+	$(A_b p_a + B_b)r$	=	B

or abbreviated

$$(A_a p_a + B_a)(1 + r) + w_a = A p_a \quad (1)$$

$$(A_b p_a + B_b)(1 + r) + w_b = B \quad (2)$$

Having taken B as *numéraire* leaves four unknown variables, r and p_a , w_a and w_b . Since for Emmanuel money wages (physical quantities expressed in B) were independent variables, he is left with two unknowns and two equations. Wishing to demonstrate that any autonomous variation of w_a necessarily entails a variation of the same sign of p_a , and a reverse variation of r , he rewrote them as:

$$w_a = \frac{Ap_a}{1+r} - \frac{(A_ap_a + B_a)(1+r)}{(B-w_b)/(A_bp_a + B_b)} \quad (1')$$

$$1+r = \frac{(B-w_b)/(A_bp_a + B_b)}{(B-w_b)/(A_bp_a + B_b)} \quad (2')$$

If w_a increases there are only nine possible combinations of respective variations in r and p_a (Emmanuel 1975a: 41):

r	p_a	
Unchanged	Unchanged	Inconsistent with equation 1'
Unchanged	Increases	– " – 2'
Unchanged	Decreases	– " – 1' and 2'
Increases	Unchanged	– " – 1' and 2'
Increases	Increases	– " – 2'
Increases	Decreases	– " – 1'
Decreases	Unchanged	– " – 2'
Decreases	Increases	Consistent with both equations
Decreases	Decreases	Inconsistent with equation 1'

If w_a increases, there was therefore only one combination consistent with both equations, *i.e.*, that in which r decreases and p_a increases. Thus, any increase in wages will imply improved terms of trade as compared with a situation before or without it.

As observed, the demonstration for the general case becomes significantly more intricate. Even seeing the general case written down (Table 18), each line representing a country specialised in one branch, may seem too intricate for some readers. The structure and, so far as Emmanuel's system is concerned, outcome and logic, are nevertheless exactly the same as before. Since it is the ultimate form of expressing his or most other theories of unequal exchange – although to their loss they commonly rest content with a two-country system – and since it will reappear (*e.g.*, in Chapter 19), it may be well to habituate the eye to it.

Table 18. *Emmanuel's K-country Sraffian-like equations system*

Total capital invested	Constant capital consumed, c	Variable capital, wages	Profit	= Price of production
$A_ap_a + B_ap_b + \dots + K_a$	$(A'_ap_a + B'_ap_b + \dots + K'_a)$	$+ L_aw_a$	$+ (A_ap_a + B_ap_b + \dots + K_a)r$	$= Ap_a$
$A_bp_a + B_bp_b + \dots + K_b$	$(A'_bp_a + B'_bp_b + \dots + K'_b)$	$+ L_bw_b$	$+ (A_bp_a + B_bp_b + \dots + K_b)r$	$= Bp_b$
...
$A_kp_a + B_kp_b + \dots + K_k$	$(A'_kp_a + B'_kp_b + \dots + K'_k)$	$+ L_kw_k$	$+ (A_kp_a + B_kp_b + \dots + K_k)r$	$= K$

Source: Emmanuel 1970d: 49; 1972a: 407.

Abbreviated and, as above, with the simplifying assumption that the speed of rotation of all inputs is equal to 1 ($A_a=A'_a$, etc.), it can be written as a system of Sraffian industrial equations, or input-output matrices:

$$\begin{aligned} (A_ap_a + B_ap_b + \dots + K_a)(1+r) + L_aw_a &= Ap_a \\ (A_bp_a + B_bp_b + \dots + K_b)(1+r) + L_bw_b &= Bp_b \\ \dots &\dots \\ (A_kp_a + B_kp_b + \dots + K_k)(1+r) + L_kw_k &= K \end{aligned}$$

where A_a, A_b, \dots, A_k represent the quantities of A consumed in the production of the industries a, b, ..., k, B_a, B_b, \dots, B_k , represent the quantities of B consumed in the production of the same industries, etc.; A, B, \dots, K are the total quantities produced in a, b, ..., k; L_a, L_b, \dots, L_k represent the quantities of labour expended in a, b, ..., k; w_a, w_b, \dots, w_k , represent the wages for a unit L in a, b, ..., k; p_a, p_b, \dots, p_j represent the prices of one unit of A, B, ...J; K is the money good so that all w and p represent a certain physical quantity of K; r is the general rate of profit.

If wages are given exogenously, as Emmanuel assumes, there are k equations and k unknown ($k - 1$ prices, plus r), and the system is completely determined. Assuming convertible currencies (the point of which as we shall see in Chapter 19), any variation of

wages will have the reverse variation of r , and entail a proportionately higher increase in the good of the branch undergoing the wage increase than in any other. Thus, as before, any wage increase will improve the terms of trade for the country in question. The general demonstration of this for an n (or, using the above symbols, k) equations (= countries or lines of production) system becomes mathematically more intricate and will not be presented (cf. Emmanuel 1973: 74ff.; 1975a 41ff.), but in plain language, it reads as below and is informative of the processes involved.

Assuming that in each country (area of mobility of the labour force) there is only one process of production, corresponding to one line in the matrix, and that all prices, including wages, are expressed in physical quantities of the *numéraire*-commodity (in a convertible currency system), Emmanuel (1975a: 44) described what would have to take place after an exogenously given rise in the wages of one branch/country. Initially: “The country, in which a rise of monetary wages has taken place, will try to pass it on in the form of an increase in the sale price so as to preserve the previous rate of profit. Since wages are only one of the constituents of cost, a rise in the price less than proportional to the increase in wages will be sufficient for profits to be maintained.” This would have different consequences depending on the type of good. If the commodity under question was *exclusively* a consumer commodity, there would be no change in the prices of the other countries and in the general rate of profit, and the only consequence, “will be the increase in the real revenue of the workers in this same country and, consequently the fall in the real revenue of the capitalists in the whole world,” including those of the first country, in proportions according to who are the consumers of the costlier commodity in question. If, on the other hand, the commodity in question was a means of production (whether exclusively or jointly), two logically separate but in reality overlapping processes of equalisation would begin to operate.

In the first, the countries/branches using the dearer product as an input would react, in the same manner as the first country in the face of the rise in wages, by trying to raise their prices, and, for the same reasons, “the resulting rise in the price of the output will be proportionately less than the rise in price of the corresponding input”. Thus, all prices, except that of the *numéraire*-commodity, would rise in the same direction, although unequally so, and the branch which has endured the increase in wages most of all, “this being the only means by which the constancy of its rate of profit can be secured” (*loc. cit.*). The money commodity would not vary simply because it had no price at all, being itself the standard of all prices against which the general rise in prices made sense. Each time the input-output chain crossed this branch, generally the gold mines, Emmanuel (*ibid.*: 45) went on, “the process of the transmission of the rise in price from one product to the other is interrupted, since this branch produces directly nothing but money, sells nothing and consequently has nothing to pass on the rise to. This makes it possible for adjustments made by the equalization of the costs to stop somewhere and not go on indefinitely.” However, at the end of this first round of adjustments, the general equilibrium was not yet reached, since the other branches had been able to transfer the whole burden of the lower rate of profit to the gold mines, “since the prices of all their inputs (except wages) expressed in gold have been increased but physical production of gold has remained unchanged” (*loc. cit.*).

Thus, Emmanuel (*loc. cit.*) continued, a second round of adjustments set in, equalising the rate of profit, and starting with capital indiscriminately abandoning the gold mines for other branches “Following this, the prices will undergo new changes but this time not because of the equalization of costs, but because of the imbalance between the relative quantities produced, as they are influenced by the inflow of capital, on the one hand, and the structure of demand which has not changed, on the other.” The final equilibrium was reached when the general level of prices expressed in gold fell sufficiently to allow gold mines to realise the same rate of profit as everybody else, which general rate of profit would thereby fall.

But if the rate of profit falls (or remains unchanged), no branch, among those where wages remain unchanged can, in the same terms, have an output which rises proportionately more than *every one* of its inputs. There must exist *at least one* input which increased more than the output. (*Loc. cit.*)

This input would have to be the one originating in the branch undergoing the initial wage increase. To show this, Emmanuel reverted to the above Sraffian language.

If r had decreased (or remained the unchanged), and $L_i w_i$ and K_i had remained unchanged in the following line of production, i ,

$$(A_i p_a + B_a p_b + \dots + I_i p_i + K_i) (1 + r) + L_i w_i = I p_i$$

then p_i could not increase at a rate greater than each one of p_a, p_b, \dots ; *i.e.*, at least one of these prices must have risen at a rate greater than that of p_i . Letting p_j , the price of input J_i , be this price, then there must exist one branch

$$(A_i p_a + B_a p_b + \dots + J_j p_j + K_j) (1 + r) + L_i w_i = J p_j$$

“in which the rise of the output at a higher rate than *any* input is indeed *possible*.” Now, considering the invariability of K_j and the decrease of r , it was clear that p_j could rise *more* than p_a, p_b, \dots , only if w_j had increased.

In other words, the existence of a branch, whose price advances more than all others, being necessary, and this effect being possible only in the branch hit by the increase of wages, it follows that this effect is necessary in the same branch. Then, with the price of the product of this branch rising more than that of any other in absolute terms (*numéraire*-commodity), it follows that this price rises in relative terms with regard to any one of the others. Hence, the necessary improvement of the terms of trade of the country producing and exporting this article. (*Ibid.*: 46.)

Summing up, it could be said that with a wage increase in a given branch, country, or region, the price of its products must increase, both in relative terms compared to other goods and in physical quantities of the money commodity, whereas the relative prices of the products of other branches, and some perhaps even in physical quantities of the money commodity, will correspondingly fall, and the general rate of profit will decrease. *Q.E.D.*

One shortcoming of the Marxian schemas is the impossibility of making the distinction between real and nominal wages. All through his writings, Emmanuel insisted that it was only nominal wages which could be regarded as ‘independent variables’, and this was how he understood wages (the ‘variable capital’) in his schemas, which thus could not influence one another. Real wages, on the other hand, are determined only after the sale of the products, and were consequently affected by the resultant alteration in the terms of trade. An increase in *nominal* wages of one region will, under most circumstances, result in a lowering of *real* wages of the other, as we shall elaborate below when considering some differences between Emmanuel’s approach and that of more conventional Sraffians. One of the more notable of these is the above Delarue.

Antoine Paul Delarue (1946–) was an engineer graduated from École Polytechnique in 1965, who had gone to Stanford University (an international partner of the École) to obtain his Ph.D. in economics in 1973. He then acted as councillor of economic planning and industrial politics in various areas of intervention in France, the United States, Morocco, and elsewhere, after which he turned to the public sector: the Commissariat du Plan, then at the Ministry of Labour, in particular the administration of social security where he became head of the department of economics and statistical studies. His contribution to economic theory appears to consist in his thesis (1973), and two articles (1975a, 1975b) in French based on it, the subject of which was *Production, Exchange and Exploitation in a Neo-Ricardian*

Framework, and part of which concerned unequal exchange. The background in engineering is perhaps visible in the proficient use of mathematics, in which office, as noted, he also came to the aid of Emmanuel. Delarue's Anglo-Saxon training also helps explain his aberration from common French Marxism. In fact, turning to Sraffian formulations very much coincides with more serious scholarly British involvement with unequal exchange. In 1975, Emmanuel was invited to participate at several seminars and conferences in England, and it was probably in connection with these attempts to grapple with his ideas began. At one of these he criticised the Marxian concept of wages, and in that context also the alternative solution proposed by Delarue to the choice of independent variable.

Contrary to his French colleagues but like another student at Stanford, Theo van de Klundert, Delarue was trained in Sraffian economics, and had no problem placing the concept of unequal exchange in that setting as a comparison of prices of production as they are with what they would have been at uniform wage rates, and in contrast to the Walrasian scheme where prices determine wages rather than the other way around. He also noted the difference between 'unequal exchange', arising from the normal workings under free trade, and international exploitation in the sense of C. S. Kolm (1969), resulting from an array of tax and duty manipulations. On the problem of the unit of measurement he followed Sraffa in using a 'standard commodity', and in general he followed rather closely the standard Sraffian solutions to problems, certainly more strictly than Emmanuel. This is particularly true in the reasons allotted for rejecting wages as independent variables, instead preferring the so called 'Cambridge closure' with an exogenous rate of profit and given relative wages.

Rejection of wages as independent variables is so common as to seem almost involuntary. The wish to base the wage-rate on the level of productivity has been a most consistent force in the reception of Emmanuel, explaining the tendency even of Marxists to draw Emmanuel back towards Arthur Lewis or even marginalism. In the case of the followers of Sraffa, it could simply be a reflection of the master's own treatment. When constructing the simple model in the beginning of his book, Sraffa – like Marx, though this is denied by many – did take wages to be the independent variable. In that context he spoke only of *real* wages either as an assortment of "specified necessities", or as an abstract mathematical fraction of the net social produce. In the final paragraphs of chapter 5, however, Sraffa abandoned this closure for one in terms of the rate of profit. His 'Standard net product' seemed to him irreplaceable as the medium in which the wage was expressed and "if we wish to eliminate it altogether, we must cease to regard w as an expression for the wage and treat it instead as a pure number which helps to define the quantity of labour which at the given rate of profits constitutes the unit of prices" (Sraffa 1960: 32). This argument led to a reversal of the practice followed from the outset "of treating the wage rather than the rate of profit as the independent variable or 'given' quantity":

The choice of the wage as the independent variable in the preliminary stages was due to its being there regarded as consisting of specified necessities determined by physiological or social conditions which are independent of prices or the rate of profits. But as soon as the possibility of variations in the division of the product is admitted, this consideration loses much of its force. And when the wage is to be regarded as 'given' in terms of a more or less abstract standard, and does not acquire a definite meaning until the prices of commodities is determined, the position is reversed. The rate of profit, as a ratio, has a significance which is independent of any prices, and can well be 'given' before the prices are fixed. It is accordingly susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest.

In the following section the rate of profit will therefore be treated as the independent variable. (*Ibid.*: 33.)

Thus, contrary to real wages, which have no meaning before the determination of prices, the rate of profit had a meaning independent of prices and could accordingly be 'given' ahead of them. Following Sraffa, Delarue's argument was simply that selecting a price or wages as independent variable "necessitates first choosing a unit whereas r is a pure number" (Delarue

1973: 23; cf. Emmanuel 1975b: 152). Delarue gave no positive indications as to in what such an exogenous determination could consist, and Sraffa did no more than mention the above “level of the money rates of interest.”

This was unacceptable to Emmanuel (1972a: 409): “It seems to me that this is a deadly blow dealt by Sraffa himself to his own attempt at rehabilitating classical theory.” If by this rate of interest, “determined from outside the system of production”, Sraffa had in mind identifying the rate of profit with ‘the margin of the rate of interest’, then the neoclassical model, which Sraffa had just turned out of doors, was invited in again by the window. Furthermore, on his quest for an ‘ultra-real’ wage, as Emmanuel termed it, Sraffa seems never even to have considered the possibility that *nominal* wages could be treated as independent variables, which perhaps helps to explain the difficulty many Sraffians have in accepting, or even taking in, the possibility that *nominal wages and nothing else* were the independent variables in Emmanuel’s basic model. Now, the argument raised by Sraffa against wages as the independent variable, that it could not be considered as ‘given’ independent of prices whereas the rate of profit could, *cannot* be used against money wages. What Sraffa had forgotten, Emmanuel (1975b: 153f, n. 1) countered, was that nominal wages not only *can*, but actually *are* ‘given’ before prices in the everyday praxis of the world.

As observed by Delarue (1973: 23), Sraffa’s initial simple *real-wage* model was analogous to the model of a *barter* economy. Emmanuel seems to have agreed, adding that in this both Sraffa and the Marxian schemas, with their physically specified and predetermined ingredients, accorded better with the situation of a *pre-capitalist*, or even *slave* economy, than with the developed capitalist societies for which they were conceived. It was perhaps confusing in this respect that the Marxist schemas in which Emmanuel first presented his theory could have given the impression of basing themselves on real wages, and even more that his initial Sraffian examples, trying to demonstrate to Palloix and other Marxists that prices of production could be determined without reference to values but based on the *physical* data of production, had recourse to a real wage ‘basket of goods’ (Emmanuel 1972a: 402). On the other hand, the same presentation explained that contrary to Sraffa’s ‘ultra-real’ wages, he himself argued in terms of ‘semi-real’ wages: “In my model wages is the independent variable. It is expressed in terms of a single commodity, the money-commodity. I have called it a semi-real wage because its *real* counterpart, the definite assortment of goods consumed by the worker, is not and cannot be given *ex ante* but is ultimately dependent on prices, which are in turn dependent on the organic compositions of the industries producing the workers’ consumer goods as compared with that of other industries” (*ibid.*: 407). I really cannot see why Evans (1980: 17) interprets the same passage as proof that Emmanuel considered both nominal *and* real wages as independent variables, when the point of it is quite clearly that *real* wages are residual.

What meaning could a repartition in monetary terms have without pre-established set of relative prices, Emmanuel asked, and why would workers struggle for a mere nominal increase in wages, for mere physical quantities of the money-commodity (or even inconvertible sight-bills or fiduciary money), rather than for more bread, steaks, and clothing? It so happens, he reminded, that in the real world of capitalism workers did *in fact* struggle for increased amounts of the ‘money-commodity’, and why this was so or how it could be otherwise was strictly speaking a philosophical question rather than an economic one. However, both workers and capitalists understood that whatever the amount of real products that could be purchased for a hundred francs or dollars, one hundred and ten of these units would represent a greater purchasing power, in physical terms and independently of prices, than would one hundred units of the same money. The reason was, as Emmanuel had shown (indeed with the help of Delarue), that in the system of prices no price could vary *more* than the wage which caused prices to rise to begin with, because prices consist of both wages and

profits, and the rise in wages will generate a fall in the general rate of profit. Any increase in the money commodity, then, will increase the physical amount of consumption goods as compared to what it could buy before of the same assortment of goods (given that the expenditure does not transgress certain limits set by the combined elasticities of demand). This is what gives meaning, Emmanuel concluded, to the negotiation in terms of money and before prices have been determined (Emmanuel 1975b: 157ff.). That an increase in money wages is thus translated into an increase in real wages, does not, so far as I am aware, in any way turn real wages into independent variables.

A fundamental reason why Sraffa and Delarue preferred the rate of profit as ‘given’ variable was apparently that it constituted a ‘pure’ ratio, intrinsically independent of prices. Emmanuel (*ibid.*: 154f.) could not accept this reason for several reasons. First was that suggested above, and which was central to his whole argument on ‘profit and crises’ (1974a; cf. Chapter 19), that in the real world the profit is an income only *ex post*, thus being the endogenous variable par excellence. What workers negotiate was not pure numbers or ratios of the national income in relative terms, but their own remuneration in money and in absolute terms. Secondly, in the neo-Ricardian context, choosing the rate of profit as independent variable was no solution at all, because it incorrectly presupposed that the problem of ‘reduction’ had been solved. The fact was that there was not simply one unknown variable, *w*, representing a unit of simple abstract labour, which together with a given rate of profit could close the system of equations, but several unknown ‘*w*’s which are *irreducible* to one another. There is really no plausible way out of this dilemma, and for all of his weaknesses, it is certainly one of Braun’s (1977) strengths that he clearly perceived that the only choice of independent variables, was between wages or prices. Thus, thirdly, whereas in the national context the rate of profit has meaning as representing the relative strength of political forces, applying not only to each separate industries but on the national scale. By contrast, taking the rate of profit as given in the international context, while assuming an international equalisation, led to the utterly vague notion that a single global rate must simultaneously reflect equilibrate independently each and every national relation of antagonistic political forces at the same time. Thus the proponents of this solution tended to take not only the rate of profit, but *also* all the ratios between national wages as given, leaving one single, usually subsistence, wage as determined endogenously. Any autonomous variation in the rate of profit would thereby make all the national wage rates vary inversely but proportionately according to their predetermined ratios. Naturally, Emmanuel wearily remarked, this was as politically reassuring as it was economically absurd. Politically reassuring because one could not imagine an international solidarity more mathematically perfect than that, and economically absurd since it implied that the repartition of income was negotiated first between all capitalists and all workers over their respective shares, then between the various national workers to fixate their respective sub-shares of the global fund already accorded to workers globally.

Like Delarue, Evans (1980: 23ff.) argued against the “superficially convenient” solution of taking ‘wages’ (no distinction is made between real and nominal) as independent variable, although he too advanced not a single positive argument in favour of what he calls the “superficially problematic” choice of preferring the rate of profit. Indeed, he realised the absurdities eventually arising from taking the rate of profit as given, but because he was adamant that one “should not” fall back on the “comfortable” closure from the wages side, he instead drew the conclusion that *any* such neo-Ricardian models must be abandoned! Part of Evans problem with accepting the wage rate probably springs from his unwillingness to admit that it is *only* nominal wages, and not real that are implied.

The lack of clear distinction between nominal and real wages could perhaps have been a stimulus to Evans’s (1984: 219f.) ultimate rejection of Emmanuel’s argument, since he put his case as one concerning the “analytical problem with the choice of real wages as independent

variable”.¹¹¹ However, Evans (*ibid.*: 220) soon reverted to the money/real wage problematic, when he underlined that it must be possible *in principle* “to make a causal connection between wage bargains for money/real wages and the terms of trade”:

Given the international mobility of capital, an increase in the money/real wage rate in the short run in one country will lower the rate of profit below international levels, leading to a short-run capital outflow and a balance-of-payments crisis. Regardless of the exchange-rate mechanism assumed, there will be very strong competitive pressures leading to a lowering of real wages (through either unemployment or devaluation of the exchange rate) to restore the rate of profit to long-run levels. This undermines the central mechanism required for Emmanuel’s theory to work.¹¹²

At first sight the argument could seem to be another variant of the mistaken idea (cf. Chapter 17) that there was no stable equilibrium point. However, the crucial point in Evans’s (*loc. cit.*) objection was that “both centre and periphery are [...] aggregations of many large and small national units”, which he presumably took to be in competition with each other in the same branches. The force of the argument, then, did not concern an outflow from the high-wage ‘centre’ towards the low-wage ‘periphery’, but within competing high-wage ‘sub-centres’. Indeed, the same observation was referred to by Emmanuel as a mechanism tending to *stabilise* the division into two groups of countries.

Emmanuel’s (1984: 348; orig. 1974) reflections over the observation and objection that price variations in most cases indeed were followed by short-run inverse variations of the balance of trade (not only a fall in volume but also in value) looked something as follows. First of all, it was not because foreign consumers cut back their consumption more than proportionately to the price rise, but because some of them would, as the objection later made by Evans implied, buy from producers in competing countries, *e.g.*, Citroëns and Renaults would be supplanted by Fiats or Volkswagens. “The number of these countries is not large enough for the supply of each to be considered as negligible and for the elasticity of supply of the other countries to be taken as unlimited” (*loc. cit.*). If a general wage increase in France made some of Renault’s foreign customers turn to Austin or Fiat, the price of these would rise in turn, though perhaps by less than that of Renault. “Consequently, France, while losing on the balance of trade, will gain on the terms of trade, while Britain and Italy will gain relatively little, but on both counts. The same applies to the industrialised countries as a whole” (*ibid.*: 349). If troubles nevertheless persisted in France, counter-measures would have to be taken, such as a currency devaluation, in order to make its prices competitive, but in this case “a *partial* readjustment will generally be enough to re-equilibrate its balance and win back its clients without losing the whole terms-of-trade bonus.” If the initial rise had not been so abrupt, such readjustments might not even be necessary, and the country could wait for the various tendencies to equalisation to operate on its competitors: “Between the highly industrialised countries, a mechanism of communicating vessels spreads out any disturbance. The least competitive factors on a world scale, like labour-power, becomes so within these limits, not through mobility, but by a sort of industrial solidarity. By the very fact that these countries produce roughly the same articles, their competition in the search for markets in less developed countries reacts back on their factors of production and gives rise to an equalising tendency. Fluctuations become contagious.” Through the very fact that the French wage

¹¹¹ If *real* wages were somehow exogenously raised, it could be argued, the only plausible short run effect would be a *local* decrease in the rate of profit, which would stimulate an outflow of capital, whereas if *nominal* wages were raised, the real wage increase would result only as the *international* rate of profit was decreased, and if, as Emmanuel’s argument assumes, goods are specific, there will be no outflow of capital.

¹¹² Cf. Evans 1980: 25: “In short, the many mechanism by which highly mobile finance capital in the short-run and productive capital in the long-run can and do operate to prevent any national money wage bargains from stepping outside the acceptable bands of profitability for international capital destroys any basis for considering wages as the independent variable.”

increase reduced competitive pressure on German prices, resistance of German employers was weakened and improved the position of the German working class in negotiation and struggle, so that the country in lead may pull the rest with them, rather than meeting them half-way down again. Now, Emmanuel (*loc. cit.*) concluded: "In all these cases, the whole group attains a new price level", and could "after a few internal readjustments, improve its overall terms of trade and safeguard its overall trade balance with the rest of the world. Of course the internal competition for markets continues between the group members, but it now restarts on a higher level, on the basis of the previous cumulative gains in price."

If the balance of payments could indeed put a limit on wage variations, this did not hinder wages from varying exogenously within these constraints, and did not turn them into dependent variables:

The fact that, for almost a century, the terms of trade of the developed countries as a whole have been improving spectacularly, while the overall balance of payments of the same group has not been in deficit, proves that the two phenomena are perfectly compatible. Perhaps this compatibility stands in need of an explanation – the assumption of a price elasticity of demand lower than unity explains it – but it cannot by itself establish a causal link between the two phenomena." (*Ibid.*: 350; cf. 1973: 107f.)

The idea that there would be no constraints on the exogenous variation of wages, Emmanuel found so ridiculous as not to be worthy of discussion, but considering the fact that after a century of trade union struggle one faces wage variations of 1 : 30 or 40, one must admit that such 'constraints' have left a wide margin for his exogenous factor. "Wages must be compatible with the balance of payments, says Somaini. They are. The fact that they exist proves that they are" (Emmanuel 1973: 108f.; trans., J.B.; cf. 1985: 205 f.).

The inconsistency of arguing both for wages as independent variables and high wage country exploitation of low wage countries was only apparent. Emmanuel (1975a: 62) asked: "How can workers in underdeveloped countries be affected by increased wages in developed countries, since all wages are supposed to be *independent* variables?" And if they were not affected, "how can one say that by obtaining increases in their money wages, workers in developed countries exploit or share in the exploitation of workers in underdeveloped countries"? Of course, money wages in underdeveloped countries, being independent variables, could not be influenced by rises in developed countries, at least not immediately or directly. However, and this is the simple point of the theory, it was equally evident that real wages *were*, "because of the resulting increases in the price of products imported from developed countries, in so far as these products are part of their consumption, either directly, in the form of goods, or indirectly, as the raw materials of other consumer goods produced locally. In other words, variations in the money wages of one group determine variations in the corresponding relative prices, and it is *these* variations of money prices that determine in turn the respective variations in the real wages of the other group." In principle, and in the short run, this means that, to the extent that workers in the underdeveloped countries do not consume the imported high wage good, either directly or indirectly, the only losers in that country would be the local capitalist, because of the fall in the global rate of profit and because of the rise in the price of the imported (by definition) luxury goods. But in the long run things are not so simple. "Whatever their opposition to their own capitalists it is not at all a matter of indifference to workers in poor countries that increased wages in foreign countries whittle away the profits of their own national capitalists, which constitute in any case a potential subject of bargaining and a factor influencing their own demands for future wage increases. However determined these workers may be to expropriate their own capitalists, they cannot favour an expropriation which would only benefit the working classes of another country" (*loc. cit.*; cf. 1973: 83).

One of the first of Emmanuel's critics was the Dutch economist Theo Van de Klundert, born

in Aerdts in 1936, earned his Ph.D. in economics at Tilburg in 1962 on 'growth and distribution', and in 1964, while at Stanford University, he was appointed Professor of Economics at Tilburg University. The concerns of his thesis combined with an interest in international trade (1966) and economic planning (Gemert *et al.* 1989: 1f.). From 1967 he was on the Board of editors of *De Economist*, where his interest in the 'principles of price theory' (1965), may have contributed to its publishing Dobb's influential 1970 article, which placed Marx in the Classical-Sraffian tradition, along with Van de Klundert's (1970) own overview of the capital controversy later that year. When confronted with what he believed to be Emmanuel's labour value theory of unequal exchange, he was thus inclined to criticise it from a more Sraffian perspective (other Dutch commentators include Salverda & Siljee 1971, Salverda 1974). In a memorandum he (1971) argued that nothing mysterious happened in an international trade model in which labour was the only primary factor of production, and which was partly needed for the reproduction of commodities that were used up in production. In Gemert *et al.*'s (1989: 10) summary, his case was that "it is not the initial real wage difference between the two countries that is responsible for disadvantageous exchange, and it is not the fact either that the world gets less product than is producible. The very cause of disadvantageous exchange between countries is the difference in the technically given input-proportions in production." His memorandum appears to have stimulated at least one thesis (Thoben 1973), and in 1972 a special conference organised 'Le Groupe d'Études des Relations Économiques', to which among others Denis contributed. Van de Klundert preferred a presentation in Sraffian terms, because this would allow a relatively correct example of a model with 3 sectors. Assuming a rate of profit greater than nill (corresponding to the Marxian notion of exploitation), and given technologies, represented by a set of equations, prices became determined by technology and the 'strength of capitalists'. Like many other neo-Ricardians, Van de Klundert showed that sub-optimal allocation is possible. He differed from Emmanuel in treating only circulating capital, and in not questioning Sraffa's joint production solution. He criticised Emmanuel for assuming only monopolies on the factors market, *e.g.*, that of workers (although, like Emmanuel, he also wrote on the price effects of taxes), to the neglect of monopolies on the goods market (Klundert 1972: 27, 52). However, as Raffer (1987: 52) reminds, since Emmanuel's assumptions were stronger than is strictly necessary, that exploitation occurs *even* under free trade, an *argumentum maiori ad minus* posed no problem.

Van de Klundert (1972: 50) also touched on the unemployment problem, which in his model occurred in the high-wage country because profit maximising capitalists were driven into low wage countries. "This problem cannot arise with Emmanuel," Raffer (1987: 52f.) points out, since he, by contrast, assumes an equal rate of profit everywhere; van de Klundert's accusation that Emmanuel neglected this kind of unemployment is therefore irrelevant since it simply cannot arise in his system: "Only if lower costs imply higher profits does a real motive to migrate exist for capital." Another difference was van de Klundert's assumption that investments will only be undertaken at the maximum rate of profit, implying that investors prefer to let capital lie idle rather than invest it at a lower rate of profit, and defending it by reference to a 'marketing problem'. Henri Denis (1972) reacted by calling van de Klundert's model unfit to criticise Emmanuel. In letting idle capital and labour exist at the same time and in the same region, van de Klundert was not inviting a 'marketing problem' into his model so much as its destruction. In addition, Denis (1972: 97) pointed out that in Van de Klundert's model not only prices, but also at least one wage must depend on the elasticities of demand, thus, as Raffer (1987: 53f.) reports, discarding Emmanuel's generally admitted hypothesis that both centre and periphery wages are independently given.

Like Somaini in Italy, Schmidt in Germany and John Spraos in England, Van de Klundert accused Emmanuel for having neglected the balance of payments,¹¹³ but Raffer (1987: 56) affirms that Emmanuel “solves the question in a way consistent with his arguments”, by workers in the North consuming the bulk of high-wage commodities: “The volume of foreign trade between the industrialised parts of the globe has increased much more dynamically, and he provides both a numerical example and a generalisation to show under which conditions no deficit of the North occurs in an Emmanuelian world. In reality, he is quick to point out, the deepening of the wage gap was even accompanied by a small surplus in the balances of the North.”¹¹⁴

¹¹³ Regarding the connection to the balance of trade, Raffer (1987: 56) further explains: “Van de Klundert’s equation 18, which equals imported volumes times prices for both countries, is also crucial for the author’s statements on employment. If equation 18 holds, higher prices due to higher wages in but one country mean *ceteris paribus* that less can be sold, and thus be produced. With percentages of exports in the social product of around 69 per cent, and up to 83 per cent of GDP in some of his numerical examples, the effects of a reduction in volume on jobs is obvious. This leads to the question whether the balance of payments has to be balanced in reality for the Unequal Exchange theorem to hold.”

¹¹⁴ Raffer refers to Evans and Bacha as having finally established that unequal exchange is consistent with balanced payments. Bacha’s neoclassical ‘rehabilitation’, as Evans calls it, of Emmanuel’s theory, confirms that it is consistent with balanced trade. Since Bacha takes the effects of the balance of trade on employment into account Evans argues that it is much clearer than Emmanuel’s on this issue. It seems, however, that Bacha and Evans draws similar conclusions to Van de Klundert regarding unemployment, which in that case would not be surprising since they, so far as I can tell, make precisely the same assumptions as Van de Klundert’s equation 18, equalling the volume of imports times prices for both countries. Bacha’s equation 3 states that ‘employment in the periphery \times per capita demand for the centre good = the level of employment in the centre \times demand for the peripheral good’.

This equation leads Bacha to conclude that (1) if prices on the good produced in the peripheral product increases, then peripheral employment will decline; (2) if per capita production in the periphery rises, then employment will decline; and (3) if productivity rises in the centre, then employment will rise in the periphery. Bacha assumes H. G. Johnson’s (1955), so called “impoverishment condition”, according to which the income elasticity of demand in the periphery for the centre good is greater than the elasticity of demand for labour. Bacha (1978: 325) explains: “The economics of this effect are easy to understand; a productivity improvement raises incomes in the Periphery and, hence, the demand for the import good. It also reduces export prices and, hence, increases export values. If the income effect is stronger than the price effect, employment levels have to go down in order to keep the balance of payments in equilibrium.” Raffer, who concluded that Van de Klundert’s assumption leads to “higher prices due to higher wages in but one country mean *ceteris paribus* that less can be sold, and thus be produced”, apparently does not see that the same phrase in Bacha (1) above, is related to his and Evans’s conclusion, which Raffer somewhere accepts, that Emmanuel had neglected that there was, in spite of all, a basis for an international worker solidarity between low- and high-wage countries (Bacha 1978: 327).

Evans (1980: 13 f.) sums up Bacha’s conclusions as follows: (i) at given wages as technical improvement in the periphery will lead to increased unemployment; (ii) at a given state of technology, a rise in peripheral wages in terms of the imported good leads to a fall in employment, and the total wage bill will only increase if the elasticity of demand for labour is greater than 1; (iii) a rise in wages in the centre (measured in terms of the centre commodity) worsens the terms of trade and lowers the rate of profit, but the income effect raises periphery employment at the given periphery wage; (iv) (a) a rise in productivity in the centre at a given centre wage rate raises the rate of profit and improves the terms of trade for the periphery, which has the probable overall effect of lowering peripheral employment; (b) technical progress appropriated by the centre workers leaves the rate of profit and the terms of trade unchanged, but peripheral employment will be improved by the centre income effect.

Evans finds this to greatly clarify Emmanuel’s discussion that unequal exchange is compatible with a balance of payments equilibrium, and points out that if one accepts Bacha’s “rehabilitation” then an elasticity of demand for labour less than 1 will be a necessary condition for peripheral workers to expand their internal market, and Emmanuel would have “missed an element of international worker solidarity through the peripheral employment effects of centre workers appropriating the benefits of technical change”. Without having considered the argument closer the idea that technical progress leads to unemployment would appear to be one of those ideas that are plausible statically and on paper, but which falls to pieces at the slightest look on the real world, *e.g.*, if it leads to *new* commodities being produced and sold, rather than to simplification of previous processes of production.

As an interpreter of Emmanuel, David Evans is often considered one of the most sophisticated, certainly much more than Samuelson, of whom, as we have seen, he was highly critical. One of the explanations is probably that he could benefit from Emmanuel's presentations at the University of Sussex and elsewhere in England in the mid-1970s, as well as Emmanuel's reply to Samuelson, and Bacha's (1978) neoclassical so called 'rehabilitation' of Emmanuel. Evans (1979: 270) is also much more appreciative: "Emmanuel's view of 'unequal exchange' has been criticized from many quarters," he noted in an article on international commodity policy, "but for present purposes much of this discussion can be ignored. For in its essence, the Emmanuel view is internally consistent." Apparently, he has also been important in spreading the word in more orthodox economic circles, for example to Takashi Negishi and Hans Singer. As Evans saw it, Emmanuel's attack on the theory of comparative advantage was threefold. First, he challenged the assumptions made by Ricardo about factor mobility, retaining, in his view, the assumption of international labour immobility – Emmanuel on the other hand pointed out that the mobility or not of labour was irrelevant in Ricardo's system since wages were always determined by the level of subsistence – while arguing 'forcefully' for the treatment of capital as internationally mobile, and thus for a rate of profit tending towards equality in all countries. "In this respect," Evans (1981a: 120) concluded, just like some neoclassical economists had done with respect to *their* theory, "Emmanuel's model is but a special case of 'English' neo-Ricardian model". Secondly, he continues, Emmanuel "rejects the lack of explicit treatment of capital in the Ricardian model, and the treatment of capital as having a marginal product equal to its profit, as in the neo-classical case", instead treating capital as produced input, as in Marxian schemas or the English neo-Ricardian system. Thirdly, and finally, Emmanuel "adopts a specific theory of income distribution, namely, that money and real wages are determined independently by institutional, historical and moral forces" (*loc. cit.*). More precisely than Evans, we can perhaps say that *money* wages are determined by the more political among these forces, while *real* wages are *also* dependent on an equally exogenous structure and character of demand.

The resulting model served to establish "the direct relationship between the international terms of trade and wages, as measured by the bundle of commodities required to maintain labour", Evans (*loc. cit.*) continued, still holding on to the real wage interpretation, giving the following summary:

Simply put, the Emmanuel thesis is about the development of a persistent inequality of wages between the "centre" and "periphery" in the context of an unchanging pattern of international specialisation and a tendency towards the equalisation of the rate of profit. With equalised profit rates internationally, hypothesised differences between "centre" and "periphery" worker bargaining power over money *and* real wages lead to an unequal international distribution of wage income and unfavourable barter terms of trade. Unequal Exchange is defined by comparing international prices of production with *unequal* wages to that which would pertain with *equal* wages. (Evans 1980: 3; cf. 1981a: 122)

Formally, Emmanuel's definition of unequal exchange "is an exercise in comparative statics for the case of zero growth [...] or comparative dynamics when a non-zero rate of growth is explicitly allowed for" (Evans 1980: 4). The static version was as expressed by Emmanuel and Bacha, while the dynamic was one he himself elaborated in that work.

If Bacha concerned himself with expressing evolving differences from the Prebisch-Singer theorem to Emmanuel, Evans (1980: 11ff.), while confirming Bacha's interpretation of Emmanuel, expanded it into "the complete neo-Ricardian analogy to the Emmanuel system" for two countries, borrowing a 1973 presentation by Parrinello (in Steedman 1979).¹¹⁵ He

¹¹⁵ More elaborate than Bacha's, this system of equations has 16 variables and 11 independent equations. By taking wages as given average wages, and by letting one good be consumption good (*i.e.*, not contributing to

retained the possibility of different rates of balanced growth in the two countries, which implied for long-run steady growth “that the fastest-growing country will become very large and incompletely specialized in relation to the slower-growing economy and completely specialized economy” (Evans 1980: 11). This sounds reasonable, but if the implication is that the more developed a country becomes, the more difficult will it be to find a specialisation that is not produced in an underdeveloped country, then it would seem to be less so. Another problem, since it purports to supply the ‘dynamic’ version of Emmanuel’s theory, is that its closure, in both Parrinello and Evans, requires the condition that ‘savings = investment’, and that “total world income equals total world output” (*ibid.*: 12). Considering that Emmanuel has written a 400-page book (1974; 1984) to which Evans refers, but *whose exclusive argument is the refutation of this very equation* maybe this would at least have deserved mention. In it he also criticised economic theory from the Physiocrats and Smith, via Ricardo and the classical economists – even Malthus and the underconsumptionists –, Marx and the Marxists, marginalists and neoclassicals, to Keynes, Keynesians and monetarists for making this basically *static* assumption, which now, apparently, engulfs also the neo-Ricardians. This is not to say that Parrinello’s and Evans’s ‘dynamic’ growth model is without any value even in this case, since it may well be a stepping stone towards expressing *both* of Emmanuel’s fundamental arguments in a single comprehensive model.

Bacha and Evans believe themselves to be able to show, through the above arguments, that there is nevertheless a common basis for international worker solidarity in that “this terms of trade deterioration is a necessary intermediate step leading to an improvement in the living conditions of the working class in the Periphery” (Bacha 1978: 327).¹¹⁶ Evans (1980: 23) wrote: “Suppose that the equilibrium rate of profit is somehow given, and in any one country money and real wages rise due to trade union action, thus lowering the rate of profit below international levels. The most likely response of capitalists is a short-run capital outflow and a balance of payments crisis.” He (*ibid.*: 24) believed that capital mobility must lead to a flight of capital, and that “in the absence of other changes [...] the rate of profit will eventually be restored through the pressure of a lowering of employment on real wages.” Mainwaring (1980: 24) is one of the few to observe that this very often repeated criticism of Emmanuel is mistaken, namely the alleged tendency for capital to flow towards the low-wage area: “It is important to note that there is no presumption, on theoretical grounds, that the high wage country is also the low profit rate country.” Indeed, the point of assuming an ‘equalised’ rate of profit is precisely to undo that connection. Evans seems to assume production of competing goods, which is not the relevant case. As described by Emmanuel above, the ‘most likely response of capitalists’ to a rise in *money* wages is not ‘a short-run capital outflow’, but an attempt to raise prices in order to retain the rate of profit. Whether the resulting *real* wages are higher is determined in the same process that equalises the, slightly lower, general rate of profit. It is strictly speaking incorrect, as a description of Emmanuel’s theory, to say that there is a regional lowering in the short-term rate of profit due to a rise in real wages. There may be a decrease in the volume of exports, but if this results in a ‘crisis’ it is first of all in the balance of trade, not through an outflow capital in the balance of payments. That there will be a flight of capital is a presumption of Evans, just as Emmanuel argues, by contrast, that there will be an inflow of capital, and that, thus, there will be no crisis in the balance of payments.

growth; = 0), alternatively by adding two expenditure functions, giving a total of an extra four equations, Evans can, like Bacha, close the system for the relative employment levels (or by dropping one variable).

¹¹⁶ Summing up, Bacha wrote (*ibid.*: 328): “A well-known result of orthodox terms of trade literature is rediscovered in the sense that technical progress in the Periphery is found to be against the interests of the working class there, if the Johnson impoverishment condition obtains. [...] Under a single world ruling class, technical progress in the Center is certain to favor Periphery workers only if the Center working class manages to fully share in the benefits of increased productivity. [...] the interests of the proletariat in the Periphery are enhanced by the economic conquests of the workers in the Center.”

At least according to Raffer (1987: 56), both Evans (9ff.) and Bacha (1978) themselves showed “that the balance of payments condition is perfectly compatible with Emmanuel’s reasoning.”

Neither Emmanuel’s static nor even his own ‘dynamic’ model, Evans (1980: 4) observed, took account of the ‘laws of motion’ of unequal exchange, involving “the complex set of considerations which lead to the hypothesis that Unequal Exchange is likely to be reproduced and intensified through time.” Emmanuel’s static model said nothing “either about the level or distribution of employment, or the composition of demand”: “Nowhere does Emmanuel present a systematic analysis [...] which spell out the relationship between the distribution of economic activity and economic growth. Rather, the argument switches over to a discussion of the “laws of motion” of Unequal Exchange in which it is assumed that the high-wage “centre” provides the market which is the focus for accumulation and technical change, whilst the low-wage “periphery” misses out on development precisely because wages are low and the market small” (*ibid.*: 8). This required something else and more, connected with what Evans saw as an *underconsumptionist*, Bettelheim had seen as *petty-bourgeois*, and Raffer for his part a *Keynesian*, view, but which we shall argue was something rather more precise:

Thus, in Emmanuel’s view, the alleged worsening of Unequal Exchange over time is caused by an underconsumptionist process of capital accumulation in which rising real wages play a central role in the development of productive forces. Rather than a rise in real wages being the effect of technical progress and industrialisation, high wages precede and are a cause of development in many important cases [...] High wages both cause higher levels of development, and because of the differential “centre–periphery” worker bargaining power, push the “periphery” further into Unequal Exchange. Thus, the “centre” workers are in effect a labour aristocracy exploiting the “peripheral” worker. (*Ibid.*: 4f.; cf. 1984: 209.)

Unfortunately no one, including Evans, has made an effort to understand this ‘underconsumptionist’, or ‘overproductionist’, process as seen by Emmanuel himself, *e.g.*, as spelled out in his work on ‘profit and crises’ (1974a, 1984). Evans is one of few even to refer to it, but its argument seems to have left no impression on his interpretation of Emmanuel. He simply denotes Emmanuel ‘underconsumptionist’, but says nothing of in what it consists, and since everyone knows that underconsumptionism is false this is the end of it. Whether one believes in it or not, it would have been more honest to point out where assumptions are clearly opposed to those of Emmanuel, at least if one claims to be presenting his theory. Instead, Evans (1984: 220) merely reverts to the conclusion that Emmanuel’s understanding and presentation of the capitalist laws of motion is ‘un-Marxist’ and ‘circulationist’:

The entire dynamic of change is based on the capacity of workers, through their short-run money-wage bargains, both to put sufficient pressure on capital to force the pace of technical change and to provide the required market for accumulation. At this point I find the Emmanuel argument entirely unconvincing. Unlike most of the Marxian tradition, Emmanuel is a circulationist par excellence, simply because Emmanuel believes that it is the size of the market which is the central limiting factor in capitalist accumulation.

In fact, as will become clearer in Chapter 19, it was not simply the *size* of the market, but in a truly dynamic sense its *growth* which mattered for investors.

Evans (1980: 24) objected to the proposal that by raising wages a more attractive market and improved terms of trade will counter the possibly ‘dire effects’ on unemployment and the balance of payments which he saw around the corner of successful trade-union wage-bargaining, no matter what the historical record seems to show: “Of course, Emmanuel supposes that other changes will occur under any exchange rate regime before such dire effects are evident, arising from the stimulus of investment from the growth in the market

resulting from the real wage rise.”¹¹⁷ Evans found this to be a highly implausible assumption. Be this how it may, the plausibility would perhaps seem greater if one accepted, in line with Emmanuel’s general argument, that there was a basic tendency for the value of production to exceed the purchasing power facing it, a corresponding chronic deflationary tendency, and lack of profitable investment opportunities. Before turning to this argument more at length and some of its implications for the understanding of unequal exchange, we shall note how the political implications of the theory have come out in the Sraffian perspective.

Even Sraffians appear to have had difficulties accepting the political conclusions of Emmanuel’s version of unequal exchange. Nevertheless, these become more conspicuous here than anywhere else, when the Sraffian argument in terms of physical inputs is related to the ends of the Earth. Why was it not possible for the whole world to follow the capitalist road to development? The most facile answer was suggested to Emmanuel in his debate with Somaini. Protesting against taking wages as the independent variable, Somaini (1971: 45f.) further argued that one could legitimately speak of ‘exploitation’ only if it could be shown that if the wages (he even said the most elevated wages) of certain countries were globally generalised, profits, or better all the non-worker share, would become negative. Only in this case was there any appropriation of surplus value by the workers of certain countries, Somaini explained, since in the absence of profits the remainder would have had to be taken at the expense of other workers. However, he challenged, no protagonist of unequal exchange theory had ever attempted such a demonstration.

Emmanuel was surprised at this declaration, admitting that neither he nor anyone else had ever done so, and that, as to himself, it had never occurred to him that he could have convinced Somaini and others by so little effort. “There are questions for which one does not bother oneself to pick up a pencil and paper”, he retorted, but handled by making a rough mental approximation. Spelled out this approximation ran something as follows: The gross domestic product of the non-communist developed world in 1969 was less than \$2,000 billion, and that of the corresponding underdeveloped countries less than \$400 billion, so the total was sure to be less than \$2,500 billion. This meant that national income (factor incomes) were bound to be much less than \$2,000 billion. World population was 2,500 million, of which more than 35%, or 875 million, were active workers or self-employed. If profits or surplus value were zero, the sum of factor remuneration would average $2,000/0.875 = \$2,285$ per year per capita, \$190 per month, or about a dollar an hour. An unqualified worker in the United States made \$3-4 an hour and the average for all kinds of labour considerably more (even not counting social charges and security contributions paid by employers and therefore included in the national income). This means that even if one’s estimates were mistaken by 300% there was still ample margin. Emmanuel further demonstrated that even if one looked merely at the wage differential within the O.E.C.D. countries, *i.e.*, among the developed countries themselves, for which precise statistics were available, profits were not enough to cover an upward equalisation of wages. Indeed, already here it turned out that profits would have had to be approximately *ten* times larger to cover an equalisation of wages at North American levels (Emmanuel 1973: 78ff.).

Having thus got a taste for this kind of exercise, Emmanuel (1974b: 78f.; 1975a: 63ff.; 1976: 71f.) was to repeat or remake it on at least three occasions over the next couple of years, significantly adding an ecological dimension and/or an inequality expressed in terms of raw materials consumption. On the first of these occasions, a reply to an influential article by

¹¹⁷ “That the disequilibrating effects of the prices themselves and that the balance of trade deficit in itself, should bring forth a compensating flow of finance, that capital is attracted by a certain vacuum and goes where it is needed, that there are mechanisms of communicating vessels in the capitalist system, that the need to sell is such that one often gives the means of payment away to countries willing to buy, all this cannot come in question for a view placing itself between the classical and the neoclassical” (Emmanuel 1973: 105; trans. J.B.).

Bill Warren (1973), he chose to express the development gap in physical and ecological terms. Noting the recent upsurge of Third World industrialisation, Warren had seemed to believe not only that this represented a substantial drop in the world's income disparities, but that it boded well for the Third World ultimately achieving First World standards of living. His optimistic interpretation of industrialisation neglected not only that industry could be underdeveloped just as agriculture developed, and that looking at the relevant per capita income levels, there was no diminished income gap – quite the contrary. He also disregarded that it was *physically* impossible to bridge the gap upwards. Thus, Emmanuel (1974b: 78) reminded, it seemed “materially out of the question for the two billion people in the periphery to follow the same path” as the few underdeveloped countries which had indeed succeeded. If it had happened in some cases, as with the small-country success stories of the Tiger economies or Greece, that the ‘impasse of development’ was overcome, and a poor country had become rich, this was possible only *because* it was not generalized. Equalisation of international levels of income and consumption was impracticable, first, *downwards* to underdeveloped levels because of the political impossibility in the high-wage countries, and secondly, *upwards* to ‘overdeveloped’ levels, on the one hand since this by a wide margin would eat up all profits, and on the other because of the physical and ecological impossibility. Drawing on an article by Saulan (1972) posing the question whether the development of the Third World was still possible, he argued:

The impasse of development can be made brutally plain if it is translated into real terms. Some 6% of the world's population – the inhabitants of the USA – consume more than 40% of an available quantity of raw materials. An equalization of consumption to US levels implies, therefore, a more than sixfold multiplication, on average, of the present volume of extraction – assuming that the USA does not progress any further. Geologically and technically, a leap such as this is out of the question in the foreseeable future. (Emmanuel 1974b: 78.)

At the same American level, “[p]resent world production could only feed, clothe, house, etc., about 600 million people” (Emmanuel 1975a: 65). Taking one example, the inhabitants of the United States consumed 700kg of steel per head per annum: “If the entire world followed their example,” he (1974b: 78; cf. 1973: 65f.) suggested, along the lines of contemporary geologists such as Preston Cloud, “all our planet's known reserves of iron ore would be exhausted in 40 years – assuming the world's population ceased to grow”, and the same equalisation of international consumption would exhaust copper within 8 years and tin within 6 years. But it was in the domain of oil where the ‘impasse of development’ was most complete. At US levels of consumption the world would need about 14-15 billion metric tons a year, while the world's known reserves at the time amounted to 80 billion, thus corresponding to a stationary state future of 5½ years, and suggesting that only half of the land reserves had yet been discovered and that equally much could be found at sea – low estimates as it has turned out – the equalised world could look forward to another 22 years of oil consumption as US-levels. The recent experience of the Club of Rome seems to have entered Emmanuel's mind, and he also turned to other ecological problems of waste and space:

But exhaustion of deposits and reserves is not the only factor that rules out equalization of consumption upwards. Ecological limitations represent another. If the advanced countries of today can still get rid of their waste by dumping it in the sea or allowing it to pass into the atmosphere, this is because they are the only nations to be doing so (Emmanuel 1974b: 78f.; cf. 1973: 66, 1976: 72).

In this sense, Emmanuel's theory of unequal exchange is essentially a theory of the economic consequences and political implications of the non-equalisability of global remunerations expressed in physical terms. If this formulation qualifies as an ‘ecological unequal exchange’, it is the first, and indeed *only*, of its kind to be the expression of an actual economic *theory* – aimed primarily at explaining historical developments – or, at any rate, the first since

Cantillon's, should that so qualify. More recently, Martinez-Alier & O'Connor (1999: 386) have emphasised, on the latter's suggestion, that "it is readily possible to 'ecologize' the Sraffian approach", but in their view apparently only "through a generalization of the joint production theory" – which Emmanuel for his part found "as cumbersome as it is useless" – "to include ecological production and economy – ecosystem exchanges of natural resources, environmental services and waste products."

It must be admitted that the width of Emmanuel's ecological examples is not breathtaking (the only additional example given is the risk of skies becoming too crowded with airplanes). Still, he drew – or confirmed – all the basic political conclusions of many a radical ecologist or believer in global solidarity of his day. Apart from all other considerations and antagonisms, the people of the rich countries could consume all the things making up their well-being only because others did not, and "reprocess their wastes simply because others have nothing much to reprocess": "Otherwise the ecological balance would be fatally imperilled" (Emmanuel 1976: 73) This was the meaning of the calling the entire working class of certain countries the 'worker aristocracy of the earth', of dividing the world into an over-developed centre and an under-developed periphery:

Here then, it is no longer a question of the abstract rhetoric of concepts – surplus-value, capital, profit, and so on – but of material consumption. It is therefore the great mass of the population of the advanced countries, the wage-earners themselves, who are implicated. The consequence is that, regardless of any other consideration or antagonism, in the objective natural and technical conditions of today and of the foreseeable future, the peoples of the rich countries can consume all those articles to which they are so attached *only* because other peoples consume very few or even none of them. It is this that breaks solidarity between the working classes of the two groups of countries. (*Loc. cit.*)

We have today reached a point at which, equalization being impossible either downwards, for socio-political reasons, or upwards, for natural-technical reasons, the only solution lies in a global change in the very pattern of living and consumption, and the very concept of well-being. Since the framework and parameters of this solution must be those of mankind as a whole, the contradictions between classes within the advanced countries, which still undoubtedly subsist, have nevertheless become historically secondary. The principal contradiction, and driving force for change, are henceforth located in the realm of international relations. (Emmanuel 1974b: 79.)

Emmanuel's conclusion is noteworthy that 'the only solution lies in a global change in the very pattern of living and consumption, and the very concept of well-being.' This was Emmanuel at his most 'ecological' and it would obviously have been true even under socialism and central planning. Yet, whereas 'ecological awareness' was, or at least appears to have been, centred in the 'centre' – or perhaps, like the belief in international solidarity, rather in its intellectual and idealist part – Emmanuel did not let go of the idea that the periphery was where true radicalism dwelled. Everything happened as if certain nations had fused into a sort of class-nation, he (1975a: 67) observed, while others remained merely divided into classes: "This means that in the first type of country a true political struggle becomes more and more implausible: there can only be a strictly economic struggle, as there has always been inside any class. This also means, in a sense, that the countries on the periphery are henceforth not the weakest link in the chain but the only true revolutionary area." Still, he gave no real indication of how this change in the pattern of living and consumption and in the concept of well-being was to arise, and he (*ibid.*: 85) was scornful – perhaps with reason – of warnings to the underdeveloped countries "against the adumbrations of the 'consumer society' into which the developed countries have been led by a *quantitative* growth which has become an end in itself."

As Emmanuel saw it, the trouble which people in the advanced countries had come across was that, in the midst of their abundance, they have become bored by the monotonous routine of their lives. Finding that their affective life has become impoverished instead of enriched, that human relations have become impersonal, that cities and motorways are inhuman,

“people advice the poor countries to look for other ways of development, without, of course, saying which these are”, and charging that the previous proposals for merely quantitative growth was ‘Euro-centric’. Put like this, Emmanuel (*ibid.*: 86) was right to feel outraged: “It is not difficult to see what is particularly European (indecent into the bargain) about making the boredom of the dyspeptic rich into the main problem of a world where hundreds of millions of men are hungry, deprived of medical care, unable to read and write, and with only an average life expectancy at birth of 40 years. Surely it is completely ridiculous to condemn technical progress and “productivism” on the pretext that one risks [lo]sing one’s soul to the private car and the mashing machine, in a world where two thirds of the population go barefoot and are underfed.” Perhaps he (*loc. cit.*) was also right in seeing the capitalist system as a ‘for-better-or-for-worse’ commitment making “for man’s transformation into a consumer of gadgets, but also for his general education; for pollution as well as for abundant and efficient medical services; for the greatest possible exploitation as well as for proteins for adults and milk for children; for the alienation and desocialization of man and the dessication of his affective life as well as for a certain material comfort, for children’s nurseries and a considerable lengthening of the expectation of life at birth.”

On the other hand, how can one expect a harmonious ecologically aware mode of production to arise out of constant groping for more on all behalves? Emmanuel (*ibid.*: 87) tried to get away by distinguishing ends and means: “If one is obliged to dispute the ends one cannot simply ignore the problem of the creation of the means.” Sure enough, the wealthy should not be the ones to throw stones, but just as well one could argue that having concentrated on discussing means for so long, and being told by the greatest minds, such as Karl Popper, that ends are evil and bound to lead to authoritarian violence, it is more called upon than ever to discuss the *ends* and what *ultimately* concerns. If the problem is indeed global, as Emmanuel agreed, then must not the solution also be? It cannot be put in terms of one part of humanity trying to outconsume the other until time is up. If Emmanuel’s theories have any bearing, they may bring a realisation, to some part of the population, of an inherent self-reinforcing feature of consumption within our system, and its global interconnections with world poverty and ecological disruption, which with the passage of time has turned out to be pathologically repetitive. Conjointly with the prospects of liberation from the above ‘boredom’, which is surely related not only to the lack of meaningful *ends* but also to meaningful *means*, such insights may bring resolution to turn things over, together with some criteria for constructing a different world. “If “the quality of life” has any meaning at all, which I am not very knowledgeable about,” Emmanuel (*loc. cit.*) concluded, “it ought to mean, among other things and perhaps most of all, replacing individual consumption by community consumption.” In the meantime, letting his historical materialism take overhand, he (*loc. cit.*) saw no prospects but to opt for unrestrained development of the forces of production: “So first and foremost we must produce these materials and for this we must improve technology, accumulate the product of past work, and increase the productivity of living labour. In other words, we need growth, and never mind the type of production and consumption.” Hardly an ecological standpoint – indeed the contrary – but a point of view consistent with most of Marxism. It remains a highly incomplete perspective, and the problems are of the same kind as those Emmanuel admitted socialism would have to face regarding the bureaucratization of the state in the ‘transition period’ (Emmanuel 1979b).

Chapter 19. Emmanuel's unequal exchange in a world of its own

A standard bone of contention in responses to Emmanuel's theory has been over his choice of wages as the independent variable of the system. Usually the objectors instead referred to 'production' as being the ultimate source of consumption and wages. If the unequal development of the forces of production was therefore also the ultimate source of exploitation and unequal exchange, which could logically and much more politically conveniently, as in standard 20th century Marxism and dependency theory, be referred to monopolies. Contrary to his Marxist brethren, but very much like contemporary ecological critics of overconsumption, for Emmanuel exploitation and unequal exchange was not a question of production but of appropriation. The development of the forces of consumption was much the more important even, at least in contemporary capitalism, with respect to the development of the forces of production. As an historical materialist believing that global socialism could only be built on the shoulders of the Third World, Emmanuel, unlike ecologists, was a passionate advocate of the latter, but whatever their development and whatever the level of monopolisation, there was no material way to achieve globally the standard level of consumption of the rich countries. This was the ultimate foundation of unequal exchange, necessitating politically enforced labour immobility and surfacing in the terms of trade. In this sense, 'unequal exchange' was another name for the Maxwellian demon at the threshold of countries with wealthy populations maintaining and enforcing this wage and consumption differential, and not necessarily through physical transfers from the poor to the rich regions. This distinction will become more central when discussing Third Worldist theorists of ecological unequal exchange in Chapter 23. Contrary to the political inclination of many of these, wages and unequalisable average levels of consumption are necessarily central to any such theory, and the only one so far to have tried to develop it on this basis is Emmanuel. As noted, wage increases have a central role in Emmanuel's theory because of the centrality of the sale in a capitalist economy, itself a consequence of a fundamental disequilibrium between the value of output and the purchasing power facing it. Presenting itself *in between* the conventional arenas of 'objective' theories of value, with their focus on the 'real' economic factors of supply, and subjective, centring around determinative consumer demand, this is a problem that cannot appear in classical or neoclassical economics or in standard Marxian or Sraffian schemas. However, with certain similarities to dynamic post-Keynesianism, it presents a link to the common mercantilists understanding of the economy with which we set out. It is with this problematic, and how it in Emmanuel's understanding related to the phenomenon of unequal exchange proper, that the present chapter will be concerned. Hopefully, it will enable us to see Emmanuel more as he presumably saw himself as trying to fulfil Marx's projected interpretation of international trade, the world economy and crises, which is not to say that non-Marxist historical understanding could not also benefit from the effort.

i. The importance of wages to investment

We have already touched upon the peculiar role allotted to wages in Emmanuel's perspective, and below I shall try to indicate some of the theoretical reasons behind this central place. On several occasions, Emmanuel pointed out that it was not unequal exchange or the terms of trade in themselves which cause unequal development. However, the different levels of wages which give rise to unequal exchange *also* cause unequal development. Unequal exchange corresponded to a wage-increase which consisted of unproductive worker consumption,

whereas economic development was a matter of accumulation, capital formation and investment (productive consumption), originating with savings and the rate of profit which was instead lowered by the same rise in wages (Emmanuel 1973: 54). Unequal exchange could make foreigners pay for domestic wage increases, and lead to increased national product and standards of living, but not in itself lead to economic development or extended reproduction. However, there was indeed a connection between wage-levels and levels of development, but not via unequal exchange. The bridge was the (1) incentives to investments, (2) movements of capital, and (3) choice of specialisation and technology: “All in all, it is not unequal exchange that is a factor of development, but the augmentation of wages itself” (*ibid.*: 54f.; trans. J.B.). This was one of the points in Emmanuel’s reply to Bettelheim, where he asked rhetorically:

Would it be enough to improve the terms of trade, by increasing wages, for development to follow?

Certainly not. However substantial may be the transfer of value engendered by unequal exchange, and even if we take into account not merely the immediate and momentary impact this has but also its cumulative effect from year to year, this transfer does not seem to be sufficient to explain completely the difference in standard of living and development that there is today between, on the one hand, the big industrial countries, and on the other, the underdeveloped ones. To find the reason for this we must look at the movement of capital and the international division of labor.

These two factors do indeed include forces that *block* the development of the Third World. *But it so happens that the same cause, that is, the disparity between wage levels that produces unequal exchange and thereby, indirectly a certain unevenness of development through the draining off of part of the surplus available for accumulation, also produces, directly and independently of this draining off process, uneven development itself, as a whole, by setting in motion the mechanism of these blocking forces included in the movement of capital and the international division of labor.* (Emmanuel, 1972a: 371f..)

It is odd that he should see himself obliged to remind Bettelheim of this, since Bettelheim himself in 1962 suggested these ‘problems to elaborate’ pertaining to international specialisation and the flow of capital.

Already in 1962, when proposing that the fundamental cause of unequal exchange and underdevelopment was the low level of pre-established consumption, Emmanuel seems to have had something like this imperative in mind, but not related to a variation in time, as in the business cycle, but to a variation in space. Ten years previously, precisely such a point had been made by Ragnar Nurkse (1952: 574), although from a slightly different perspective:

Incidentally, the weakness of the market incentive for private investment in the domestic economy of a low-income area can affect domestic as well as foreign capital. It may help in some degree to account for the common observation that such domestic saving as does take place in the underdeveloped countries tends to be used unproductively: hoarded, exported, or put into real estate.

Private investment generally is governed by the pull of market demand, and private international investment is no exception to this. A particular instance of the relation between investment incentives and market demand appears in our old friend the acceleration principle. The relation holds, albeit in a different way, in space as well as in the time dimension.

Nurkse developed at great length the argument of the ‘vicious circle’ involving investment as a function of consumption in the important and influential, but perhaps not sufficiently acknowledged book, *Problems of Capital Formation in Underdeveloped Countries* (1953), which was on both Myrdal’s and Emmanuel’s reading list. Contrary to what apparently remains a common misconception, capital did not flow from high-wage to low-wage countries, but rather ‘in the wrong direction’. Even Arthur Lewis (1954: 440; cf. Emmanuel 1972a: 45), in whose basic perspective it ought to constitute a ‘paradox’, observed that even with a surplus of labour power available at subsistence-level wages, opportunities for investment abroad was often found to be more profitable: “Many capitalists residing in surplus labour countries invest their capital in England or the United States.” Later he

concluded that investments follow the rule that “to him that hath shall be lent” (Lewis 1978a: 177). Furthermore, in responding to Emmanuel’s original argument, Bettelheim himself suggested the importance of international technological specialisation according to wage-levels and the international flow of capital, as one of the essential features in the dynamics of development and underdevelopment.

Under conditions of free international mobility of capital “and in the absence of *systematic* inequalities of wages”, Bettelheim (1962: 7; trans. J.B.) concluded, there was no reason to expect an initial difference in the organic composition of capital in different countries to engender future aggravation of unequal exchange:

One is thus led to ask oneself if it is not the inequality of wages, that, on the one hand, aggravates the inequality of exchange (or if one retains the restrictive definition of Monsieur Emmanuel even explains it) and that, on the other hand, also determines an economic *evolution* which is *more and more* unfavourable to low-wage countries. If this were the case, one would be justified in considering the type of unequal exchange resulting from the existence of different rates of exploitation to deserve being held as particularly important.

The differences of wage-rates in different countries, maintained not least by the difficulties in labour movements, Bettelheim (*ibid.*: 8; trans. J.B.) had informed, entrained a certain *international specialisation* in different activities. International specialisation was not determined solely by the diversity of natural riches, but also by differences in cost prices, in themselves resulting from wage differences: “Evidently, the lowest wage countries will be the ones tending (through market laws and competition) to specialise in types of production demanding a relatively low organic composition of capital. It is, in fact, for these types of production that the comparative ‘advantage’, from the perspective of the influence on cost prices, is the most pronounced. What we would have here is a *type of specialisation that would be socio-economically based*, no longer merely techno-economically.” High-wage countries tend to attract capital-intensive branches, while low-wage countries attract labour-intensive branches. Considerations such as these were also the reason for Emmanuel’s critique of the theory of comparative advantage from the point of view of the *efficiency* or *optimality* of international specialisation under free trade, another theme in his book and notably in the argument with Paul Samuelson. The argument, which became popular with the neo-Ricardians in the 1970s, can be easily understood if one realises that a pattern of international specialisation – cloth in England and wine in Portugal –, presumably based on comparative advantage according to the natural and technical ‘endowments’ of productive factors, can be reversed – wine in England and cloth in Portugal – merely by raising (‘exogenously’ or politically) the wage-level in one of the countries/branches, while all technical and natural factors remain unaltered. *Both* patterns cannot be ‘optimal’ at the same time from the point of view of technical and natural factors available in the countries, *i.e.*, their ‘endowments’.

Liberal economists, Bettelheim continued, tended to believe that *international movements of capital* would tend to reabsorb any inequality between nations it may have engendered. Thus, according to this view, capital would tend to flow towards the low-wage countries, where, accordingly, the cost price would become lower. However, Bettelheim observed, even with considerable international mobility of capital, the facts spoke against this hypothesis, and demonstrated the limited opportunities practically available for investment. Concrete reality showed that the zones with high-wages and elevated organic composition were precisely the zones with high consumption, whether productive of final. “It is thus at the heart of these zones, or just around them, that the height of production has an interest in being *localised*. (*ibid.*: 9; trans. J.B.). It is interesting to see Bettelheim expound this thesis of the centrality of final consumption, since less than a decade later he was to charge Emmanuel’s similar argument with being a petty-bourgeois Keynesian one. The few goods whose production could evade this consumer-centred localisation, Bettelheim explained, were those where low

wages outweighed the increased cost of transportation to the high-wage zones, in practice, limiting investments to certain branches where countries benefit from particularly favourable natural conditions, or which require particularly intense employment of labour. This limited attraction, for investors, of low-wage countries with reduced organic composition compared to that of high-wage countries, he continued, was one of the principal factors aggravating the initial differences in economic level between nations or even regions (*ibid.*: 10). Significantly, contrary to the above liberal conception, there was no tendency towards international equalisation, but a cumulative process whereby these directed investments contributed to further widening the wage-gap: “Thus, the *zones of intense investment and rising wages are precisely the zones already developed and where relatively high wages prevailed before*, not, as a certain ‘liberal’ conception would suggest, the low-wage zones” (*ibid.*: 11). Therefore, Bettelheim believed, the kind of analysis which Emmanuel was to conduct over the coming full half a decade, was especially relevant: “This influence of the level of wages on the aggravation of economic inequalities justifies placing wage inequalities at the centre of analysis of factors contributing to the *aggravation* of international economic inequalities” (*loc. cit.*, n. 1).

At this time, then, Bettelheim was almost as Emmanuelian as Emmanuel was to become. There was, however, what may appear a tiny difference in how to interpret this cumulative process, where Bettelheim came to see the connection between the resulting productivity-increase and the wage-increase as more or less automatic, while Emmanuel argued more systematically for the wage-increase as an *exogenous* factor even in the cumulative dynamics, specifically noting the role allotted to the masses of the people in acquiring higher wages and standards of living. Did Bettelheim get cold feet in the freezing subliminal waters of international worker antagonism, or were his later objections always primarily of purely scientific kind? Ordinarily, the life of the mind is not so orderly, and most probably there was a mixture of both subliminal fears and scientific objections. At this stage, we cannot even exclude the influence of possible party strategy, since the political implications of Emmanuel’s theory seemingly left no real exit for a successful communist party within the parliamentary system. Arguing in favour of the subliminal or political interpretation was the unison rejection of and outrage over the political consequences of Emmanuel’s theory, while his economic analysis was rather more difficult to refute. Interpreting any individual in this light is very much more difficult, however, and would probably be unfair in the case of Bettelheim, as well as in many other instances, since any argument is bound to be incomplete, if not erroneous, and no one is obliged to be persuaded by Emmanuel’s.

For Bettelheim, the above factors were even such as to entail an *exportation* of capital from the underdeveloped zones towards the developed, which had the further negative consequence of lessening demand for labour, thereby, in his view, tending to maintain lower wages. This consideration seemed to Bettelheim particularly important, since he felt that Emmanuel’s explanation of low wages in the less developed zones by the low initial level of workers’ needs was insufficient. Emmanuel, too, pointed to the non-equilibrating, self-reinforcing flow of capital and investments from the low- to high-wage areas rather than the contrary. Investment opportunities were an increasing function of the size and growth of the market, which in itself was proportional to the wage-level, making capital movements generally unfavourable to the low-wage countries. These offered outlets only for certain consumption industries, such as food, textiles and clothing, not for more sophisticated consumption or equipment industries, since the number of light industries was not great enough to sustain it (Emmanuel 1973: 55 f.). If Bettelheim made this observation first, it certainly fitted perfectly in Emmanuel’s perspective as he was to elaborate it in *Le Profit et les crises*, where he focused on the explanation of why in a capitalist economy it was easier to buy than to sell and

why the principal effort thus had to be directed towards selling. The approach was clear already in his thesis:

Since the prime problem for capitalism is not to produce but to sell, capital moves toward countries and regions where there are extensive outlets and expanding markets, that is, where the population's standard of living is high, rather than toward countries and regions where the cost of production is low. It thus moves toward high-wage countries, neglecting those where wages are low. This is true not only of foreign capital flowing in but also of the small surplus formed locally in low-wage countries. Unable to find attractive investment opportunities on the spot, owing to the narrowness of the market due to the low wage level, this local surplus is either wasted in luxury consumption or is expatriated and invested abroad, bringing about those movements of capital that have been called "perverse" because the run from countries where there is a shortage of capital to countries where it is plentiful. (Emmanuel 1972a: 372.)

Similarly with Bettelheim, and originally in his (1970a) response to Granou and Dhoquois, he pointed out that the only way to increase societal production, and thereby consumption, was to raise the organic composition of capital and/or labour, *i.e.*, the quantity and quality of tools, and/or the quality of labour as compared with its quantity. Since all branches did not have the same possibilities to increase the organic composition, wage-differences would affect the international division of labour, by making it relatively cheaper for investors to choose branches of production with low capital intensity and little qualified work in low wage countries (cf. Emmanuel 1973: 56). "Thus, low-paid laborers keep machines and engineers out of the underdeveloped countries, while machines and engineers take the place of highly paid laborers in the advanced ones. This substitution of one factor for another, caused by market forces alone, is the most dynamic element in the blocking of subsequent development in the first group countries and in the accelerated growth in the second group, the combination of these two effects being what Bettelheim calls the expanded reproduction of world production relations" (Emmanuel 1972a: 374; cf. 1970a: 84).

Thus, he concluded in his response to Somaini:

There really exists a link between the variations in wages and those of development, but this link does not pass via the terms of trade and resulting transfer of value. It is based directly on the incentives to invest, on capital movements, and on the subsequent specialisation and techniques. All in all, it is not unequal exchange that is a factor of development, but the very rise in wages itself, without the mediation of the terms of trade, which is only another, parallel and independent effect – at least in the direct etiological chain – of the variations in wages. (Emmanuel 1973: 54f.; trans. J.B..)

Or again, as he put it in the book itself, in line with Bettelheim's 1962 comments placing wages at the centre stage, but even more with his own subsequent elaboration of the perspective. Opposing Bettelheim he (1972a: 124) emphasised that whereas one can only find an *indirect* link between wage-increases and technological development, *e.g.*, via decreasing employer resistance, by contrast, "the level of wages acts *directly* – that is, by the mere operation of the law of value – upon the economic factors, *by determining the necessity for an intensification of the organic composition of capital and by encouraging investment through the expansion of the market.*" There were many instances where the economic *possibility* of a rise in wages had not lead to this actually occurring, at least until the institutional factor came into play, but "not a single example where high wages have not lead to economic development, in other words where institutionally established wages have proved to be too high in relation to the actual or possible level of economic development and have had to be brought down on the basis of inadequate development" (*loc. cit.*). In the ensuing debates, he (*ibid.*: 371) confirmed: "The capitalist world cannot show a single instance of a high-wage country that has had to reduce wages owing to failure to develop, or a single instance of a country that has been able to develop while keeping wages low." Emmanuel has a preference for paradoxes and, although similar observations were made by Senghaas (1985: 243; cf. 65),

these categorical statements have provoked many counterclaims, invoking countries which stagnated or regressed in connection with the Great Depression (Germany, Uruguay). Perhaps these counter-examples do not always appreciate the long term perspective implied by 'established' or the width of the 'institutional' factors, *e.g.*, even in once prosperous Latin American countries.

Lewis (1978: 16) observed that the 'dependency' relation now associated with Prebisch was at the basis of the 'staple thesis' of Innis (1930). Less often noticed is that a major point of the conclusion, was that the motivating force behind colonials' or settlers' search for a profitable staple was to be able to retain their ingrained consumer habits. Since settlers had devoted even more attention to retaining their European patterns of consumption, one could speculate that this emphasis became even more ingrained than in the mother country. However this may be, the heritage of consumer and institutionalised habits become more important when comparing North and Latin American development, which was not yet on the agenda in the interwar years, and with which Innis himself was never overly concerned. Even in the late 1960s, Emmanuel (1972a: 363) could write: "Up to now nobody has to my knowledge explained how countries so thoroughly "blocked" as were Britain's colonies of settlement proved able not merely to escape from this situation but to surpass by far the level of their former metropolitan country." Above (Chapter 12) we saw how this involved a debate with Frank (1967). Neither are they likely to be explained merely by the regions different geographical and climatic factors, with which Innis was commonly concerned and important as these may be, nor by the corresponding staple goods exported to retain their respective levels and structure of consumption. In Emmanuel's view, which usefully complements Lewis's (1978) more fleshed out record, the explanation was principally to be found rather in these different consumer habits themselves, originating in concert with the development of the means of production no doubt, but then independently exerting a determining influence, together with the heritage of institutional factors, on the different equilibrium wages in respective regions:

If wages in the United States in the eighteenth century, or in Australia in the nineteenth, were so high, that appears as an historical accident so far as the United States and Australia are concerned. But it was no accident for all the countries of the world together in the context of world economic evolution. The men who settled in the United States and Australia in those periods came from certain parts of Europe that were already advanced and had a standard of living higher than the others; when they emigrated they naturally demanded even higher incomes. This was not the case with the Spaniards and Portuguese who settled in Central and South America, or even with the French who settled in Quebec. The consequence has been that Quebec has remained backward in comparison with the rest of Canada, and Latin America has remained underdeveloped as compared with the United States, although, except for a few regions, the conditions and natural resources were much the same throughout the New World.

It could thus be said that though the different development of the United States has not determined the level of wages in that country, the uneven development of the world has certainly determined this wage level in the last analysis, since it has determined the different subsistence minimum and different "demand on life" of the men who peopled the United States. (Emmanuel 1972a: 126f..)

Except for the original standards of living of the immigrants, Emmanuel gave two additional institutional factors, which had helped keep wage-levels and therefore levels of development low in Latin America:

- i. The transplanting to the colonies of the clerico-feudal structures of the home country, as regards landownership and ground rent. These structures prevented agriculture from playing the role of an activity in which men could take refuge and thereby acting as a check upon the reduction of urban wages, which was the role it played in North America (and this without the surplus value exacted by the Spanish landlords being used for development, since that class, unlike its British counterpart, was oriented toward unproductive expenditure rather than accumulation).
- ii. The partial survival of the native population, and interbreeding by the settlers both with them and with the blacks emancipated from slavery. (*Ibid.*: 156, n. 20)

Not only was the emigrants' standard of living lower to begin with,¹¹⁸ "but the partial survival of the natives and interbreeding between them and the colonists, kept the value of labour power at a low level" (*ibid.*: 370). In fact, this correlation is visible even in the regional divergences within Latin America itself. As to the feudal institutions, Emmanuel (*loc. cit.*) argued, what they amount to in practice was this: "the Spanish *conquistador* had a choice between taking employment as a wage earner, and cultivating a piece of land burdened with tithes, taxes, or rent; whereas the British "adventurer" had a choice between taking employment and cultivating free land. It can therefore be said that these feudal institutions were, in the last analysis, only a supplementary factor in the differentiation of wages between Latin America and North America. Inside North America itself the slaveowning states of the South developed much less rapidly than those of the North, not only during the period of slavery, owing to the low cost of the slaves, but even after the abolition of slavery, owing to the low wages of the freedmen."

His argument here can largely, though perhaps not fully, be made congenial with that Brenner (1976, 1977, 1982, 1986, 1989, 1993, 1997, 2001) was to make for Early Modern Europe up to the mid-18th century. According to the so called 'Brenner thesis', population growth (proposed as determinant by the 'Malthusian' school) and commercialisation (that had occupied that role in both the formerly dominating school and in the 'world-system' approach) had different effects depending on property relations and politically determined social structures, and the diverging agricultural productivities of Europe were consequences of these. In the newly colonised parts of Europe east of the Elbe, peasant organisation was weak; with the growth of European trade and both with the Black Death and the ensuing rise in population, serfdom spread accordingly. Since labour power could be had at little expense, the incentive to rejuvenate agricultural productivity was weak or non-existent. What stimulus there was, came from exports to pay for imported luxuries, since, obviously, there was no domestic market. Finally, they debouched into underdevelopment. In the West, peasants were better organised and well entrenched and, serfdom having instead declined, could profit from the lowering of population density. In France, it was the relative organisational strength of self-subsistent peasants that hindered the establishment of profit dependant landlords/tenant farmers, and the stimulus this would have given to agricultural productivity, which instead stagnated. As population began to rise again, holdings grew smaller, less commercially efficient, and less yielding as new and less fertile land was opened. As a consequence, by the end of the long 16th century (that is, some decades into the seventeenth century), landlord/tenant incomes were in decline or stagnation all over Europe, contracting the market for manufactures and luxury goods. Only England, and to some degree in the Low-Countries and Catalonia, was more or less untouched by 'the crisis of the 17th century', thanks to its peculiar agrarian capitalist property relations procuring continuous productivity increases, in agriculture (the 'agricultural revolution'), thereby activating domestic markets and opening up the world of goods to the common man (the 'consumer revolution'), thus commencing the corresponding productivity increase in manufactures (the 'industrial revolution').

There are admittedly differences between Brenner's and Emmanuel's approaches but they are much lesser than is commonly recognised. In all probability, this is not least because Emmanuel has become associated with Wallerstein whom Brenner criticised, among other things for trying to apply Emmanuel's theory to Early modern Europe (cf. Chapter 12). Emmanuel's model assumed international capital mobility and equalisation, Brenner explained, of which there could be none in Eastern Europe of the time, where capital was not

¹¹⁸ It is the particular characteristic of European wage history from the Middle Ages up to the 19th century, that English, and to a lesser degree Dutch, nominal and real wages could withstand the secular decline in wages characterising the continent; cf. Allen 2001. For an historical study inspired by Emmanuel's comparative approach see Dyster 1979: 95.

even nationally mobile. Brenner's thesis stops about 1750 at the dawn of the industrial revolution, but it is interesting to observe that when he takes up the story, in another contested presentation of the postwar era, two centuries later on, he argues on the assumption of complete international mobility of capital, while opposing, among other things, the very popular monopoly school with arguments as to the tendency towards equalisation of profits. Although he is now more silent on institutionally induced differences of development, he could not possibly find a corresponding tendency towards equalisation of wages. How can Brenner reconcile his theses without passing *via* some theory of unequal exchange? He has never extended his original thesis to include the New World societies (although cf. Post 2003), or even Portugal or most of Spain themselves, but were this to be done, in a comparison of the development of the British Dominions, North and Latin America, it would surely have to include aspects such as the first of those enumerated by Emmanuel above, and if one is not too coy about it – for it is not a pretty thing to behold – also the second.

What is it that explains the relative success of former British colonies? Is it the 'island race' of Churchill, or is it rather the racism of the islanders? The latter has in fact something to support itself. Observing that they had all been connected to the same source of capital, and for the time being even disregarding underdeveloped India, Pakistan and Bangladesh, Emmanuel made the correspondence between wage-levels and levels of development excruciatingly clear for the colonies of settlement. South Africa had remained semi-developed, in spite of innumerable geo-climatic advantages, whereas the United States and the British Dominions had become the most developed countries in the world.¹¹⁹

One factor alone was different, namely, what happened to the indigenous population. Whereas in the other four colonies the total extermination of the natives was undertaken, in South Africa the colonists confined themselves to relegating them to the ghettos of apartheid. The result is that in the first four countries wages have reached very high levels, while in South Africa, despite the selective wages enjoyed by the white workers, the average wage level has remained relatively very low, hardly any higher than in the underdeveloped countries, and below that of the Balkans, Portugal, and Spain.

Let us suppose that tomorrow the South African whites were to exterminate the Bantus instead of employing them at low wages, and replace them with white settlers receiving high wages. [...] the ultimate result would be a leap forward by South Africa, which would soon catch up with the more developed countries. This is a frightful thought, I know, but it fits the reality of the capitalist system. (Emmanuel 1972a: 125.)¹²⁰

Since laboratory experiments are not possible in this context, Emmanuel (*ibid.*: 370) considered this case "a gift from history to economic science".

In a similar vein, Lewis (1978: 183) noted: "In many cases the land was sparsely occupied by native peoples (Indians in the Americas, aboriginal Australians, African tribes). There was no hesitation in making war on these peoples, killing them off, or confining them to reservations, so that large acreages could pass into European farming." Emmanuel's important point, however, concerned the general institutional framework and the related establishment

¹¹⁹ "Out of Britain's five former colonies of settlement – the United States, Canada, Australia, New Zealand, and the Cape – the first four have become the richest countries in the world, with a national per capita income of \$3,000 or \$4,000 annually. The fifth, South Africa, has remained a semi-developed country, with a national income of about \$500 per capita, about as poor as Greece or Argentina. Yet the natural resources of South Africa are not less than those of North America and are certainly more so than those of Australia and New Zealand. All five were colonized by men of the same northern stock, tough and fearless. The climate of South Africa is no less healthy than those of the other four. Finally, all five were connected with the same the same source of capital, London, and belonged to the same commonwealth of nations and the same mercantile and financial networks. (Emmanuel 1972a:124 f.)

¹²⁰ The accompanying footnote (*ibid.*: 155, n. 19) explained that a rise in black wages to white levels of course would have had the same effect, but: "Such an assumption being fanciful, however, I have assumed instead the straightforward extermination of the black population, as being, in present circumstances the less unrealistic of the two hypotheses."

of levels of consumption and wages, eventually, in line with the Brenner thesis, encouraging development and determining differences in productivity. The ‘abundance of land’, once the indigenous brutes had all been exterminated, did not in itself explain development of the productive forces and the higher wages in the United States, since land was equally ‘abundant’ in Latin America:

[W]hat made agriculture an activity in the United States an activity in which men could take refuge, so to speak, thus preventing a fall in urban wages, was not the “abundance of land” but *the free access enjoyed by the immigrants to the land, without having to pay tithe or rent to anyone for the use of it*. This did not apply in Latin America, where land was just as abundant, but where the conquerors had transplanted the feudal *institutions* of their home countries. It did not apply either for a considerable period in Australia, where, on Wakefield’s advice, Britain had introduced a very heavy land tax, the effect of which was to restrict the incomes from the agriculturalists and thus make them comparable to urban wages that were acceptable to the capitalists. This explains incidentally why Australia’s development lagged somewhat behind that of the United States. (Emmanuel 1972a: 337)

The possible minor differences between the countries of British offspring need not concern us. Emmanuel’s argument on institutional differences changing the nature of ‘land’ and expansion, has nice parallels in that of Brenner (and Post).

However, in Emmanuel’s hands the international working out of such thesis has certain surprising features that cannot be guessed from Brenner’s work. Thus, he (1972a: 172) maintained, for a country in a competitive system to derive an advantage from its foreign trade, it must consume more than the others do, whether in the form of direct wages or in that of unproductive expenditure or other kinds of consumption. This was in spite of the fact that, “[e]lementary logic and the natural order of things tell us that one can only spend as much as one earns; this is why orthodox political economy tends to think that wages depend upon prices”. It seems that very few, to date, have observed what Emmanuel declared as *the object of his study* on unequal exchange:

The object of this study is to prove that under capitalist production relations one earns as much as one spends, and that prices depend upon wages. If this thesis is correct, it will follow that capitalist production relations are contrary to elementary logic and the natural order of things. Confronted with such a dreadful consequence, many people will hope that it is not correct. (*Loc. cit.*)

This conclusion, Emmanuel came to realise in the ensuing debate, was apparently too outrageous even for Bettelheim: “what scandalizes him in my book is that it leads the reader eventually to a recognition that increased consumption brings about greater development and greater enrichment of nations.” So, with his penchant and talent for the paradoxical, he (*ibid.*: 337f.) challenged his adversaries’ astonishment by generalising the observation: “*No capitalist country has ever become poorer for having spent too much.*”

Bettelheim (1969b: 354) had replied that Emmanuel was the victim of an “ideological configuration”, which “gave rise to Malthus’s myth, which was revived by Keynes (in a special economic situation), that to “become richer” it is sufficient to consume more”. Hands full with fending off the bourgeois and the petty-bourgeois, Bettelheim (*ibid.* 356) was firm in his classical and Marxist belief that ‘value’ could only be created in the production process, and he was not one to be fooled by illusions of purchasing power created *ex nihilo*:

Whereas bourgeois ideology tends to believe, with J. B. Say, that production creates its own outlets, petty-bourgeois ideology tends to believe, with Malthus and Sismondi, that consumption creates its own production. We thus find re-edited, so to speak, certain mercantilist illusions denouncing “underconsumption” (by the richest classes), which Keynes “rediscovered” and praised. As we know, it is not a long step to take from there to illusions about “credit as creator of wealth”.

Raffer (1987: 37) notes this judgment of Emmanuel as a “petit-bourgeois believer in the theory that consumption creates its own production, like Malthus, Sismondi and Keynes, or the inverse of J.-B. Say”, and agrees: “Emmanuel is in fact quite a strong Keynesian as far as effective demand is concerned.”¹²¹ The historical confrontation with Keynes’s theories is beyond doubt, but no mention is made in these or other comparisons of the peculiarity of Emmanuel’s argument, nor of his preference for drawing Keynes towards Marx rather than the opposite. Bettelheim’s concern, however, was rather one within the French socialist movement, and he (1969b: 356, n. 7) made the further point that these ‘illusions’ had fostered reformist arguments within the trade-union movement, which were being taken up by the Confédération Générale de Travail, “according to which increased wages would make capitalism ‘work better’ – which implies, moreover, that the aim of the ‘working-class movement’ should be to ‘make capitalism work better’.”

Emmanuel (1972a: 377; 1970a: 90), who demonstrated no emotional attachment to the French socialist movement, replied by instead comparing the different development of Canada and the Congo. The same mother company, the Société Générale de Belgique, had installed Petrofina, exploiting oil wells in Canada, and the Union Minière, exploiting copper mines in the Congo. Why was it that the return on capital investment in the former was reinvested, whereas the latter instead developed into an ‘enclave’? “Are we really to suppose that the heads of the Société Générale in Brussels are solely concerned to overdevelop Canada and “block” development in the Belgian Congo? The reality is different. The simple fact is that in Canada the high standard of living of the people, resulting from the high wage level, constitutes a market for all sorts of products, whereas wages and standard of living in the Congo are such that there is nothing there to interest any fairly large-scale capitalist - nothing except the extraction of minerals or the production of certain raw materials for export that have inevitably to be sought where they are to be found” (Emmanuel 1972a: 376f; cf. 1970a: 90). This was intimately related to the argument he had implicitly made in 1962, when maintaining that the root cause of unequal exchange and underdevelopment was the low levels of consumption. The divergent paths were “the effect, not the cause, low wages”, although it then became a cause in its turn “by blocking the development of the productive forces and, consequently, the process of creating conditions propitious to trade-union struggle”. Crippled and asymmetrical though it may be, the ‘enclave’ or MNC did not block anything: “If it had not been there, nothing else would have been there in its place. The underdeveloped countries would have lost the income, however slight, that they derive through wages, taxes, and the sale of products to the enclave.” As he liked to point out, this ‘American’ or ‘Australian’ model of development was not the only one possible, if even that, but it was the traditional one. It stood the world on its head, began with the end, with consumption, by creating a sufficiently large actual or potential market that attracted capital: “Like certain fish, capitalism can keep afloat and move forward only by swimming against the stream” (1972a: 378; cf. 1970a: 90). Its symmetrical opposite was the socialist one, which could start directly by setting up the works to produce capital goods.

Pointing out that many economists had failed to grasp what it was, distribution apart, that distinguished the dynamic of a free competition economy from that of a planned economy, he (1972a: 379; cf. 1970a: 90) noted: “What has especially shocked people in my thesis is this idea that excessive unproductive consumption may not only not impoverish but even enrich a capitalist country.” Bettelheim, for one, believed it to be a petty-bourgeois argument and a myth. He was right, of course, Emmanuel continued, “that it is not the business of a workers’ party or a trade union to act as technical consultants to capitalism and try to improve the

¹²¹ That Raffer, in spite of everything, has difficulties with Emmanuelian notions becomes clear in his own analysis where emphasis is put on demand in the *poor* colonial markets, while, in line with dependency theorists, he passes by that in the *strong* and much more important markets of the British Dominions and the United States.

system instead of overthrowing it.” But while this was one thing, it was quite another to note that capitalism of the postwar developed world worked better than either its predecessor or its underdeveloped counterpart, with full or near-full employment and a national income per head not of 100 dollars but 30 or 40 times as much: “These are not Keynes’s or anybody else’s myths, but actual facts of the real world. To take them into account, when studying the system or when planning to overthrow it, is not to show oneself petty bourgeois or reformist in attitude; it is the proper business of the scientist and of the politician, even if they are the most “orthodox” of Marxists and the soundest of revolutionaries” (*loc. cit.*).

Emmanuel hammered in whenever had the chance that contrary to any other mode of production, in a capitalist economy the level of investment and production was dependant on the level of purchasing power and consumption. In another important debate (with Warren 1973), he again explained that the common basis for the ‘blockage’ of underdeveloped countries and the overdeveloped feed-forwarding of consumption, lay – not primarily in deliberate, conspiratorial, or uninformed strategies of great power-holders, or even in peculiarities of social structure and technology, but in free-working market forces:

For, in the capitalist world, in which all the natural functions of human society are stood on their heads, the primary problem being not to produce but to sell, he who dominates is not the biggest producer but he biggest consumer [...].

This may seem paradoxical – as though we were saying that it is the possibility of clearing the estuary of a river that determines the volume of its tributaries. Yet it is so. Instead of consuming what it has already proved capable of producing, the capitalist system can produce – and, consequently, advance and develop – only where there is an already available capacity for consumption, either actual or potential. This is, indeed, the most fundamental difference between the dynamic of capitalism and the dynamic of socialism. In the former, all the impulses come from the market, so that investment in capital goods become impossible at the very moment when demand for final goods recedes or stagnates. The world is turned upside-down. What is downstream determines what is upstream. In the dynamic of socialism, production creates its own market. The world stands on its feet, and what is upstream supplies what is downstream. (Emmanuel 1974b: 72.)

The difference between the traditional equilibrium approach to capital and his own disequilibrium one was clarified in a telling image: “Capital is not attracted by a low level, like the liquid in communicating vessels, but is, on the contrary, sucked up by a siphon effect, towards active markets and high levels of consumption” (*ibid.*: 77).

Replying to Somaini (1971), this was illustrated in an imaginary example comparing two countries, the developed United States and the underdeveloped Brazil, in both of which all technical and cultural infrastructure was simultaneously wiped out by atomic bombs, leaving only a population of simple manufacturers with exactly the same rudimentary tools, and an identical per capita stock of the most commonplace means of subsistence, which would last two years at the Brazilian standard of living, but only two months at the standard of living of the United States. After only a few decades, Emmanuel maintained, Brazil would again be Brazil and the United States again the United States (Emmanuel 1973: 56-60).

The day after the cataclysm, work was recommenced at the new low level of productivity, identical in both countries, but based on the old respective nominal wage levels. Based on this and on the respective traditions and habits, an enormous wage-gap remained between the regions. Productivity being what it was, the price of the existing stock of consumption goods would remain fairly stable in Brazil, but rocket in an inflationary wage-price spiral in the United States, where even a reduced level of consumption remained far above the level of production. The United States would be a seller’s market and an ideal situation for capitalist investment. Before the stocks were wholly depleted, shipments of all kinds of goods would have arrived and continue to steer for this unlooked for El Dorado where everything sold, the people consumed more than they produced and the will to purchase exceeded the supply of goods. There would obviously be a deficit in the balance of trade, but this would be resolved in the balance of payments – compensated or outbalanced by a parallel importation of capital

– since the world’s capitalists would turn towards this immense potential, if not actual, market for cars, vacuum cleaners, television sets, etc., of which they knew the Americans to be such great consumers. Though it was rationally inexplicable, credit was not a problem, and bills of exchange drawn on American importers were readily accepted on the great bourses of the world. International capital would rebuild the wrecked industrial sites, resolute entrepreneurs would quickly see that at such wages and price levels much would be gained by mechanising production, and they would have no problem convincing international bankers of the profitability of their projects. Technicians and engineers would follow, while waiting for the new universities to cover the deficit. In this manner, the United States would again become the United States.

In the meantime, Brazilians managed their stocks wisely on their famine wages, making them last longer than usual until the first harvest of the new plantations, created to export a little coffee, in order to import a few new goods. There was neither tension nor disequilibrium, and goods remained long on their shelves as they had always done in poor countries. Brazil’s ‘equilibrium of underdevelopment’ was so perfect that international investors did not trouble with it. At existing prices and wages financiers resolutely declined all eventual projects to mechanise, should someone be bold enough to suggest them. Only in refashioning the coffee plantations did they find every prospect for bankable projects, to supply the great market in the United States where, regrettably, coffee did not grow. Thus, Brazil would once more become Brazil.

This is not so much a fairy tale as a caricature, Emmanuel informed, because while enhancing certain features it left the basic physiognomy of history intact. The United States developed not *in spite*, but *because* of its abnormally high initial wages and of the poor quality of its early workforce. Thus, he (1973: 60; trans. J.B.) summed up: “It was certainly through high wages that the United States became developed, but not through the terms of trade: it was through the influx of men and capital, above all the Americanisation of the latter, another effect emerging from the opportunities continuously created by the widening high-wage market. It also developed through the orientation of these investments towards ‘labor-saving processes’, the third effect of the same cause, that is the expensiveness and poor quality of manual labour.” However, the American way was not the only one possible, Emmanuel contended, and today was not possible other than for a minority of the world’s nations; nor was it as efficient as the opposite way of central planning under socialism. In this conclusion, if not in the analysis behind it, Emmanuel was perfectly at one with Baran, Bettelheim, and the tradition of Marxism they manifested.

Observations such as those by Nurkse, Lewis, and Bettelheim, as well as his own, were advanced by Emmanuel in *L’échange inégal* as an argument for capital being mobile enough to move even ‘in the wrong direction’, that is, from low wage to high wage countries. It was of course in that book, and not in *Le Profit et les crises*, that his basic case for such a geographical distortion of investment incentives was advanced. However, to the inconvenience of early interpreters, an elaborate presentation of its theoretical justification had to wait half a decade. It almost seems as if, by then, interest, sometimes as volatile in the humanities and social sciences as in the fashion industry, was already beginning to fade.

ii. Inequality between the value of output and the purchasing power of income

To see Emmanuel’s point requires first of all an understanding of in what sense a capitalist economy can be considered ‘blocked’ in its development possibilities over and above a certain level, in spite of the indubitable fact that it was the capitalist economy that first opened

up these possibilities in the first place. This is a standard old-style Marxist contention, most of which collapsed instead of capitalism after the 1930s. But it would be unfair to say that Emmanuel is engaged in saving the phenomena, and he is quite severe in the treatment of his predecessors and of the many mythologies endorsed on this and related subjects. His principal interpretation of the internal contradictions of a capitalist economy is found in *Le Profit et les crises*. In addition to ample demonstrations of his acquaintance with Marxist and orthodox economic traditions, one can find also what appears to be close familiarity with the internal conducts of capitalist enterprise, giving his highly theoretical discussion a hands-on concreteness and pedagogical comprehensibility, perhaps not usually found in either the one tradition or the other.

Whereas the argument in Emmanuel's *L'Échange inégal* and related articles caused great stir, and as a consequence have become the object of scholarly attention, the latter has not followed the praxis in the humanities of relating it to his other arguments, particularly that of his *Le Profit et les crises*, described by the French back cover as the second piece of a diptych. Latouche (1985: vii) has suggested that it was the success itself of *L'Échange inégal* which eclipsed his other contributions, notably *Le Profit et les crises*, but also his essays. This lack of interest on all parts is surprising in view of the foregoing, and also subsequent, heated controversies.¹²² It is perhaps related to Emmanuel's debatable and, for much of Marxism, heretical stance on issues such as the theory of value, international worker solidarity, exportation of capital, and multinational corporations. A certain fatigue among Marxists appears to have set in before its publication in 1974, e.g., Amin declaring 'the end of the debate' already in 1973, and evidenced in the shortness of Bettelheim's (highly appreciative) preface to the latter work (1974: xi), contrasting with his previous forewords and afterwords and theoretical contributions to which he refers. Marxists who had just barely begun to formulate counter-theories of unequal exchange, partly, it seems, in an effort to demonstrate that the villain was not the working classes of the rich countries, but the hobby-horse the 'monopolistic' multinationals with or without the assistance of the state apparatuses, were just not up to yet another great debate on what appeared to be a wholly different subject. To most theorists it was indeed wholly different, but to assume that this was also the case for Emmanuel would not only be gratuitous but poor method.

Although published in 1974, Emmanuel announced his intention of writing *Le Profit et les crises* in *L'Échange inégal* of 1969, speaking of a certain protectionism – that striving for a *permanent* surplus in the balance of trade, which, following Keynes, he observed so contrasted the business of trade with its post-mercantilist theory (cf. Part I). To resolve this odd discrepancy, however, one must go further, he (1972a: xix) declared, and "challenge not merely the assumption of full employment, as Keynes did (without, however, going very far into the matter), and not merely the assumption of the identity between purchasing power and willingness to purchase, which Marx and Keynes challenged, but also that much more fundamental assumption of equivalence between the total amount of incomes and the value of production, which Keynes did not seek to question any more than did the other economists." It fell outside the scope of his book to refute that equivalence, he (*ibid.*: xxxviii) explained, "since my subject is not foreign trade in general but a particular feature of foreign trade,

¹²² The sparse commentary on Emmanuel 1974 that I have been able to locate includes an exchange in a Belgian journal between Biesmans, Joiris, & Bels and Emmanuel (1978a); a review by Hugon 1976. The Anglo-Saxon world was just beginning to discover his theory of unequal exchange through the 1972 translation, but there was no English translation of *Le Profit et les crises* until 1984, reviewed by Abegaz 1985, and subject of a 'Book Note' by Grahl 1985. Apparently, neither the standard editor, Monthly Review Press, nor the standard translator of Marxist economic works from French, Brian Pearce, swallowed the implied suggestion in Emmanuel's sending him a copy (which happens to be in my possession, J.B.). Another subject which caused a large reaction, and immediate translation, was Emmanuel's (1982) argument that 'appropriate technology' for the underdeveloped world was actually 'underdeveloped technology'.

namely, unequal exchange. It needs to be made the subject of a special work devoted to examining, first, the internal working of the competitive economy and, second, the interactions between the level of internal activity and the external trade balance.” Does this mean that the subject of *Le profit et les crises. Une approche nouvelle des contradictions du capitalisme* was indeed ‘foreign trade in general’? Apparently not. Its subject was a disequilibrium between the total amount of incomes and the value of production, of whose avatars said protectionism was only one:

It is this disequilibrium itself which will be studied in this work. The aim I have set myself is to show that we are dealing with an essential contradiction of this mode of production; and that, on the level of the realisation and reproduction of the product, the original contradiction between social production and private appropriation resolves itself, or transforms itself, into this contradiction.

It may therefore seem strange that I approach this contradiction, so to speak, obliquely, from the aspect of its manifestation in international trade. This is because I think that this domain shows more clearly than any other the impasse which economic science has been led into by the postulate of the material impossibility of general overproduction. (Emmanuel 1984: 2 f..)

In order to account for said protectionism, “one must reject the basic postulate of political economy, that the sum of revenues generated in a given period is equal to the value of the new production of that same period” (*ibid.*: 1).

This problem appears to have been long on Emmanuel’s mind. Although a demonstration of his solution is not undertaken until his 1974 book, the solution itself is mentioned in an essay from 1966 on the incompatibilities of Keynes and Marx (an area of special importance to Marxists in France, but not exclusively there), and its area is touched upon even in one of his two Congolese articles (1954b), if not before, that is, at any rate before moving to France or starting to work on his thesis on unequal exchange. If the experience in the Congo was what roused his attention to the latter phenomenon, one may even suggest that the subject of Emmanuel’s second book was the historically and theoretically prior problem also to him personally. It concerned an inherent contradiction of capitalism itself, whereas unequal exchange was, and partly answered for, an aberration within the capitalist system. If, as has often been suggested, underconsumptionist or mercantilist ideas find breeding ground during depressions, Keynes (who may have provided added stimulus) not being an exception, Emmanuel would have been amply exposed in his youth, having lived through the, not uncommonly intellectually formative, late teens and twenties in the depression years of the 1930s. Simultaneously in the Soviet Union, the end of the New Economic Policy and the beginning of the five-year plans with Stalin’s ‘turn to the left’ – pushing the Soviet Union at breakneck speed along the road of economic development by transferring means from the production of consumption goods to the production of means of production (*i.e.*, from unproductive to productive consumption) – demonstrated that crises were not inherent in every economic system. The fundamental difference between a market and a planned economy, particularly in this respect but also others, is a constant theme running through Emmanuel’s writings, including those on unequal exchange, as far back as I have been able to confirm. Nevertheless, it took several decades of unprecedented growth in the West, uninterrupted by major crises, before he was to publish a full-blown theoretical exposition of a crisis-ridden capitalist economy, together with his explanation, in which unequal exchange played a part, of the foregoing exceptional period of development.

Emmanuel (1954b) identified a dynamic difference in capitalist investment incentives between the upward and downward phases of the business cycle because of the *expected* sales opportunities. The same amount of unsold stock was something quite different in the one and the other. Similarly, and there too the line of demarcation was drawn against Keynes, the subject of *Le Profit et les crises* was the demonstration of an inequality between the value of production of a certain period and the purchasing power of the incomes generated in this same

period, and that this showed up in the permanent phenomenon in a market economy of a greater ease of buying than of selling.

The first mention of this solution appears to be in an article, partly reprinted in his book (1984), which tried to spell out the incompatibility of Marx and Keynes (Emmanuel 1966). This incompatibility, he (*ibid.*: 1196) felt, had not been sufficiently elaborated by the French ‘state-capital’ theorist Paul Boccara, who had instead tried to close the gap between their positions on what Marx (but not Keynes) termed the ‘overproduction of capital’. Keynes model excluded any possibility of the existence of an income which was not either consumed or invested, thus any overproduction of capital in the usual sense of the term. So, Boccara had not used the term in its ordinary sense, but, in order to insert it in Keynes’s model, employed the key of ‘overproduction *ex ante*’, meaning on the level of incitements to invest, identifying this overproduction with ‘a disequilibrium between the objective possibilities of accumulation and actual accumulation’, which Emmanuel in this essay found consistent with Keynes and which would amount to a spontaneous tendency in capitalism towards underemployment of the economic potential of society.¹²³

Yet this overproduction was still not that of Marx and the Marxists for whom, Emmanuel (*ibid.*: 1196, trans. J.B.) maintained, there existed an overproduction of capital in the literal sense of “unused, redundant, idle capital” which represented an actual excess of saving over investment, a true ‘hording’ on the social level, an overproduction *ex post* in the common sense of the term. Unfortunately, the passages in which Marx broached the subject had never been edited by him and ultimately left his reader in a fog as to the actual solution of the problem. How this excess was theoretically possible Marx had not told his readers, and other passages, notably those on reproduction or the realisation of surplus value, seemed to speak against its possibility. In innumerable variants, from the moderate Lenin to the dramatic Grossmann, Marxists had accepted overproduction of capital and studied this excess capital in search of placement, seeing in it a peril to the capitalist system and a reason for its flight outside national borders. In this acceptance, Emmanuel reminded, they conformed with one of the most commonplace observations, and with the experience of business men who would never dream of questioning the possibility of the existence of savings in excess of investments. Even the economists themselves, when they analysed things on a lower level of abstraction accepted this category: “But as long as the basic postulate of the accounting equality between incomes and the value of production has not been repudiated, pure economic theory will ignore this phenomenon. There we have another of these cases of divorce between city and science that Keynes himself has carved out so well” (*ibid.*: 1198; trans. J.B.).

As Keynes himself had admitted, it all depended on the definition of income:

Now, in the real world, revenue is nowise equal to the produced but to the realised value. If one part of the value, notably that corresponding to wages, is transformed into revenue before the sale and independently of its results, another part, surplus value, is not acquired as revenue until after the sale and *according to* its results. Consequently, the fluctuations of stocks assures that the sold product does not correspond in time to the value of production and forbids our substituting the one of these magnitudes for the other [...]. To calculate revenues one must consider the unsold goods. (*ibid.*: 1198; trans. J.B..)

Keynes’s position rested on two possible alternatives – where the value of unsold goods is equal to zero or, the more dynamic alternative, where they are wholly included as part of

¹²³ His 1974 book mentions the debate whether his equation was an *ex post* equality, which did not preclude an *ex ante* inequality between ‘planned’ investments and savings: “If, *ex ante*, saving exceeds investment, they will actually be equalised at the cost of a fall in prices and a reduction of employment. In the reverse case, *ex post* equalisation would mean a rise in prices and stimulation of economic activity” (Emmanuel 1984: 282). This, he then felt, was not what Keynes had had in mind: “In his work, the equality between saving and investment appears to be a mere identity, an accounting identity without any effect on price movements.”

investments – which appear solid in theory, Emmanuel (*ibid.*: 1199, 1201) admits, but neither of which corresponds to economic reality.¹²⁴

In his classic and pedagogical presentation of Marxist economics, Sweezy (1942; in 1975: 71) noted that Marx's analysis corresponded well with the income accounts of a modern firm, and the actual book-keeping categories of capitalist enterprise. 'Total value corresponds to total income of sales, constant capital corresponds to costs of material plus depreciations, variable capital corresponds to wages and surplus value corresponds to disposable incomes, shared as interests, dividends, or reinvestments into the firm.'

Now, looking even closer on these accounting categories, with Emmanuel, we find that

while it is true that it is the same quantum of goods which simultaneously represents aggregate supply and aggregate purchasing power, *it is not at all true that, in capitalist reality, one commodity, whether a means of production or an article of consumption, has the same (recognized) value in its producer's warehouse as it has in that of his purchaser-user.* Any chartered accountant, lawyer, or official receiver summoned to evaluate a stock, any banker invited to finance it, or any tax inspector called on to work out the tax on a capital gain or an inheritance will value the same machine at its cost price, if it is unsold in the warehouse, but at its sale price – i.e. all other things being equal, its total social value – if it is in the inventory of its user. The law itself, directly or indirectly, forbids and penalises taking stock of a commodity at a value higher than its cost price, and settling one's purchases on the basis of this inflated value, since it is explicitly laid down that one of the cases in which an insolvent will be declared bankrupt is when he has spent above his means; since the determination of his 'means' is a question of fact, the court will rely in the matter on the findings of a chartered accountant, who will assess these means by evaluating stocks at their cost price.

So it seems society recognizes two values in a commodity: the first, lower value at the close of production, not including the producer's profit – a sort of provisional value – and the second, complete value at the close of the sale, including the producer's profit. (Emmanuel 1984: 221f; cf. 1966: 1201f..)

Disregard of this fact, which is a central observation of Emmanuel's book and article, had lead economists into certain capital problems, which the mercantilists did not have:

Some saw value as created in the process of production, others in that of exchange. But neither the one nor the other would like to see anything other than a temporal and qualitative difference between the creation and realisation of value. The old mercantilists, who preferred to to proclaim the facts without explaining them, rather than deny them for lack of explanation, had seen very well that the difference is quantitative and they cried out loud that in selling one enriched oneself. (Emmanuel 1966: 1202; trans. J.B..)

Emmanuel viewed the mercantilists as being well integrated in their society and on occasion even instituting its laws, personifying 'praxis' and a time when political economy was hardly indistinguishable from economic policy. By contrast, since Quesnay "economists live as if reality did not exist and men of politics acted as if the economists were not there". In spite of his admiration for the mercantilists, even Keynes himself had only seen a single superiority in the money good over other goods: its 'liquidity' (and absence of conservation cost). Now, Emmanuel continued, money was the only value where there was no separation between

¹²⁴ In Emmanuel's book (1984: 283), Keynes's accounting equality between saving and investment was similarly said to depend "on a very special definition of investment: any output which does not enter personal consumption", implying that "investment takes place not only when means of production are brought from their producer to be set to work by their user, but also when a lack of investors causes the same means of production to lie unsold in their producer's warehouses, and even when the same depression results in consumer goods similarly staying on the shelves without finding a taker." Alas, he (*ibid.*: 288; cf. 1966: 1199) noted: "“If we examine the accounts of any capitalist firm we see that what counts as an income in the real world and is distributed as such [at the moment when the account is drawn] is neither the total value-added of the whole of production, nor only that of the sold part. It is the full value-added of the sold part plus that contained in the *cost price* of the unsold part, after this cost price – intermediate consumption plus ‘preliminary’ income distributed or allotted before sales – has, in some cases, such as depression and crisis, been adjusted downwards for inventory depreciation. Again, in actual business behaviour, involuntary inventories are never considered to be investments.””

production and realisation; as soon as it was produced its value was realised. A thousand francs of money valued a thousand francs to the whole world; a thousand francs of goods might well value a thousand francs to society in general, but for its producer it valued only 700 or 800 francs (according to its cost price) until it was sold. It was something like this that the mercantilists said, Emmanuel maintained, and this was the reason why they were understood by their contemporaries. After one had discovered that the sale did nothing but exchange value for an equal value and money was degraded to a technical accessory, economic systems became eminently logical and began to satisfy the spirit, “but they did so just a little bit too much to square with capitalist practice.” Then in the 20th century, of course, economists again began searching for the reasons for the peculiar demand for money, which perturbed their models, renaming but hardly explaining it as Keynes’s ‘liquidity preference’ (*loc. cit.*). If Boccarda tended to draw Marx towards Keynes rather than Keynes towards Marx, Emmanuel, concluding this section, felt that the position Marx had taken in the meantime was the more accurate and fruitful one. Later, he (1984: 87, n. 80) argued: “Only with the post-Keynesians, some three quarters of a century later, does one find as dynamic view of hoarding as that of Marx.” (Cf. Curtis 1937, questioning the savings = investment; Lerner 1938; Lutz 1938; Lerner, *et al.* 1939.). Money was neither a neutral element nor an autonomous factor. The important thing was not money in itself, he (1966: 1203) reminded, but what it resulted in on the level of general equilibrium: “a dissociation of the two acts constituting the exchange, the selling and the buying.” Although he had not had the time to complete this part of his theory, Marx knew that in the real world one does not sell in order to *acquire* money, one sells in order to *gain* it.

Right from the start, Emmanuel’s book, too, takes up the thread of Marx’s *implicit* rejection, when speaking of overproduction or over-accumulation, of the equality between revenues generated in a given period and the value of the new production of that same period. But in Marx’s work as a whole and in the unfinished state in which he left it, this rejection could not stand up against his *explicit* schematisation of this very equality in the chapters on simple and expanded reproduction, and when dealing with realisation of the product. Right away Emmanuel (1984: 2, n. 3) distinguishes his position from that of Keynes, whose formulation may very well have hinted the way: “What we are concerned with here is precisely the equality between production and revenues, and not that between production and effective demand”. Although the two equations were often conflated, he (*loc. cit.*) continued, the latter had already been challenged and rejected by both Marxism and Keynes: “Keynes distinguishes between them from the outset and rejects the latter, calling it a Euclidean postulate, but unreservedly accepts the former.” Indeed, the former, which Emmanuel called a “sacrosanct equation”, was referred to by Keynes as the “first axiom of political economy”, the latter as the second. Inspired by the revolution in physics, he likened the classical economist with a Euclidean geometrician in a non-Euclidean space, who when he discovered that in the real world parallel lines often crossed themselves started blaming the lines for not running the way they ought. In reality there was no other solution than throwing the parallel axiom overboard, Keynes argued, concluding that something similar was needed in political economy. Inspiring words and image, but as Emmanuel noticed, Keynes (1936: 20) was content to reject only the one: “The conclusion that the *costs* of output are always covered in the aggregate by the sales-proceeds resulting from another, similar looking proposition which is indubitable, namely that the income derived in the aggregate by all the elements in the community concerned in a productive activity necessarily has a value exactly equal to the *value* of the output”.

Again inspired by Keynes, Emmanuel then took off where his article had left it, with the example of that permanent strife for a balance of trade/payments not in *balance* but in *surplus*, which the mercantilist took for granted (and with which we have dealt in Part I):

“Here we have a rare case of a permanent and absolute divorce between science and business, between theory and praxis” (Emmanuel 1984: 3). Accepted by the mercantilists, the necessity to sell – anything, but preferably manufactures – more than one bought and for an indefinite period was rejected as absurd by the classics, ultimately because, if successful, it would mean giving away useful goods and services which had cost real time, effort, and material to produce in exchange for a rising pile of useless money the only effect of which would be to raise domestic prices. The world economy as a whole was a closed system, from which there could be no selling, so money was only a durable intermediate chosen to facilitate transactions of real values. Indeed, even Keynes himself could not dispute that in the long-run a permanent surplus would be just that, absurd, but then, said he, in the long run we would all be dead. Keynes’s point is well taken in the sense that if one does not live until tomorrow one is unlikely to live to see ones grandchildren cultivate their garden. For those philosophically inclined, it can be seen as a sort of preliminary ‘phenomenological’ going to the things themselves (Husserl), but still not a complete ‘existential’ inversion of perspective (Heidegger). However, the inherent short-sightedness in this perspective and the blunt contradiction between the long and the short run, is dangerously similar to a short-circuit. *Long-circuiting*, Emmanuel went one step further in accepting that, although absurd, the absurdity lay not in the minds of mercantilists and economic policy makers, but in the inherent bias of the market economy itself.

Based on the assumption of a closed system where goods can ultimately only be exchanged in order to acquire other goods, as in the formula C-M-C’ (commodities/products exchanging for money, which is again exchanged for other commodities/products), the classical argument explaining why the value of production (P) is equal to total income/revenue (R) is easy to understand. The view was systematised by Marx and adopted in his reproduction schemas and, as observable from Sweezy’s description above, is a mere question of book-keeping. Each constituent element of the value also constitutes an income. The price of a good put on sale is composed of three portions: (1) goods consumed during and in consequence of its production, (2) remuneration of the workers employed in its production, and (3) the share of ‘non-working’ claimants, *i.e.*, capitalists, land owners, the state, etc.. The first portion constitutes no problem, simultaneously eliminating a good and incorporating its value in the price of the new commodity. The portion of the price that is created in a given stage of production, its *value added*, is strictly equal to the new purchasing power created by this same stage of production. Since this is valid for each individual good it is also valid for all the goods taken together.

Taking three branches producing means of production, articles of workers consumption, and luxury goods, and using Marx’s terminology, the price of production, P (or if one so prefers, value, V), is equal to constant capital, c , variable capital, v , profit, p (or surplus value, m), so that

c_1	+	v_1	+	p_1	=	P_1
c_1	+	v_2	+	p_2	=	P_2
c_3	+	v_3	+	p_3	=	P_3
Σc	+	Σv	+	Σp	=	ΣP

Nothing is changed in the next period of production whether the system remains on the same scale (simple reproduction, whence $\Sigma c = P_1$, $\Sigma v = P_2$, $\Sigma p = P_3$), or if we take account of accumulation (extended reproduction; distinguishing between the consumed part of profits, p_c , and the capitalised part, p_k , whence $\Sigma c + \Sigma p_k = P_1$, $\Sigma v = P_2$, $\Sigma p_c = P_3$). The only type of overproduction that is possible within the schema is a *partial* overproduction between sectors which is always compensated by a corresponding underproduction, *e.g.*, an excess of workers

consumption goods and a corresponding lack of means of production, but there can never be *general* overproduction.

As has been pointed out time and again, the first theorists, and even later ones, who tried to explain overproduction (or underconsumption), Malthus, Sismondi, etc., neglected productive consumption (Σc & Σp_k), and when this had been pointed out by Ricardo, Say, etc., the unanimity in on the impossibility of general overproduction became almost total (cf. Bleaney 1976). When lack of purchasing *power* no longer could satisfy the intellect, the difficulties of realisation had to be explained by a lack of purchasing *propensity*, a lacking *will* to purchase. But a lack of will was no explanation at all, Emmanuel contended, since it was either temporary and could not explain a permanent phenomenon such as the difficulty to sell and recurring phenomena such as crises, or it was equally permanent and regular, in which case it would in itself need an explanation. Consciously or unconsciously, he suggested, economists, mostly Marxists, who had accepted the phenomenon consequently looked for its explanation, all came up with variants of only two: hoarding and disproportionality between sectors of production, most often the latter. In a confusing way, such arguments have been advanced both for and against what is referred to as ‘Say’s Law of Markets’, with the same arguments as the critics often found in Say’s own writings.

The whole first part of Emmanuel’s book was a long digression into his predecessors’ arguments on ‘Say’s’ law, crises and overproduction, where it was commonly the more logical critics of underconsumptionism who came out on top in the competition of logic. The extensive treatment of Marx’s analysis was particularly appreciative, but he found that the fundamental explanation that would make it all coherent, again and again slipped through Marx’s fingers. The theory of Rosa Luxemburg, who was again becoming one of Marxism’s favourites in the early 1970s, was also treated at length, not because of the level of her analysis, but, in Emmanuel’s (1984: 211) words, “because the number of logical dead-ends she reaches illustrates what we have already said: (i) that it is impossible to explain the phenomenon of overproduction as long as one sticks to the fundamental equation between production and income, and (ii) that the more one searches for such an explanation within the confines of this equation [...] the more one sinks into the most inextricable contradictions and ultimately the most commonplace absurdities.” However, there was also another reason, Emmanuel (*ibid.*: 213f.) admitted: what she was unable to prove and even managed to obscure when trying (or not trying) to formulate extensive and regular arguments, her intuition made her stumble upon in barely elaborated remarks. No one had concentrated with more fierceness “on capitalism’s fundamental tendency to erect the act of selling to the status of an end in itself. [...] One does not sell commodities in order to buy others; one buys them in order to resell them. [...] one does not sell them in order to obtain means of purchasing, one sells in order to get richer.”

Adopting Marx’s formula M-C-M’ (money exchanged for commodities, in order to acquire more money) in contrast to the above (although Marx himself had returned to the formula C-M-C in the reproduction schemas), meant accepting the central place of the sale as the proper description of the capitalist economy, the *raison d’être* of all economic activity. But this placing of money at the poles and separating in time the act of selling from the act of buying only revealed a precondition for disequilibrium, not its cause – thus, a necessary condition, not the sufficient ones (*ibid.*: 28-33).

We have already mentioned Emmanuel’s solution, based on the social recognition of the cost price of a good at a lower level than the price of production at which it is sold (*i.e.*, the price at which it tends to be sold in the long run). Such a doubling of values can not be tolerated either in the static thinking of the classics and even less in the absolutist, objectivist one of Marxists. Marx himself only saw “a *qualitative*, not a *quantitative* moment” (Marx 1973: 677f.; cf. 1972: 504) in the sale, though he dramatised it as a ‘perilous leap’,

‘metamorphosis’, or ‘trans-substantiation’, and the difference in value between sold and unsold goods was also ‘qualitative’ depending on the latter “expressing a certain quantity of money in a merely imperfect form, since it has to be thrown into circulation in order to be realised” (Marx 1973: 218).

Emmanuel (1984: 228) was highly sceptical as to the meaning and content of such qualitative differences and imperfect socialisations. How could a ‘value’, in the economic sense and in a capitalist economy which only dealt with quantitative differences, be qualitative or imperfect? Whether in the form given by Marx or in Keynes’s ‘liquidity’, the notion was ultimately meaningless and absurd. “Value is the product *par excellence* of the abstraction from all quality. One value that is qualitatively but not quantitatively different from another is a contradiction in terms. [...] Saying that money is more liquid than commodities is another way of saying that it is easier to buy than to sell. So it is simply tautologous to explain the latter by the former. Money would not be more liquid than commodities if the supply of commodities did not exceed their demand.” There was always a value at which a commodity became as liquid as money, he (*ibid.*: 228f.) *i.e.*, “a price at which one can get rid of a commodity roughly as quickly as one can get rid of money.” Indeed, there were other goods than money, credit, bills of exchange, an entry into a bank account, for which this was generally the case, including, as was indicated by their very name, ‘cash-crops’, and commodities made to order. What characterised these goods was, that as soon as they are ready for export or delivery, society recognised their total sale price, not merely their cost price, and their producer could, in principle, mobilise up to 100% of their purchasing power through credit.

What was an exception in a capitalist economy was the general rule in a planned economy, where every good was ‘social’ as soon as it was produced. Everything was in principle made to order for the community, he (*ibid.*: 230) continued, thereby effectively sold in advance, and production units did not have to worry about markets, marketing, or clients: “The central organ of distribution, through the very fact that he buys everything, can resell everything without difficulty, since in the process of buying everything it distributes revenues strictly equivalent to the product.” The central organ can thereby ensure the highest possible level of employment of the productive (labour and capital) factors, even if it meant constant queuing:

This is the main advantage of planning, and not some supposed optimisation of the allocation of the factors, the degree of which up to now in the planned countries of the East, given present calculating techniques, does not seem noticeably greater than that attained automatically by all market economies.

It is the economy’s basic dynamic which changes. Instead of only investing in what can be sold, in proportion to the previous increase of sales and *after* the results of the last, the whole accumulation-fund is immediately and automatically invested, production is expanded up to the limit of the potential in men and equipment, and then one consumes what one has produced. Sales are assured by the very fact of these maximum productions and investments.

The world is put back on its feet. The community’s problem is not how to sell, but how to produce. Instead of being limited by the market, planned production creates its own market. The buyer’s market, which is the normal situation under capitalism, is replaced by the seller’s market. The effort to sell is replaced by a certain effort to buy. (*Loc. cit.*)

Everything depended on the plan being directive and foreign trade genuinely centralised. In this case the principal problem was no longer to export but to import, the former only being useful as a means to the latter. When the actual socialist countries had abandoned either or both of these criteria, such as in the New Economic Policy or again since 1964, the basic mechanism of capitalism again became reinstalled, and problems of selling, exporting and unemployment reoccurred.

Although this would seem to imply a fondness for central planning in its more brutal form, such as under war communism and Stalin, Emmanuel was careful to point out that his argument was strictly economic and said nothing of the political process of decision making,

which, he suggested, could be as decentralised as anyone would wish. As we shall note below (when speaking of recurring incentives to overtrade), a similar case was pleaded by Keynes and others in his tradition. Emmanuel's observation is interesting in itself:

The above in no way implies that a genuinely planned country is *ipso facto* socialist, or rather that the socialist character of the social relations of production is a simple increasing function of the degree of reinforcement of the plan. Nor does it mean that the compulsory character of the plan is synonymous with the centralisation of economic decision-making. A democratic process of elaborating the plan is not necessarily incompatible with completely directive and genuine planning. The most centralising plan for the economy may perfectly well be worked out by the most decentralised procedures. (*Ibid.*: 233.)

In fact, even under capitalist relations the economic dynamic may be reversed, without either plan or authoritarian allocation of resources. This is particularly the case in wartime, as noted by J. A. Hobson (1917: 462) and even Heckscher (1931: 86; 1994, II: 100) for the First World War, and Baran (1957: 41) for the Second. Keynes (1936: 322) also shared his thoughts on what he considered to be a basic tendency of capitalism, thus far, towards unemployment: "Except during the war, I doubt if we have any recent experience of a boom so strong that it lead to full employment." Furthermore, continuing a discussion between Bettelheim and Mandel, while mere technical imprecision and waste through poor planning was not enough to reverse the mechanism, there was no reason why the most centralised and bureaucratic procedures could not work out a weak and indecisive plan, thereby tending to reinstall market relations. After participation in Yugoslav discussions, Emmanuel (1977b; cf. Lewis 1949; Nove 1983) seems to have become even more sceptical about the possibility of non-bureaucratic socialist planning, implying that it represented a corresponding 'internal contradiction of socialism', with further implications for the role of the state in the transitional period (1979b).

Even if Emmanuel's interpretation of value differed from that of the classics and Marx, he (1984: 229) did not feel that it went against 'objective' theories of value in general. The new value pointed out by Emmanuel, the cost price, was not to be thought of as yet another abstract 'value' or 'price of production' with which to juggle in the world of economic metaphysics, but was simply a category on the same concrete level of phenomena as the market price. The difference between them was that while the market value was a true exchange value, the cost price was a sort of accounting value fixed before any exchange, but the one was just as concrete as the other.

Having established the existence of a structural excess of supply over demand, was still not demonstrating that it gave rise to any problem of realisation of the social product, and even less that this blocked its realisation at any stage. Taking an example where the value of production (= supply) was 500 and that of purchasing power (= demand before sale) was 400, the excess of supply over demand was accordingly 100, or 25 %, and the profit of enterprise (income as a result of realisation) 25% of cost price and 20% of the selling price (*ibid.*: 242):

Constant capital		Variable capital		Surplus value				Value of the product
				Before sales (rent, interest)		After sales (profit of enterprise)		
c	+	v	+	m_b	+	m_a	=	V
300	+	50	+	50	+	100	=	500

Once the original supply had been reduced by 400 to 100, an additional purchasing power of 80, arising from the profit of enterprise, had simultaneously been created (= 20% of 400), which can be used to reduce the remaining 100 to 20. This sale will in turn release another 16, which can be used to unburden the market still further, and so on, until after an indefinite number of realisation periods an equilibrium point will be reached where all stocks have been sold, and the gap between supply and demand has been effectively closed (*ibid.*: 242f.).

Emmanuel admitted the existence of such a chain reaction mechanism, without which capitalism would be mathematically impossible, and immediately and permanently blocked. But the description above assumed that the world was static, despite the fact that operations were assumed to take place in a series of stages. The chain reaction lasted a certain length of time, during which supply was constantly superior to demand. Although this gap would normally be reabsorbed by the process of realisation itself, *while* it existed it gave rise to a new factor which interfered with this process and in thus prevented the reabsorption in question: “This new factor is the general price level. While it is true that the blocking effects are not *directly* caused by the structural disequilibrium between the value produced and purchasing-power, they do exist. They are mediated by the fall in prices” (*ibid.*: 244). It was this general fall in prices, Emmanuel argued, which led to depression with cumulative effects and gave rise to crises and deadlock.

For, in reality, the process of production was not the once and for all affair assumed in the above example, but continuous. Thus, he (*ibid.*: 245) explained, “for every lot of commodities sold to its consumer (whether for personal or productive consumption) another lot emerges from the fields and factories to take its place”, which is equal in value in the case of simple reproduction and higher in value in the case of extended reproduction: “in either case it bears within itself the same fundamental inequality and hence stokes up the excess of supply over demand by an equal or greater sum respectively.” Using the same initial figures as in the above example gave Table 19 for simple reproduction (where the column named ‘initial production’ illustrates the reabsorption process elaborated above). As can be seen, a permanent excess of supply over demand by 100, equal to the profit of enterprise, still remained to be realised at each point (*ibid.*: 246f.).

Table 19. *Permanent excess of supply over demand under simple reproduction*

S=Supply D=Demand E=Excess	Initial production			1 st replacement production			2 nd replacement production			3 rd replacement production			Total		
	S	D	E	S	D	E	S	D	E	S	D	E	S	D	E
	500	400	100										500	400	100
Realisation	-400	-400													
Profit of the same		+80	-80												
Balance	100	80	20	400	320	80							500	400	100
Realisation	-80	-80		-320	-320										
Profit of the same		+16	-16		+64	-64									
Balance	20	16	4	80	64	16	400	320	80				500	400	100
Realisation	-16	-16		-64	-64		-320	-320							
Profit of the same		+3.2	-3.2		+12.8	-12.8		+64	-64						
Balance	4	3.2	0.8	16	12.8	3.2	80	64	16	400	320	80	500	400	100

Source: Emmanuel 1984: 247.

In the case of extended reproduction (taking accumulation into account), the excess will increase at the same rate as the mass of the profit of enterprise (Table 20).¹²⁵

¹²⁵ The example assumes that the portion of surplus-value corresponding to profit of enterprise is reinvested, while the remainder (rent and interest) continues to be consumed unproductively; the organic composition and rate of surplus value remain constant over time (*i.e.*, extensive extended reproduction); finally, surplus value is divided between fixed revenues (rent and interest) and variable (profit of enterprise) in the proportion 1:2. This means that all variables will grow by the ratio of profit of enterprise to the social product, or 20%.

Table 20. *Increasing excess of supply over demand under extended reproduction*

S=Supply D=Demand E=Excess	Initial			1 st			2 nd			3 rd			Total		
	S	D	E	S	D	E	S	D	E	S	D	E	S	D	E
	500	400	100										500	400	100
Realisation	-400	-400													
Profit of the same		+80	-80												
Balance	100	80	20	500	400	100							600	480	120
Realisation	-80	-80		-400	-400										
Profit of the same		+16	-16		+80	-80									
Balance	20	16	4	100	80	20	600	480	120				720	576	144
Realisation	-16	-16		-80	-80		-480	-480							
Profit of the same		+3.2	-3.2		+16	-16		+96	-96						
Balance	4	3.2	0.8	20	16	4	120	96	24	720	576	144	864	691.2	172.8

Source: Emmanuel 1984: 249.

Added to Emmanuel's identification of the social recognition of a cost price below the sale price, these demonstrations of how the ensuing excess of supply over demand is reproduced provide the core of his argument, which, to the best of my knowledge and in spite of its theoretical importance, no one has ever even attempted to refute. This, I contend, is reason enough for reproducing it here. To this is added its importance for understanding how Emmanuel understood the role unequal exchange had come to play historically, in (temporarily) liberating capitalism to its postwar crisis- and unemployment-free investment-haven, something otherwise achievable only in wartime if we believe the above authorities. If true, then, this 'underconsumption' interpretation would also be crucial to any understanding of the overdevelopment and physical *overconsumption* of these years (cf. Brolin 2003), which was once the principal concern of radical ecologists. Arriving there will of course first take us through more profane economic implications, including an application to the business cycle, incentives to overtrading, and Emmanuel's modification of unequal exchange for a system with nonconvertible currencies valid for the years from the 1970s onwards.

A permanent excess of supply over demand was obviously a remarkably unstable situation. "Prices will start to fall", Emmanuel (*ibid.*: 248) explained:

But when the prices of producer goods begin to fall, not on their own but along with those of finished products, the demand for these goods falls in volume instead of rising. Investment programmes are cut back as a result.

Some firms will make a loss straight away. Others will expect losses and halt their expansion. Yet others will simply anticipate the fall and defer or slow down their purchases in the hope of obtaining a better deal later.

So the structural shortage of purchasing power will be joined by a 'conjunctural' deficit with cumulative effects, since one entrepreneur's abstention from buying will give rise to a failure to sell on the part of another entrepreneur. Another chain reaction starts up, but this time in the opposite direction, triggering of a crisis.

Emmanuel claimed nothing original in this description, calling it "a cliché of economic literature". However, the traditional scheme of things only went round in circles without any support in the structural lack of demand and the consequent fall in prices. It is also far from complete, so Emmanuel then reintroduces the conventional explanations of disproportionality (between the Departments producing consumer and industrial goods) and hoarding (a *voluntary* abstention from purchasing), on the new foundation his argument has provided. Without being based in a prior, 'objective' lack in purchasing power, and the corresponding fall in prices, the 'subjective' abstention from productive consumption, hovers in the air, or turns in circles in search of that '*primus movens*' which Marx expressly admitted he had never found. As to the precise study of the *internal* mechanisms of the cycle, Emmanuel never challenges Marx's analysis, which, he concluded, "*would become perfectly consistent and immediately acquire explanatory power [...], if we took the step, which Marx did not wish to take, of abandoning the postulate of the equality of income and output, and if we accepted that*

there is a basic intrinsic (and permanent) excess of value produced over the purchasing power created by this same production” (*ibid.*: 252; cf. 84ff.). Hoarding was still the *immediate* cause setting off the crisis and still an inevitable step in the process as described by Emmanuel. But to reach this stage one must start from a situation in which there is no hoarding. What is new in Emmanuel’s thesis is that the voluntary abstention from purchasing is in turn determined by the *long-run tendency* of a fall in prices, which thus exists prior to and independently of the cycle with its inherent waves of hoarding and dishoarding. The lack of will to purchase is no longer contingent, but becomes a theoretical necessity (*ibid.*: 252).¹²⁶

The significance of this fall in prices did not concern the role of money as a means of payment or of circulation where the poles consisted of real values (cf. C-M-C), in which perspective it would matter little to producers of coal and iron if the price of coal decreased as long as the price of iron decreased equally, since one would gain in buying what one lost in selling. Such a barter economic perspective was not apt for capitalism, as he similarly argued with respect to nominal and real wages:

This is a captivating view, but for all practical purposes, in terms of the effects which this operation will have on the economy, in their own view, in that of their bankers, their tax-collectors, their creditors and debtors, their friends and the public at large, in short, in everyone’s view apart from a few economists, both these men are losers. For in the real world, it is considered a loss to sell below the price of production, while it is not considered a profit to buy below this price (because all costs are accounted at their cost price), and from the moment we ruled use-value out of our calculations, profit and loss only exist by convention. (*Ibid.* 260.)

This was not just any convention, but based on the innermost systemic logic in which, as Marx had noted, money is at the poles (M-C-M).

Thus, it would not appear wholly unfair if Emmanuel had argued that his analysis was truer to Marx’s basic insight than Marx himself on many occasions managed to be. He did not put forth this case, at least not directly, and from a theoretical point of view it is irrelevant. However, if we seek to understand what motivated Emmanuel himself, I would say this is a fair guess. Indeed, Bettelheim (1984: vi) said as much in his brief foreword: “in my view this book is an extension of Marx’s analyses. Here we find a clear, systematic and explicit treatment and development of a collection of propositions that Marx had set out either in brief form or in terms that are open to mistaken or contradictory interpretations. [...] By clarifying these questions in a rigorous and outstandingly logical manner, Arghiri Emmanuel has made a contribution of the first order to our understanding of the capitalist mode of production”. I would only add, as I have done above, that the encounter with Keynesian and post-Keynesian economics must have provided an added stimulus.

iii. An inventory of deblocking mechanisms

We have now presented Emmanuel’s basic argument for an inherent blockage of the capitalist economy. The third and final part of Emmanuel’s book dealt with the ‘specific effects’ of this

¹²⁶ The idea of a general fall in the price level is to be understood as a relative to the price of gold, or the money commodity, which itself has no price. Even if completely convertible currencies were assumed, or even metallic, prices were partly nominal since the currency metal acquired an extra and therefore fictive value through being monetised. The objection that the tendential fall of all (other) prices would lead to a just as lasting tendency of super-profits for the gold mines and a flow of all factors into the production of gold, Emmanuel further countered by reference to increasing costs typical of gold mines, and by the negligible amount constituted by new inflow compared to gold reserves; it would be futile to hope that increased output would discourage demand for currency sufficient to restore equilibrium. Emmanuel (*ibid.*: ch. 7) also treated the Aftalion’s theory of overproduction crises at length, which was the only one he had found considering a general fall in prices. However, he came to the same conclusion as for every other theory, including Marx’s, that it ultimately turned in circles because of the acceptance of the equality, $P=R$.

imbalance, on the one hand in the book's final chapter for the dynamics of business cycles, but most extensively in the long 9th chapter dealing with the exceptionally depression-free postwar period. Its heading – 're-equilibrating factors' – is to be understood against the previous interpretation of the inherent capitalist disequilibrium as the normal condition. Thus, in Emmanuel's perspective, the depression of the 1930s provides something of a baseline, with unemployment levels of 20-30% of the active population not considered exceptional compared with the previous history of capitalism. How then were we to understand the subsequent years of unprecedented growth and absence of major crises?

Emmanuel was at pains to demonstrate that postwar development had not merely been a conjunctural aberration, but clearly represented a period of unprecedented economic growth rates, wage increases, and all but full employment. He elucidated: "In the past, the problems of capitalism were known as deflation, drops in prices and slowdown of economic activity; today they are known as inflation, price rises and 'overheating'." Although foretelling is difficult – particularly the future, as the saying goes – he (*ibid.*: 294) was "convinced that, by means of some transformations, capitalism has only succeeded in gaining a reprieve and obtaining a new margin of manoeuvre, which will be used up sooner or later like all the rest before." Writing in 1974 when most effects of the 'oil crisis' were still in the future, he did not hold it unlikely that a crisis of overproduction could "break out before this book reaches publication". However this may be – and ultimately he did not consider the following recession years to be comparable to the crisis of the 1930s – the exceptional period itself, what Jean Fourastié a few years hence would refer to as *les trente glorieuses* from the end of the war to the mid-1970s, would still require an explanation. Taking into account the inherent disequilibrium, answering how the West had managed to avoid its previous blocking was just as important and required searching for causes of stability. It was here that the argument of unequal exchange re-entered on the scene as a partial explanation.

If the cause of blockage is that production/supply (P) exceeds revenues/demand (R), then the frictionless development since the 1930s must in turn be explained by the partial or total reabsorption of this excess. This could only occur either by an *intrinsic* growth of the fraction constituted by R, or by "an *extrinsic* divergence in the right direction of *effective* supply or demand from their respective supports, P and R" (*ibid.*: 294). If P was equal to constant capital consumed (*c*) + variable capital (*v*), + the fixed part of surplus value (*m_b*) + the variable part of surplus value (*m_a*), whereas R was only equal to the former three, then a relative increase of any of these components coincident with a relative decrease of the latter would have a stabilising effect. In a closed system the excess could be diminished, but never completely eliminated, through the relative growth of revenues (or any of their constituent parts) compared to the whole. To completely absorb the excess of production over purchasing power, or even turning it into a corresponding deficit, would require an outside input or stimulus.

Thus, the 'deblocking' mechanisms could be either intrinsic to the system – implying a relative re-equilibration through redistribution from profit of enterprise to forms of income partitioned before the sale – or extrinsic – making possible an absolute re-equilibration, or even excess of demand over supply, through some extraneously induced demand in the form of a surplus balance of payments, a budget deficit, or 'overtrading', in the sense of purchasing beyond one's means. The latter was the most important, and as we shall eventually see (in section iv), one of its most notable incentives was the continuous increase in wages, causing and made possible by unequal exchange. Another was the continuous depreciation of currencies, by way of which Emmanuel included a reformulation of the theory of unequal exchange for a system with inconvertible currencies, in which *both* nominal wages and the rate of profit had become independent variables. Below, however, we shall first make a more systematic inventory of said intrinsic and extrinsic factors.

(A) *Intrinsic factors*

Starting with intrinsic factors, Emmanuel studied, first, the effects of relative variations in constant capital consumed (c) and value added ($v + m$), then, the effects of relative variations in the component parts of value added: between wages (v) and surplus value (m), and, finally, between the fixed part of surplus value (rent, interest, and taxes, m_b) and the variable part (profit of enterprise, m_a).

Emmanuel (*ibid.*: 294-298) found it unlikely that a change in constant capital consumed (c), either through depreciation or increased intermediary consumption, could be said to have any demonstrable effects on the problem of realisation. As to variations in wages (v) it was by contrast evident that an increase of their share of value added (at constant proportions between the fixed and variable parts of surplus value, and even more so with only the fixed part constant) would ease realisation. From this perspective, Emmanuel found highly reasonable Rodbertus's corresponding 19th-century attempt to explain crises of overproduction by the decrease of the portion of national income going to wages. However, since he, albeit explicitly but not clearly expressed the dynamic argument that profits cannot compensate a decrease in the portion of wages until *after* realisation, Luxemburg could score easy points only by ignoring his basic case, preferring, in Emmanuel's (*ibid.*: 300) view, to "shine through facile jokes [...] rather than advancing knowledge by herself redressing, if necessary, the weaknesses of presentation which hinder her adversary's theory."¹²⁷ Not content merely to observe the functional relationship, Rodbertus also risked formulating a *law* predicting the constant fall in the proportion of wages in national income, which has of course been refuted by reality since the trend has been precisely the opposite. However, at the same time, Emmanuel observed, reality had verified his theorem because the increase in wages has been accompanied by the attenuation of the disequilibrium, thus, as has already been implied, placing the trade union struggle in the paradoxical role of helping to stabilise capitalism.

Passing on to the proportions between the fixed and variable part of surplus value, Emmanuel (*ibid.* 301) found that just as Sismondi in an unarticulated way was right on the general question of realisation and Rodbertus on the question of wages, Malthus, without knowing it, was right on the question of rent. Malthus had argued that the expenses of landowners and rentiers (so called 'third persons', *i.e.*, after workers and capitalists) facilitated the sale of output. Whereas profit did not exist as such until after sales and in proportion to their result, rent was an immediate revenue and part of the cost price for the rent-payer. Although Malthus had never made the point himself, the consumption of third persons implied a transfer of income from the fixed to the variable part of surplus, thus turning *future* or *potential* incomes into *current* and *actual* ones, and thereby helped the realisation of output. In spite of what Sweezy or Marx believed, it was irrelevant whether landowners became investing capitalists in the process or remained luxury consumers, since the market had been equally unburdened of goods in either case (Sweezy 1942: 230). Historically, however, no increase of rent had been associated with the postwar efflorescence of the capitalist system, and Emmanuel instead turned to the incomes of third persons other than landowners. Here Baran & Sweezy (1966: 123, 126) had identified the growth of marketing, the costs of which "appear to be on the same footing as production costs and of course do not enter into profits." Nevertheless, "since

¹²⁷ "I know very well that what is taken from the workers' share goes ultimately to swell that of the rentiers [*i.e.*, receivers of surplus value], and that purchasing power remains constant on the whole and in the long run. But as far as the product on the market is concerned, the crisis always sets in before this increase can make itself felt" (Rodbertus, quoted in Luxemburg 1951: 254) Emmanuel (1984: 300) commented: "The difference between the roles of the worker and the capitalist is not that the former represents demand for basic necessities and the latter for luxuries [as the criticism of Luxemburg and others had implied], but that the former represents effective demand *before* sales and the latter only *after* sales."

they are manifestly unrelated to necessary costs of production and distribution – however broadly defined – they can only be counted as a part of aggregate surplus.” Being part of aggregate surplus, they still obviously had to be distributed before sale, indeed, constituting what Baran & Sweezy called ‘selling expenses’ and Chamberlin (1933: 123) ‘selling costs’ – costs of *altering* consumer demands, rather than costs of satisfying them. In Emmanuel’s (1984: 304f.) summary, “a segment of the social product is destroyed solely in order to be able to sell the rest as quickly as possible.” P is reduced both directly, through the expenses of the advertising agencies themselves, and indirectly, through the transfer of factors “from real production sectors to a sector which only produces sales”, for an unchanged R. Alternatively, to the extent additional employment is created, P will remain unchanged and R increased.

Baran & Sweezy (1966: 126) saw a similarity between this kind of consumption and government spending: “The direct impact of the sales effort on the income and output structure of the economy is therefore similar to that of government spending financed by tax revenue.” Whether or not to include state incomes in surplus or not is much debated, but of no consequence for Emmanuel’s argument, where the crucial point was whether the state itself *believed* in its revenues and could reasonably (even legally) predict them through the budget. Placing orders with and extending advances to suppliers, without waiting for an exactly equivalent sum of revenue to materialise, it facilitated realisation even if the budget was balanced. Thus, he explained (1984: 336) “an increase in taxes, resulting directly or indirectly in a fall in firms’ net profits as a proportion of national income, will have a beneficial effect on the overall equilibrium between supply and demand.”

Turning to the relation between the rate of interest and the rate of profit, Emmanuel became much more elaborate, since it concerns a crucial point of his own position, and reviewing stances taken in various traditions before giving his own interpretation. According to the most consistent neoclassical position there could be no ‘pure profit’ or ‘profit of enterprise’ at equilibrium; excepting conjunctural deviations which compensate for one another in the long run, the rate of interest became identical to the rate of profit. This position was the most consistent, Emmanuel maintained, simply because it was the only one compatible with the assumption $P = R$, based on which Walras and Pareto were correct to say that in rational accounting the entrepreneur, having allocated to himself his salary, the interest on his own capital, and the rent on his own land and buildings, should be content to make neither profit nor loss (Walras 1954: 224 f.). Again Marx (Emmanuel 1984: 307-11) and Keynes (*ibid.*: 312-15) were treated at some length; they both insisted that at equilibrium there was indeed a profit of enterprise, but in Emmanuel’s view neither provided a satisfactory explanation of its existence because they did not establish the determinants of the rate of interest independently from those of the rate of profit. Similarly, Denis’s (1971: 538), Knight’s (1921: 310f.), and Samuelson’s (1971: 405) attempts (in the line from Smith) to see it as a ‘risk premium’ over and above interest also failed, Emmanuel (1984: 316f., & 71) argued, among other things because they simultaneously spoke of ‘a rate of profit which can reasonably be expected’, where the extent to which it was ‘reasonable’ negated the ‘risk’. The main argument (*ibid.*: 317) was because “the existence of profit of enterprise in equilibrium would prevent equalisation [of rates of profit] and, thus, prevent any equilibrium.”

Quoting a number of statistical estimates, Emmanuel (*ibid.*: 317-19) found it undeniable that the overall rate of profit, on average and in the very long run, when cyclical variations had been abstracted from, had been of the order of one and a half times the long-term rate of interest throughout the 19th and 20th centuries. The profit of enterprise, corresponding to this difference, thus became, in Emmanuel’s view, “one of the scandals of political economy”, where the dominant theory chose the road of pure and simple denial, counting any surplus above normal financial costs as the entrepreneur’s wage. When this turned out to be untenable “the attempt was made to drown the problem in words” on ‘special cases’, ‘monopolistic

situations', or 'accidental distortions', always ending up by attributing profit to imperfections of competition (*ibid.*: 320-22). Emmanuel thus felt obliged to demonstrate theoretically why the equilibrium rate of interest was lower than the overall rate of profit, leaving a margin for a profit of enterprise or pure profit. He (*ibid.*: 334) eventually concluded that "the most characteristic remuneration of the capital-factor was not interest, but profit of enterprise in the broad sense, that is to say the whole of profit on equity capital plus profit of enterprise in the strict sense on borrowed funds, or, what comes to the same thing, the whole overall profit on capital invested minus interest paid out on borrowed funds. 'Profit of enterprise', as an excess of total profit over interest, is neither a wage nor a risk premium, although being the *specific* remuneration of risk capital."

As for distinguishing revenues constituted *before* sales from those constituted *after*, which was Emmanuel's particular concern, "it is really only the interest actually paid to creditors which can be included in the first category, to the exclusion of the interest which can be allocated to the owners themselves on their share of the capital" (*ibid.*: 334). Allocating to oneself the 'interest' on one's own capital employed in one's own business, as Walras had recommended, may be an excellent accounting method for getting an estimate of profitability. However, Emmanuel (*loc. cit.*) reminded: "The trouble is that according to the most basic rules of the system, rules that are backed up by law, this can only be done after the close of operations and to the extent that the results of concluded business permit, that is to say after the sale of output and to the extent that a positive balance is left after bills have been paid and the remunerations of all other factors have been settled, thus after real interest has been paid to creditors who are not part of the business." As opposed to real interest actually owed to creditors, the internal bookkeeping 'interest' calculated on the entrepreneur's equity capital did not constitute 'prior' purchasing power, helping in the realization of the product, but 'second-wave' purchasing power depending on sales. While included in the supply price of the social product, it was entirely missing from the aggregate demand engendered by the same product and facing it. All in all, whether resulting from a relative fall in direct investment and a relative rise in the volume of loans, or from the spread of large corporations (whose shareholders were satisfied with remuneration roughly equal to that obtained by bondholders), or simply from a rise in the rate of interest, "any relative fall in the proportion of surplus-value remunerating equity capital, compared to that remunerating borrowed funds [...] will have a positive effect on the realization of the social product and on the equilibrium between the supply and demand of commodities" (*ibid.*: 335). Emmanuel found such a tendency very likely to have occurred in the advanced capitalist countries over the foregoing postwar decades.

(B) *Extrinsic factors*

Having treated those 'intrinsic' factors affecting the different components of value of the output in relation to each other, Emmanuel turned to the 'extrinsic' factors relating to variations of supply and demand, but without any change in composition of the social product. By their very nature, the intrinsic factors could merely attenuate the initial disequilibrium between supply and demand, not eliminate or even less reverse it. This required opening the system to external factors, with a direct influence on effective supply of goods on a given market, or, respectively, on the efficient demand. These factors were (i) a surplus in the balance of trade, (ii) a budget deficit, and (iii) overtrading in all its forms.

(i) Speaking of the "lasting preoccupation of politicians in charge of state economic policy and the unreserved conviction of policy-makers and the public at large of all times that a surplus in the balance of trade is beneficial", Emmanuel wanted to go even further than Keynes in providing the theoretical justification it had thitherto lacked. Part I above reviewed

what Heckscher (1931) summarily but aptly described as an absurd ‘fear of goods’ characterising mercantilist and the unenlightened politicians of his own time. It was suggested that the desire to export – *i.e.*, to sell – more than was imported, might become more comprehensible from Emmanuel’s perspective, where the value produced in a certain period was larger than purchasing power created in that same period. The amassing of unsold goods threatening to block and throw the system out of balance at all times would be alleviated as the nation was ‘unburdened of its goods’ and, possibly, an extra inflow of the money good created – although Petty for one was happy simply to throw it all overboard should output prove unsaleable. Having reviewed a substantial part of the voluminous writings on mercantilism with its recurrent waves of theoretical accusations and excuses found in *particular* historical circumstances *stretching over half a millennium*, I must admit that to me this argument is surely one of Emmanuel’s strongest points, particularly since it seems not to presume any advanced theoretical understanding on behalf of policy makers, of the kind which makes Keynes’s solution historically implausible. It would in itself be sufficient reason to pay Emmanuel’s theory attention. It is, at any rate, one of the most pedagogical points, as he himself realised in opening his book presentation by referring to the issue.

A surplus in the balance of trade could only have the desired direct effect if it led to a surplus in the balance of payments, not if the surplus merely compensates for revenues going to foreign residents, since the beneficial effect consisted of “the reduction of the number of commodities on sale on the home market without any reduction of the purchasing power facing them” (Emmanuel 1984: 339), or if the decrease of goods was counterbalanced by lessened domestic purchasing power in the form of foreign holdings, currency or securities.¹²⁸ Still, this only concerned the direct effect on the disequilibrium, not those indirect effects relating to subjective incentives to over- or undertrade to which we will return. Taking account “both of the objective means and of the protagonists’ motivations,” it emerges that a surplus (deficit) on the trade balance:

1. if covered by a change in central bank reserves, has an unambiguously positive (negative) effect on the realization of output, since it has a positive (negative) effect both on the means and on motivations;
2. if counterbalanced by financial operations, *often* has the same effect, since it affects motivations in the same direction, notwithstanding its neutral effect on the means. (*Ibid.*: 341)

Thus Emmanuel found ‘the age-old conviction of trading humanity’ and that a surplus trade balance has beneficial effects and a deficit detrimental ones, to be well founded also in theory.

Since a surplus in the balance of one or several countries corresponded to a deficit for the rest of the world, the structural disequilibrium would remain for the whole closed system. If the international currency was purely metallic (as in the pure gold standard, and opposed to the gold-exchange standard) there was an important theoretical exception in the export surplus of producer countries (*ibid.*: 342ff.). Again, he (*ibid.*: 344ff.) was more elaborate when pointing out the differences between his conclusion and that of Keynesians.¹²⁹

¹²⁸ Contrasting himself with many Keynesians on this point, Emmanuel (*loc. cit.*) qualified this statement by going beyond the balance of payments to the official settlements balance. Thus, if their surplus has been settled “(i) by inflow into the central bank’s reserve of gold or of international fiat money [used since the 1944 Bretton Woods agreement], (ii) by the inflow as payment to exporters of cash which is universally acceptable in its own form, without being converted, then the initial gap, $P - R$, is reduced to the extent of this inflow.”

¹²⁹ He (*ibid.*: 344) chose to criticise Joan Robinson as an example of those neo-Keynesian writers who by including the surplus of foreign trade in investment, are “prisoners of their own definitions”: “In the framework of this theory, only the surplus left over after monetary transfers have been taken into account can stimulate domestic effective demand, since this alone brings into existence a long-term claim on the rest of the world which can be included in investment. In our opinion, on the contrary, it is precisely the part of the surplus paid for in money, and to the extent to which it gives rise to the creation of national money, which has the most definite beneficial effect on the trade-surplus country.”

Emmanuel also examined the contradiction (advanced against his assumption of wages being an independent variable) between a favourable development of the balance of trade and an improvement in the terms of trade. The former implied an effort to increase the volume of sales, if necessary making concessions on prices, whereas the latter entailed increasing one's unit prices at the risk of decreasing volumes. Depending on whether there was stagnation and unemployment or growth and high employment, the former or the latter consideration should prevail. Since, in Emmanuel's view, the former situation was much the more common it had also been the most important historically. It was only since the Second World War, then, and in the context of flows between developed and underdeveloped countries that the latter had come to the forefront: "It seems as if the luxury of optimising the terms of trade can only be afforded once the maximisation of exports in particular and the marketing of the social product in general have been more or less achieved" (*ibid.*: 346). But even the underlying assumption on which the contradiction between these objectives were based, that any price variation would give rise to a *more than proportional* inverse variation of demand, "is in general a myth", and "[a]s with all myths, its tenacity rivals its ill-foundedness", even to the extent that it was sometimes confounded with the simple and correct observation that the volume of sales or purchases was a decreasing function of price (*ibid.*: 347). In technical language this referred to the price elasticity of demand greater than unity. As to the compatibility of the two phenomena, Emmanuel (*ibid.*: 350) had merely to point out the fact that "for almost a century, the terms of trade of the developed countries as a whole have been improving spectacularly, while the overall balance of payments of the same group has not been in deficit". Although making no quantitative estimation, having said this was also admitting that a surplus balance of trade could not be the reason behind postwar development.

(ii) Budget deficits also realised part of the social product with purchasing power not created by this same production, and the only difference was that "in the case of a trade surplus the extra purchasing power and corresponding domestic money are created in exchange for the central bank's reserves, while in the case of a budget deficit, they are created in exchange for claims on the Exchequer which cannot properly be included in central bank reserves." Just as with a trade surplus, "a budget deficit can only stimulate economic activity to the extent to which it is not covered by the sale of securities", and depending on whether the deficit is smaller than, equal to, or greater than the profit of enterprise, "will have the effect of palliating, completely reabsorbing, or reversing the disequilibrium with, in the last case, a reversal of the situation and the replacement of deflation by inflation" (*ibid.*: 351). From this perspective, it was irrelevant whether the deficit is distributed as wages or direct consumption, whether it entailed productive or unproductive consumption, however defined, whether it included constructing hydroelectric dams, post offices, pyramids or pancakes, weapons and munitions which turn to scrap-iron and smoke, or, to borrow another well-known example, simply moving Stonehenge to Tower-Hill (Petty 1662: 31). On the other hand, the stimulating or inflationary effects in financing these projects by merely printing money were not present when financing by domestic borrowing. Furthermore, Emmanuel (1984: 352) underlined, the stimulation offered by a balanced budget was completely and qualitatively different from one in deficit: "The former replaces a variable revenue by a fixed or quasi-fixed revenue, an *ex post* revenue by an *ex ante* revenue, a revenue resulting from realization by a 'prior' revenue; the latter creates an extrinsic revenue over and above the revenues created by production, whether 'second-wave' or 'prior'." As with a surplus in the balance of trade, Emmanuel made no effort to estimate the importance of budget deficits for postwar development.

(iii) There was no doubt in Emmanuel's mind, however, that the third and last extrinsic factor, overtrading, was the most important of all. He (*ibid.*: 352) defined it thus: "to spend a virtual

revenue by anticipating its realisation.” The term may be unfamiliar to some present day economists, but it is one with as great a lineage in political economy as anyone might wish, used already by Smith (1937: 406), who used it as an explanation of complaints over ‘lack of money’ setting in when returns on investments started lagging behind demands for payment and no solid security for borrowing could be given. From him and his contemporaries it found its way into works as various as Mill, Marx, and Kindleberger, usually considered a menacing over-speculation – operating beyond one’s means by taking advantage of cheap credit.

Mill saw great but no ‘magic’ powers in credit, meaning that “it cannot make something out of nothing.” He (1848: 511f.) was adamant that “credit is but a transfer of capital from hand to hand” and could not create capital: “It seems strange that there should be any need to point out, that credit being only permission to use the capital of another person, the means of production cannot be increased by it, but only transferred.” Nevertheless, in a state of commerce “general prices at any moment depend much more upon the state of credit than upon the quantity of money. For credit, though it is not productive power, is purchasing power; and a person having credit, avails himself of it in the purchase of goods, creates just as much demand for the goods, and tends quite as much to raise their price, as if he made an equal amount of purchases with ready money” (*ibid.*: 514).

Projecting a continual fall in the rate of profit towards the ‘stationary state’ (due to decreasing returns in agriculture and mining entailing an increase in capital), Mill also numbered some counteracting circumstances, the first and most conspicuous of which Sismondi among others had given sole attention: “This is, the waste of capital in periods of over-trading and rash speculation, and in the commercial revulsions by which such times are always followed” (*ibid.*: 734).¹³⁰ Much capital was sunk in enterprises yielding inadequate returns, advancing production beyond what the market required, or could keep employed, in addition to the “great unproductive consumption of capital, during the stagnation which follows a period of general over-trading”, when hands were laid off and establishments shut down or kept going without profit. The periodicity of these ‘revulsions’ was a consequence of the continuous accumulation of capital in the years between crises. Believing that fluctuations of values and prices arising from variations of supply or ‘real’ as distinguished from ‘speculative’ demand would tend to abate, those arising from “undue expansion and excessive contraction of credit”, “beginning with irrational speculation and ending with a commercial crisis”, had, by contrast, become both more frequent and more violent (*ibid.*: 709).

In the opinion of one notable interpreter of the Great Depression, the monetarist-Keynesian debate had left “little if any room for instability of credit and fragility of the banking system, or impacts on production and prices when the credit system becomes paralysed through loans rendered bad by falling prices” (Kindleberger 1978: 72), all of which in his judgement went far to explain what happened in the 1929 depression. “[T]his is an old view,” he (*loc. cit.*) informed, “held by many economists prior to 1940, that has unaccountably slipped into disrepute during the Keynesian revolution and the monetarist counter-revolution.” If so, it is further implication that Emmanuel had arrived at his opinions rather early in his career. Keynes (1936: 316f.) had thought it “natural and reasonable that expectations of the future should play a dominant part in determining the scale on which new investment is deemed advisable”. However, the basis for such expectations was very precarious, and in the later stages of the boom typically ‘over-optimistic’ in relation to an ‘over-bought’ market, so that disillusion would fall with catastrophic force.” Two decades later, a fervent Keynesian, Alvin Hansen (1957: 226) found ‘overtrading’ a concept useful for periods before the late 19th century, but not later ones. After another two decades, Kindleberger (1978: 8) disagreed,

¹³⁰ The others were improvements in production and importation of cheap commodities, to the extent that they did not raise the habits and requirements of the labourer, and, finally, “the perpetual overflow of capital into colonies or foreign countries, to seek higher profits than can be obtained at home” (*ibid.*: 735-9).

building his analysis precisely on “a model of speculation, credit expansion, financial distress at the peak, and then crisis, ending in panic and crash”, and patterned after “ideas of overtrading, followed by revulsion and discredit”, found in the works of Smith, Mill, Wicksell, Fisher and Minsky, the who spoke of the ‘euphoria’, when speculation for price increases was added to investment for production and sale, often resulting in a kind of ‘excessive speculation’ or ‘overtrading’. The latter term appears to have remained undefined as being, he confessed, “by no means a clear concept” (*ibid.*: 17; cf. 217), but it referred to the later stages of the business cycle, when “speculation tends to detach itself from really valuable objects and turn to delusive ones”, which “overtrading has historically tended to spread from one country to another” (*ibid.*: 18). Just ‘over’ what this speculation or trading occurred he did not spell out. What hindered it from continuing was a “hesitation” set off by the decision of “a few insiders” to take their profits and sell out. Thus: “Prices begin to level off”, and a period of ‘financial distress’ ensued. This meant that firms must contemplate the possibility of not being able to meet their liabilities, or an awareness among speculators “that a rush for liquidity – to get out of other assets and into money – may develop, with grave consequences for the prices of goods and securities”, leaving some of them unable to pay off their loans. Eventually they realised “that the market cannot go higher” and that it was time to withdraw: “The race out of real or long-term financial assets and into money turns into a stampede”, prices decline, bankruptcies increase, and realisation spread that money was not enough to enable one to sell out at the top. “Revulsion against commodities or securities leads banks to cease lending on the collateral of such assets”, a condition known in the early 19th century as ‘discredit’ (*ibid.*: 19; cf. Gayer *et al* 1953, I: 159).

What Emmanuel can add to this or any such story, is an explanation of why ‘hesitation’ to purchase and invest is the fundamental mood in a capitalist economy, giving prices a basic tendency not only to ‘level off’ but to decline. Keynes and the post-Keynesians were on to something similar: “a state of full investment in the strict sense has never yet occurred, not even momentarily” (Keynes 1936: 324). “It is impossible to study the notions to which the mercantilists were led by their actual experiences, without perceiving that there has been a chronic tendency throughout human history for the propensity to save to be stronger than the inducement to invest. The weakness of the inducement to invest has been at all times the key to the economic problem” (*ibid.*: 347f.).

In making overtrading his principal ‘deblocking’ mechanism, Emmanuel gave it an historical role similar to that expressed by Mill, but in letting it ensure evasion of a ‘stationary state’ of *depression* he disagreed that it could be considered a cause of disequilibrium, rather than the contrary. Following Engels’s usage (Marx & Engels 1965-8: 226f.), he (1984: 355, & 83f, n. 74) first introduced the term when discussing the later upswing phase in Marx’s interpretation of the business cycle.¹³¹ In both Engles (1850, 1857) and Marx (1852: 70; 1959: 533; 1994) its relevance was enhanced by the dramatic prospect of immanent revolution,

¹³¹ In the *Grundrisse* Marx broached the problem of crisis and overproduction, when trying to identify the “contradiction between production and realization”, which had “to be grasped more intrinsically than merely as the indifferent, seemingly reciprocally independent appearance of the individual moments of the process, or rather of the totality of the process.” There was “a limit, not inherent to production generally, but to production founded on capital”, which contradicted capital’s “general tendency to drive beyond every barrier to production”. Uncovering this limit would be sufficient “in order to have uncovered the foundation of overproduction, the fundamental contradiction of developed capital”. One necessary limit of capital was the “restriction of the production of use values by exchange values”, but this and other limits came up against “the general tendency of capital [...] to forget and abstract from” them. “Hence overproduction: i.e. the sudden recall of all these necessary moments of production founded on capital”. This ‘forgetfulness’ was apparently related to the “entire credit system, and the over-trading, over-speculation etc. connected with it,” which “rests on the necessity of expanding and leaping over the barrier to circulation and the sphere of exchange. This appears more colossally, classically, in the relations between peoples than in the relations between individuals. Thus e.g. the English forced to lend to foreign nations, in order to have them as customers” (Marx 1973: 416f.).

emerging from such a crisis, and in Marx's (1867: 625) view involving even the best paid, "the aristocracy, of the working-class". (When it did not materialise Engels 1888 nevertheless called upon it to explain German protection).¹³² In Emmanuel's (1984: 82f.) review, Marx had realised that banks did not decide to withhold credit unless they realise "that the reflux of bills of exchange is greater than the reflux of money, *i.e.*, that the commodities whose sale had been anticipated have not really been sold and credit is being asked for in order to settle earlier credit." So, there could be no stoppage of credit before there was a build-up of unsold goods, but "this build-up becomes inexplicable if we admit, with Marx, that there can be no general excess of the supply of commodities over purchasing power and *a fortiori*, if we are in a period of over-speculation in which the will to purchase is not merely keeping pace with purchasing power, but actually exceeds it, through the creation of fictive purchasing power through credit. Credit automatically gives rise to a strictly equivalent will to purchase. For while one may hoard the money one has earned, one obviously does not borrow in order to hoard." It was not clear from Marx's presentation how stocks could accumulate in the hands of dealers, Emmanuel (*ibid.*: 83) explained, and if they were not there would be no reason for banks to withhold credit: "If, as Marx assumes, everyone purchases [...] as if his own commodities had been consumed, the commodities will in fact be consumed and, through the very fact that everyone behaves as if they had been consumed, there will be no excess stocks anywhere, and therefore no reason for a change in policy on the part of the banks."

If general overproduction was neither explained by disproportion between branches of production or by a lack of will to purchase, and if at every moment there was an overall excess of offers to sell over purchasing power, then to palliate this disequilibrium it was not enough that the will to purchase was equal to the power, Emmanuel (*ibid.*: 219) contended – the will must *exceed* the power:

it is not enough that 'purchases immediately follow sales', as Rosa Luxemburg says referring to Marx – they must precede them; it is not enough for one to spend one's revenues without delay – one must even spend those that one is anticipating; in other words, the capitalists must spend – productively or unproductively, it makes no difference – their profits *before* they realise them; they must engage in what is commonly called *overtrading*.

In Emmanuel view, overtrading was a precondition of the capitalist system, and a precondition for general overtrading was a certain kind of credit which made possible not merely spending money from somebody else's pocket, but instead from *nobody* else's pocket. To non-economists this may appear odd, but it is clearly part of everyday banking reality. Even in classical economics credit was only seen as a special transfer of purchasing power – directly or indirectly from person to person, from saver to investor or consumer. "The type of credit which makes overtrading possible is quite different, in that it displaces purchasing power in time, from the future to the present" (*ibid.*: 356). Money is created *ex nihilo* through the very process of lending, in inverse proportion to the reserve requirements laid down by the central bank. If the liquid reserve of individual banks has to be 20% of the sum of their deposits, the system will be able to create ($1/0.2 = 5$) five times the amount of 'real' money issued by the central bank (*ibid.*: 328ff; cf. Marx 1959: 520ff.). Marx had noticed this creative power, but it was really neoclassical theory which demonstrated the active role played by banks. In its absence, and with it the corresponding 'overtrading', Emmanuel argued, unsold

¹³² Engels (1881) spoke of the "chronic over-production, chronic depression of trade", resulting from "the glorious system of unlimited competition", where every self-proclaimed captain of industry "fights against every other, acts entirely on his own account, increases his plant irrespective of what his neighbours do, and then at the end they all find, to their great surprise, that overtrading has been the result." Being unable to "unite to regulate production", and "by recklessly expanding the productive power of the country far beyond the power of absorption of the markets, they rob their workpeople of the comparative ease which a period of moderate prosperity would give them, and which they are entitled to after the long period of collapse, in order to bring up their incomes to the average standard."

goods would collect at all levels, all incentives to produce would disappear, and the system would be permanently blocked.

This kind of credit was not new but had existed since the dawn of capitalism. As suggested by the above review, the classics chose to ignore it, and when this proved impossible to condemn it. Based on the equation $P = R$ overtrading and *ex-nihilo* credit could only be seen as disequilibrating overspeculation, leading to overheating, and not (based on $P > R$) on the contrary as a means to attain equilibrium and full employment. Ricardo was adamant in his debate with the House of Lords' Committee that purchasing power could not be created outside production and credit only mobilise existing means, and MacCulloch. Although Hilferding studied credit as redistribution under many subheadings he ignored credit created outside production agreed, as do most Marxists. In his debate with Emmanuel on unequal exchange, Bettelheim would have none of this 'illusion', and it is difficult to see of what use is his (1984: iv) later praise of the argument in *Le profit et les crises*, while simultaneously referring the reader to his previous objections. Juglar analysed both kinds, and recognised the acceleratory effect of the latter, but only as precipitating crisis and not as getting rid of unemployment. The same image of 'excessive production' until the banks put on the brakes is found in Marx and Engels, but when Emmanuel wonders in what sense and compared to what it is excessive he is left without an answer. "Until the Keynesians," Emmanuel (1984: 358) explained, "only a few isolated economists considered that credit, as a creator of purchasing power, has a positive effect on the level of economic activity." Among the few pre-Keynesians special mention was made of Schumpeter (1934: 358), who distinguished clearly between "a transformation of purchasing power which would not have existed anyway in someone's hands" and "a creation of *new* purchasing power, which is added to that already in circulation", the latter being "a creation *ex nihilo*, even if the loan contract, in compliance with which the new purchasing power has been created, is based on real guarantees, which are not themselves means of circulation." Like Keynes, however, he considered it a creation of purchasing power *in excess* of the current value of production, thus functioning as an anticipation of future production resulting from new projects. In their perspective, any purchasing power created by such credit, in excess of planned savings, could only make prices rise and thus cause forced savings. In Emmanuel's (1984: 359) opinion, on the contrary, "although the credit in question is in excess of planned savings, up to a certain limit it only makes good the shortfall in *previously* distributed power and, as long as it stays within these limits, it does not make prices rise by depleting normal stocks, but ensures that they do not fall, by liquidating the overstocks."

Still, the existence of the mechanism for generating and not merely redistributing bank money and purchasing power, was only a necessary condition of overtrading, not a sufficient one. There also had to be opportunities for profitable projects, and these opportunities, Emmanuel (*ibid.*: 360f.) underlined, must be considered subjectively rather than objectively: "Given that economic reality does not exist outside and apart from economic subjects, but is itself the result of their own acts, their optimistic or pessimistic forecasts come true to the extent that they determine behaviour, and to the extent that they are widely believed."

iv. Incentives to overtrading

Giving the briefest summary he ever made of his argument in *Le profit et les crises*, where the tendential inferiority of market price to the equilibrium price of production would have effectively blocked the system were it not overcome by overtrading, Emmanuel distinguished three kinds of incentives to overtrade: (1) erratic and momentary, (2) recurrent, and (3) chronic ones, significantly connecting the latter directly to his argument on unequal exchange:

The market price is *tendentially* inferior to the equilibrium value of production, or the price of production, and it would be effectively and durably, resulting in the definitive blockage of the system, were this tendency not counteracted by 'overtrading'. This overtrading can be: a) erratic and momentary, by consequence of certain accidental ruptures (innovations, discoveries, opening of external markets, etc.); b) recurrent, linked with the upward phase of the business cycle; or c) chronique, following from certain modifications of structure. The most important of these modifications, in the developed countries of recent decades, has been, on the one hand, an institutionalised inflation, on the other, a regular rhythm of augmenting wage, which latter, in its turn, has been made possible by external resources originating in the exploitation of the Third World, and made effective by trade union struggle and, more generally, the political promotion of working-class aristocracies in Occidental societies. (Emmanuel 1978a: 59f.; trans. J.B..)

In Emmanuel's perspective, the recurrent incentives to overtrading were central to the functioning of capitalism itself, and in the book itself he treated them separately. They followed a permanent overall law, and were contrasted to specific or individual circumstances among which were the erratic and chronic ones (although he did not discriminate them as such). Nevertheless, there, too, it was clearly the 'chronic' incentives which were of interest for understanding the postwar era. We will treat recurrent, erratic, and chronic incentives in turn where the latter are of particular relevance because of the link to unequal exchange.

(1) The recurring incentives to overtrading could be seen in the upward phase of the business cycle. Naturally, much of Emmanuel's argument, both with his predecessors and in itself, circled round the theory and phenomenon of 'the business cycle' (*vide* the chapter ending his book, and 'crises' in the book's title).¹³³

His basic point in this context was made already in his (1954b) article that in a capitalist economy, due to the subjective motivations of capitalists, investment (*i.e.*, productive consumption, the production of means of production) was an increasing function of consumption (*i.e.*, unproductive consumption, the production of consumer goods), whereas objectively (always, under all circumstances, and in any other system) productive consumption varied inversely with unproductive consumption, as being "*the only two components of a given total magnitude, social production capacity*" (Emmanuel 1984: 395). Although anthropologists could probably raise many objections, Emmanuel often illustrated his 'naturally' functioning economy with an imaginary primitive fishing community, like a planned economy, having to trade-off between actual fishing and producing dug-outs in order to catch more fish in the future. Then private entrepreneurs arrived, invaded the tribe, took over and privatised all its economic activities. This reversed its basic function: "no entrepreneur will step up dug-out production at the very moment when fish consumption is falling, nor cut back dug-out production just when fish consumption is rising. In the incentives which motivate those now in charge of economic decisions, investment is directly proportional to consumption, which is materially impossible, since the two magnitudes are the

¹³³ His book does not attempt to create a completely new theory from scratch, but rather to reformulate important points from his predecessors (particularly Marx) on the new basis of the fundamental inequality between production and revenues, and the consequent tendential fall in prices below their equilibrium price of production. Thus, if many individual points of his argument appear familiar to economists this is hardly surprising. At the same time, particularly when reflecting on the innumerable theories of business cycles based on the opposed equality, disagreement on such points is rather to be expected. On the other hand, this magnitude of theories could in itself be seen as an indication that something is fundamentally wrong. Anyway, though such criticism may be valid and well-founded, it cannot in itself constitute an argument against his *fundamental* point which is said inequality and tendency, the argument of which will have to be met on its own ground. 'May', I say, when it appears, for, as pointed out above, to date there seems to have been almost no debate whatsoever, in an otherwise very debatable field. The problem is, perhaps, that debates are nowadays conducted *within* schools and more seldom *between* them, whereas this particular argument of Emmanuel's is not endorsed by *any* school, whether classical or neoclassical, Marxist or Sraffian, Keynesian or monetarist. It is also to be hoped that when it appears, criticism will not be based on reviews of his argument such as the present one, but in line with normal standards and intellectual honesty go to the actual source.

components of a fixed magnitude and cannot, in the short run, rise or fall simultaneously” (*ibid.*: 396). Capitalists were thus obliged ‘to act at the wrong moment’:

to invest when – because of the absorption of a greater part of the social product by final consumption – the means of investment are becoming scarce, to disinvest, or slow down investment, when – because of a fall in final consumption – means of investment are overabundant. This is the way in which the fundamental contradiction between social production and private appropriation of the product acts, on the level of realization of the product. It is this contradiction which underlies the structural disequilibrium of the capitalist mode of production, or even the market economy in general. (*Loc. cit.*)

The basic argument here has been formulated before, not only by Emmanuel himself, and he cited Keynes’s contrasting of the market and socialist systems’ dynamics, as well as Joan Robinson and André Paquet to the same point.¹³⁴

That the private enterprise system was not immediately deadlocked for ever, was explained by the productive forces being set to work at a level lower than total productive capacity, where they were thus allowed to vary in concert: “It is these variations, this *cycle* between higher and lower levels of *under-employment* of the capacity, which permit simultaneous variations in the same direction of the two components and which, in a closed free enterprise system, ensure conjunctural and temporary equilibrium on the very basis of structural and permanent disequilibrium” (*loc. cit.*). Thus, with a ‘reserve army’ of unemployed workers and/or equipment to be activated and de-activated at times, dug-out construction and fish production/consumption could still increase together: “instead of consuming as an increasing function of production capacity and as a decreasing function of investment, capitalism produces and invests as an increasing function of unproductive consumption” (*ibid.*: 397).

Whether increasing or decreasing, productive and unproductive consumption can only move in concert between unbreachable limits, and so necessarily become cyclical (oscillatory, recurrent). The ceiling was full employment, while the bottom was only theoretically at no employment, and actually reached well before this. First, because the law of increasing returns made the unit costs increasingly higher as the ‘break-even point’ was approached from above. Second, because, as long as prices were even marginally above variable costs alone, the firm lost less by producing and selling below total cost, than if it paid out fixed costs alone without producing anything; Finally, because if prices fell below unit variable costs all production ceased, whereas there was an absolute minimum of social consumption taking place even should unemployed be left to die of hunger.

The capitalist or market system, Emmanuel summed up, (1) “can only reproduce if it is impelled by a combination of impulses which we cover under the category of overtrading”, but moreover (2) it “can only invest as an increasing function of final consumption, therefore – the supreme paradox – as a decreasing function of saving” (*ibid.*: 399).¹³⁵ (3) Since all

¹³⁴ *I.e.*, Keynes (1936: 379): “apart from the necessity of central controls to bring about an adjustment between the propensity to consume and the inducement to invest, there is no more reason to socialise economic life than there was before”; Robinson (1937: 4): “The profitability of capital goods depends upon the demand for the consumption goods which they produce. Thus if individuals decide to save, that is, not to spend on immediate consumption, they reduce rather than increase the motive of the entrepreneurs for acquiring new capital goods, and the decision to save reduces the demand for consumption goods without increasing the demand for capital goods.” Paquet (1952: 322; trans. in Emmanuel 1984): “The weak point of traditional theory lies in its assertion that a growth of capital goods is possible at the same time that demand for consumer goods is falling”.

¹³⁵ That this was a lesson he had learnt in confrontation with Keynes, is indicated in the footnote (*loc. cit.*): “This is ultimately the deepest meaning of the *General Theory*, which Keynes and the Keynesians do not, in our judgement, explain clearly enough. Investment is *ex post* equal to actual saving, but since the latter is the sum of planned saving and forced saving, investment is at its highest when the propensity to save is at its lowest. In other words, for investment to take place it is ultimately necessary that someone should save in one way or another, but to promote investment, it is not desirable that people should save by choice; it is necessary that they should be forced, in real terms, to save, through a rise in prices.”

magnitudes vary the same direction and reinforce one another, equilibrium was unstable and reflected a contradictory mode of existence. (4) The cumulative process could only stop at the end points of full employment and greatest possible unemployment, where it is instead reversed in the opposite direction.

Why was it that production simply did not stick at any of these two limits? Or, taking into account the impossibility of realisation of the product without some anticipation of this realisation, why is it that overtrading, after having “propelled the system up the slope of employment,” should have left it becalmed as the summit was approached, and, correspondingly, why were the conditions of overtrading again reassembled at the lower end? We will, like most treatments, concentrate on the *crisis*, rather than *revival* phase, where in Emmanuel’s narrative a certain kind of overtrading set in from predicting, not an absolute increase in the market, but an increase in market shares.

At this point Emmanuel reintroduced the *descriptions* of the various phases of the cycle which had previously been discarded as its fundamental *explanation*, because they all presupposed a previous phase in the cycle and therefore the existence of the cycle itself. However, if one, “consciously or unconsciously [...] argues on the basis of the fundamental equality of production and purchasing power, then one is obliged to deal with the cycle as a disruption of equilibrium instead of accepting it for what it really is: a means available to the system to reproduce itself and advance *despite* disequilibrium. Consequently, overtrading in all its forms comes to be seen as the only cause of this disruption of equilibrium, instead of being, as in our analysis, the only way to restore this equilibrium” (*ibid.*: 401). It is here that the peculiarity of Emmanuel’s argument concerning the business cycle lies:

if overtrading were a disequilibrating factor, the point at which equilibrium is disturbed would have to be located well below full employment in order to allow for the effects of overtrading to develop in the margin left for the improvement of employment. This would put everything in doubt, since such an unemployment situation would itself stand in need of explanation. (*Loc. cit.*)

Pre or anti-Keynesian neoclassics have tended to elaborate a rationale for unemployment as a normal feature of the system’s harmonious functioning, and any lowering of unemployment below the normal level is called ‘overheating’, from which crises, disturbances, tensions and disequilibria spring as backlashes of measures to improve the level of employment. Keynes (1936: 322) would have nothing of such theories proclaiming that equilibrium required a policy in which there was still unemployment, and according to which to avoid falling, one must give up climbing: “The right remedy for the trade cycle is not to be found in abolishing booms and thus keeping us permanently in a semi-slump; but in abolishing slumps and thus keeping us permanently in a quasi-boom.” However, in Emmanuel’s (1984: 402) view, Marxism, Keynes and the Keynesians merely “attempted to show that equilibrium at various levels of employment does not contradict the fundamental equation of the Law of Markets” (*i.e.*, ‘Say’s’ law), as indeed, in a formal and static sense, it did not. However, presenting ‘hoarding’ or ‘liquidity preference’ as generators of unemployment presupposed what should be explained: “For it could only be a characteristic of capitalists, and could therefore only concern investment. But any abstention from investing implies a previous failure to sell, which is precisely what must be explained and which is in outright contradiction, substantially and dynamically, with the Law of Markets and its fundamental equation” (*loc. cit.*).

It may be recalled that in Marxian terminology three kinds of reproduction are possible, (i) ‘simple reproduction’, in which neither of the departments producing either consumption goods or means of production varies; (ii) ‘extensive extended reproduction’, in which both departments grow at the same rate; and (iii) ‘intensive extended reproduction’, in which the production of means of production grows, while the production of consumption goods stays constant (or, combining with (ii), grows at a slower rate). Now, Emmanuel (*ibid.*: 403)

pointed out, in developed capitalism simple reproduction, requiring that all profits were spent on personal consumption, was virtually impossible. Given that the rate of profit exceeds the rate of population growth, the same went for extensive extended reproduction, except together with immigration of foreign workers or an increase in either wages or the level of employment. Thus, as long as unemployment was being reabsorbed, this kind of reproduction was therefore quite possible, but as soon as the reserve of unemployed was ‘used up’ and the conjunctural rise in wages slowed down or was insufficient, it became impossible – unless it was supplemented either by immigration of foreign workers – such as did indeed frequently take place in the postwar era, and which could hardly have gone unnoticed by any Greek – or by an *institutionalised* rise in wages. Otherwise, the crisis would be set off:

In the absence of these factors, the only *objectively* possible alternative left is intensive extended reproduction, but this is *subjectively* impossible for the reason [...] that it implies increased investment in means of production, just when the market for consumer goods suddenly stops expanding or even contracts. (*Loc. cit.*)

The subjective impossibility of turning from extensive to intensive extended reproduction was decisive at this critical junction: “This represents an essential transformation for the agents of capitalist reproduction. It is the nodal point of all the contradictions” (*loc. cit.*). The *recurrent* overtrading which brought the system, through extensive extended reproduction, in sight of full employment could no longer ensure the system’s reproduction. There had to be either a *momentary*, or, preferably, an *institutional*, *i.e.*, ‘chronic’, overtrading of the kind which, Emmanuel argued, characterised the postwar decades. It was based on three factors which had themselves become institutionalised, apart from an immigration of workers, an institutionalised wage increase and chronic inflation: “The precarious nature of these three factors reflects the limits of their apparent resolution of present-day capitalism” (*ibid.*: 405).

As suggested at the beginning of this chapter, and by Nurkse (1952), this chronological impact of the capitalist imperative of producing and investing as an increasing function of unproductive consumption had a parallel geographical impact. Working itself out on the international arena, it surged in the explanation of the development-underdevelopment rift, and was apparently on Emmanuel’s mind when he proposed that the fundamental cause of unequal exchange and underdevelopment was the low level of pre-established consumption.

(2) The erratic and momentary incentives included technological and/or commercial *innovations*, where the former concerned the introduction of new techniques in the production of the same articles, and the latter the introduction of new articles. Emmanuel (1984: 361) observed that this was a field in which there had grown up an extensive literature ever since Schumpeter, and only warned against assuming that the innovations of either kind will eventually lead to the partial or complete removal from the market of other producers, and that the only increase in activity at the social level will be that resulting from the investment proper: “Except in the case of full employment, the new output will, in its own right, distribute additional revenues and expand the market.” Thus, whereas an entrepreneur calculated his chances and future profitability on the potential of the pre-existing market, the setting up of his business would distribute new revenues and thereby create an additional market for other industries, so that any contraction among his competitors was compensated for by an equivalent expansion in other industries.

The same considerations applied to *foreign markets*, whether pre-capitalist or capitalist, which did not act as a function of their own capacity to absorb a surplus, but as a psychological catalyst. In practical and historical terms, Emmanuel maintained, it had always been a matter of an underdeveloped region being opened up to foreign trade by a capitalist country, “since only this case would provide investors with the factors that convince them”, *i.e.*, a privileged position due to political domination or simply being first. However, the role

of pre-capitalist markets as a catalyst of expanded reproduction in the developed regions did not last long, and was basically completed with the colonialist partitioning of the world, or as suspended by the division of the world. The horizontal expansion of the system was basically completed, and there were certainly no major new inclusions during the crisis-free decades (*ibid.*: 369). Indeed, Emmanuel argued, the poor regions rapidly became sources of additional surplus, far from confirming what he (1972b) elsewhere referred to as the ‘myth of investment imperialism’. Related to this whole field was also Emmanuel’s controversial book claiming that ‘appropriate’ (or in E. F. Schumacher’s expression ‘intermediate’) technology, for the underdeveloped regions was nothing but underdeveloped technology, and precisely the thing to be avoided. Instead, he favoured high-tech transfers *via* multinational corporations, the primordial enemy of those still believing that investments are part of monopolistic conspiracies to underdevelop the Third World.¹³⁶

(3) Among the chronic incentives, Emmanuel ranked depreciation of the currency and institutionalised wage increases.

If the general problem is one of the relative demand for money and every other good, it should be rather easy to see how a *depreciation of the currency* could act as a stimulant facilitating sale and an incitement to overtrade.¹³⁷ Emmanuel began with an historical survey, establishing that devaluations were far from modern phenomena, although the century before

¹³⁶ Although Emmanuel’s argument has not found favour with development economists of the dependency ilk, and is unlikely to appeal to those of an ecological one, I think it is difficult to refute on its own ground, *i.e.*, as it concerns the possibilities of technological transfer and the role of multinationals in such transfer. “Almost every sentence is polemical”, one of the rare positive commentators, Fieldhouse (1983: 130), observed, predicting that “the book will arouse much controversy.” Whether Emmanuel was right or not would not become clear for decades, he continued: “But at least to one who has studied the operations of an MNC in Third World countries his basic message makes brilliant sense.” One of the problems with most responses, in this and other debates, is not clearly separating one’s objectives: if one wants to refute the proposed economic logic, if one is revolted by the consequences of this logic, or whether one believes that other considerations than one’s strictly concerning economic development are more important, in which case this should be debated on its own ground and not be intermeshed with the other issues. Emmanuel’s argument is clearly part of his overall historical materialism according to which the capitalist system will not be undone until its internal contradictions have become a fetter on development possibilities, wherefore he wants to see these limits achieved as soon as possible. If one argues in general that modern technology also has consequences for the ecology, or for cultural and political organisation, and that these are more important than economic development, this is not an argument against the inherent logic of his argument. One could point out that if one favours political decentralisation, as Emmanuel sometimes indicated that he did, and if it could be demonstrated that the economic centralisation which he also favours obliterates the possibilities for achieving it, this would imply a contradiction between his different objectives. Then we would be entering a field of psychological or organisational incentives arising from innovations, of which there is much more to be said than is common even in the Marxian or Schumpeterian traditions, particularly when they concern basic media of communication, as in the perspective of Innis outlined above. This is no less true in the present context, when discussing psychological incentives to overtrading. It could also be argued that in the context of capitalism technological and commercial innovations are not erratic but chronic phenomena, and, again, that those referred to as chronic could be seen as intimately related to some such innovations in communications.

¹³⁷ “If money, as Proudhon says, is not the key, but the ‘lock’ of trade, it should be quite easy to see how and why its depreciation frees trade and tends to prevent crises. If money, as Marx says, is a kind of anti-commodity, it is not surprising that the process of its annihilation has a positive effect as the negation of a negation. If the passage from commodity to money is an elevation from the particular to the general, a ‘trans-substantiation’ of capitalist wealth, it is natural that putting money in question, desanctifying it, should amount to an elevation of the profane world of commodities. If the demand for money is nothing other than the supply of commodities, a reduction in the former amounts necessarily to a reabsorption of the latter. If, as Silvio Gesell says, money has too many qualities to serve as a vehicle of circulation, its debasement can precisely enable it to fulfil its role. If bad money chases out the good, as stated by Gresham’s Law, money even worse than the worst commodity can realize all the commodities and disencumber our markets and warehouses” (Emmanuel 1984: 381).

the First World War was one of monetary stability.¹³⁸ Nevertheless, the rates of devaluation were very much lower before than after the 19th century interval. In the earlier period revaluations were discontinuous events, interrupting periods of stability “long enough to prevent the phenomenon of depreciation from being imprinted in society’s collective memory, and something to be expected.” There had been a certain continuity, Emmanuel admitted, in the increased production of precious metals themselves, particularly following discoveries of new geological veins, but these changes had still been momentary (*i.e.*, belonged to the previous heading). This all changed in 1928, he (*ibid.*: 376ff.) proposed, after which devaluations became almost continuous, and therefore a normal characteristic of the economy, which could be taken for granted in all forecasts. The early depreciations were different in principle in that capitalist relations were not developed and that their main aim was to procure resources for the prince. Nevertheless, several authors did point out the beneficial effects on economic activity, sometimes turning into a veritable flight from money, such as when paper currency was introduced.

Just as a flight from commodities gave rise to hoarding, a flight from money, engendered by its relative degradation, accelerated realisation and induced expansion, not only directly through increased purchases of consumer goods, but also through the dishoarding caused by expectation of price rises. A variation in the value of capital itself had much greater effects than variations in its yield, so their fear of price rises “compels businessmen to invest *without delay* all their liquid assets – cash and cash deposits – *even when there are signs that the market is contracting.*” Even more, it mobilised both ‘spatial’ and ‘chronological’ credit, thus creating or anticipating purchasing power and encouraging overtrading. While the other incentives to overtrade were all based on the hope of a new market, whether a new article, a foreign outlet, or a wage increase (to which we will return), and consequently involved a considerable degree of uncertainty, depreciation of the currency “creates a universal bonus for investing, and the only thing to predict is its rate” (*ibid.*: 382). There was also a difference concerning the respective limits of these incentives. Innovations were by their very nature more localised, and at any rate, there had been nothing in the postwar decades of comparable repercussion on the economy as a whole to the railway construction of the 19th century. Although not limited in their effects, both opening-up of new markets (already passé) and wage increases have a limited possibility of arising, and a common non-inexhaustible source in the periphery. By contrast, inflation as an internal cause of overtrading would seem to be have no such limits. However, it could not become the ultimate weapon of capitalism, and limits emerged in the effects on the metropolitan capitalist countries in international trade. The flight from money at home was meant to stimulate domestic activity and operate in favour of one’s own country’s commodities, not the commodities and currencies of one’s competitors:

The contradiction here is that devaluation itself promotes an inflow of foreign exchange, but the expectation of devaluation promotes their outflow. On the one hand allowing prices to rise in order to stimulate domestic activity, on the other hand clamping down on price increases to preserve the overseas competitiveness of one’s industries; on the one hand stoking up inflation to annul *ex post* the wage increases which one has had to concede, on the other hand fighting inflation to cut off the exodus of capital and outflow of foreign exchange; these are the two pairs of contradictory objectives between all the capitalist countries are now separately floundering.” (*Ibid.*: 383.)

¹³⁸ He (*ibid.*: 376) also notes an interesting difference between the pound and the franc: “On the basis of a parity calculated at the free market price of gold, and ignoring a mere change of denomination in 1959, it turns out that the ratio of the value of the French currency today to that of 794 is approximately 1:80,000. The ratio of the current British pound to the original pre-1300 unit is 1:66. Over time the French currency has lost value about 1200 times as quickly as the British.”

Regular recourse to devaluation ultimately made its prediction become the cause of its objective necessity. Also, in case of a flight from domestic currency, foreign currencies were a likelier refuge than domestic commodities.

In modern capitalism of the postwar era, Emmanuel (1984: 384-94; cf. 1986) argued, the stimulus arising from inflation is closely related to that of wage increases, where the latter urge on the former – though not necessarily since an alternative effect would be decreased profits – in so called cost-push inflation. The special circumstances necessary for this kind of inflation were either goldmines in countries not hit by the wage increase, or universal inconvertibility, which became official after 1971. As a consequence, the rate of profit could vary independently of wages, by making wage increases wholly or partly nominal after they had occurred. In this way the late capitalist system had managed to create double stimulation, partly through any residual real wage increases, and partly through the expansion of the market for means of production through overtrading. The latter would entail decreased resistance towards further wage-increases. Nevertheless, even this solution was not without limitations, Emmanuel explained, which revealed themselves when wages were no longer able to increase faster than prices (as had happened with oil), and extensive expanded reproduction – the only one consistent with overtrading according to Emmanuel – could no longer be maintained.

Returning to the Sraffian formulation of unequal exchange, it could easily be seen that *inflation*, on the hand, and *wage increases*, on the other, were closely intermeshed. ‘Cost-push inflation’ indicated that inflation usually followed wage-increases, but it did not mean that it was the *inevitable* result. On the contrary, Emmanuel (1984: 385) maintained, under the conditions which applied in Marx’s and Ricardo’s times, which were also those assumed in the above demonstrations of the unequal exchange theorem, with metallic or convertible money, it was an *impossible* result. For a truly general rise in wages, including those of the gold mines, to make *all* prices rise was impossible, since it would also have made the standard measure rise. However, two new conditions in the real world had fundamentally altered these assumptions. First, since gold mines were generally located in underdeveloped countries, they had not been hit by the general rise in wages of the advanced countries,¹³⁹ and the increased cost of material inputs had been compensated for by increased productivity, maintaining a low cost of production corresponding to their wages. Secondly, Emmanuel (*loc. cit.*) noted, unofficially before 1971 (through volutary abstention by the central banks of converting their dollars and giving way to political pressure from the United States) and officially since August that year, when an embargo was imposed making all currencies nominal at a stroke, “the capitalist world has seen the introduction, for the first time in its history, of a system of universal inconvertibility.” With these alterations wages and profits ceased to be decreasing functions of each other, making possible an increase in wages without any fall in profits. This also introduced fundamental changes in the equations and demonstrations of unequal exchange, which have so far not been observed in the critical commentary.

In the first case, currency is still convertible, but production costs of gold are kept constant and productivity increases compensate for increased costs of inputs. In the language of Sraffa-systems used in Chapter 18, this can be put so that K becomes an endogenous variable, joining the unknown variables, and giving us $k + 1$ unknowns for k equations; alternatively, if extra-economic manipulations make production cost immaterial, by eliminating the K^{th} industrial equation, giving us $j = k - 1$ equations for $j + 1 = k$ unknowns. To close the system we are obliged to take one of the unknowns as given, allowing us to take the rate of profit, r . Thus, an increase of any w except w_k is compatible with an increased, or constant, r .

¹³⁹ Furthermore, by turning a national paper currency (first the pound, then the dollar) into international money, linking it to gold, the monetary ‘consumption’ of gold had been restricted “enough to avoid the creation of a rent in the gold-mining sector, which would have cancelled out the effect of its low wages” (*loc. cit.*).

In the second case there is universal inconvertibility, meaning that all prices are nominal, and gold itself becomes an ordinary commodity. Thus, p_a, p_b, \dots , etc. cease to represent a certain number of units of k , and instead become abstract numbers representing arbitrary external objects, francs, dollars, pounds. This introduces another unknown, p_k :

$$\begin{aligned}(A_a p_a + B_a p_b + \dots + K_a) (1 + r) + L_a w_a &= A p_a \\(A_b p_a + B_b p_b + \dots + K_b) (1 + r) + L_b w_b &= B p_b \\ \dots & \\(A_k p_a + B_k p_b + \dots + K_k) (1 + r) + L_k w_k &= K p_k\end{aligned}$$

and with wages still taken as given, there are $k + 1$ unknowns for k equations. The solution, as before, and contrary to Emmanuel's basic definition of unequal exchange, is to make the rate of profit, r , independent of prices and exogenous, thus independent also of wages. In this case, a rise in any w , *including* w_k , is compatible with an increased, or constant, r .

What does this mean? In less formal words this shows that, in both cases, *relative* prices – relations between commodities within the system – have become *absolute* prices – relations of the commodities with something determined outside the system, gold in the first case, and an arbitrary denomination in the second. Furthermore, it means that capitalists are free simply to add their normal – or any – rate of profit to an increase in wages, which they have had to concede.

This archetypal cost-push inflation was what happened in the reality of his day, Emmanuel (*ibid.*: 387) explained:

It is pointless to deny that wage increases lie at the bottom of the process, but it is important to stress that these rises do not *per se* lead inevitably to inflation. What does lead to it is the fact that capitalists have granted themselves the power to make these rises wholly or partly nominal *post factum*, therefore cancelling them out in real terms. It is only to the extent that these rises turn from real into nominal, that they lead to inflation. To the extent to which they stay real, they are taken either out of growth of productivity or out of the rate of profit or both.

In this way, the capitalist system had seemingly found its horn of plenty, by creating a double stimulant to economic activity: “firstly, an expansion of the market for consumer goods due to the residual increase in real wages (after the subtraction of the rate of inflation), secondly an expansion of the market for producer goods through overtrading, itself a result of this inflation” (*ibid.*: 388). The latter had the important side-effect of lessening resistance to wage claims, which tendency thus promoted the restarting of the process. However, the cornucopia was only temporary, Emmanuel (*ibid.*: 388f.) observed in 1974, and, once again, all this “finds its own limit in that of the product of foreign exploitation and its vicissitudes.” The recent rise in the price of oil put continued growth of nominal wages at a rate faster than that of the retail prices in doubt: “But if wages do not grow faster than prices, extensive extended reproduction – the only kind compatible with the motivations of overtrading, and thus relatively easier for the system – cannot be maintained. This is a critical limit. Since the system is incapable of moving into intensive extended reproduction [...], which would contradict its own rationality, there is collapse and crisis.” The gravest effects of the ‘oil crisis’, as Emmanuel (1986) saw it, were not due to the mere rise in prices, however, but to the confused response to which it gave occasion.¹⁴⁰

¹⁴⁰ The so called ‘stagflation’ of the next few years also became a theme, as well as the rise in Third World debts, resulting largely from the increased oil bill of non-producers, and excess oil-money in Western banks being made easily available. The debts themselves Emmanuel did not consider troublesome, since as long as new loans were expended over and above interest they meant a transfer of funds; rather than the insolvent borrowers those who ought to worry were the lenders who could have no prospect of being repaid.

Turning to problems concerning wages – their determination, effects, and theoretical implications, whether for the inherent contradictions of capitalism, unequal exchange, or unequal development – we enter the principal field in which Emmanuel’s themes are held together, towards which they converge, and on which the greater part of controversy has centred. It is also an area in which Emmanuel left great possibilities open for historical interpretation. Much has already been said, and we cannot approach a full treatment in this section, where we will concentrate on the resolution of the discrepancy between the value of production and purchasing power, through incentives to overtrading.

The direct effect of wage variations, however unintentional or accidental they may be, on the realisation of the product was reviewed above, when considering the relative weight of each component in the value of output. In that context, the disequilibrium between income and production was reduced, although it could not be completely absorbed. Now, Emmanuel explained (*ibid.*: 371), the indirect effect of an *exogenous growth of wages* on subjective motivations and through the incentives to overtrade was less automatic and can work only if these variations can be foreseen. However, they can, by contrast, stimulate an overdraft of investments that may even overcompensate for the excess of supply over demand. All variations of supply and demand, such as a surplus on the trade balance or a budget deficit, have direct effects which are strictly proportional to their volume and at work under any circumstances. But under special circumstances, mainly to the extent in which they are sufficiently clear so as to be predictable by businessmen, they also act as incentives to overtrading, and, in Emmanuel’s (*ibid.*: 371) opinion, “nothing is as important as the variations of wages, in both theory and practice.”

In theory, because it related to “the main contradiction of capitalism”, deriving from “the fundamental contradiction between social production and private appropriation” (*loc. cit.*): “Though capitalism is the system which relies exclusively on the market in a way in which no other system does, its dynamic tends to contradict this market by compressing wages.” From outside, Emmanuel suggested, capitalism would look like a world stood on its head. To illustrate this, he commonly reverted to the imagery of a river: “In all other modes of production, the upstream determines the downstream”, he explained. First, production takes place according to the productive forces available; then, the product is consumed according to “the rules laid down for its distribution”, and consumption is properly dependent on previous production.¹⁴¹

In the system of commodity relations, this dynamics is reversed. Production can only take place as a function of prior real or expected markets. Here everything is determined from downstream. Instead of the growth of production making growth of consumption possible, it is the previous growth of consumption which acts as a catalyst to production. Instead of it being the upper waters of the river which feed the lower reaches, it is – however absurd this may seem – the river mouth which sets the flow of its source and tributaries. And what is more, the system’s own peculiar laws of motion prevent any expansion of this mouth, so that the system continually tends to choke itself. Left to its own devices, capitalism starts to eat away its own support, to cut off the branch it is standing on. (*Ibid.*: 372.)

The endogenous force of inter-capitalist competition tended to reduce wages – at least relatively, as he noted, observing that Marx himself, Plekhanov, and Lenin, certainly believed in both relative and absolute reduction – while any such reduction endangered and blocked capitalism’s growth, which, in turn, would destroy the future chances of raising wages.

¹⁴¹ Apart from the obvious Keynesian influence here, and the contrast provided by socialist economies, speaking of ‘rules for distribution’ and suggesting a point of view from outside the capitalist system (“If one could ever manage to withdraw from it and examine it from outside”), may also suggest an anthropological influence, the only certain one of which, Maurice Godelier, Bettelheim’s co-worker, to whom Emmanuel (1966) referred when comparing capitalism with socialism and the possibility in the latter, not so much to have ‘rational’ price setting, but of directing means to ends.

Emmanuel, indeed, seems to believe that even an absolute impoverishment might have taken place, as predicted by Marx, were it not for the wage-increase resulting from what he called ‘exogenous factors’, such as “institutional negotiations over the division of the fruits of foreign exploitation”. This rendered possible a break of the ‘vicious cycle’, freed the system from its own inhibitions, and stimulated overtrading. The effect of this would be “immeasurably greater than that of any other stimulant”, and this, he argued, was what had actually occurred in history. The aim of the argument on unequal exchange was precisely to demonstrate just how a rise in wage-rates became possible while retaining a high rate of profit – Emmanuel’s definition of the consumer society. Even more, it was to show how this politically enforced rise from below, simultaneously with the world wide extension of capitalism, had saved capitalism from itself – and capitalism, which to Lenin gave the impression of being in a state of ‘putrefaction’, although Bukharin thought it a strange putrefaction to set in before death, was thus able to grow greener than ever before.

Of utmost importance for Emmanuel was the fundamental economic difference between a capitalist, or market, system and any other system. In classical political economy the former was characterised as an order emerging from a myriad of independent and autonomous wills and summed up in Smith’s image of the “invisible hand”, adopted by Marx as “the anarchy of production”, or, in Dobb’s (1940: 79f.) words, “the atomistic diffusion of productive decisions among numerous autonomous entrepreneurs”. It was also recognised as being a system of production aimed not at societal goals but at profit, the former being, paradoxically (in the liberal adaptation of Mandeville), better achieved precisely through the latter. However, to Marx (cf. 1857a: 22f.), and Emmanuel agreed, this kind of system was not as universal as it appeared to the liberal economists. To begin with, there were tribal societies, households, etc, with social division of labour but only marginal private exchange, which must be considered historically coincidental. Furthermore, there were the planned economies of the 20th century, that – in their internal organisation if not foreign trade – functioned partially as planned economies. Finally, there was the, at least hypothetical, “future socialist society”, where private property had been abolished. In these ‘embedded’ or (in the corresponding French expression for Polanyi’s [1944] term, used by Emmanuel) ‘integrated economies’, the social division of labour and ensuing redistribution of the product, constituted, in Emmanuel’s (1975a: 2) view “a single inseparable process, set up *ex ante* by a single direct act of the decision-making centre, be it the chief and elders in tribal collectivism, or the plan in the advanced socialist society.” In a society where the redistribution of products took place through privately agreed exchanges, it was on the contrary these exchanges and their results, which indirectly and *ex post* decided the social division of labour, through a series of microeconomic decisions taken on the level of independent producers.

In Marx, and by implication Emmanuel, the evolution between these systems was integrated in a Hegelian dialectic, and it is perhaps here that Emmanuel’s principal limitations, at least philosophically, emerge, coinciding first of all with the determinism and predestinationism implicit in the traditional premises of historical materialism, that “the *ultimate* determinant of history is the development of the productive forces” (Emmanuel 1976: 69). Although he was “quite aware that this conception is no longer in fashion today”, particularly in ‘neo-Marxist’ circles where it was referred to as ‘economism’ and according to which history was ultimately determined by the class struggle, he nevertheless held to his ‘paleo-Marxist’ declaration of faith, summarised in two famous passages by Marx (quoted *loc. cit.*; italics by A.E.):

Bourgeois historians have well before me expounded the historical evolution of the class struggle [...] What I have introduced as new is to demonstrate that the existence of the classes is only linked with certain historical stages in the *development of production* (Letter to Weydemeyer, 5 March, 1852)

No social order is ever destroyed before *all the productive forces* for which it is sufficient have been developed” (Marx 1857b)

Quoting these passages is perhaps the closest Emmanuel ever came to expressing his philosophical foundations, his “primary principles in the approach to human history” and in the “attempt to predict the evolution of human society”, which cannot in themselves be demonstrated. Although, the class struggle was of the utmost importance in his work on unequal exchange as a determinant of relative price levels, if it was “divorced from the economic infrastructure of society” it was “just as indeterminate as the action of kings and captains, and to refer to the free will of the classes to explain history is no less idealistic than to refer to the free will of great men” (*ibid.*: 69f.). Although statements ascribing the rescue of capitalism to the historical ‘accident’ of organised labour are easily found, looking more closely at Emmanuel’s treatments of wages, there is a certain ambiguity on the importance attached to the trade-union and political achievements from the end of the 19th century. On the one hand, they are presented as essential to the substantial wage-increases starting with the 1870s; on the other, they are seen merely to consolidate and reinforce already established differences in wage levels and levels of consumption, which had originated earlier and in relation, among other things, to social property relations, or even colder climate. The ambiguity is related to the incomplete nature of Marx’s treatment of wage labour, which Emmanuel noted but did not manage to completely rectify. In particular, there is no historical appreciation of what causes the working class to organise itself politically in the first place, leaving a whole in the understanding of historical ‘dialectics’ which has caused so many of his critics to revert to the level of productivity as the fundamental determinant.

For a confrontation with an ecologist perspective, in addition to said ‘neo-Marxism’, we should also note more precisely the belief in the necessity for ‘all the productive forces’ to be fully developed before a new ‘social order’ can be introduced (cf. Matz 1978: 44-59; 48f. on Marxist predictions functioning as a Calvinist doctrine of predestination). The social order in question is of course the communist society, and in all likelihood on a world scale – this was in any case a projection suggested by Emmanuel himself. Marx’s *The German Ideology* (first published in 1932) contains an extended description and definition of his then newly worked-out materialist conception of history, setting it out, in McLellan’s (1977: 159) words, “with a force and in a detail that Marx never afterwards surpassed.” Still with traces of Hegelian dialectics (although in his view now turned on its feet), Marx saw a development from local ‘primitive communism’ to a projected universal communism – both in which ownership and the power of economic decision-making was in the hands of the ‘community’ – necessarily passing via ‘bourgeois’, or civil society – in which private property (and the state) had emerged and the power of economic decision-making was thereby (increasingly) in the hands of individuals – whose mode of production and corresponding ‘intercourse’ among men is understood as the basis of all history. In the tribal society (or family), and still in most societies where the community or its representative state power was predominant, man had the power of decision over production. However, with private property and particularly with the extension of the market to world market men became increasingly alienated:

In history up to the present it is certainly an empirical fact that separate individuals have, with the broadening of their activity into world-historical activity, become more and more enslaved under a power alien to them (a pressure which they have conceived of as a dirty trick of the so-called universal spirit, etc.), a power which has become more and more enormous and, in the last instance, turns out to be the world market. (Marx 1932: 171.)

Yet Marx also beheld how “this power will be dissolved” by “the overthrow of the existing state of society by the communist revolution [...] and the abolition of private property which is identical with it”, and how “then the liberation of each single individual will be accomplished in the measure in which history becomes transformed into world history” (*loc.*

cit.). The liberation from “the various national and local barriers”, would bring individuals “into practical connection with the material and intellectual production of the whole world”, putting them in “a position to acquire the capacity to enjoy this all-sided production of the whole earth”. Finally, their “all-round dependence” and “world-historical co-operation”, will be transformed by the communist revolution “into the control and conscious mastery of these powers, which, born of the action of men on one another, have till now overawed and governed men as powers completely alien to them” (*ibid.*: 172).

When in the late 1850s, after a profounder study of history and political economy, Marx set out on a large-scale writing project, the dialectical categories of Hegel and ‘communist man’, following the growth of the crisis-prone world market, as the aim of history reappeared. The earliest versions contained six books covering respectively capital, landed property, wage labour, the state, foreign or international trade, and the world market (Marx: 1857b: 388; 1858, 1977), but the most elaborated plan is the five books in *Grundrisse* (Marx 1973: 108; first published in 1939-41), where the first was on “the general, abstract determinants which obtain in more or less all forms of society”, the second condensed much of the foregoing into the “categories which make up the inner structure of bourgeois society and on which the fundamental classes rest”, *i.e.*, capital, wage labour, landed property and their interrelation, town and country, circulation and private credit. This was about as far as Marx ever got in practice. The remaining three were the same as before. The third treating the “[c]oncentration of bourgeois society in the form of the state”, along with the ‘unproductive’ classes, taxes, state debt and public credit, to which was added, population, colonies, and emigration”. The fourth, dealing on the “international relation of production”, international division of labour and exchange, exports and imports, exchange rates”. Finally, the fifth was to be on the “world market and crises”. The publication of Marx’s books in the 1930s, itself a consequence of the Bolshevik revolution, was another event which may well have been formative for Emmanuel.

Emmanuel consistently referred to the unfinished character of Marx’s work, including *Capital* itself, but particularly his many unwritten books and the great gaps they had left in Marxist theory (*e.g.*, on landed property: Emmanuel 1972a: 219; on wage labour: 1975b: 135; on the state: 1979b: 131; on international trade: 1972a: 42, 90; on world market and crises: 1984: 1). It seems that Emmanuel’s work was, with equal persistence, engaged precisely with those areas which Marx had left in their least completed form, with Emmanuel’s two major works filling out, or aiming to do so, the last two of Marx’s tomes. But, of course, significant events taking place after Marx wrote made it not quite as simple as all that.

Now, based on “the fundamental postulate of historical materialism [...] according to which it is not the degree of exploitation that renders a situation revolutionary, but the objective incapacity of the system to develop the productive forces”, Emmanuel (1976: 84, & 69-87 *passim*) argued that for the revolution to ripen in the First World would require a re-proletarianization of the working masses. By contrast, for the Third World as a whole (and not for individual ‘miracle’ economies), “and bearing in mind the scope of present development in relation to the general level of technical knowledge today”, it was on the one hand evident that it could not catch up if forced to choose the path of capitalism, and therefore would seem ripe for socialism, but later, he (1982) confirmed that the full development potential of capitalism had not yet been reached. On the same premises Emmanuel’s policy recommendations can be understood, which he (1982: 161) defended from the accusation of being ‘reformist’: “If trying to wrench away from the existing system everything that it can contain, whilst we are within it, is reformism, then Marx could be called one of the most notorious reformists. The difference between reformism and revolution is that for the former, reform is subordinate to the maintenance of the system in good health, whereas for the latter

reform is an integral part of the struggle for the system's destruction."¹⁴² In one of the better summaries of his thinking, centring as it does on international exploitation by the masses of the rich countries and the consequent 'unblocking' of the development possibilities in the centre, one of Emmanuel's (1979a: 197) conclusive remarks indicated what might well have been the motivating force behind his whole approach: understanding the aberrant case constituted not by the underdeveloped countries, but by the *overdeveloped* ones: "It is the study of this case, which might explain why, one hundred and thirty years after the *Manifesto* and sixty years after the Bolshevik revolution, no industrial country has followed the road of socialist transformation and does not appear likely to following it in a foreseeable future".

In the 1970s, Emmanuel also turned to the problems relating to the state, as well as to a possibly inherent contradiction in the socialist mode of production towards bureaucratisation, but his conclusions were primarily negative, that the revolution would have to be sufficiently globally endorsed for it not to need a strong military apparatus to defend itself, or else that there would have to be yet another revolution against the state, and that, so far, there was no Marxist theory of the state. Although concerned with understanding the consumer society and well aware of the ecological impossibility of generalising that society, he did not observe the possibly similar problematic with respect to environmental disruption after the 'forces of production' had been 'fully developed'. Later still he (1988) considered the global financial market to be in need of regulation even under the conditions of capitalism, and perhaps saw the possibility of an evolving global administrative organisation as an ultimate requirement for the ultimate success of socialism. Again, the similar problems in the environmental field were not observed.

Part IV has concentrated on the originality and uniqueness of Emmanuel's contribution to political economy. I have attempted to trace the likely background and experiences contributing to this approach. It is unfamiliar when he came to consider himself a Marxist, and in general communism did not become a strong force in Greece until organising the Resistance of the Second World War, both against the German's and the exiled monarch supported by the British. There is much to suggest that he took great impression of events in the 1930s, whether in the Greek experience of the international depression, and the very different result in the Soviet Union, or the attempts, notable by Keynes and post-Keynesians to interpret these events. As is common for Greeks in dire times, Emmanuel went to live and work abroad, in his case the Belgian Congo, where wage differentials between Africans and Europeans, whatever the productivity, and a corresponding absence of worker solidarity, could hardly have escaped any observer, and as an 'intermediate' southern European rather than Belgian or African, he was likely to have been all the more observant. To this was added personal experience in international trade, demonstrating the unlikelihood that the abnormal profits for which peripheral merchants were commonly accused, were anything but mythological, certainly not on a scale to compensate for the wage differential.

If the Depression was an experience common to both Emmanuel and his French colleagues, those of the Congo may well have immunised him against the predominant 'monopoly' tradition informing both French and Dependency Marxism. After the War, the former were

¹⁴² Emmanuel (*loc. cit.*) continued: "I believe, and I have said it, that it would be illusory to think that the Third World as a whole could become a collection of USAs or Swedens. But I believe it perfectly possible to *reform* world capitalist relationships in order that the third World may reach a level comparable to that of Portugal or Greece. Naturally, by that very fact, this would mean taking the risk that the USA and Sweden cease to be the USA and Sweden. But that does not matter very much to the Third World and, besides, it could quite well happen that such an event takes place well before the capitalist relations of production are destroyed. What is more, the impoverishment of the USAs and the Swedens, where three quarters of the planet's industrial potential is concentrated, could bring us closer to this destruction, by however small an amount, which, for those that desire it, constitutes an extra reason for claiming these 'reforms'."

very much involved in Hegelian philosophy and political strategy, rather than with economic interpretation, something reinforced by the absence of institutional foundations outside the PCF, who produced its own economists. Bettelheim, the foremost Marxist writer on economic planning as well as on underdevelopment, where he was much influenced by Baran, although paying more attention to the possibility of non-equivalent exchange, was at the sociology rather than economics department. Apart from Denis, who was indeed an economist, although with a background corporatism rather than Marxism, no one seems to have been very interested in explaining the falling terms of trade for underdeveloped countries. The Indo-China and Algerian questions put the imperialist problem on the agenda, and the Chinese and Cuban revolutions confirmed that the prospects of socialism were greater in the Third than in the First World, but to speak of a fundamental economic antagonism fuelled by the working classes themselves was sacrilegious. It was, in any case, an impossible stance to adopt for a Western communist party, particularly one as large as the French and aiming for government.

Assuming an international tendency for equalising the rate of profit, Emmanuel's model of unequal exchange sought to explain precisely the anomalous terms of trade, as a consequence of an exogenous or politically induced increase in worker wages. Inspired by Marx's 'moral and historical factor' in wage-determination, this meant a revival of the classical determination from the cost-of production side, but a more realistic delinking from the classic assumption in Lewis's model of a wage-differential based on differing productivity in subsistence agriculture. Both French and international reactions were very much coloured by Bettelheim's 'theoretical comments' to Emmanuel's book, rather than as they had appeared in 1962. There he had called attention to the importance of wages also for the international division of labour and the related development-underdevelopment rift, reemployed by Emmanuel against him. Samuelson followed up his own critique of the 'transformation problem' with an uninformed one of unequal exchange, seen as a critique of comparative advantage. The point of the latter was precisely the possible reversal of pattern of specialisation due to nothing but a politically induced, exogenous rise in wages, and had nothing to do with the event of equalising profits and opening of trade on Samuelson's mind. French reactions rehearsed, with minor modifications, points made better by Bettelheim, when they were not wholly political, relating to the indubitable worker solidarity which had to be reaffirmed, while illogically praising the economic critique of neoclassical economics on which Emmanuel's political conclusions built. Amin presented himself as mediator in this debate, but his own approach, a not fully digested meshing of Emmanuelian points with his own previous ideas on productivity differentials and monopoly capitalism, was no great improvement on Bettelheim, whether when discussing the dialectics of productivity and wages, or when advancing Bettelheim's 'paradox', that when productivity differentials exceeded wage-differentials 'value' would be transferred from the rich and exploited to the poor and exploiting, as a definition of unequal exchange. A similar 'transfer-of-value' approach was involved with almost every other Marxist criticism, and it was also the point of every 'extension' of Emmanuel's theory, whether by Andersson or anyone else, and whether formulated in Marxian price of production schemas or in Sraffa's industrial equations. This makes it harder to appreciate other points of criticism which may be more relevant for the understanding of economic reality, such as the assumption of specific goods and the introduction of common sectors, attempted by Andersson and others. By analogy, and because many of them have been conceived by contrasting some more ecological unit of measurement with the Marxian labour values, or presented as 'complementing' it, ecological versions of unequal exchange are in constant peril of falling into a similar morass.

Part of the problem lies in theorising without knowing what it is, if anything, of historical change, conflict, or reality, that one wishes to explain or understand. As to Emmanuel, these things should have been made clear by now. In addition to the evident historical evolution of

the terms of trade and the economic logic behind international worker antagonism, it concerns more generally the, in his view, historically aberrant case constituted by the postwar, crisis-free, capitalist 'overdevelopment', in which unequal exchange had played a significant part by making possible, economically and ecologically, the institutionalised rise in wages needed to incite investments in anticipation of markets. In view of its centrality for the overdevelopment and overconsumption, with which the 1970s environmental movement were so much engaged, this should be a very relevant addition also for those political and human ecologists who wish to pass beyond a certain tame, if deserving, moralism often acting as surrogate for understanding. Quite apart from the remaining problems of 'international ecological solidarity', the political section of the environmental movement could probably do with some more reflection on inherent contradictions in a market economy such as those suggested in Emmanuel's analyses, and if correct, on what they imply for solutions in the sphere of global economic planning and political decentralisation, and the many conceivable problems and contradictions involved in any such solution.

We shall now turn to more purely ecological theories of unequal exchange. Instead of arguing on terms of trade or labour values, these revert to some ecological or biophysical unit, such as the area-based 'ecological footprints'. In fact, if it is admitted that 'land' can function as such a unit, then the origin of ecological theories of unequal exchange can be traced at least to the 18th-century economist Richard Cantillon. Having looked at his theory, we shall turn directly to what may arguably be the most evolved 20th-century ecological version, that of Howard T. Odum, whose theory of unequal exchange is an aspect and outgrowth of the ecosystem concept of which he was an originator, as applied to human societies. We shall then turn to two traditions with commonly diverging political affiliations. The first originates in the (neo-)Malthusian, or 'Protestant', concern with 'population' growth, but evolves into an argument taking account also of the overconsumption of the rich compared to the available natural means. From American conservationism, it evolved into Georg Borgström's 'ghost acreage', and then into the above mentioned 'ecological footprints'. The other originates in more Third Worldist, Latin American, or 'Catholic', tradition where population pressure on natural resources is of neglectful importance and focus is placed directly on how the affluence of the rich is said to cause ecological (and economic) degradation of the poor. It can largely be seen, and seems to identify itself, as an ecological outgrowth of the dependency tradition.

Part V

Ecological Theories of Unequal Exchange

The theories considered below have concerned themselves more specifically with what can be termed ecological unequal exchange. For the most part, this has been a branch evolving separately from the economic and historical discussions which have hitherto engaged us. As we have seen, however, at least one prominent participant in the post-Emmanuelian Marxist debates, Andersson, has contributed also to the ecological debates, and Emmanuel himself put his point on worker antagonism in ecological terms already in the early 1970s. Generally speaking, the environmentalist debate has been concerned rather with contrasting their main foci on overpopulation vs. overconsumption, although none of the participants can be said to be oblivious to the problems noted by the other half. Whereas the 'populationist' stance has traditionally tended to locate the problem primarily in the Third World, those concerned with 'affluence' and 'technology' have concentrated on the West – the 'softer' and more radical searching for a different, low-input 'lifestyle', while the officially sanctioned have centred on technical efficiency, diminishing waste, and cleaning up pollution. The ones considered here have seen 'overpopulation' as related to affluence and relative to established political land areas, something accomplished only through an inflow from without (through fishing or trade) or 'before' (*e.g.*, forest cover or fossil fuels) the politico-economic system. Contributions to ecological unequal exchange have thus focused on the possible connections between the poverty of the poor and the wealth of the rich either in terms of direct 'ecological' transfers or in terms of the excess load placed by the consumption of the rich on the environment in general or of the poor in particular. The 'comparative advantage' of poor and low-wage countries in poor and labour intensive technology observed in the previous chapter, has an obvious ecological analogue. According to the economic logic of the system, ecologically hazardous and wasteful production will be localised in low-wage countries with less organised political resistance. In this sense, the comparative advantage of future generations is absolute. The geographical dimension of the problem implies that the 'dematerialisation' and lessened pollution hoped for, and in some instances observed, as industrial nations progress to services and higher-tech industries (the 'environmental Kuznets curve'), will not come to pass on a global scale, and may rather be the effect of such outlocalisation. This change will also be reflected in the pollution and ecoservices 'embodied' in trade, or in the ecologico-factoral terms of trade. The branch of learning concerned with this problem can safely be labelled ecological unequal exchange. As such it is very recent, and mostly concerned with attempted measurement, rather than historical interpretation or analysis of the factors behind these processes. Although fairly within the 'affluence' camp, compared with the more radical ecologists of the 1970s many seem unconcerned with changing lifestyles and much more interested in, or claim to be, the measurement of possible transfers.

This problematic, however, which was broached upon in Chapter 17 and to which we shall return from somewhat differing 'Protestant' and 'dependency' perspectives in Chapters 22 and 23, is only part of the story. An important origin of ecological theories of unequal exchange is the reaction against what has been perceived as the Marxist, and perhaps classical

economic, obsession with ‘labour’ as the origin of ‘value’. Disregarding for the moment the accumulated ‘art and ingenious labour’ known as the capital or time factor, according to traditional mercantilist and premercantilist ideas, the origin of value is rather both labour *and* land. So it is perhaps not surprising that we should find among one of the more theoretically advanced among these a theory which can largely be said to be a *land* theory of value, and in which an exchange is unequal to the extent the produce of a greater land area is exchanged for a lesser. Strictly speaking, the theory of Richard Cantillon (Chapter 20) is perhaps not yet an ‘ecological’ theory, since he was unconcerned with non-human nature, but – unfortunately – such concern cannot be used as a criterion for theories of ecological unequal exchange, which have often been extremely human-, and even development-centred. He also illustrates once again the common mercantilist concerns with the balance of trade and employment with which we began our history, and which was touched upon in the foregoing Chapter 19. In Chapter 21 we shall then turn to Howard T. Odum’s theory, which in a sense attempted to include all three factors of production under a common term, ‘emergy’, and which was part common sense and part highly abstract ecological systems theory. Far more systematic and comprehensive than any other attempt to find a unidimensional measuring rod, it nevertheless faces certain problems common to any such measuring rod. As applied to the development-underdevelopment problem and unequal exchange, its execution has so far followed the simplistic notion linking underdevelopment with raw materials (or emergy) extraction and export, which would need to be complemented with greater understanding of the high-wage, high-consumption, feed-back mechanisms involved – an aspect of the reverse circulation of emergy and money, which would give pure purchasing power and its exogenous increase self-reinforcing tendencies such as those observed by Emmanuel and others for a market economy. How to make them manageable – without turning to inefficient communist central planning – was a concern shared by Odum and the 1930s Technocrats and 1950s cyberneticists, and involved finding a ‘prosperous way down’. The link between extraction and export of raw materials and underdevelopment figures also in the ‘Protestant’ camp (Chapter 22), which otherwise mostly revolves around poverty and overpopulation and a certain embarrassment over one’s own riches and overconsumption. It becomes the central theme in the ecological dependency theorists, studied in Chapter 23, sometimes vaguely linked to the criticism mentioned above of the ‘environmental Kuznets curve’, without any great appreciation of the historically different, although perhaps increasingly overlapping, nature of these problems. While imports of raw materials and ‘ecoservices’ to rich countries seem increasingly to become an historical reality, linking development and underdevelopment with respectively imports and exports of raw materials is mythical, and neither does it accord with the phenomena proposed to explain the environmental Kuznets curve. Its popularity, it would seem, is significantly due to being a rehearsal of the similar, although not identical, mercantilist stance, whose popularity in Latin America is presumably related to the circumstantial identification with both underdevelopment and raw materials exports (cf. Chapter 10). We shall now turn to another, more systematic mercantilist thinker.

Chapter 20. Richard Cantillon and the unequal exchange of land values

Richard Cantillon (1680s–1734)¹⁴³ was active in banking in Paris between 1716 and 1720, where he, when other bankers “fell like autumn leaves”, grew rich from the failure of John

¹⁴³ Higgs (1931: 366) proposed the 1680s and Hone (1944: 96) 1697; Murphy (1986) reaffirmed Higgs date, accepted also by Hutchison (1988: 397, n. 4).

Law's scheme to print money (Higgs 1931: 368ff.; Walsh 1987: 317). The latter threatened the Irishman with immediate incarceration in the Bastille, wherefore Cantillon prudently retired to Holland, returning to Paris only in 1729 and 1732. Migration to France and beyond was traditional in the family, and he had houses in seven European cities. Back in London in 1734, at the height of his success, he was found in one of these "with his head almost burnt off", as a paper reported (quoted in Jevons 1881: 388), supposedly robbed and murdered by his French cook, who had been dismissed a week before and who escaped to Holland. Having set the house on fire to hide his crime, Cantillon's manuscripts perished with him, as Mirabeau tells us. The Cantillons had a penchant for anonymity which haunts also the publication, ultimately in 1755 of his only surviving work, *Essai sur la nature du commerce en général*, thought to have been written while living in London shortly before his death (perhaps in 1728-30; Murphy 1986). Mirabeau, who stood in contact with the Cantillons and had the only remaining manuscript in his possession for 16 years, insisted that it was a French translation by the author from the English, although this too has been questioned. Higgs (1931: 383f.) argues that Postlethwayt had a copy of an English original, inserting large sections of it into his own work, as did possibly other writers (cf. Hutchison 1988: 164). Cantillon's intellectual debts were limited, but most importantly include William Petty, along with Locke, King, Davenant and the German demographer Halley, and apart from the possible stimulus of disagreeing with Law, he also had discussions with Newton, who was Master of the Mint from 1699 until his death in 1727, and who's substantial writings on alchemy are obviously related to this post. Of French writers only Vauban, Jean Boizard, and the unnamed author of an *Etat de France*, were openly acknowledged. Judging from internal evidence, the latter has been found almost certainly to be Boisguilbert (Hecht 1966: 520), from whom it seems very probable that he must have known and felt "a very important influence" (Hutchison 1988: 164). Cantillon's brief influence was nevertheless great on the profession, mostly on the French physiocrats, including Mirabeau, Condillac, and providing Quesney with the idea of his *Tableau économique*. Turgot owned a copy of his *Essai* and placed it, together with works by Montesquieu, Hume, Quesnay, and Gournay, among the 'greats' of the 18th century (Groenewegen 1993: 764). Jevons (1881: 342) rediscovered it to the English-speaking world, as "*the first treatise of economics*", laying the foundation for Quesnay, although without the exaggeration, "going over in a concise manner nearly the whole field of economics, with the exception of taxation." His enthusiasm eventually proved infective. Higgs's (cf. 1931: 386) called Cantillon "the economists' economist", and Spengler (1954: 283) the "first of the moderns", believing the treatment of response of the price structure to changes in the quantity of money to be superior to Keynes's, although he was not as impressed by the description of the international specie flow mechanism. Schumpeter (1954: 218, 223) lauded the essay as one of the most important works in the history of economic analysis, in the line from Petty to Quesnay, and maintained, on the contrary, that "the automatic mechanism that distributes the monetary metals internationally specie flow mechanism is [...] almost faultlessly described". Hutchison (1988: 156) agrees with the "widely accepted" opinion that it is "the first systematic treatise on political economy", and Brewer (1988b: 447) calls it "the first coherent analysis of an economy as a single whole". Here we shall add that, with some generosity, it also involves what could be described as the first theory of ecological unequal exchange.

The *Essai* was divided into three parts dealing with a definition of wealth, a survey of the social and institutional framework, and value analysis (Part I), prices, money and interest (Part II), and finally international trade, foreign exchanges, banking and credit. As in Marx's later project, it followed a method of abstraction, working its way from a simple system to the international and general. It began by affirming in Aristotelian language, although Higgs (1892: 438f.) found reason to think that it stemmed rather from the formal language of the old

French law”, that: “The Land is the Source from whence all Wealth is produced. The Labour of man is the Form which produces it: and Wealth in itself is nothing but the Maintenance, Conveniences, and Superfluities of Life” (Cantillon 1931: 3). The idea itself was common enough in the literature, notably in Petty’s (1662: 68), where, incidentally, labour has taken on the guise of Aristotle’s *efficient* cause: “Labour is the Father and active principle of wealth, as Lands are the Mother.” (It was also repeated in chapter 1 of Marx’s *Capital*, whose second edition decided to abandon the formal-cause formulation.) Cantillon’s first part continued by presenting an account of pricing, distribution and resource allocation in a closed economy, which could be seen as an implicit case for *laissez faire*. Although, as seen, there was no confusion of money with wealth, when opening up the system to the international sphere he remained a fervent ‘mercantilist’ in the Smithian and conventional sense. He accordingly regarded a surplus in trade and an accumulation of gold as legitimate goals, and supported policies to encourage exports of manufactures.¹⁴⁴ Brewer (1988b: 460) argues that there is no contradiction in this, and that his policy recommendations follow from his analysis, differing from his predecessors “in that his policy recommendations about international trade were firmly based on an analysis of the economy as an interrelated system”, and from classical successors “in assigning no role to capital, which accounts for the main differences between his results and theirs”: “With land as the only scarce resource, world income is essentially fixed, and the main aim of policy is to gain a larger share of the total.” Admitting this, the established notion of a surplus balance of payments and the benefits of an ‘export of work’ could be fitted to a land theory of value into a coherent system.

In the initial model presented in the first part, market prices fluctuate around the familiar “intrinsic values” of the Schoolmen and earlier mercantilists (corresponding to classical “natural prices”, Marxian “prices of production”, long-run equilibrium prices, etc.), which depended on the land and labour required to produce different goods, while outputs are determined by demand.¹⁴⁵ Market values may deviate from the invariant intrinsic values through changes in demand, but the actions of profit-maximising capitalist farmers, or entrepreneurs, would then lead to changes in supply. As to gold and silver, Cantillon (1931: 111f.) admitted, with Locke, that they were given their value by common consent of mankind. Even so, they did not merely have imaginary values: “Money or the common measure of value must correspond in fact and reality in terms of land and labour to the articles exchanged for it.” The “real or intrinsic value” of gold, silver or other metals was like everything else “proportionable to the Land and Labour which enter into their production”, or necessary for their maintenance. And as with other goods, their market values were at the same time, “sometimes above, sometimes below the intrinsic value, and varies with their plenty or scarcity according to demand.” Although he (1931: 155f., 211) apparently recognised that capital was a necessary precondition to production, Brewer (1988b: 449) suggests that he did

¹⁴⁴ E.g., when writing (*ibid.*: 233): “It is by examining the results of each branch of commerce singly that foreign trade can be usefully regulated. [...] It will always be found by examining particular cases that the exportation of all Manufactured articles is advantageous to the State, because in this case the Foreigner always pays and supports Workmen useful to the State: that the best returns or payments imported are specie, and in default of specie the produce of Foreign land into which there enters the least labour.” Cf. Brewer 1988b: 447f..

¹⁴⁵ Cantillon (1931: 29f.) thus wrote that “the Price or intrinsic value of a thing is the measure of the quantity of Land and Labour entering into its production, having regard to the fertility or the produce of the Land and to the quality of the Labour. But it often happens that many things which have actually this intrinsic value are not sold in the Market according to that value: that will depend on the Humours and Fancies of men and on their consumption. [...] If the Farmers in a State sow more corn than usual, much more than is needed for the year’s consumption, the real and intrinsic value of the corn will correspond to the Land and labour which enter into its production; but as there is too great an abundance of it and there are more sellers than buyers the Market Price of the Corn will necessarily fall below the intrinsic price or Value. [...] There is never a variation in intrinsic values, but the impossibility of proportioning the production of merchandise and produce in a State to their consumption causes a daily variation, and a perpetual ebb and flow in Market Prices.”

not regard capital scarcity as a problem. Labour was not scarce either, but needed to be allocated a certain amount of land for the production of consumer goods. To intellectual historians approaching the *Essai* in a neo-Walrasian perspective it became natural to construe Cantillon's land and labour as given resources, but Walsh (1987: 318) counters that in the original, labour was a produced commodity available in return for the culturally accepted level of subsistence, and only land was a given non-produced input (cf. Cantillon 1931: 23ff.).

Cantillon (1931: 31-43) thus developed Petty's concept of a '*par*' between land and labour, investigating the assumptions on which the reduction of labour to the produce of land, *i.e.*, to corn, was legitimate: "as those who labour must subsist on the produce of the Land it seems that some relation must be found between the value of Labour and that of the produce of the Land" (*ibid.*: 31).¹⁴⁶ Here, he entered an area which "even today bristles with problems" (Walsh 1987: 318), described in neo-Ricardian language as concerning the aggregation of 'heterogeneous objects', in this case labour and land. In fact, while noting that Petty considered "this Par, or Equation between Land and Labour, as the most important consideration in Political Arithmetic", Cantillon (1931: 43) was rather scornful of the research accomplished thus far, describing it as "fanciful and remote from natural laws". Instead, in his view (*ibid.*: 41; emphasised in French original): "*The Money or Coin which finds the proportion of Values in exchange is the most certain measure for judging of the Par between Land and Labour and the relation of one to the other in different Countries where this Par varies according to the greater or less produce of the Land allotted to those who labour.*"

According to Quesnay, and passed on to later classical economists, Cantillon was largely concerned with the allocation of surplus output, and the treatment strongly implied that this surplus arose only in agriculture (cf. Walsh 1987: 319, Hollander 1973: 40, n. 48): "all the classes and inhabitants of a State live at the expense of the Proprietors of the Land" (Cantillon 1931: 15cf. 43ff.). Landowners could let land to farmers or risk-taking entrepreneurs, but whether wages and prices were left to the market or set to allow a workers' and landowners' consumption at the same rates, resources would be allocated as if they had planned land-use directly (thus providing some sort of case for *laissez-faire*, since this would spare landowners the "care and trouble" of management).¹⁴⁷ Now, individuals would only marry and have children if they could expect a sufficient income, so, in the long run, as in classical economics, population and labour supply adjusted to the demand for labour so as to keep wages at the customarily accepted level, which may be above subsistence and differ between countries, over time, and between different occupations (*ibid.*: 19ff, 79-83; cf. Brewer 1988b: 450). Cantillon used a concept of subsistence, meaning that of the "meanest Peasant" (Cantillon 1931: 39), the level of which differed all over Europe and on which he apparently

¹⁴⁶ In his efforts to find a unidimensional measuring rod, Petty (1662: 45f.) suggested expressing all value ultimately in terms of land: "all things ought to be valued by two natural Denominations, which is Land and Labour; that is, we ought to say, a Ship or garment is worth such a measure of Land, with such another measure of Labour; forasmuch as both Ships and Garments were the creatures of Lands and mens Labours thereupon: This being true, we should be glad to finde out a natural Par between Land and Labour, so as we might express the value by either of them alone as well or better then by both, and reduce one into the other as easily and certainly as we reuce pence into pounds. Wherefore we would be glad to finde the natural values of the Fee simple of Land [...] Having found the Rent or value of the *usus fructus per annum*, the question is, how many years purchase (as we usually say) is the Fee simple naturally worth? [...] the number of years purchase, that any Land is naturally worth [is taken to be] "the ordinary extent of three such persons their lives. [...] In England [...] one and twenty years [...] in other Countreys Lands are worth nearer thirty years purchase [...] in some places, Lands are worth yet more years".

¹⁴⁷ His argument that a planned economy directed by the prince, and a system of princes, can achieve identical allocation of surplus output, had a follower in Steuart (1767), but was then to lay fallow until it was given a formal proof in the 20th century.

presented statistical material in a lost supplement.¹⁴⁸ To be quantifiable it would be necessary to express skilled labour in units of simple or common labour, but he was satisfied that “it is easily seen that the difference of price paid for daily work is based upon natural and obvious reasons” (*ibid.*: 23).¹⁴⁹ Land was also heterogeneous, as Cantillon was well aware, and could be used to produce different crops, but these analyses had to await Ricardo, in the case of a single crop, and Sraffa (1960: 74-78) in the case where different crops are grown.¹⁵⁰

The accepted level of entrepreneurial profits determines their engagement in production, which in turn adjusts output to demand (Cantillon 1931: 53). Thus, equilibrium prices have to cover the costs of entrepreneurial and workers’ wages and landowners’ rents. As worker or entrepreneurial labour becomes a produced intermediate good, long-run equilibrium prices could in the end be reduced to the rent on land in a sort of ‘land theory of value’ (cf. Brewer 1988a, 1988b: 450). He thus attempted to prove that “the real value of everything used by man is proportionable to the quantity of land used for its production and for the upkeep of those who have fashioned it” (Cantillon 1931: 115). This proportionality, however, was only valid on the regional level, while variable *between* regions, and even more between countries. Of course, in Cantillon’s view the labour component in bullion could also be further reduced to the land required to feed the miners. Here the proportionality was particularly indirect, since most countries did not produce it and obtained it only by trading with those who do.

Cantillon appears more or less merely to have accepted the aims of states, merely offering advice on how to achieve them. One such aim was increased population, which was considered a good thing for military reasons. In particular, he stressed a state’s use of its own ships in trade and praised the Navigation Acts. Land scarcity was the only effective constraint, and in a closed economy such as the above, employment accordingly depended on the ratio between labour and land of the output, which in its turn was determined by the composition of demand. Higher real wages would mean that a given territory could support fewer people, and a lowering of employment (*ibid.*: 73, 81-85; cf. Brewer 1988b: 451). Workers living in the manufacturing sector live on the surplus products of the agricultural sector. He nevertheless estimated the level of underemployment (including, however, soldiers and domestic servants), in Herlitz’s (1993: 116) words, “at the formidable proportions of one-half of the labor force.”

However, opening the economic system the external trade in part two, the constraints set by local agriculture can be offset, and employment – and hence population which adjusted accordingly – increased by importing food and materials (comprising much land) and exporting manufactures (comprising much labour). This would correspondingly lower employment and population in the rest of the world, keeping the total unaltered, but concentrated in countries exporting manufactures (Cantillon 1931: 25, 45, 75f., 85, 225-35, 239). Given his assumptions the conclusions seem correct.¹⁵¹ He thus established one of the

¹⁴⁸ That it was not a physical level of subsistence is evidenced by the commodities this labourer was allowed (*ibid.*: 37): “the married Labourer will content himself with Bread, Cheese, Vegetables, etc., will rarely eat meat, will drink little wine or beer.”

¹⁴⁹ Walsh (1987: 318) writes: “Even today not much progress has been made on this problem, and highly sophisticated models blithely assume it out of existence by using a single homogenous labour input.”

¹⁵⁰ Leaving these difficulties behind, to get a consistent Sraffian model, corn would have to be treated as the only commodity strictly necessary (the only ‘basic’ in Sraffian language) and other goods as luxuries (‘non-basics’). Alternatively, one would need to construct a ‘composite commodity’ containing bread, cheese, vegetables, and so on, in fixed proportions, and use this as the unit of measurement for the par. Avoiding the problems of different crops would further require that any parcel of land would produce these in standard proportions. As Bowley (1973: 105) says, “the ‘par’ between land and labour could only be found under special and unrealistic assumptions” (cf. Curzo 1980: 218-40; Walsh 1987: 318).

¹⁵¹ Brewer (1988b: 452, cf. Brewer 1988c) has argued that “If capital were scarce, but internationally mobile, Cantillon’s emphasis on competitiveness as a determinant of employment in particular countries would remain valid, though the details of the argument would not”.

defining characteristics of mercantilism, the export of labour for the import of raw materials. Even more essential was his case for the other defining characteristic, a positive balance of trade (*ibid.*: 235): “Enough to say that it should always be endeavoured to import as much silver as possible.” Or (*ibid.*: 243): “I will conclude then by observing that the trade most essential to a state for the increase or decrease of its power is foreign trade, [...] and above all that care must always be taken to maintain the balance against the foreigner.” Depending on “in what way and in what proportion the increase of money raises prices” (*ibid.*: 161), the effects could be very different. The fate of the mining countries Spain and Portugal inspired a rather gloomy vision of how miners spend their revenue, the increased circulation forcing up prices, and for a while also wages, rents and costs. Imported manufactures displace local production, bloodletting the economy of money. Poverty and misery follow and population declines, so that in the end, only the beneficiaries are miners and foreigners (*ibid.*: 161-7). An increase of the money stock based on foreign borrowing or on the artificial creation of money through credit was unlikely to last (*ibid.*: 191f.; cf. Brewer 1988b: 455). Now, “if the increase of money in the State proceeds from a balance of foreign trade [...] this annual increase of money will enrich a great number of Merchants and Undertakers in the State, and will give employment to numerous Mechanicks and workmen” (Cantillon 1931: 167). After an initial period of saving up, this would gradually increase their consumption and raise the price of land and labour, making everything cheaper in foreign countries and eventually effect competitiveness. However, particularly if conducted in exports of manufactures, “the State may subsist in an abundance of money, consume all its own own produce and also much foreign produce and over and above all this maintain a small balance of trade against the foreigner or at least keep the balance level for many years” (*ibid.*: 169). In Cantillon’s view, the merchants, entrepreneurs and workmen on whom the increase first befalls, are more likely to hoard the money until they can buy property, thus delaying the price rise. If monetary exchange replaces barter the increase of price will be moderated. Just as his contemporaries Potter, Law, and Hume, Cantillon concluded that prices need not rise in proportion to the increase in the money stock (Viner 1937: 36-40; Brewer 1988b: 455). Although the decline of successful trading nations was virtually inevitable, it would take a long time and in the meantime the benefits were well worth having. In contrast to classical economists he did not expect national price levels to be brought to equilibrium, but instead to fluctuate in cycles, because of the long lags in the adjustment process. Newcomers would at first have difficulties rivalling established producers: manufacturing skills took time to learn and were largely transmitted by apprenticeship, while markets were difficult to enter. High prices meant favourable terms of trade, so that the balance may remain favourable even if the quantitative changes of exports and imports were unfavourable. Presumably, it also meant an increased real consumption, as can be seen in the following formulation, opening the third part of his essay rehearsing standard mercantilist policy conclusions:

When a State exchanges a small product of Land for a larger in Foreign Trade, it seems to have the advantage; and if current money is more abundant there than abroad it will always exchange a smaller product of land for a greater.

When a State exchanges its Labour for the produce of foreign land it seems to have the advantage, since its inhabitants are fed at the Foreigner’s expense.

When a State exchanges its Produce conjointly with its Labour, for a larger Produce of the Foreigner conjointly with equal or greater labour, it seems again to have the advantage. (Cantillon 1931: 225.)

The first of these conclusions points directly towards exchange accounted in biophysical, land-based units. The same kind of unequal exchange of ‘a small product of land for a larger’, was to be reinvented by late 20th century ecological unequal exchange, which in this sense could be classified as yet another adventitious bud on the common ‘mercantilist’ stem. In Cantillon, however, it was related also to the economic logic of rising prices through a surplus

balance of trade, therefore, so to speak, improving the 'land' terms of trade. In thus linking gain in land produce to the general money level, it reminds perhaps only of Odum, to whom we shall soon turn (Chapter 21). The second and third conclusions above logically base the traditional stance on the 'export of work' on the same gain in the produce of land, but as is evident from his other arguments, unlike ecologists, links it to increased employment and therefore (eventually) population. There were evident, and prospectively self-reinforcing, benefits for states both in increasing population at the same level of income, and in increasing the average income of population. Like Petty, he (*ibid.*: 191.; cf. Brewer 1988b: 456) saw that state revenues were raised more easily where silver and money abounded, giving political and military advantages: "After all it seems to me that the comparative Power and Wealth of States consist, other things being equal, in the greater or less abundance of money circulating in them *hic et nunc*."

In Blaug's (1985: 21) view, Cantillon (1931: 181), in spite of his mercantilist policy conclusions, presented as clear an understanding of the specie-flow mechanism as anyone would for another hundred years: "We have seen that the quantity of money circulating in a State may be increased", he summarised "above all by a regular and annual balance of trade from supplying merchandise to Foreigners and drawing from them at least part of the price in gold and silver." But as the abundance of money gradually increased, consumption and much foreign produce must be brought in, partly reversing the trend. The new habit of spending increased employment of labourers and the prices of manufactured goods went up, giving opportunities for some foreign countries to set up for themselves the same kinds of manufactures. Taking market shares both in their own country and in that of the original producer, the latter began to lose some branches of its profitable trade, and unemployed workers and mechanics would depart to the new producer country. However, because of the old producers established reputation and because old customer habits died hard, and since they often have comparably low fixed charges and low costs for overseas transports, that state "will for many years keep the upper hand of the new Manufactures [...] and will still maintain a small Balance of Trade, or at least will keep it even" (*ibid.*: 183). If the competitor was another maritime state who also developed navigation, its cheap manufactures would get the upper hand, and the original producer state commence to lose its balance of trade and "send every year a part of its money abroad to pay for its importations" (*loc. cit.*). So it happened that

When a State has arrived at the highest point of wealth (I assume always that the comparative wealth of States consists principally in the respective quantities of money which they possess) it will inevitably fall into poverty by the ordinary course of things. The too great abundance of money, which so long as it lasts forms the power of the States, throws them back imperceptibly but naturally into poverty. (*Ibid.*: 185.)

Money increase will in the long run make goods and manufactures "cost so much that the Foreigner will gradually cease to buy them," thereby "by imperceptible degrees ruin the work and manufactures of the State." While increasing rent of landlords, it will also "draw them into the habit of importing many articles": "The Wealth acquired by a State through Trade, Labour and Oeconomy will plunge it gradually into luxury. States who rise by trade do not fail to sink afterwards" (*ibid.*: 235). Still, although in the end checks on growth were bound to set in, policy could prolong the upswing phase of high prices and shorten the downswing. When a state "expands by trade and the abundance of money raises the price of Land and Labour, the Prince or the Legislator ought to withdraw money from circulation, keep it for emergencies, and try to retard its circulation by means exempt compulsion and bad faith, so as to forestall the too great dearness of its articles and prevent the drawbacks of luxury." Difficulties in knowing when money had become more abundant than it ought to, prompted princes and heads of republics, "who do not concern themselves much with this sort of

knowledge”, to “attach themselves only to make use of the facility which they find through the abundance of their State revenues, to extend their power and to insult other countries on the most frivolous pretexts” (*ibid.*: 185). While managing thus to perpetuate the glory of their reigns, the only economic consequence was to accelerate the collapse of the state a little. As the princely advisor he wanted to be, Cantillon (*ibid.*: 187) cautioned that they ought at least to endeavour to make their power last as long as their own administration. In fact, although Cantillon saw the cycle lasting not “a great many years”, in his view, the upswing in France had nevertheless lasted from 1646, when manufactures of cloth were set up there, to 1684, when a number of Protestant entrepreneurs and artisans were driven out, from which followed a downswing until the time of writing (*loc. cit.*). However low they might have fallen, a “considerable state” could always recommence the circle and revive. In “[n]ot many years”, an “able Minister” was “always able to make it recommence this round”, not by “Violence and Arms” however, through which nations would not fail to decline, but by bringing about “the influx of an annual, a constant and a real balance of Trade, to make flourishing by Navigation the articles and manufactures which can always be sent abroad cheaper when the State is in a low condition and has a shortage of money” (*ibid.*: 193f.).

Thus, as Cantillon’s perspective outruled “permanent growth or to remain in equilibrium at any the but the lowest level”, in Brewer’s (1988b:458) words: “The options are to start on the merry-go-round or to remain stuck in poverty.” Improving quality and reputation of local manufactures, if faster than the consequent price rise, generates a self-reinforcing increase in power and wealth. For Cantillon, as for (other) mercantilists, the world market was limited, so one could only expand exports and population at the expense of others. In his case this assumption was inherent in his basic theoretical framework, Brewer (1988b: 458) argues, where land was the scarce resource and rent the only net income: “Output and demand, on a global scale, are fixed, because land is fixed, and international competition is over market shares.” By contrast to Mandeville and many other mercantilists, he stood for a cyclical view of development, reiterated without clarification by Hume, and assigned luxury consumption to phases of decadence, within limits set by the scarcity of land. “By this,” says Herlitz (1993: 118), “he represents a breach with the mainstream of mercantilism, where the scarcities of nature were always subsumed into the arts of man – as they were into the residual factor in the models of growthmanship of the 1960s!” In modern language, the landowning class was controlling the feedback mechanism, in a sense evoking Malthus’s emphasis on the stimulus of landowner consumption, with whom he also shared the idea of the uncontrollable propensity of the lower classes to breed, and the ultimate limits set by the produce of the land: “The choices of landowners governed the rise *and fall* of population, but always within the limits set by the supply of land and the demands for survival” (*loc. cit.*). The central theme in mercantilist ‘development theory’ was “the opposition of arts to nature and the belief in the unlimited possibilities of the development of arts. Cantillon, like Petty, Mun, Malynes, etc., before him, and Marx and others after him, evoked the distinction between the natural and the artificial. The absolute limits of the rent of land, reminding of the limited source of renewable solar energy in the theory of Odum, left only the refinement of labour and the arts if real value (Odum’s ‘emergy’) was to be enhanced and if the relative position in the inter-state system was to be raised, drawing money, employment, and population with it, and letting it all supported by the inflow from competing nations.

The most advanced modern ecological descendant of Petty’s or Cantillon’s attempted unidimensional measure of ‘value’ – in the ‘real’ as distinct from the ‘price’ sense – is certainly the ‘emergy’ concept of Howard T. Odum, to which we shall now turn, and which arguably is also the most comprehensive and inclusive estimation tool of ecological unequal exchange. In the Chapters following thereafter, we shall then trace the modern developments of the ecological population-resource argument in Chapter 22, and the possibly unequal

exchanges implied in this perspective. Finally, in Chapter 23, we turn to the more Third Worldist versions of ecological unequal exchange. Odum's work is not only the most theoretically elaborated, but also a centrepiece in the evolution of ecological theory itself, notably the ecosystem concept. A central figure in the 'age of ecology', Odum is more of a 'pure scientist' than any of the other contributors to ecological theory of unequal exchange, but this does not imply that either ecology or Odum should be seen as being exempt from significant political motivations and context, though they may be less immediately visible.

Chapter 21. Maximum empower to Odum's empire – ecosystematics and the unequal exchange of 'emergy'

The 'Age of Ecology', as Worster sees it, opened up with the Nuclear Age at the end of the Second World War. This was in two senses, and although Worster's focus has been termed nationalist (MacKenzie 1997: 215), it was perhaps not so flattering for Americans after all. To McCormick (1995: 60) atmospheric nuclear testing was "the first of the truly global environmental issues", although the environmental consequences of atomic bombs did not surface on the American public's mind with Hiroshima and Nagasaki, nor when testing the hydrogen bomb induced radiation-illness on Japanese tuna fishers in 1954, galvanising Asians against nuclear testing and a supported by Schweitzer, Einstein, and the Pope. This only 'counter-galvanised' American's (*ibid.*: 62; cf. Golley 1993: 72). It was all "still rather out of the American focus" (Worster 1977: 345), and only when moved to Nevada for fear of Russian spies and high overseas costs, and hot debris began falling over the Great Basin throughout the 1950s, with fallout blowing even to Denver, Chicago, and Washington, did it begin to become unavoidable: "Here was no distant problem or an easily ignored issue; it was a danger to the elemental survival of Americans" (*ibid.*: 345f.). Radioactive rain in New York State in 1953, set off debates in the scientific community, notably Barry Commoner (1971: 49), who until then, like most, had taken air, soil, and natural surroundings for granted. Stories of bigger and increasingly powerful bombs and about their impact on land and air began appearing in national newspapers. Scientists were mobilised, and the public began to feel concern, reasserting its belief in testing only with the U2-incident and Cuban missile-crisis (McCormick 1995: 62). The American test programme was followed by the Soviet, the British (in or near Australia), and the French (in Algeria and after independence in French Polynesia), with hundreds of detonation even before 1962, well over half of which were American (McCormick 1995: 61, 64; Malm 2003).

Apart from the eventual environmentalist interest these awakened, another more direct link to ecology was visible in Philip Gustafson's (quoted in Golley 1993: 73) 1966 observations on these radioactive releases: "No one would consider the deliberate release of radioactivity by weapons tests on a global scale as a means of undertaking an environmental radiation research program", he admitted, but this had nevertheless taken place with a consequent wide distribution of fission products, that now had opened up 'dramatic opportunities' for such studies, both in meteorology, "with the entire atmosphere tagged with radioactivity," allowing transport and mixing phenomena to be investigated on a global scale, and oceanography, although thus far to a more limited degree, while fallout had permitted investigation of many other aspects of the environment "by novel and creative means", which only waited to be expanded to hazardous chemicals such as carcinogens and pesticides. (Indeed, something similar has happened following the discovery – by grantless researchers – of the ozone hole.)

Before the escalation of the Vietnam War, ecologists were unconcerned by the connections with the military or military activities, seeing instead an opportunity for theoretical development: “Theory and the availability of funds together produced a vigorous research activity” (*loc. cit.*).

In fact, long before it became an issue for the public (including ecologists), nuclear testing had directly stimulated the growth of ecology as a scientific discipline, both regarding technical innovations and economic opportunities (Hagen 1992: 101f.). This extends even to such independent scientists such as James Lovelock, who was working for NASA when originating his Gaia-theory, and, indeed, even to Rachel Carson, whose studies of the ‘sea around us’ were undertaken under the US Bureau of Fisheries, which had been mobilised to learn more about the marine environment in case of nuclear war, and to help devise means to exploit the oceans for food, navigation, and defence (Linnér 1998: 187). An even earlier consequence of this close collaboration between environmental science and the military was the exceptionally active area of radiation ecology, by the mid-1950s organised into an ‘invisible college’ around the Atomic Energy Commission (Golley 1993: 74), and the related development of the *ecosystem* concept as used by the Odum brothers, which was to become a cornerstone for both scientific and political ecologists, and the environmental movement.¹⁵²

Included among the scientists to study the effects of the first H-bomb, then, were both Eugene Pleasants Odum and his younger brother Howard Thomas Odum (1924–2002), with whose thinking the present chapter is concerned (when writing simply ‘Odum’ in the text below it refers to him). After two years as an undergraduate, he joined the United States Army Air Force, receiving training as a tropical meteorologist. Watching the tropical weather patterns with their constant impulses and changing conditions, he started to form concepts of energetic causality. The experience of looking at the earth ‘top-down’ seems an evident inspiration in his approach to look at whole ecosystems, and he often said that that this initiated his interest in the energetics of systems at all scales. Recounting how centuries of scientific progress since Antonin van Leeuwenhoek enlightened the world by looking through the microscope, he suggested that this now had to be supplemented by looking through a “macroscope” in order to face the environmental problems. This was made increasingly possible through daily maps of world-wide weather, high-flying satellites, radioactive studies, macro-economic statistical compilations, etc. (Odum 1971a: 9f.).

Odum studied at Yale under George Evelyn Hutchinson, the British-born pioneer in biogeochemical cycles and limnology, and under his tutoring completed his Ph.D. study on the biogeochemistry of strontium, which he found had remained at a constant level for the past forty thousand years (Odum 1951a: 373; cf. 1951b). Eugene credits Hutchinson’s ideas, transmitted as copies of class notes taken by Howard, as being a key inspiration in his using the ecosystem concept as the organising principle of his and Howard’s *Fundamentals of Ecology* (1953). Since Eugene himself was deeply involved in the lipid metabolism of birds and only the only other reference dealing with an ecosystem topic from this period is his 1955 article on the Eniwetak (at the time ‘Eniwetok’) atoll, co-authored with Howard, who also wrote the chapter on energy in ecological systems, it is probable, as Golley (1993: 67 & 215, n. 8) suggests, that the younger brother’s interest, stimulated by Hutchinson, led to the emphasis on biogeochemical cycles along with the ecosystem concept.

Howard began his teaching career in biology in 1950 at the University of Florida, but owing to his dissertation was recruited by the Atomic Energy Commission. Radioactive markers were to become a basic tool in ecological research, and this was indeed an enormous

¹⁵² Along with Lyssenko in Russia, the European reconstruction, and the proscription of military programs in Japan and Germany, this goes a long way towards explaining the prominence of American ecology. “Further, in Germany there was also the active hostility toward holistic thinking, which had provided a scientific base for national socialism” (Golley 1993: 75), a fear which may now have revived even in the US (cf. Chase 1995).

experiment. The brothers analysed and measured the metabolism of a coral reef, which provided a marvellous example of animal collectivist work and the “emergent properties”, and ‘mutualism’ resulting from it.¹⁵³ Thus, ‘mutualism’ between scientific and military budgets came to stimulate the lesson of social mutualism in dependence on limited resources and energy, and it is an amusing thought that the former should arouse much less agitation than the latter among certain critics of ecologism (e.g., Chase 1995). In the 1950s, the Atomic Energy Commission organised a full scale research program at its production and test facilities, and in 1952 Eugene received one of the first contracts to set up a field laboratory, when the Savannah River atomic weapons plant was built in Georgia (Worster 1977: 364). Together with his students and associates, he began studies of old-field succession on the 300 square miles of abandoned land around the reactors (Golley 1993: 73f.). Other sponsored studies included Howard’s on the radiation effects on the tropical rainforest at El Verde, Puerto Rico, as well as the studies of coral reefs and ocean ecology at Eniwetak atoll.

The Odum brothers were the sons of the influential, and in his day controversial, regional sociologist Howard Washington Odum. Their father’s influence lay not only in turning them towards science (also to escape his towering shadow in social science) and to develop new techniques to contribute to social progress. This kind of liberal progressivism, was referred to by Eugene’s wife as “the Odum drive” (Craig 2001: 3), and by Peter J. Taylor (1997) as a ‘technocratic optimism’, i.e., that use of technical approaches to social issues and optimism about their success, something to which the younger brother seems to have been particularly receptive. The stated purpose of Odum senior’s *Journal of Social Forces* (1922), was to make “democracy effective in unequal places” and particularly to eliminate racial discrimination in the Southern states: “It seems necessary to define a comprehensive democracy and to work out a social organization through which such an adequate democracy may be made effective in the unequal places and to the unequal folk, at the same time that it tends to reduce constantly the ratio of inequality” (H. W. Odum, quoted from Craig 2001: 6). The concern with ecosystem energy flows, for which Howard T. was principally responsible, included societal phenomena already early on, and in the process he was to formulate an ecological concept of unequal exchange. As will be seen, it was conceived not in terms of an energy ‘theory of value’, i.e., of price, in the economists sense, but rather as part of a social reformist’s proposal to organise society on scientifically just principles on lines suggested in the Technocracy movement of the 1930s.

‘Value’ in Odum’s sense was not monetary, but rather, as seen in his 1983 commentary on predecessors, ‘useful work’: “The theory that energy could be a common denominator to measure all useful works was proposed widely with statements by [...] Boltzmann (1905), Oswald (1907, 1909), Soddy (1912, 1922, 1933), and Cottrell (1955).” Speaking of the Technocrats, he noted how their concept of energy value, in the sense of ability to do useful work, was too narrow, but their basic aims appear to have been the same: “In the depression of the 1930s a national organisation, Technocracy, advocated various economic policies based on beliefs in an energy theory of value but one without energy quality or a useful role of money in stimulating energy flow” (Odum 1983: 265). He seems to have agreed with the basic idea that human beings “convert energy drawn from outside their own bodies into social structure, and the greater the amount of energy consumed, all else being equal, the more complex the social structure.” (Coons, quoted in Odum 1983: *loc. cit.*). The problem with an energy theory of ‘value’, in Odum’s view, then, was not that it was in principle misconceived,

¹⁵³ “The Pacific coral reef,” Eugene (Odum 1977: 1290) recalled, “as a kind of oasis in a desert, can stand as an object lesson for man who must now learn that mutualism between autotrophic [green plants] and heterotrophic [organisms feeding on plants, other animals, or detritus] components, and between producers and consumers in the societal realm, coupled with efficient recycling of materials and the use of energy, are the keys to maintaining prosperity in a world of limited resources.”

but that it did not incorporate different ‘qualities’ of energy value. At that time, Odum spoke of energy ‘quality’ in terms of how much direct and indirect energy of a lower kind, such as sunlight, was ‘embodied’ in it, meaning how much that was socially needed to produce it under optimal conditions, and referred to as an ‘energy theory of value’. This also touched upon why people tend to personally evaluate what is actually also energetically valuable:

An energy theory of value is based on embodied energy. If terms and flows have value because of the effects they can exert on a system, and if their abilities to act are in proportion to the energy used to develop them (after selective elimination of those that do not), the value is proportional to the embodied energy in systems emerging from selection process. The energy transformation ratio, by giving the embodied energy per unit of actual energy, provides an intensive factor for value in the way that temperature is an intensive factor for heat. Ultimately, embodied energy *may* measure value because it measures the potential for contributing effects to maximize power and ensure survival. Those who survive regard that as valuable. (Odum 1983: 252.)

Odum saw a parallel between the ‘energy’ and the ‘labour’ theories of value, but the idea had apparently been criticised from a more neoclassical perspective, and he thus explained that he (and Hannon) “joined those proposing energy as a standard of value, whereas many regarded value as a function of effective action or a property of human free choice. Different kinds of meaning were involved” (Odum 1983: 266). He, and other non-economists like him, were thus speaking of ‘real value’, in the sense of the build-up of natural and societal organisation, as a measurable function of energy, whereas others were speaking in the economists language of value as what (believing this to be demand) determined actual prices.

Speaking of Howard T. Odum as a ‘Technocrat’, as Taylor does, is useful and enlightening in many ways, but should be nuanced by distinguishing this influence from that of his father. This is particularly so, since the latter pointed out precisely such a distinction between quantity and quality in evaluation. For Lewis Mumford, Howard Washington Odum, and other ecologically or biologically oriented ‘regionalists’, trying to articulate new criteria for technological development and diffusion of knowledge, the region or community, defined as an antipode to ‘civilisation’, was not merely historical traditions and memories, but a socio-geographic environment and a conditioning place. They were not Technocrats, and H. W. Odum criticised the overextension of instrumental rationality into American life, pointing out the bold contrast between “super-civilisation” and culture, and the dominance of “organization over people, mass over individual, power over freedom, machines over men, quantity over quality, artificial over natural, technological over human, production over reproduction” (quoted in Jamison 2001: 63). The resemblance to Eugene Odum’s plea for landscape ecology will become apparent, and though more ‘technocratic’, or with a greater talent for quantification of quality, it also catches better some aspects in the thinking of H. T. Odum. The inspiration from this older tradition to that holism which characterises both brothers’ approach to ecology has also been pointed out (*e.g.*, Hagen 1992: 122f.).¹⁵⁴

The Technocracy movement is nevertheless important to the understanding of the ecosystem language and imagination, and particularly that of our Odum. It was founded in his

¹⁵⁴ Worster (1977: 363) also observed how like their father, the Odum brothers “believed in achieving a holistic outlook on the world, not being trapped in overspecialisation; and like him, they wanted to see harmony flourish everywhere – harmony in the old divisive South, harmony in the nation, harmony between nations, harmony between humans and nature – instead of bitter, competitive struggle everywhere. Ecology appealed to the boys because it seemed to be a science that dealt with harmony, a harmony found in nature, offering a model for a more organic, cooperative human community.” Eugene leaned towards the softer, biological side, and Howard towards the engineering. Eugene was a good communicator of his theories and observations, particularly of birds. He made only a grade C in his first biology course, which, however, influenced his career profoundly: “It required so much dissection of dead frogs, and my hands got so wrinkled up with formaldehyde, that I decided I was more interested in the living world.” (Quoted in Craige 2001: 14f.) He did his Ph.D. under Victor Shelford, who was Frederic Clements’ associate on *Bio-Ecology* (1940) and the main force behind the Ecological Society of America’s program to preserve natural areas.

childhood in the early 1930s and was immensely popular for a brief while around the transition from the Hoover to the Roosevelt administration, when it overshadowed all other solutions to the Great Depression. Partly inspired by Veblen (1921), they “proposed to replace what they called the ‘price system,’ which they saw as complex, unstable, and arbitrary, with equal allocations of nonaccumulable energy certificates. All materials and work could be measured in energy units; engineers capable of making measurements free from the distorting interests of economics and politics, would organize society better than politicians” (Taylor 1997: 213). Technological development had made the technocratic social order possible, but also necessary. On the one hand, the vast increase in energy utilisation made possible shortening the working week for all, on the other, the increasing complexity threatened disruption of the whole industrial ‘machine’: “In fact, the Great Depression and idle productive capacity proved to the Technocrats and their supporters that the organization of industry had broken down. Only a cadre of engineers using scientific principles could solve the technical problem of restarting running the industrial machine at maximum efficiency” (*ibid.*: 234). There are several similarities with contemporary Marxist interpretations, and arguments for a planned economy, but also with the tradition interpreting society in ‘organistic’ terms, striving to explain the ‘misunderstandings’ behind class struggle. The term ‘technocrat’ usually denotes someone who advocates technical approaches social problems and “believes that he can handle social complexity in a value-free manner, maintaining a distance from specific interests and political details, and that through such nondependency and disengagement he can best serve all” (*ibid.*: 215). Yet, for all their disengagement, Taylor (*loc. cit.*) observes, like that of Plato, “it is typical of social philosophies framed in terms of universal interests that their proponents hold a special place in the proposed social organization.” This ‘technocratic optimism’, as it is well termed, as to the possibilities of a value neutral approach and their own capabilities for orchestrating it, combined with the lessons of organising the war economy and prepared the way for Odum’s approach in the general post-Second World War optimism.

All sciences need and borrow metaphors from somewhere, including among themselves, and are often influenced in more than superficial ways. The progressive conservationist understanding of nature had an immense influence on the future ecological science, and found its way also into the holistic ecosystem, or even cybernetic, approach of the Odums. Although many people wanted to make conservation ‘applied ecology’, Worster (1977: 312) maintains,

it is less commonly realized that ecology, conversely, became “theoretical conservation.” That is, the science came to reflect the agronomic attitude towards nature that progressive conservationists preached. How else are we to interpret the prominence of “productivity,” “efficiency,” “yield,” and “crop” in the New Ecology’s vocabulary? In turn, the New Ecology provided at last the precise guidelines and analytical tools required to farm intensively all the earth’s resources.

The ‘ecosystem’ concept was a further transformation of ecological language. The word was first used by the self-described dilettante Arthur Tansley in a direct attempt to convert the holistic, neo-Lamarckian organicism of Frederic Clements, into more timely mechanist, quasi-organismal currency. Though a long-time defender of Clements’ ideas, with time and extended support (by men such as John Phillips and Jan Smuts) some features of it, illegitimate deductions from it, and political collectivist implications of it, became more aggravating to this friend of Herbert Spencer and Bertrand Russell (Hagen 1992: 79-86). Via the work of Hutchinson, the ecosystem became, with Odum, conceived as a fully cybernetic machine. Like in the approach of the neo-Maltusians, theory set out from demography, in this case more specifically the approach found in Lotka, which strived to link population with its surroundings by interpreting them conjointly as biophysical evolutionary processes.

Along with Hutchinson, H.W. and E.P. Odum, Alfred J. Lotka is the most important intellectual inspiration of H.T.'s approach. Lotka was born in Europe of American parents, and was educated in Germany, France, and England, to become a physical chemist. For much of his life he worked in industry and government, doing unrecognised scientific work in his spare time. In 1922, he proposed that natural selection acts to preserve and increase the numbers of those organisms that maximise the total flux through their system, as long as they managed to stay within the all the constraints of that system: "in the struggle for existence, the advantage must go to those organisms whose energy-capturing devices are most efficient in directing available energies into channels favourable to the preservation of the species" (Lotka 1922: 147). The initial influence on ecologists of his *magnum opus*, *Elements of Physical Biology* (1925) is uncertain (it sold reasonably well for a book of its kind), but its reprint in 1956, became an ecological classic that was widely quoted in the 1960s and 1970s. Lotka himself saw his audience as physicists and chemists, complaining that the main response had come from biologists, and expressing disappointment that – generally favourable – reviewers failed to "hit the spot" and were unable to understand what the book was about (Kingsland 1995: 47). In the meantime Lotka had begun to devote himself completely to mathematical demography, where he attained a high reputation and is remembered for the so called Lotka-Volterra equations. Golley (1993: 58 & 216, n. 13) claims to have found no reference to Lotka in the principal ecological literature of the formative years, and only one by H. T. Odum from the 1950s to the mid-1960s, to Lotka's 1925 book. However, it appeared at least both in Odum's thesis on the biogeochemistry of strontium (1951) and the important essay on "time's speed regulator" (1955). Furthermore, in the 1940s Hutchinson was familiar with Lotka's population biology and referred to it in addition to Gause and Volterra, in his first writing showing an interest in mathematical formulations (cf. Kingsland 1995: 179).

In October 1946, Hutchinson delivered a paper to a conference at the New York Academy of Sciences, sponsored by the Josiah Macy, Jr. Foundation. The speech, entitled "Circular Causal Systems in Ecology", was divided into two parts, each with easily traceable links both to the biogeochemists, Goldschmidt and Vernadsky, and to the biodemography of Lotka, Volterra, and Gause. Each foreshadowed the development of ecology in the 1950s in the hands of his students: the systems ecology of Odum and the community ecology of Robert MacArthur (Hutchinson 1948, Taylor 1997: 217). The Macy conferences constituted a series of interdisciplinary meetings starting in 1946 and continuing until 1953, originally under the name of 'Circular Causal and Feedback Mechanisms in Biological and Social Systems', which was later shortened to 'Cybernetics'. The subject of this particular conference was 'teleological mechanisms'. The introduction was given by an instrumental figure in interdisciplinary ventures such as these, Lawrence Frank, who saw the spirits awaken to "one of the major transitions or upheavals in the history of ideas", and prophesied on the amazing advances which social sciences would make when they had learnt to accept the new conceptions of circular causal processes. Gregory Bateson and Hutchinson believed that such a theory might unify the physical, biological, and social sciences, and allow the success of physics to spread to the others (Taylor 1997: 219f.). The second speaker was Norbert Wiener, the father of cybernetics, who proved to become an important influence behind the ecosystem approach by allowing nature to be understood as a machine, while at the same time acknowledging its purposive and regulatory character. Such 'teleological mechanisms' undid not only vitalism but also cause and effect determinism, and its language was equally applicable to any system, permitting a unification of living and nonliving systems, and in addition social ones – soon, indeed, even thermodynamics had to give way to the more abstract language of 'information theory' (*ibid.*: 219, 221).

The Third speaker was Hutchinson, for whom the divergent currents within ecology and between the two sections of his paper, had a common foundation in that the conditions under which groups of organisms existed were systems of circular causal paths, which were self-correcting within limits. Were the limits exceeded, violent oscillations would drive some elements of the system (the destabilising components) to extinction, and a new balance and a new system would be restored without them (Hutchinson 1948: 221). The fourth and concluding speaker, the initiator and chairman of the conference, Warren McCulloch, struck an even more dramatic note on the same tune, in a self-confessedly utopian vision that “man should learn to construct for the whole world a society with sufficient inverse feedback to prevent another and perhaps last holocaust.” This vision of a cybernetic social science illustrates an important aspect in the transformation from community organisms to feedback systems, Taylor (1997: 222f.) explains: “Freedom from holocaust, and from other social upheavals, might be achieved through the construction of an all-encompassing system of feedback. A systems approach to understanding nature moved easily into a systems approach for engineering society.” Although Odum, who had been invited by Hutchinson to participate, was not impressed by the discussions, he nevertheless shared the basic vision of teleological mechanisms, and in his dissertation described ecology as part of the study of mechanisms of steady states in all kinds of systems, *i.e.*, Wiener’s definition of cybernetics, and, according to Taylor (*ibid.*: 225), took it upon himself to answer the question, unanswered by the conference, of who was to the social engineering: the systems ecologist.

Like Lotka and Hutchinson, Odum made no distinction between living and non-living processes, observing, for example, how Lotka’s ‘stability principle’ ensured that “nature is as a whole in a steady state or is in the most stable form possible and constitutes one big entity” (Odum 1951a: 8). However, Taylor (1997: 225) observes, while Hutchison and many other ecologists referred only to Lotka’s mathematical models, Odum had “grasped the intent of Lotka’s title, namely the analogy of physical biology with physical chemistry”, for example when referring to organisms as “ecocatalysts”, able to “lower the free energy of activation” of each step in a cycle so that the system would reach a different equilibrium than it would without them (Odum 1951a: 325). The same year, Odum (1951b: 407) published a short article based on his dissertation emphasising the ‘stability’ of the strontium cycle, which together with the fact that it included both living and non-living components, was sufficient for him to call it an ecosystem driven by radiant energy (cf. Taylor 1997: 226).

“While other systems ecologists would come to measure variously biomass, population sizes, energy, or essential elements such as nitrogen”, Taylor (*ibid.*: 230) observes, “Odum converted everything to energy.” Or, at least he did so after having studied the strontium cycle. Because all organisms require energy, this ‘currency’ had a special status, and so the first edition of *Fundamentals* suggested that theoretical generalisation in the field would “take the form of biological additions to the thermodynamic principles of physical chemistry” (cf. *loc. cit.*). Influence from Lotka on what came to be Odum’s proposal for a forth law of thermodynamics is evident already from his Ph.D. dissertation (Tilley 2004: 121, cf. Odum 1951a: 6ff., 373). Thus, in 1955, Odum referred to Lotka’s 1922 ‘law of maximum energy’ for biological systems. What was most important to survival was a large energetic output in the form of growth, reproduction, and maintenance, and that organisms with a high output per body-size would win out in the struggle for existence. Noting this, Odum and the physicist R.C. Pinkerton (1955: 332) proposed the following variation: “Under the appropriate conditions, maximum power output is the criterion for the survival of many kinds of systems, both living and non-living. In other words, we are taking ‘survival of the fittest’ to mean persistence of those forms which can command the greatest useful energy per unit time (power output).” They underlined that natural systems tended to operate at that efficiency which produced maximum power output, and that this was always lower than maximum

efficiency, implying that they would tend to a ‘pulsing’ rather than static form – incidentally similar to Emmanuel’s (Chapter 19) characterisation of a market economy, somewhat ironically seen as the ‘natural’ system stood on its head. This maximum power output theorem became a central tenet and theme of Odum’s energy theory, essential to definitions and estimates of ‘energy quality’ or ‘emergy’ (cf. Hall 1995: xiii). Having been formulated by Lotka in 1922, the idea had roots in the 19th century, and was later referred to by Odum (1960: 1) as the fourth law of thermodynamics. Since the second law of thermodynamics, the entropy law, is often called “time’s arrow”, because it constrains processes to go in only one direction, it was not inappropriate to call this fourth “time’s speed regulator”, because it helped to understand the rate at which processes will occur.

Their principle that forms ‘commanding the greatest useful energy per unit time’, *i.e.*, maximum power output, was suggestive for observations on succession and climax societies, and largely evolved in concert with them. The Clementsian concept of climax community evolved, via Tansley, into its modern form with Whittaker (1953).¹⁵⁵ Some of the principal studies on succession were performed by E.P. Odum and his group at the 300 square miles of abandoned land at the Savannah River Plant, undergoing succession all at once. The large size made possible observations which had formerly been blurred by the speed of invading species. After initially high values, primary production established itself at a constant rate, and the ratio of the terminal standing crop of vegetation to the plant production declined. Golley (1993: 103) had continued the study when the herbaceous vegetation changed to perennial grass, finding the same pattern, but with different numerical values: “There was, it appeared, some connection between the number of plant species and the constancy of production. As the vegetation form shifted, a steady state in structural and functional parameters was gradually established and maintained until the next shift in structural form. Presumably, the process would continue until the climax was reached.” Noticing these kinds of observations between plant species richness, or species diversity, and productivity, MacArthur (1955) concluded that the stability of the system was related to the number of possible ways for energy to pass through the ecosystem. H.T. Odum and others studied simple ecosystems that develop in closed containers, finding self-organisation and constructing models with which to compare forests, lakes, rivers, reefs, and oceans. Systems seeded with many available species rapidly evolved an organisation of production, consumption, and recycling, that used more and more of the available energy as self-organisation proceeded (Odum & Johnson 1955: 128ff, Odum & Hoskin 1957: 115ff.). Odum & Pinkerton (1955: 342) observed that in a growing community there is a net increase corresponding to ‘output power’ (which is much less than primary production, since most of this goes into maintenance of the primary producers themselves as well as other organisms): “When the community has passed through its ecological stages of succession and has reached that steady state described by ecologists as the climax, there is no net output and all the energy goes into maintenance, at least theoretically. [...] Under these competitive conditions the primary producers, the plants, which are best adapted may be the types that can as a group give the greatest power output in the form of growth.” According to their argument this should occur “when the adjustment of

¹⁵⁵ “1) The Climax is a steady state of community productivity, structure and population, with the dynamic balance of its populations determined in relation to its site. 2) The balance among populations shifts with change in environment, so that climax vegetation is a pattern of populations corresponding to the pattern of environmental gradients, and more or less diverse according to diversity of environments and kinds of populations in the pattern. 3) Since whatever affects populations may affect climax populations, this is determined by, or in relation to, all “factors” of the mature ecosystem – properties of each of the species involved, climate, soil, and other aspects of site, biotic interrelations, floristic and faunistic availability, chances of dispersal and interaction, etc. There is no absolute climax for any area, and climax composition has meaning only relative to position along environmental gradients and to other factors.” (Whittaker 1953: 61; cf. Golley 1993: 100f..)

thermodynamic force-ratio of the plants, not of the whole community, R , is 50 per cent”, meaning that the community of maximum possible size would thus be supported.

For two climax communities which have similar rates of respiration per unit mass of biological material, the ratios of community standing crops to primary plant productivity should be similar. Thus there is reason to expect productivity and standing crop mass of biological material (biomass) to have a definite relationship under climax conditions. Communities which do not have the maximum biomass would pass through successive generations until they achieved this condition. (*Loc. cit.*: 342.)

The conclusion to this was the oft noted generalisation that harvestable crops on a sustained basis can be expected only from communities of a successional rather than climax type, or, in other words, from communities in the early stages of succession.

In an important article from 1963, Ramón Margalef documented the bioenergetic basis for succession and extended the concept with analogies to selection. The “keeper of organisation” of the ecosystem was the ratio of primary production to total biomass, which lowered with succession towards maturity. This could be seen in a richer and more complex structure, more complete use of food, greater proportion of animals, more steps through which energy flowed, and a decrease of energy flow per unit of biomass.¹⁵⁶ Species diversity was observed to peak in the early or middle stages of succession, declining again in the climax, although other trends could also be found.

In what came to be an environmentalist classic, E.P. Odum (1969) summarised these observations on succession into a “strategy of ecosystem development”. It voiced the ecological textbook concept of growth and succession towards a mature, steady-state climax (with overshoot). Seemingly contradictory experience from the eutrophication of lakes, implied instead the need for landscape ecological studies of the entire drainage or catchment unit, and he regretted that the “obvious logic” of this proposal had not caught on in the proposed International Biological Program (*ibid.*: 263; cf. Golley 1993: 143-151 and H.T. Odum 1967a: 416). Succession was defined as an orderly, directional and predictable process of community development, resulting from modification, within limits, of the physical environment by the community, that “culminates in a stabilized ecosystem in which maximum biomass (or high information content) and symbiotic function between organisms are maintained per unit of available energy flow” (E.P. Odum 1969: 262). Thus, “the ‘strategy’ of succession as a short-term process is basically the same as the ‘strategy’ of long-term evolutionary development – namely, increased control of, or homeostasis with, the physical environment in the sense of achieving maximum protection from perturbations” (*loc. cit.*). As concluded by H.T. Odum & Pinkerton (1955), he pointed out that this strategy to achieve a ‘maximum support of complex biomass structure’ often conflicted with man’s goal of ‘maximum production’, to obtain the highest possible yield.

In line with the lessons from the Eniwetak atoll, the net result of the former was “symbiosis, nutrient conservation, stability, a decrease in entropy, and an increase in information”, and the strategy, as said, “directed toward achieving as large and diverse an organic structure as is possible within the limits set by the available energy input and the prevailing physical conditions of existence (soil, water, climate, and so on)” (E.P. Odum 1969: 266). Biotic control of grazing, population density and nutrient cycling often provided the chief positive feedback mechanisms that contributed to stability in a mature system by preventing

¹⁵⁶ “Links between the elements of an ecosystem can be substituted by other links that work with higher efficiency, requiring a change in the elements and often an increase in number of elements and connections. The new situation now has an excess of potential energy. This can be used in developing the ecosystem further, for instance, by adding biomass after driving more matter into the system. A more complex state, with a reduced waste of energy, allows maintenance of the same biomass with a lower supply of energy – or a higher biomass with the same supply of energy – and replaces any previous state.” (Margalef 1963a: 137ff.; cf. 1963b.)

overshoots and destructive oscillations (*loc cit.*).¹⁵⁷ Man's attempts to obtain the highest possible "production" from the landscape, disregarded other services of gas-exchange, water-purification, nutrient-cycling, and other protective functions, done to man and the earth in common. Driven to its extreme, it was "suicidal": "the landscape is not just a supply depot but is also the *oikos* – the home – in which we must live", and the safest and most pleasant was certainly one of "a mixture of communities of different ecological ages." For the lack of governmental ecosystem understanding and analysis, "there is no effective mechanism whereby negative feedback signals can be received and acted on before there has been serious overshoot", and those organisations rising to the urban-rural challenge had not become operational (*ibid.*: 266f.). Although he had many suggestions, E.P. Odum went beyond this mere regulatory approach, realising, with Hardin (1968: 1247), that there was no technical solution to the problem of population and pollution, that a mere moral education pleading to our consciousness, was not enough, and that if a solution was to be achieved it could only be through moral and legal means of "mutual coercion, mutually agreed upon by the majority of the people affected."

H.P. Odum's extension of his ecosystem theories to the societal level began in earnest only in the 1970s, and for the time being he was more engaged in technical solutions. After returning to the University of North Carolina in 1966, he began his first explorations into ecological engineering, studying how constructed marine ponds self-organised under the influence of nutrient rich effluent waters from the city's waste treatment plant. He spent nearly a decade researching into wetland systems for wastewater treatment. In 1971, he returned to the University of Florida, and initiated his program in Systems Ecology, where his ideas matured into a generalised systems approach, and the concept of 'energy quality' or 'embodied energy' emerged (Odum 1973: 220-7, 1974: 15-9, 1976), or, as it was later to be called, 'energy memory' or 'emergy'.

In his influential 1971 book, *Environment, Power, Society*, Odum (1971a: 85f.) recounted the story of how the energy input of 'dilute' sunlight falling on leaves and plankton, through photosynthesis could be 'stored', and 'concentrated': "The stored energy of organic matter produced over a broad surface at a slow rate is then collected and concentrated by the consumer systems of animals and of tree twigs and limbs. The cost of the concentrating work is paid for from some of the collected food." Thus, through the decrease of total power in available form, the energy 'concentration' increases: "The protein content and other aspects of quality of the organic matter increase with the concentrating process. By combination the trend in nutritional quality is toward chemical diversification and toward the more exact composition of the body structures of complex higher animals, containing proteins, vitamins, and so forth." He (*ibid.*: 115) also observed: "Beginning in the last century, man began to develop an entirely new basis for power with the use of coal, oil, and other stored-energy sources to supplement solar energy. Concentrated inputs of power whose accumulation had been the work of billions of acres of solar energy, became available for manipulation by

¹⁵⁷ The idea that biodiversity increased stability was initially supported by observations, had an intuitive ring about it, and theoretical support in MacArthur's (1955: 534) conclusion: "The amount of choice which the energy has in following paths up through the food web is a measure of the stability of the community." The source of the idea was given as Odum & Odum's *Fundamentals* (1953). When examined at a later workshop found wanting: no universal pattern holds (Golley 1993: 99). Nevertheless, the idea caught on in the environmental movement. E.P. Odum (1969: 265) had pointed out that biochemical diversity had been much less studied than diversity of species, so that few generalisations were possible, but that "it seems safe to say that, as succession progresses, organic extrametabolites probably serve increasingly important functions as regulators which stabilize the growth and composition of the ecosystem. Such metabolites may, in fact, be extremely important in preventing populations from overshooting the equilibrium density, thus in reducing oscillations as the system develops stability." The idea has received further theoretical support in Lovelock's homeostatic "Daisyworld"-models, which follow in straight line from Lotka and the ecosystem concept of the Odums.

man.” According to Ulgiati & Brown (2004: 201), this latter passage was the first time Odum touched upon the idea that different forms of energy had different ‘qualities’. (Incidentally, speaking of fossil fuels as ‘acres’ of solar energy, he certainly preceded Catton [1980] in assuming an area-based common standard, although the idea is perhaps not so grand in itself; on the ‘subterranean forest’ cf. Sieferle 2001). Apart from the contrast with preindustrial society, there were also suggestive concerns in food science itself, which in the 1960s was very much concerned with the alleged worsening food quality and lack of protein, believed at the time to be a major factor in malnutrition (Djurfeldt 2001: 29), that was captured in Borgström’s sensational exposure (in English in 1965) of this so called “calorie swindle”. The ambitions of the Green Revolution were probably of more direct importance for Odum. Beginning in about 1966, he referred to “energy of one kind” as the common denominator with the name “energy cost”, and in a presentation to the President’s Advisory Committee on World Food Supply on the ‘energetics of food production’, he referred to the enormous energy subsidies involved in the Green Revolution, that opened for delusions regarding the capacities of science to develop means for feeding growing populations (Odum 1967; cf. Odum 1995: 318, Brown & Ulgiati 2004: 202). Reviewing an issue of *Scientific American* on ‘Energy and Power’, he (1972: 246) suggested the futility of trying to better the total energy efficiency of photosynthesis: “Sunlight is dilute energy, and the costs of concentrating it have already been optimized and yield maximized by the millions of years of natural selection for this maximization.”

The chapter in his 1971 book on the power basis for man, compared different types of energy and energy support systems, ‘net yield’, and spoke of how man in the United States “spends large quantities of high-grade potential energy in his support system, also converging the output of many acres of solar energy to support each man” (Odum 1971a: 38). Early in the 1970s, in response to the interest raised by the sharp advance in energy price, Odum also testified in Congress that alternative energy sources should be evaluated as net energy, not just gross, which prompted the introduction in 1975 of a federal law requiring just such analysis (although it apparently tends to be little used). A compressed presentation of his ideas appeared in *Ambio* (1973), where the ‘net energy’ concept is explained: “*The true value of energy to society is the net energy, which is that after the costs of getting and concentrating that energy are subtracted*”. Here he argued that not only ‘soft’ alternative energy sources, but also nuclear energy would only barely bring positive yields. Even though the quantity of solar energy was more than enough, its ‘quality’ was too low, its energy too diluted, and would never be a substitute for coal or oil. The ability to do work for man depended both on the quantity and the quality of the energy, and could be measured by the amount of energy of a lower grade required to develop the higher grade (cf. also Zucchetto 2004). A prize speech held in Paris in 1975, on “Energy Quality and Carrying Capacity of the Earth”, contained a table of ‘Energy Quality Factors’, which spelled out how many kilocalories of sunlight energy was necessary to make a kcal of a higher quality energy. He also explained the related energy hierarchy principle that energy quality was measured by the energy used in the transformations from one type of energy to the next (Odum 1976). If it is not too self-evident, it should perhaps be pointed out that the principle did not work ‘backwards’, so to speak, making mere waste what defines quality.

Brown & Ulgiati (2004: 203) see an inextricable connection between ‘net energy’ and ‘energy quality’, “since the ‘true costs of getting and concentrating energy’ included not only high quality fossil fuel inputs but also human services and environmental inputs and these inputs required ‘quality corrections’.” Odum’s energy quality concept was not so well received, and the scientific community seemed intent on defining ‘net energy’ strictly as the fossil fuel energy required per fossil energy delivered. Ten years later this was known as the Energy Return on Investment (EROI). From the mid 1970s onwards, Odum himself

was by contrast increasingly focused on developing his theory of energy quality and its definition. Together with his wife, Elisabeth C., he thus came up with the concept of 'embodied energy', introduced in *Energy Basis for Man and Nature* first published in 1976 (Odum & Odum 1981; the extent and character of E.C.'s contribution is unfamiliar to me).

The book was divided into three parts: the first on how flows of energy build and operate systems introduced energy principles and the flows of energy in the environment; the second discussed different energy systems supporting humanity in industrial and pre-industrial societies; the final part, on the energy crises, examined possibilities for the future. I shall concentrate on the aspects concerning energy qualities and trade.

The chapter on energy and money established that the money cycle is an example of a cycle driven by and dependent on the steady inflow of energy, but flowing in the opposite direction from the usual (non-monetary) cycles of matter and the flow of energy. In Cleveland's opinion, the countercurrent flow of energy and money was one of Odum's two most important contributions to biophysical economics, the other being his concept of energy quality:

He pointed out that wherever a dollar flow existed in the economy, there was a requirement for an energy flow in the opposite direction. Money is used to buy goods and services, of necessity derived from energy. Each purchase operates through the economy as a feedback, stimulating more energy to [be] drawn from the ground and into the economy to produce additional goods and services. Money circulates in a closed loop, whereas low-entropy energy moves in from the outside, is used for economic tasks, and then leaves the economic system as degraded heat. Odum also observed that the large natural energy flows of solar radiation, water, wind etc. that are essential for life, have no associated dollar flows. The cost of using these energy flows do not, therefore, enter into economic transactions directly, often leading to their misuse or the mismanagement of life-sustaining environmental services. (Cleveland 1987: 59.)

The Odums' wish to correct the misdirected signals due to the dependence on money as feedback mechanism is clear already from this summary.

They then involved themselves in the debate on mercantilist or Keynesian policies: "When money goes out of one industry as purchases it must come back in with sales – if the business is to continue. A *balance of payments* is required for each part of the economic system. Many ideas about economics have to do with stimulating or retarding the circulation of money in order to stimulate the production of real value. But the real basis of the economic system is *outside* the money circle" (Odum & Odum 1981: 45f.). The federal government of the United States attempted to stimulate the economy by increasing the amount of circulating money, and they apparently succeeded in that it caused more to be spent, thereby allowing some new projects to be started, and spurring some growth. As long as there was unused energy to be tapped, "adding money stimulated growth and caused new energy to be drawn into the economy"; the inflationary decrease in value of people's savings was like a tax, converted into new governmental projects which stimulated the economy to grow (*ibid.*: 46ff.). The success of a policy of governmental spending would depend on the rate of inflowing energy. They believed that whereas in the depression of the 1930s there was abundant available energy, in the 'oil crisis' of the 1970s the problem was instead a shortage, and therefore increasing money would not stimulate the inflow of energy (*ibid.*: 50f.).

Systems had internal storages of structure, referred to as capital assets, that included buildings, people, food stocks, information, culture, education, memories, "and all other things that we regard as useful, valuable, and subject to depreciation" (*ibid.*: 51f.). These constituted assets to a self-organising feedback system, from which the means to continue old activities, pump in more energy, and start new activities were drawn. Accumulation occurred when inflow exceeded usage, depreciation, and other outflows, but already maintenance required a continual inflow to compensate for the unavoidable depreciation (*e.g.*, friction, entropy, memory loss).

Since money was exchangeable only between people, not between the parts of a natural ecosystem, it could not be used as a measure of value for most of the energy involved in developing resources. Money could measure only the work of the fisherman, not of the estuary. It circulated to pay only for the feedback from the main economy to the primary producer. “Money is inadequate as a measure of value, since much of the valuable work upon which the biosphere depends is done by ecological systems, atmospheric systems, and geological systems that do not involve money” (*ibid.*: 55f.). Price did not indicate how valuable the environmental input was to the economy, and as illustrated by virgin sources, tended to be small when the embodied energy was large: “When the inflow from the environment is greatest, contributing most to the economy, the price may be the least, since the source is so rich that little is fed back to process it” (*ibid.*: 55). Instead, the only way to calculate the ‘real value’ of an external input to the economy was with some kind of energy evaluation: “Evaluating externalities for their ultimate value to the economy is done by evaluating embodied energy inflow” (*ibid.*: 56).

The authors explained different kinds of energies, and particularly their varying quality and concentration. Energies which differed in quality differed in their ability to do work, and it took more energy of one kind to upgrade it into another kind. The total energy required for a product was now called the ‘embodied energy’ in that product, and should include not only fuels but also the energy flows of materials and work needed for a system and its operation (*ibid.*: 26). Embodied energy was the energy required to generate a flow, the total energy that supported and maintained a high-quality process such as a human being or his society, expressed in calorie equivalents of one type of energy: “It is the energy which has already passed through many transformation processes, most being dispersed into used form while transforming the remaining energy into a high-quality form” (*ibid.*: 44f.). An individual human being used perhaps 2,500 kcal of food per day, making about one million a year, but this was much less than the embodied energy, which was his share in the “country’s”, or rather the world’s, whole energy budget, including the work of generators, farm machinery, vegetation, industry, and so on.¹⁵⁸

Before going into international energy (or embodied energy) flows, something should be said of the different energy (or embodied energy) assets or storages of nations. Whereas most nations had substantial solar energy, they differed with respect to high-quality energies (fuels and developed assets). The four principle categories identified by the authors were nations (1) with both developed assets and sufficient domestic supply of fuels and critical raw materials; (2) with developed assets, but lacking in fuels and raw materials; (3) lacking in developed assets, but with more fuels and raw materials than they use; and finally (4) without either developed assets or sufficient fuels and raw materials (*ibid.*: 213). This tetrad, which of course could be applied to any geographical level, may seem simplified to the extreme, but when compared to the popular grouping among later theoreticians of ecological unequal exchange into only categories (2) and (3), it is certainly to be preferred. To it, the authors also attached somewhat cut-and-dried development patterns: category (1) “soon” moves to (2) and “ultimately” to (4), whereas (3) “seem to be moving” into (1) (such as in the case of the United States).

The ability and necessity to trade was obviously influenced by internal energy resources. Neglecting other influences on prices, or perhaps *ceteris paribus*, the more energy sources a country has within its borders, the cheaper it can sell its goods and services, the more of the market it captures, and the larger its volume of trade. But the thing that matters is, they

¹⁵⁸ The concept is simple enough and in the second edition (*ibid.*: 47) was illustrated by a cartoon, ‘Beetle Bailey’, by Mort Walker. ‘Sukhatme’s rule’, so called, had recently established the physiological minimum to cover necessary energy and protein intake at 2,200 kcal a day, corresponding to ca. 600 grammes of cereal (Djurfedlt 2001: 28).

explain, whether the energy stimulus received is greater than the energy required to generate the exports (*ibid.*: 214).

To illustrate the ‘embodied energy in trade’ the Odums considered a country exchanging fuels, minerals, and raw materials, embodying more energy, for finished products, embodying less, where payments were in balance. In this case the money received for the raw materials would not buy the same amount of embodied energy in finished goods, and the economy of the country buying the raw materials would be stimulated. In this way the Odums found support for what amounted to a of policy import substitution, and one which is recognisable from the earliest mercantilists onwards. By selling raw materials a country sent its embodied energy away, got less economic activity (than if processing at home), and less total purchasing power. The important balance of trade was not that in money, but in embodied energy: “When a country get more embodied energy either from within its borders or through trade, its money represents more embodied energy and becomes more valuable (it buys more). The vitality of the economy depends on the balance of embodied energy, not the balance of money payments” (*ibid.*: 216). Unfortunately, they did not consider problems of terms of trade explicitly, although this is what their example with a balanced trade in money terms and imbalanced in embodied energy terms amounts to. If prices of a country’s goods are raised, *e.g.*, following a wage-increase, this would also shift the embodied-energy terms of trade.

Exchange does not necessarily imply that one party loses and the other gains, since the complex forms of production that support human beings can be maximised by bringing together the various outputs of energy-specialised regions, in an energy version of comparative costs: “Diversity of energy flows can generate additional energy. Exchange and world trade can increase flows of energy by eliminating special shortages in some areas.” (*ibid.*: 214) This – which which must surely complicate the concept, or at least the calculations, of ‘embodied energy’ – happened if the energy gained to the overall system exceeds the energy required in the transportation and in the administration of the exchange. The added inflow of fossil fuels historically accelerated transportation and facilitated world trade, thus favouring organising activities on a large scale. Whether in this case gains had made up for losses was perhaps less certain, and so the authors (*ibid.*: 214f.) concluded that if “the energy required for swapping and transportation is higher than the gain to be made by the exchange, then supplying the necessity locally is better.”

Adding some systematisation, and denoting gain (+), loss (–), and equal gains and losses (=), in the trade between two countries (A, B) there are $3^2 = 9$ possible outcomes, but as A and B are interchangeable denotations we narrow it down to the following:

(1) Mutual gain	A (+), B (+)
(2) Gain to the one and loss to the other	A (+), B (–)
(3) Gain to the one and equal gains and losses to the other	A (+), B (=)
(4) Mutual gains and losses to both	A (=), B (=)
(5) Loss to the one and equal gains and losses to the other	A (–), B (=)
(6) Mutual loss	A (–), B (–)

In all but the fourth, which is by definition balanced, there are conceivable inequalities of exchange. In the case of mutual gain, as in conventional economic theory, the gain to the one could be greater than that to the other. Should there be mutual loss, the same unequal partition is of course possible. Finally, the gain to the one need not equal the loss to the other, so that even in this case could there be overall gain or loss to the system.

In 1983, the concept of ‘emergy’ was introduced, on the suggestion of a visiting scholar from Australia, David Scienceman. From 1967 to 1984 Odum had used the names ‘energy cost’ and ‘embodied energy’ to put different kinds of energy on the same basis. Now, the term

‘embodied energy’ had also caught on with others, but was in their usage not really including *all* energy inputs, nor was it used to imply quality. Since it had proved ambiguous, in 1982, Odum switched to ‘embodied solar calories’, denoting the quality factors transformation ratios, and then to ‘emergy’, standing for ‘energy memory’ or ‘emergent property of energy use’ (Odum 1988a: 1139, *n.* 11), and defined as follows:

EMERGY is the available energy of one kind previously used up directly and indirectly to make a service or a product. (*E.g.*, Odum 1996: 7.)

In Brown’s (2003: 296; cf. Brown & Ulgiati 2004: 201) words this is probably the “most criticized”, “most creative and least understood concept”, in all of Odum’s body of work – a “powerful mixture of common sense, ecological energetics, and thermodynamics”. Scienceman had also suggested the terms ‘emjoules’ and ‘emcalories’, to distinguish emergy units from units of available energy, while the expression ‘transformation ratio’ gave way to ‘transformity’. With use and discussion at weekly ‘systems seminars’ at the University of Florida, concepts, methodology, and language were refined and added to (Brown & Ulgiati 2004: 203f.). Odum (1983) had just published a textbook in systems ecology, in which his system’s language, the energy circuit language, was fully explained and the kinetics and mathematical substructure given. These developments have made the whole emergy and systems-ecological construct unsurpassed in width, well-ordered structure, inclusiveness, and potential usefulness, but unfortunately also turned it into a specialist language which, though well-defined, is difficult to communicate to others, without turning them into Odumologists, and may ultimately be what breeds the suspicion of technocracy.

In 1987 and 1988 Odum gave coherent presentations of his transformity and emergy concepts. Transformity, the energy of one type required per unit of another, is used as an energy scaling factor for the hierarchies of the universe. Insight into such transformation ratios came from the ecological energetics of food chains or webs. Each time energy was transformed as it flowed through the typical web-like design of an ecosystem, most of the available energy was degraded and dispersed as a necessary part of generating a smaller amount of energy of another type. At each stage, energy is necessarily degraded and the energy flow decreased. The latter was defined as of higher quality because it required more resources to maintain, making ‘quality’, one might say, consumer biased. This higher quality, but lesser quantity energy fed back as controls, reinforcing the production process. The released by-product materials recycle back into the production process. Ecosystems, and possibly all systems, were organised in hierarchies, Odum argued, because this design maximised useful energy processing. Since ecosystem designs with greater energy use displaced other transient conditions, the trial and reinforcement process of self-organisation continued (provided the species and genetic variation was available) until the state was reached that maximised power, *i.e.*, the rate of useful transformation of available energy, for that resource condition (Odum 1988a: 1133). By implication, the same was true of social systems.

Because of the necessary losses in transforming solar energy – let us say, into a graduate student or a pile of excellent birchwood of equal weight – it is incorrect, Odum would say, to use energy (or exergy) as a measure of the work they perform when energy from more than one part of the transformation hierarchy is involved. It is, for example, already recognised that it takes 4 J from coal to make 1 J of electricity. So, even though the pile of birchwood ultimately produces more heat at combustion than does the graduate student, some probably feel that this would somehow be wasteful, perhaps, as Odum would have it, because to produce any graduate student would require a much greater amount of solar energy, perhaps even in the form of birchwood. But then again, others would not, and prefer to use the more common measure of ‘exergy’, or ‘available energy’, in which such higher quality differences

in the ability to do work are not included (cf. Spreng 1988, Slessor 1993, Ayres 1998, Hornborg 1998).¹⁵⁹

In the more complete Crafoord presentation, transformity is explained as follows:

Extending food chain concepts to thermodynamics generally, we defined a new quantity, the *transformity*, which is the amount of energy of one type required to generate another type (in real competitive conditions of optimum loading for maximum power). (Odum 1988b: 27.)

The parenthesis is important, since it reminds us that not just any old hierarchy is good enough, which is perhaps not always apparent from Odum's writings or examples. When not taken from nature, he seems to have found them in the social worlds he was most familiar with, the military¹⁶⁰ and Academia¹⁶¹ where 'competitive conditions of optimum loading for maximum power' can hardly be guaranteed, and thus correct transformities and emergy values not be established. Indeed, they may equally well be ruled by the 'injelitance' (*i.e.*, by individuals with unusually high combinations of incompetence and jealousy) observed in Parkinson's law. Odum (1988b: 73) appears himself to have experienced some such grievance: "I deeply regret any threats to the careers of others I might have caused by advancing theory faster than is customarily credible in science". All in all, no hierarchy or component part of it can *per se* be justified by the principle of maximum power. Odum furthermore suggested that the 'Maximum Power Principle' should more correctly be the 'Maximum Empower Principle', on the rationale that maximising power would favour high power, low transformity processes, which, he believed, would not prevail in competition with more complex systems of low power but high transformity. By now, just as climax and overshoot seemed at long last to enter sociology (Catton 1980), Odum (1988a: 1134) followed instead the 'pulsing' paradigm as the most general one in nature. He computer simulated and visualised how, in reality, a pulsing pattern tended to maximise long-range performance. Waves of consumption alternated with waves of production, convergence with divergence, at a frequency depending on turnover times, a timing correlated with size and hierarchical position, and an impact on other hierarchical levels that was, in his view, greater the higher up the pulsing occurred.

¹⁵⁹ Unlike energy, 'exergy' is not a conserved variable, but can be lost or gained, stored and accumulated; exergy inflows and outflows to and from any system are defineable and measurable. In Ayres (1998: 192f.) description: "Exergy is defined as the potential work that can be extracted from a system by reversible processes as the system equilibrates with its surroundings. It is, in fact, the 'useful' part of energy and is what most people mean when they use the term 'energy' carelessly (as in economics). There are four components of exergy. They are: (i) *kinetic* exergy associated with relative motion; (ii) *potential field* exergy associated with gravitational or electromagnetic field differentials; (iii) *physical* exergy (from pressure or temperature differentials), and (iv) *chemical* exergy (arising from differences in chemical composition). [...] In considering mass flows into and out of economic (*i.e.* industrial) processes the first three components of exergy can be safely neglected." Of course, Ayres does not consider exergy to be the *only* factor of production, and so neither a unidimensional measure of value.

¹⁶⁰ Apart from food chains and the self-organising aquariums he studied in the 1950s, his favourite example from human societies is probably that of a military hierarchy: soldiers report to corporals, who report to sergeants, who report to lieutenants, etc., while control goes in the opposite direction (*e.g.*, Odum 1988b: 22f.). But did this guarantee 'quality' of decisions, energy or other? How about the guerrilla warfare of the Vietnam War? A U.S. pilot is reported to have said: "Well, it is a little exaggerated. We're applying a \$18,000,000-solution to a \$2-problem. But, still, one of the little mothers *was* firing at us" (McLuhan & Fiore 1968: 97). In fact, Brown (1977a; 1977b), one of Odum's associates, did make an evaluation on 'embodied energy' lines of the Vietnam War. If Odum's close affinities with the military made the example present itself immediately, he appears to have become more sceptical as a result of the war in Vietnam.

¹⁶¹ In an evaluation of whether it would be better for a university president with some unallocated money to spend it on a cogeneration plant to save utility costs, or for academic purposes, Odum admitted that the answer "requires the difficult, still unfinished EMERGY evaluation of the academic feedback contribution of the university in providing high-transformity information to operate the whole state system" (Odum 1996: 235).

Before proceeding with Odum's 'emergy' theory of unequal exchange, we shall look at some of the criticism which has been levered at it, both from ecology and economics, notably on its limited scope, in spite of its all-inclusive ambition. An attempted systematic critique of Odum's ecological theory has been forwarded by Månsson & McGlade (1993). Referring to it as 'Odumania', Månsson & McGlade (1993: 589f.) criticised what they took to be his five key conjectures: (1) "All significant aspects of ecosystems can be captured by the single concept, energy; (2) "The formalism of an energy circuit language is sufficient for a holistic approach to be developed"; (3) "Systems evolve so that the "power" is maximized, i.e., according to the maximum power principle"; (4) "Hierarchical structures, systems boundaries and compartments can always be deduced and taxonomically resolved"; (5) "Ecological succession is due to the maximum power principle applied to ecosystems", culminating "in stabilized systems with maximum biomass and symbiotic function between organisms per unit of available energy flow". Trying to respond to each of them, Patten (1993: 598) also replied that the technical points raised by Månsson & McGlade did not touch the heart of Odum's real contribution, which lay in ecological organisation rather than ecological energetics. Just as Darwin's discredited 'pangenesis' were not essential to his evolutionary paradigm, Odum's energetics was not essential to his own holistic one.

The first point of criticism hinged on his allegedly taking 'energy' as an appropriate 'currency' or numeraire with which to describe system function and evolution. They pointed out shortcomings in Odum's use of this term, but unfortunately had little understanding of the term *emergy*, which is what *actually* plays that pivotal role in Odum's system, and which is not subject to the same kind of criticism that they level against the currency of energy or exergy. Emergy and transformity appeared only in the conclusion and were brushed aside (Månsson & McGlade 1993: 593) as "inoperational since the actual quantities are almost entirely arbitrary [and] cannot even in principle be established for a non-climax (non-stationary, nonequilibrium) system; they are wholly dependent on the maximum power principle", a charge denied by Patten (1993: 599f.) Månsson & McGlade nevertheless have a point in that even the emergy language or currency is reductionist (cf. 1993: 584, 587 on niches and its multidimensional spaces, and below on 'matter'). Patten (1993: 599) on the other hand countered that the reductionism was only apparent, and that energy equivalents were used as "markers or tracers to discern the connective networks [...] within his system", for which purpose others may prefer other substances, "complex multicommodity storages and flows", or simply "meals". They did "not have to explain everything about ecosystems to be useful for what it does explain", and "to unravel certain design features of ecosystems". The thrust of his theory was not *emergy* organisation but simply *organisation* of complex systems.

The second (Månsson & McGlade 1993: 590) point referred to the both excessive and too simplistic formalism implied in the energy circuit language, and was also related to the implied reductionism, since there were many things which could not be said or shown in this language. It is at least easy to agree that it is not very pretty, and is unlikely ever to become communicable to other than those already inclined towards reductionism and systems theory. Patten (1993: 600) agreed that Odum's language and models followed the lead of engineering and assumed linearity, but argued that his flaw was rather his belief that it could replace mathematics. The third point referred to the vagueness and implications of applying Lotka's 'maximum power principle', against Lotka's own advice, as a principle of evolution. Again, Odum himself had already reformulated it as a 'maximum empower principle', which of course is not to say that there may not be problems with it. Noting that for Odum the principle's applicability referred to an 'optimal design' criterion for ecosystems, a concept not invented in Lotka's time, Patten (1993: 600) challenged the relevance of Lotka's reservations and pointed out that they would have been evident to any field ecologist. The fourth point

referred to problems of compartmentalising complexity, when ecosystems may not even be decomposable (Månsson & McGlade 1993: 590). According to Patten (1993: 601) it was just yet another, in this case a fanciful and erroneous, idea of a creative mind, but which was not essential and could easily be ignored. The fifth point (Månsson & McGlade 1993: 591) referred to the relation between the successional oscillation prevailing in natural systems and Odum's proposed maximum (em)power principle. This was indeed Odum's conclusion, increasingly speaking of a 'pulsing' paradigm to replace that of succession towards a climax society. As Månsson & McGlade point out "for the oscillatory mode the relevant entity is not the instantaneous power flow, but the time-average over one period" (*loc. cit.*). However, they interpret this as a "fundamental flaw in the maximum power principle in the context of oscillating systems", arguing that from an evolutionary standpoint "virtually any configuration is admissible", which makes it difficult to assess empirically (*ibid.*: 591f.). Patten (1993: 601) claimed unable to evaluate this treatment, but pointed out that the maximum (em)power principle was no more tautologous than the concept of evolution as a result of natural selection, and that the aim of science itself was to discover such principles.

The most substantial point probably concerned the exclusive reliance on energy derivatives, to the neglect of other niche-components such as matter. Månsson & McGlade (1993: 587) pointed out, whereas thermodynamics establishes "that exergy is needed to extract materials from the environment and to transform them [...] no general relationship between material scarcity and exergy can be found". Apart from energy flows, material flows and chemical change were important aspects of thermodynamics that impinges on ecology (cf. Hutchinson 1948; Smerage 1976; Waring 1989). At least so far as ecology and economics is concerned, matter basically obeys similar conservation laws as energy, is reasonably straightforward to measure, and can be used to define ecosystem boundaries, providing "more than 90 relevant balance relations for ecological systems" (Månsson & McGlade 1993: 587). Essential elements can become limiting factors (cf. Liebig's 'law of the minimum'; Martinez-Alier 1987). In Patten's (1993: 601) formulation, "Odum retards the full development of his theory by his insistence that it be expressed in energy terms, unnecessarily narrowing its domain of applicability." Odum's tendency to look only at derivatives of energy, thus made him neglect other problems, notably of *matter*.

Among economists, the same criticism had been advanced by another follower of Lotka, Georgescu-Roegen (*e.g.*, 1982: 20f.), who saw it as a species of the 'energetic dogma'.¹⁶² While sometimes proclaiming: "There is no such thing as net energy, any more than there is net matter. We can speak only of *accessible matter* and *accessible energy*" (*idem* 1976: xvii), this was also refrased positively. Thus, Odum's idea of *net energy* as the sole criterion of economic efficiency, neglected the equally justifiable efficiency relating to *net matter*. Georgescu-Roegen (*e.g.*, 1982: 14f.) argued that, in principle, matter followed wholly analogous laws to the thermodynamic laws of energy, the first, principle of ever-presence, stating that no mechanical work could be obtained without either energy or matter, the second, entropic principle, that no mechanical work could be obtained without some additional energy and matter being degraded into unavailable form, and the third, non-recyclability principle, that no thermodynamic system can be completely purified of unavailable energy and no material substance of its contaminants. An entropy formula for matter implying measurement was difficult to conceive, he admitted, because, whereas energy was homogenous, matter was intrinsically highly heterogeneous (*ibid.*: 17). The emphasis on matter in society was part of Ayres & Kneese (1969) approach, and has been taken up from the 1990s onwards by the Viennese 'social metabolist' school (*e.g.*, Fischer-Kowalski 1998, Fischer-Kowalski & Hüttler 1999; cf. Haberl 2001a, b), but unfortunately, in spite of this this

¹⁶² It was related to the confusion of 'mass', *m*, with 'matter' in the formula $E=mc^2$, which transformation, furthermore, in all essentials worked only from *m* to *E*, not the other way around.

essential and illuminating heterogeneity, it has so far mostly aggregated matter into the simple and rather unmetabolic category of ‘weight’, rather than to the specific functions of various materials. This is illuminating, for example, with respect to the transformations from hunter-gatherer societies, to agrarian, and then industrial societies (Fischer-Kowalski & Haberl 1993, Fischer-Kowalski *et al.* 2003), as well as to transport (*e.g.*, Fischer-Kowalski 2004), but on the other hand already fairly common in the economics of international trade (*cf.* Chapter 23). The addition of estimates of ‘human appropriation of net primary productivity’, in line with certain area based indicators (*cf.* Chapter 22), and the relation with biodiversity are important complementing additions (*cf.* Haberl *et al.* 2004). For all practical purposes, as had been pointed out by Cloud (1971), availability of metals followed Georgescu-Roegen’s matter-analogy of the entropy law: “The important moral [...] is that for the complete description of macroscopic phenomena we must keep track of what happens also to matter, not only of what happens to energy” (Georgescu-Roegen 1982: 19). Since energy-related concepts, both etymologically and in essence, refer to the ability to do work (to ‘labour’), Georgescu-Roegen (*ibid.*: 34) was right to see his point that “matter matters” captured by Petty (1662: 28), which he (favourably) misquoted as: “Hands [are] the Father, as Lands are the Mother and Womb of Wealth”. This, as should be reminded, was still only “[i]f one looks at the economic process through the eyes of a physicist”, and it would be mistaken to believe that this “dual basis of economic value” was, in principle, any less reductionist than one based on merely one of them. Georgescu-Roegen (*ibid.*: 35) was rare in his clarity on this issue – while reminding of Cantillon above – when pointing out that the “true product of the economic process is not a material flow of waste, but a physiological flux: the enjoyment of life”, without which we did not yet move in the economic domain. Even this is an incomplete view of the human ‘niche’, and while waiting for something better, economists and historians could do better by rehearsing Aristotle’s fourfold ‘causality’ (*e.g.*, *Metaphysics*, 1013a f), *i.e.*, the ultimate foundations to which any thing *owed* its existence, to which it stood in a debt (of gratitude). These were not only the *matter (hyle)* of which a thing was made, descending back to the womb of the Earth, but also its *form (eidos)*, or paradigm, which he tended to perceive in a rather Platonic way, but for which artists have had greater sensibility. Thus, included was also the *creator*, artist or manufacturer, himself (the ‘hands’ in G-R’s misquotation above), whose effort effectuated the piece. Finally, unlike much of the alienated drudgery of the industrial era, the Greek’s also perceived the ultimate *aims (telos)* towards which a thing was owed its existence, hierarchically interlinked with other such aims and revived in ceremonies (*cf.* current publicity and advertising celebrating Sale).

Calculating visible and ‘hidden’ material flows as an aggregation of weight can be done, but is perhaps not as meaningful as a corresponding calculation of visible and hidden energy flows. In calculating *emergy*, the level of solar insolation to the earth can be taken as baseline, and was so taken by Odum (although towards the end of his life he began using background radiation). This meant that the transformity in the biosphere, expressed as solar *emjoules* per joule, ranged from one for solar insolation to trillions for categories of shared information. One could thus construct a coherent, and as Odum (1988a: 1132) saw it, “scientifically based value system for human service, environmental mitigation, foreign trade equity, public policy alternatives, and economic vitality.” It is Odum the reformer who speaks, not Odum the economist. Had he believed that the economy really followed his system of valuation, there would have been no need for reformation. Comparing *emergy* value to monetary value, he (1988a: 1136f.) thus concluded that money “cannot be used directly to measure environmental contributions to the public good, since money is only paid to people for their services, not to the environmental service generating resources.” Quite the contrary: “Price is often inverse to the contribution of a resource, because it contributes most to the economy when it is easily available, requiring few services for delivery.”

The book *Environmental Accounting. Emergy and Environmental Decision Making* (1996) was Odum's most developed, inclusive and coherent presentation of the emergy approach. His thoughts on the relation of money and emergy seems to have caused some confusion among interpreters and critics over the years, but were here spelt out, again, in no uncertain terms. Since money was paid only to people, and never to the environment, money and market values cannot be used to evaluate the 'real wealth' contributed from the environment. When natural resources were abundant, little work was required, costs were small, and prices low. This was when the net contribution of real wealth to the economy was the greatest, and everyone had abundant resources and high standards of living. When, by contrast, resources were scarce, obtaining costs were higher, causing higher prices, through mechanisms of supply and demand. This was also when there was little net contribution of natural resource to the economy, real wealth scarce, and standards of living were low. "Market prices are not proportional to the contribution that resources make to the economy;" he (1996: 60) explained, "prices are low when EMERGY contributions are greatest". In bold print, the following general principle was then formulated:

Market values are inverse to real-wealth contributions from the environment and cannot be used to evaluate environmental contributions or environmental impact. (*Loc. cit.*)

It is curious that, two years later, Hornborg (1998: 131; also 2001: 42), in arguing for reverting from emergy to exergy as a unit of measure, could present the following criticism: "The concept of exergy can give us a completely different perspective on the relationship between energy and trade than can Odum's concept of emergy. Briefly, if emergy and price are positively correlated, exergy and price are not. In fact, there is a specific sense in which they are *negatively* correlated". This inverse correlation of resource input and price was instead presented as his own contribution: "One way to assess the occurrence of unequal exchange may be to look at the direction of net flows energy and materials (concrete, productive potential), but *without* falling into the trap of equating productive potential with economic value. On the contrary, it can be analytically demonstrated that unequal exchange emerges from a kind of inverse relation between productive potential and economic value." (Hornborg 1998: 127). This 'analytical demonstration' is merely a rehearsal of Patrick Geddes approach as reported in Martinez-Alier (1987: 94f.; cf. 2006), stating that as processing proceeds, prices must go up (having bought or acquired the raw materials at one price and then added the cost of repairs, wages, rents, taxes, and profits) whereas the exergy of the raw materials must go down, this being the law of the universe according to thermodynamics. Martinez-Alier, too, believed this demonstration to be a useful one with respect to 'unequal exchange' between raw-materials and manufactures-exporting countries: "In an ecological economics theory of unequal exchange, one could say that the more of the original exergy [available energy or "productive potential" in the exported raw materials] has been dissipated in producing the final products or services (in the metropolis), the higher the prices of these products or services will be". Thus, they agree, "market prices are the means by which world system centres extract exergy from the peripheries", though Martinez-Alier wants to add that military power may sometimes lend a helping hand (Martinez-Alier 2003: 15). Unfortunately for this theory as applied to the real world, manufacturing countries – and manufacturing itself – also involves adding exergy (or emergy), and the true problem is rather one of the ratio between added monetary value and exergy/emergy ('value'), *i.e.*, an 'ecological distribution conflict' as Martinez-Alier is aware in other contexts. As has been pointed out by, *e.g.*, Andersson (2006) there is not, as Hornborg and (sometimes) Martinez-Alier believe, any necessary ("analytically demonstrated") link between such non-equivalent exchange and 'disjunctive' exchange, in the sense of the subsequent developmental *effects*. Indeed, there cannot be, as it is already refuted by historical experience (cf. Chapter 23).

Of course, as evidenced above, Odum did not equate emergy, or ‘productive potential’ with economic value, and though positive correlation is possible, it is not necessary, for the same reasons that stored or accumulated exergy is not necessarily positively correlated with price.¹⁶³ Some of the misunderstanding and misrepresentation of Odum’s ideas can be traced to Robert Costanza who in 1980 and 1981 analysed the relationship between the direct and indirect energy used to produce a good or a service in the U.S. economy. Costanza found a strong correlation between the ‘embodied energy’ of a good and its dollar value. Unlike Odum, and accordingly not referring to him for this particular theory, Costanza (1980: 1223) thus proposed an embodied energy theory of value also *in the economic sense*, maintaining that the monetary value of any good or service to humans was ultimately related to the quantity of energy directly and indirectly used up in its production. In Costanza’s neoclassically biased theory, a perfectly functioning free market would, Cleveland (1987: 60) reviews, “through a complex evolutionary process, arrive at prices proportional to embodied energy content. Because the market is not perfect, however, embodied energy calculations can pinpoint problems and value nonmarketed goods and services (i.e., externalities).”

As noted by Cleveland (*ibid.*: 59), economists have often reacted strongly against many of Odum’s theories, particularly his so called ‘theory of value’ which proved unpalatable to neoclassical economists. “Unfortunately, the debate between Odum and his colleagues and economists has been divisive to the degree that many of Odum’s unique and instructive insights into economic-ecological interactions have been rejected or ignored.” This is partly because of Odum’s limited experience in political economy, and partly, one may suspect, of limited originality – as political economists – of those of his followers with more of such experience (apart, of course, from the originality of trying to unite Odum and ecological theory with economics). Contrary to Cleveland and Costanza, I would suggest that neoclassical economics is probably not the one best vehicle for such a unit, and so far the same has been true of Marxist economics, where the not always enlightening debate on ‘value’ in monetary and ‘labour’ terms has preset the path of interpretation.

Discussions mixing ordinary economic language with Odum’s emergy meaning risk misleading the reader. Speaking of ‘value added’ he noted that for human services this was often ‘expressed’ in terms of the money paid for the added services. Although confusion on this point is not uncommon, as may be devined from the Marxian transformation problem, ‘value’ in this case refers exclusively to what is added to the *price* of the final product, and the value ‘added’ by a factor is the same as the *price* of that factor. In this economic sense, it really has nothing to do with the extent to which anything of ‘real’ value is added. Odum was concerned with these factor prices only to the extent they differ from emergy, and thus concluded that since human services were not the only emergy inflows, emergy evaluation was required to ‘complete’ the monetary evaluation. At each stage in production there were additional inputs of emergy from fuels, electricity, goods and services, which all corresponded to a countercurrent of money. While this money evaluation did not correspond to the emergy evaluation, ‘real’ emergy ‘value’ was nevertheless *added* in this process. Thus, the chain of economic processing “increases the transformity of the products” as they move through it: “Transformity increases in ecological and economic energy transformation chains” (Odum 1996: 62). In this sense, it is true that emergy increases through the chain of production. But

¹⁶³ Cf. on storage and entropy: “To build *and maintain* the storage of available resources, environmental work has to be done, requiring energy use and transformation” (Odum 1996: 7; emphasis added). Or (*ibid.*: 10): “When inflows and outflows balance, a system is said to be in a [...] steady state (storage constant)”. “The solar EMERGY stored is that required to make the storage, in spite of the depreciation going on. Degraded energy going down the heat sink pathway is not available to do work, and thus has no EMERGY.” If the production process is stopped, “the storage decreases as its depreciation processes continue [...]. The energy storage decreases, and with it the stored EMERGY is lost.”

this is only by actually adding emergy on the way, and although it would differ *quantitatively*, it is in this respect not *qualitatively* different from an argument in terms of energy or exergy.

Odum has no discussion of price formation. The price for any particular product or service within an economy depends, Odum (*ibid.*: 55) believed, “on its cost, local scarcity, and the willingness of people to pay”. As a non-economist, he had an uncomplicated and unsophisticated perception of the problems of relating these aspects to one another. He thus gave no indication of whether ‘costs’ (inputs, wages, rents, profits, etc.) determined long-term equilibrium of relative prices, while the ‘willingness to pay’ (the level of demand) had to adopt to these prices and in that sense (co-)determine the relative ‘scarcity’ of goods, or if the fluctuations of demand and scarcity determined the respective long-term level of wages, etc., or if he had in mind some other intricate and as yet unexplained feedback system between them. The possibility of ‘costs’, basically wages and consequently the ability, if not ‘willingness’, to pay, being institutionally set by political and social forces, was not considered, and nothing was said to enlighten on the relative international mobility of factors. Much that would have been essential to the understanding of possible feedback mechanisms, notably in the international sphere, was therefore left out of analysis.¹⁶⁴

As in the earlier writings on embodied energy and international trade, the benefit from a foreign sale, purchase, or trade depended on the ‘emergy exchange ratio’, the emergy received divided by the emergy sent. For a sale, whether national or international, the ratio of emergy benefit to the purchaser was equal to the emergy of the product divided by the emergy of the money paid. The emergy of the product was equal to the energy flow times its transformity (with the sun as baseline expressed in solar emjoules/Joule), while the emergy of the money required an estimate of the emergy per unit of money (*ibid.*: 61). Here international differences, and unanalysed, prospectively social or subterranean forces, were at play.

Before confronting the relation between different currencies one must understand what this relation means for any single currency. The relation of a particular currency to emergy is explained about as follows: What the money circulating in a particular economy buys depends on the solar emergy production and the amount of money in circulation. The “buying power of money on the average depends on how much real wealth there is to buy. Therefore the buying power of money within an economy may be calculated by dividing EMERGY use by the money circulation to obtain the EMERGY/money ratio” (*ibid.*: 55). Thus, if more money was circulated for the same emergy flow, or if less was produced for the same money, there was ‘inflation’, or a general price rise in emergy terms. A rural or, even more, tribal economy, Odum explained, had a higher ratio because more wealth went directly from the environment to the human consumer without money being paid. As economic development and urbanism increased and more money circulated the emergy/money ratio tended to go down. For comparisons between states, Odum drew up tables of international emergy/money ratios (cf. Table 21). This only means the ratio between the annual emergy use of a nation and its gross

¹⁶⁴ The feedbacks considered were all between the environment and the economy, *e.g.*, two systems (each with a predetermined level of what is considered ‘good’ or ‘bad’ prices, etc.), one lacking environmental reinforcement and the other including it. Thus, Odum (1996: 62-65) wrote the following: “In the environmental-economic interface [...] products are sold, and if the prices are good, money accumulates and buys more inputs to harvest more of the environmental product (wood, fish, crops, and so forth). The economic process is mathematically autocatalytic and tends to accelerate and grow. As the environmental product gets scarce, prices rise, which encourages those using the products to go after more. By pulling down the environmental stocks that are part of the production process, the environmental producers are diminished and tend to be replaced by their competitors.” This non-sustainable economy could be improved by environmental reinforcement (feedback) from the economic system: “Agriculture tends to be sustainable, because the economy and the farmers feed back goods, services, fertilizers, and seeds to reinforce and encourage the environmental system that is in economic use.” This includes a “special flow of money to pay for the feedbacks to reinforce the environmental production process”, which on the other hand tends to be omitted when economic competition is severe, “causing environmental collapse of the environmental basis, and thus of the economic production as well.”

national product (GNP). It also implies that an emergy-evaluation would give a different perspective on the actual gains in welfare with economic development: “A high EMERGY/person ratio suggests a high standard of living, given in more general terms than income, which does not include the unpaid, direct wealth to people from the environment of from public information. A person living a subsistence life in a rural setting may have higher EMERGY than a person who buys most of the things in a city” (Odum 1996: 203). This is one of those commonplace experiences that tends to disappear in the general picture of progress. F. J. Fisher (1957: 3) formulated it well for the 16th and 17th centuries: “it is one of the eternal verities of history that as societies become wealthy they are no longer able to afford pleasures that were well within their reach when they were poor.”

Table 21. National and per capita emergy use, emergy/money ratio, emergy self-sufficiency, and trade benefit

	Annual Emergy Use ($\cdot 10^{20}$ sej/yr)	Annual Per Capita Emergy Use ($\cdot 10^{15}$ sej/ person/yr)	Gross National Product ($\cdot 10^9$ \$/yr)	Emergy/ Money Ratio ($\cdot 10^{12}$ sej/yr)	Emergy from Within (%)	Emergy Benefit Ratio ($\text{emergy inflow} \cdot \text{yr}^-$ $/ \text{emergy outflow} \cdot \text{yr}^-$)
Ecuador	964	11	11.1	8.7	94	0.119
Liberia	465	26	1.34	34.5	92	0.151
Soviet Union	43,150	16	1,300	3.4	97	0.23
China	71,900	7	376	8.7	98	0.28
Australia	8,850	59	139	6.4	92	0.39
Poland	3,305	10	54.9	6.0	66	0.65
New Zealand	791	26	26	3.0	60	0.76
Dominica	7	13	0.075	14.9	69	0.84
Brazil	17,820	15	214	8.4	91	0.98
India	6,750	1	106	6.4	88	1.45
Taiwan	1,340	8			24	1.89
U.S.A.	83,200	29	2,600	3.2	77	2.2
Spain	2,090	6	139	1.6	24	2.3
Switzerland	733	12	102	0.7	19	3.2
Japan	15,300	12	1,020	1.5	31	4.2
West Germany	17,500	28	715	2.5	10	4.2
Netherlands	3,702	26	16.5	2.2	23	4.3
World	232,000	4	11,600	2.0		

(sej = solar emjoules) Data from 1980-1993

Source: Odum 1996: 201, 206, 217. Individual values corrected; alternative value for world emergy use $202,400 \cdot 10^{20}$ sej/yr, while sum total of individual countries add up to $277,837 \cdot 10^{20}$ sej/yr.

Looking at the world as a whole, Odum (1996: 210) found what he considered to be a rural-urban division in the world, where the latter are the highly developed, predominantly urban centres in the global hierarchy. As on the national scene, the rural areas tended to supply much more emergy than was in the buying power of the money paid: “Generally, a country loses wealth if it sells environmental raw products because the EMERGY of nature’s work to make them is high, whereas the money received is only for some services to process them. Thus, developed nations tend to receive more EMERGY than they give in exchange.” But of course a country did not merely receive money, it also received goods and services, and here suppliers of raw materials gave more than they received in exchange. By contrast, “the sales of finished, manufactured, high-technology, and military products have higher prices, so that the EMERGY of the money paid is more comparable with the EMERGY of the products sold.” (*loc. cit.*). As stated here it precisely the price differential that mattered, or rather the what we may call the ‘emergy terms of trade’, for whose changes over the course of history one could prospectively find an explanation had such estimates been undertaken. Now, in international exchange one had also to take into account the above EMERGY/money ratios as converted to a common dollar basis, where an unequal exchange appeared: “the currency of rural countries

has higher EMERGY/\$ ratios so that a dollar buys more real wealth than in urban countries” (*loc. cit.*). This turned out to involve dramatic inequities where every circulating dollar transferred four times more real wealth to the United States than was received by resource countries, while on the other hand a dollar circulating between these and Japan transferred twice as much to Japan. So it would seem that, according to Odum, market prices were the means by which world system centres extract *emergy* from their peripheries.

Thus, Odum (*ibid.*: 210f.) summarised: “When an environmental product is sold from a rural state to a more developed economy, there is a large net EMERGY benefit to the developed buyer for two reasons: (1) the EMERGY of environmental products is higher than that in the money paid for the processing services; and (2) the EMERGY/money ratio is much greater in the rural state supplying the product than in the purchasing economy.” With his preferred identity between rural exporter of primary products and ‘underdeveloped’, and taking the example of exports of salmon, Odum then found that in this case Alaska “behaves like an underdeveloped country.” If this definition were valid, then other such examples in Table 21, are New Zealand and Australia, the latter which, unfortunately for this characterisation, also heads by far the list of *emergy* consumption per capita, where New Zealand comes in fourth place, shared with the ultra-urban Netherlands, who tops the list of gainers from unequal *emergy* trade, and underdeveloped Liberia, thanks to her huge *emergy*/money ratio. On finding this Odum recommended New Zealand to stop exporting aluminium ingots to Japan and instead to start producing the final products for export, “thus creating jobs in New Zealand.” Odum, unperturbed by his examples to the contrary, instead noted how ‘countries such as’ the Netherlands and West Germany got four times more *emergy* than they were returning in exchange: “Little wonder that these countries have a high standard of living and that the countries supplying the commodities have a low standard” (*ibid.*: 213).

Odum did not say much on prices of goods in this discussion, though what his argument amounts to is saying that the price of rural, or ‘underdeveloped’, goods are generally lower per unit of *emergy*. Of course if there were other factors involved in prices than merely the type of good, and in development/underdevelopment than merely the import/export of *emergy*, then perhaps the outliers above could be brought in line. Here, the classification from Odum & Odum (1981) reviewed above would have been useful, but this was touched upon merely in relation to *emergy* self-sufficiency, which tended to coincide with large countries. More interesting was the general observation on free-trade in a capitalist economy:

Allowing individual businessmen to maximize their profits in monetary terms often imbalances EMERGY trade equity. The dollar value of profits may be small compared with the emdollar value and public value and public gross economic product given away to other countries. Free trade tends to result in unequal EMERGY exchange in favor of developed countries. Equity in trade can be achieved by treaty, adjusting imports and exports to balance EMERGY. If the EMERGY trade balance is uneven, the difference can be made up in education, military, or technology transfers duly evaluated for their EMERGY contributions. In this way, balances between nations can be equalled while still allowing countries to be at different levels in the urban-rural hierarchy and national specialization. (*Ibid.*: 218.)

As to political solutions, Odum was no revolutionary, and there was no indication that he considered it to require a planned economy. He strove for another, more ‘revisionary’ path, which apparently nevertheless included, unexplained how, the abolition of ‘economic evaluation’, and which he called the ‘prosperous way down’:

The world’s rate of fuel consumption has apparently reached its maximum, and the renewable resources available are decreasing each year due to population increase and environmental encroachment. On an EMERGY basis the world’s standard of living is already coming down. Already there are erratic contractions, arbitrary downsizings, and population-resource disasters. Much uncertainty and malaise can be avoided if EMERGY evaluations can be substituted for economic evaluation. If people can regain their commonsense view of real

wealth, which EMERGY evaluation gives them, policies can be implemented for selective, slow, and deliberate, and prosperous descent. (Odum 1996: 287)

More will be said on the ‘population-resource’ crisis in the following Chapter 22. How to prepare for descent was the subject of his subsequent and last book.

In his final decade Odum increasingly focused on the pulsing dynamic behaviour of systems, as we have noted, suggesting that this maximised empower. In *A Prosperous Way Down* (2001), again co-authored by Elisabeth C. Odum (and again unknown with what respective contributions), the whole of Odum’s scientific work on the pulsing of ecosystem dynamics, on emergy yield ratios and maximum empower, and on the long-run importance of the university and sharing of information, converged towards a preparatory readiness for the necessities of the future. The writers (*ibid.*: 82-7) recognised a pulsating four step cycle, or succession, of societies, a neo-thermodynamic ‘general systems’ approach, obviously related to ‘equilibrium’ or ‘homeostatic’ models applied to ecosystem theory. It has earlier parallels in business cycle economics (*e.g.*, Mitchell 1927), Schumpeter 1939), but also in civilisation history, such as Oswald Spengler (1919-20), himself modelling after organism life cycle, Toynbee (1934-), or Innis (1950). The first was the obvious growth phase, on abundant available resources, with sharp increases in a system’s population, structure and assets, based on low-efficiency and high-competition. The second was the climax and transition, when the system reached the maximum size allowed by the available resources, increased efficiency, developed collaborative competition patterns, and prepared for descent by storing information.¹⁶⁵ This can be compared with the vibrating moment of crisis. The third was the descent, the ‘depression’, with adaptations to less resources available, a decrease in population and assets, an increase in recycling patterns, and a transmission of information in a way that minimised losses: “Minerva’s Owl begins its flight only in the gathering dusk...”, as Hegel (quoted in Innis 1951: 3) wrote in reference to the crystallisation of culture in the period that saw the decline and fall of Grecian civilisation. The fourth was the ‘recovery’ phase of low-energy restoration, no growth, consumption smaller than accumulation, and storage of resources for a new cycle ahead. Unsurprisingly, present human society was found in the second, climax and transition phase facing descent.

The authors (*ibid.*: 77) argue that it “appears to be a general principle that pulsing systems prevail in the long run, perhaps because they generate more productivity, empower, and performance than steady states or those that boom and bust.” Contrary to the image of growth towards a steady state they explain: “Pulsing prevails because operations that pulse transform more energy than those at steady state” (*ibid.*: 79). Maximisation of the available resource basis to maintain prosperity requires different strategies in different phases: fast competition in times of growth, efficiency in times of climax, decrease of population and assets in times of descent, and low-growth attitudes in times of restoration: “Successful economies are those that can adjust their periods of growth to pulses in their resource basis” (*ibid.*: 80). Although there was only “a limited range of transformativities that are best managed by money and markets” (*ibid.*: 103), their ambition is to reform free-market capitalism in the face of downscaling, not to abolish it: “As a mechanism for feedback-reinforcing growth, free market capitalism has dominated recent times of growth and succession, but its role may be different and less important during times of levelling and descent” (*ibid.*: 104). Worldwide television had sensitised people to the uneven distribution of wealth: “Some developed countries have

¹⁶⁵ Odum (1988b: 62) had already observed: “With information in great excess there is rapid self-organizational evolution of means for information selection, storage, and recopying. The central question is which information is worth duplicating to become shared information and what are its limits.

In the process of trial and error with new information technologies the waste can be rationalized as the necessary requirements for finding what is essential. [...] Cultures that forego the potential of the media to generate large scale power and efficiency are likely to be displaced.”

fifty times more emergy use per person than some overpopulated nations.” While there were huge wastes in developed countries, in others there was not enough to sustain productivity:

Maximum empower theory predicts that if an excess of poorly used people is not maximizing global productivity, major reorganization will occur. [...] Policies that cause dysfunctional curves of distribution (too many rich or too many poor) may be energetically unsustainable, which eventually makes them politically unsustainable as people change public opinion to fit need (*ibid.*: 130).

The aim was to find policies for transition and decent in which dangerous and revolutionary upheavals would be victorious, with a plea for understanding: “Policies based on understanding could be the difference between soft landing and a crash” (*ibid.*: 131). It was suggested that “the global system as a whole maximizes its performance when exchanges are equitable”, since this allowed every nation to “contribute at its potential best and not be drained by another” (*ibid.*: 138). In reality, contrary to economic theory, fair prices were illusory, first, because market prices underestimated the real wealth of raw materials: “As a consequence, the trade inequality between underdeveloped nations supplying raw products and the developed nations buying the products is huge” (*ibid.*: 139). However, another reason was the lesser payment for labour in ‘rural’ areas, extending the phenomenon even to labour-intensive products. The argument did not involve any political determination of wages, however, only a restatement that rural nations with subsistence crops, fishing and collection of wood for family use, “can charge less for their labor because they are supported partly by unpaid environmental inputs. The services they sell include the hidden emergy contributions of the free commodities they use. A dollar of rural service represents more emergy than a dollar of urban service” (*ibid.*: 140).

There is no complete delinking in the authors’ analysis between raw-materials and underdevelopment, but it is implicitly complemented with the high- and low-wage dichotomy, producing low terms of trade (in terms of emergy) for the latter. Rather, what is absent is an understanding of wage-formation as anything other than a mere subsistence phenomenon, in spite of the observation of differences in emergy consumption of one to fifty. Strictly speaking, the argument could be reformulated with reference only to wage-levels, and this is partly the point of the emergy exchange ratio. Reformulating a review by Ulgiati (2004: 249) it can be said that when a developed country imports from a less-developed country, their prices are low in terms of emergy *because labour costs are generally low* in these countries, whether goods are primary or secondary. Very much like Manoilescu (1931), Odum explained it by its ‘rural’ character assuring it lower wages, not thinking of the evident counter-examples. In emergy terms there was an additional factor in exporting primary resources and importing secondary or tertiary. Money was in turn used to purchase emergy from developed countries, but since money paid for labour and labour costs were high, a smaller amount of real wealth, whether in the form of primary or manufactured goods, went to the less-developed country. Free market policies intensified trade inequities, with benefits going only to the already-developed nations, and the long term stability of the global system becoming threatened. The identification of developed countries with exports of manufactures and of underdeveloped with exports of primary goods is both empirically fallacious, and not necessary for an argument as presented directly in terms of labour costs, although complementary. Such an argument is not at all evident from the Odums’ own formulations, but opens up new prospects for complementing his theory with some economic logic, *e.g.*, that of Emmanuel.

As with most ecologists, there appears to be grave underestimation of the pervasiveness of the logic of a capitalist and market economy, as seen in phrases such as the following: “Nearly six billion people are in denial, and for leaders to speak of nongrowth is viewed as political suicide” (*ibid.*: 9). The belief that there is some purely *mental* blocking hindering the

whole world to see the ecological light, in spite of its constant reiteration for decades on end, is widespread but, I would say, extraordinarily naïve. It implies that more *information* on the environmental impact of the economy, preferably as handed out by ecosystem scientists, would somehow alter the functioning of the economic system itself, or worse, that when duly informed people can simply start acting against this economic logic. There may indeed be mental blockings, but they probably have more to do with understanding this logic and the collective lack of imagination, ideas and time to reflect upon how to construct some other system – upon which to rejoice.

We have traced the origins of Odum's ecosystem approach and how the ecological unequal exchange on the societal plane grew out of this approach. The historical context in which this theory became possible involves significantly the nuclear arms race, but also, *e.g.*, flight and cybernetics, which were significantly related to war activities. On the political plane, Odum had liaisons with the energy approach of the 'Technocrats' in the 1930s, and their postwar offspring, but also with that of his father. This background helps to understand the wish to replace the malfunctioning 'price system', whose monetary feedback signals cannot include the goods (available energy, raw materials, emergy) supplied 'freely' by nature, with a more general and ecological system, accounting in 'emergy'. On the societal plane, such distorted signals of a money economy included unequal exchange of emergy, *e.g.*, between raw materials and manufactures, high- and low cost areas (urbanised and rural, high- and low wage). Like many others in the ecological movement, Odum was more interested in explaining how to organise society 'correctly', in his case according to emergy, than in historically interpreting and understanding the political economic and socio-political causes of distortions. Like those of other ecologist reformers, his proposed solutions thereby seems politically naïve, or 'technocratic', and incomprehensive of the political, social and economic stakes involved, *e.g.*, in the change from 'accounting' in money to accounting in emergy. This would seem to require a bit more international revolution, planning and agreement than can be suspected from speaking merely of 'ecological consciousness' and ditto 'taxes'. As to ecological accounting methods, Odum's is thus far more advanced than any of his contemporary and later colleagues in this field, because of his long-standing involvement with the problems of different energy 'qualities', not only in the direct but also the 'indirect' flows of materials and available energy. What has so far received little comprehension is that emergy is what may be called an 'emergent property' aspect of the system as a whole, not a mere adding up of available energy costs. Any true innovation in technology or social organisation 'mutates' the whole system and, in essence, changes the emergy 'content' of all its constituent parts. Much resembling the evolutionary vision of Lotka, in Odum's terminology, the *general* system which is most 'sustainable' is that in which 'empower' is maximised. Such evolutionary progress, should it so qualify, is not predetermined, but should it be achieved it would be improve the evolutionary sustainability of the system and its constituent parts. Turning from Odum's highly sophisticated theory to those of his contemporaries and latecomers will perhaps seem an anticlimax from the theoretical point of view. Hopefully, it will reveal more of the political affiliations, and thereby problems, often involved in the game of relating society to ecology. First, we turn to what we, partly for convenience, shall term the 'Protestant' (or population-affluence) line, and then to the 'Catholic' (or dependency) tradition.

Chapter 22. Ecological Protestantism in an overpopulated affluent society

The English so-called neo-Malthusians of the 19th and early 20th century, discussed poverty as a result of population increase, and tried with little success to convince the working classes and abhorred socialist reformers of the benefits obtainable from family planning, moral restraint and, more shocking, contraceptives, which implied precisely the opposite (Micklewright 1961). Keynes contributed to reviving the link between population issues and political economy in an international context. In 1919 he resigned as the British representative at the Paris Peace Conference because of his dissatisfaction with “the whole policy of the Conference towards the economic problems of Europe” (Keynes 1920, Preface). The conferees, he believed, could not, or chose not to, understand the precarious nature of the war-mangled European civilisation, whose instability derived from a population explosion in Germany, Austria-Hungary, and Russia. The whole European economy survived only because of the forbearance of the working mass of the people from seizing a larger share of agricultural and industrial produce, leaving more for capitalist investment. In addition, imports of cheap cereal grains from the New World were critical to the viability of this highly populated system, as was the revitalisation of German industrial skill and organisation (*ibid.*: 12-26, 252-98). A few years later, as noted by Perkins (1997: 122), he wondered whether the material progress achieved in the 19th century was a temporary aberration, to be replaced by a harsh Malthusian reality, although, by 1930, focus altered had somewhat to counter the “bad attack of economic pessimism” (Keynes 1933: 358), and as Arndt (1973: 17f..) supposes forgetting the Indian experience of his youth, he (361, 365f.) gazed into the future economic possibilities of our grandchildren, projecting that by then, “assuming no important wars and no important increase in population, the *economic problem* may be solved, or at least within sight of solution”. The economic problem was not to be considered “*the permanent problem of the human race.*”

Whereas Keynes and others emphasised population issues in terms of political economy, another strand of neo-Malthusianism drew on images of naturally limited ecological systems. This tradition tended to a more catastrophic vision of population exceeding food supply leading to a collapse of civilisation or war, and were often linked to studies in human genetics and eugenics (Perkins 1997: 122ff.). One of the first of the scientific demographers, Warren S. Thompson, argued that “postwar possibilities for peace in eastern Asia depended on the United States’ recognizing the pressure put on the natural resource base by the large populations of China and Japan” (*ibid.*: 124). Through the work of Thompson and others, and with much help from the Rockefeller foundation, demography emerged during the 1930s and 1940s as a respected science, and by 1945, American demography was becoming integrated in strategic thinking.

The Malthusian population argument constituted a core argument in the Cold War imagery of a ‘population–resource crisis’ threatening to turn the poor peoples of the world to communism. In line with interwar imagination, providing for political stability in Europe and elsewhere and decent living standards for poor countries was considered one of the most important means to hold communism at bay. “In the late 1940s, U.S. officials feared that revolutionary upheaval and xenophobic nationalism might turn Third World countries against the West, drive them into the Soviet camp, and jeopardize efforts to recreate a viable international economy” (Leffler 1992: 9). During the 20th century, famines have become less common than in most of human history, and largely linked to ‘abnormal’ social conditions of war. The Bengal famine in India in 1943, the same year as the Mexican shortage, influenced

policy for years. The vulnerability suffered by the United Kingdom during the Second World War, and its dependence on North American imports also underlined the possibilities of international aid. But initially, pessimistic predictions of food shortage in postwar Continental Europe had no great influence in the United States. “In 1943, the same group of ‘nutrition fanatics’ who had stirred the League of Nations in the 1930s to investigate the world nutrition conditions induced President Roosevelt to call the Hot Springs Conference on Food and Agriculture” (Arndt 1973: 25). In 1944, leading experts on food supply gathered in Vancouver to plan the food situation in the expected peace. Also in 1944, the Bretton Woods Conference created the International Monetary Fund (IMF) and the International Board on Research and Development (IBRD), an International Labour Conference redefined the social objectives of economic policy for the postwar world, and a charter for the United Nations was agreed upon, which in the final version included among its objectives the promotion of “higher standards of living, full employment, and conditions of economic and social progress and development” (*loc. cit.*). On the day that Japan capitulated, invitations were sent to 44 countries to participate in the first conference of the Food and Agriculture Organization (FAO), the first permanent new organisation of the United Nations, one of whose goal’s were to make food problems a common concern. In 1946, FAO published its first *World Food Survey* covering 70 countries, or about 90 percent of world population, describing the poor nutritional state in Asia, Africa and Latin America, and concluding that at least half of the world’s population did not receive adequate nourishment (Linnér 1998: 15f.).

The transformation of national security concerns from the national to the international and global scene, can also be seen in progressive conservationism growing into ecological neo-Malthusianism. Two books in 1948, added to the substance of the argument that population growth could threaten ecological resources and to collapse American civilisation, William Vogt’s *Road to Survival* and Fairfield Osborn’s *Our Plundered Planet*, which in turn greatly influenced Georg Borgström. Osborn and Vogt shared both material and references with each other, corresponded with ecologists Paul Sears, Charles Elton, and G. E. Hutchinson, and relied heavily on the later Leopold, who supplied them with recent ecological thinking. Between 1939 and 1942, Vogt worked for the Guano Commission in Lima, Peru, where his interest in population and scarce resources was aroused, and from 1943 to 1949, was head of the conservation section of the Pan-American Union (an organisation made up of 21 American countries working for economic and social cooperation). Radical conservationists though they may have been, “the geopolitical concerns of the United States in fact created a platform even for critical scientists like Vogt” (Linnér 2003: 44). This is evidenced by the UN conference at Lake Success and an alternative conference organised through UNESCO and IUPN, mostly concerned with ecology followed by education. In March 1947, Osborn invited both Vogt and Leopold to plan the foundation of the Conservation Foundation, on whose advisory council all of the above came to serve (*ibid.*: 120f.). As its president, Osborn had the opportunity to participate in the preparatory stages of the conference, where he argued strongly for the conservation approach, and for the vital importance that it also dealt with the problem of overpopulation. Like Keynes, and unlike Malthus, both Osborn and Vogt were basically optimistic about the role allotted to science, reason and planning to preserve humankind from the apocalypse, so long as it could lead to diminution of the population growth rate. As to the Truman Doctrine in March 1947, Osborn was sceptical: “As far as “investment for democracy” in Greece is concerned, nature holds the trump card.” The efforts would be fruitless without handling population growth and soil erosion (quotation in Linnér 1998: 38).

The authors were socially connected, both to each other and to the Rockefeller Foundation. Osborn was born into a well-to-do New York family, and the Osborns and the Rockefellers met socially. Vogt was at the time an associate director of the division for science and

education at the Office of the Coordinator of Inter-American Affairs, headed by Nelson Rockefeller. The *Road to Survival* was read by the Rockefeller Foundation's new president, Chester Barnard, as a challenge to its efforts in agricultural research, and thus stimulated further efforts to articulate a coherent theory to justify programs such as that in Mexico. It was only then that foundation officers began incorporating population issues into their thinking. Warren Weaver and others involved in the MAP, produced a report on "The World Food Problem" in 1951, which was one of the most complete expressions of the so called 'population-national security theory'. It was based on the understanding that global tensions stemmed from "the conflict between population growth and unequally divided and inadequate resources":

The problem of food has become one of the world's most acute and pressing problems; and directly or indirectly it is the cause of much of the world's present tension and unrest [...]. Agitators from Communist countries are making the most of the situation. The time is now ripe, in places possibly over-ripe, for sharing some of our technical knowledge with these people. Appropriate action now may help them to attain by evolution the improvements, including those in agriculture, which otherwise may have to come by revolution." (ACAA 1951: 3-7; cf. Perkins 1997: 138).

The report was instrumental in leading the Rockefeller Foundation to start its vastly expanded assistance program in 1952, with the Indian Agricultural Program. Its programs were an important model for subsequent even larger efforts sponsored by the U.S. government. For the U.S. government, involvement in these questions began in earnest with President Truman's inauguration speech in 1949, whose Point Four called upon the government to lend technical assistance in agriculture and other fields to the poorer nations of the world, and eventually evolved into the U.S. Agency for International Development. During Truman's administration, the United Nations became "an important medium through which to deal with the natural resource situation" (Linnér 2003: 23).

Vogt (e.g., 1947: 483ff.) placed his hope in an international effort at scientific planning and education should bring society into balance with nature, and was naturally enthusiastic about the plans for an international scientific natural resource conference. His *Road to Survival* (1948a) was a huge success in many languages (Linnér 2003: 37). If Osborn was relatively positive to free enterprise, Vogt was more negative. In reviewing Osborn's book he took particular notice of those parts reminding of the role of the Spanish capitalist wool producers (the *Mesta*) in wrecking their country, those pointing out that "nature gives no blank endorsement to the profit motive", and recommending world-wide planning. Vogt (1948b: 510) had only one serious quarrel with the book: "Mr. Osborn repeatedly refers to excessive populations but does not suggest doing anything about checking their increase." According to Linnér (2003: 36f.), he "profoundly endorsed a planned economy on natural resource issues." Both authors "pointed out the grave consequences that would follow through the devastation of the earth's natural resources and the ever-increasing world population", but since the free market economy was to blame for the impending catastrophe, to Vogt this meant certainty that humankind "must change from a profit-based economy to an all-embracing Pinchot-style approach based on maximum sustained yield." Quite contrary to the argument of Friedrich Hayek in *The Road to Serfdom* (1944), the only road to survival was "an adjustment of the economic system to the laws of nature", and "a revolution in the sense of a profound change of fundamental ideas" (Linnér 2003: 36f.). The free market economy was largely to blame: "For free enterprise must bear a large share of the responsibility for devastated forests, vanishing wildlife, crippled ranges, a gulled continent, and roaring flood crests. Free enterprise – divorced from biophysical understanding and social responsibility" (Vogt 1948a: 133). In pointing to the basic contradiction between industrial capitalism and the global health of the environment, Vogt even spoke of the necessity of a "revolution", but in "Kropotkin's sense" as a transformation in humanity's perception of its interaction with nature – a favourite

environmentalist idea, but hardly a Bolshevik and bloody one. “Drastic measures are inescapable. Above everything else we must reorganize our thinking. If we are to escape the crash we must abandon every thought of living unto ourselves” (Vogt 1948a: 285). The central issue to deal with was population control, without which the struggle was necessarily lost. He criticised the Point Four plans as a ‘Santa Claus Complex’, and in the 1950s insisted that aid should only be given to countries with birth control programmes. For this he was accused of being a fascist and a racist – and he was undoubtedly coloured by eugenics – although, as Linnér (2003: 44) points out, the aims of the resource–security theory was precisely to avoid authoritarian regimes, whether communist or fascist. Vogt (1960) replied, pointing to certain passages (1948a: 80, 284), that these critics of his suggested reductions in Latin American, African, and Asian birth rates, had missed the central point on limited and shrinking resources and carrying capacity.

Furthermore (like Whelpton 1939), Vogt clearly perceived that even the United States was *already* overpopulated in terms of its impact upon the environment, particularly through the rising vogue of cars:

We are an importing nation; and every day we waste hundreds of millions of gallons [of gasoline] [...]. Our tensions find outlets in [...] traveling at high speeds that reduce the efficiency of our cars. We build into automobiles more power and greater gas consumption than we need. We use the press and the radio to push sales of more cars. We drive them hundreds of millions of miles a year in pursuit of futility. With the exhaustion of our own oil wells in sight, we send our Navy into the Mediterranean, show our teeth to the U.S.S.R., insist on access to Asiatic oil – and continue to throw it away at home. (Vogt 1948a: 68.)

Vogt did not have to choose between criticising excess population growth and excess consumption. More interesting is perhaps the familiar ‘Protestant’ ring in both of these aspects – a hostility towards excessive and uncontrolled ‘pleasure’ abroad, and a certain embarrassment over the form it took at home. By contrast, in Catholic, Latin American countries, the question of population control has never been popular, and emphasis has always been on their ‘dependent’ and victimised position through the exportation of raw materials – the open veins of Christ incorporated. Religious connotations (which are no sins in themselves), are also very strong in the work of another neo-Malthusian son of Protestantism, Georg Borgström (1912–1990), who was even the son of a priest. Along with so much else in Swedish culture, and partly through his acquaintance with Vogt, Borgström’s initial proximity to ‘German’ ecologism with its concern for the home district and preservation of local culture (it was strong also in Norway), transformed after the Second World War into its more American variant. For both Vogt and Borgström it was a visit to Latin America that raised their eyes to the problems of overpopulation and the misuse of natural resources. But as Vogt had emphasised, foreshadowing Borgström, there were even already “too many Americans”. The American continent was probably overpopulated, assuming what one wanted to call an ‘American’ standard of living, especially since the United States as part of its self-defence had to contribute to feeding the rest of the world (Vogt 1948a, 1950: 148). As Bramwell (1989) has observed, the environmental movement of the 1960s and 1970s was particularly concentrated to ‘Protestant’ areas. This is probably partly because of the types of problems involved. The ecologism she saw arising as a new political category implied a union of the older, more ‘spiritual’ engagement with nature and close ties to one’s native place, and the newer, scientific ‘energy’ tradition. By implication, then, ‘Catholic’ ecologism would have less of a ‘spiritual’ bond to nature (but cf. the mystic anthropologist Teilhard de Chardin, although a Jesuit), presumably because one has not been forced to do without saints, and because the heathendom which Christianity was obliged to overcome had already been secularised under the Romans. On the other hand (and neglecting Russian ecologism), Bramwell seems to have forgotten the distinctly, and indubitably Protestant alarm at population growth and uneasiness about the excess in which one lives, which, so far as it

concerns imports, could also be seen as ‘mercantilist’ and in a sense predates Protestantism. The relative unconcern about population in the ‘Southern’ environmental tradition has been noted, *e.g.*, by McCormick (1995).

In general, the environmentalist debate appears to have turned more ‘American’ after the war, abandoning British imperial ecology (Anker 2001) and German rural-mystic ‘ecologism’ (Bramwell 1989), instead focusing on population (Linnér 2001), becoming distinctly non-Communist and pro-scientific. This change is reflected in Borgström’s ‘re-education’ and also in the penchant for quantitative indicators in later environmentalism. As new media allowed the internationalisation of the American conservationist debate, it also opened up new prospects for synthesizing popularizers with an Old-Testamentally tinge, such as Borgström. The food-scientist Borgström nevertheless differs from many other/late ecologists in that his primary interest was in food *quality*, as well as equity. This is the reason he advanced his concept of ‘ghost acreage’, which was adopted in modified form, *e.g.*, as an ‘ecological footprint’.

In the summer of 1953, Borgström began a series of radio lectures on population growth, resource depletion and the hazards of technology, which created a great stir, even adding stimulus to the poet and future Nobel Laureate Harry Martinsson, whose *Aniara* introduced the simile of the industrial world as a spaceship. Borgström was called the ‘dark voice’ and ‘alarm clock’ (whether with Wägner’s [1941] eco-feminist book in mind is uncertain) from Gothenburg. His radio speeches were accompanied by the publication of *Jorden – vårt öde* (‘The Earth – Our Destiny’; Borgström 1953; on Martinsson’s similar concerns at the time, see Sandelin 1989: 83 & 85), and in articles and speeches questioning food packaging and the use of chemicals in food production. All through the autumn his warnings were to reappear in newspapers, radio, and university lectures. By then, the response had become much more inimical, and especially his pessimistic prospects for the future and scepticism towards science and technology aroused hostility. In revised form, Borgström’s radio speeches and articles from the 1950s and early 1960s were to constitute the groundwork for his book *Mat för miljarder* (1962) the English version of which was to make him internationally renowned (*The Hungry Planet: The Modern World at the Edge of Famine*, 1965).

Borgström was not immediately appreciated in his role as an awkward public scientist, and he was presently, in 1955, removed from his position as head of the Swedish Institute for Food Preservation Research, which was supported by the state and the food industry. Influential representatives of the food industry compelled him to resign, and when the offer came he instead accepted a position as professor of Food Technology at Michigan State University, US. There he continued his role as a public scientist, writing on food and environmental problems, and providing important stimulus to the international and Scandinavian environmental debate. This was perhaps good fortune for Borgström, since the acceptance in the United States gave entrance also in his home country. In an interview in one of Sweden’s largest newspapers in 1967, Borgström regarded the exceptional reception of *The Hungry Planet* in 1965 as a turning point. The American Library Association elected it one of the 50 most important books of the year; it was translated into several languages (Linnér 2003: 156). It was an important stepping stone in transferring the American neo-Malthusian conservation debate to a European, or at least Scandinavian audience. In the budding Swedish and Scandinavian environmentalism from the second half of the 1960s, after this legitimisation, he was hailed as the man who “created modern environmental debate in Sweden”, “the Swedish Cassandra Voice” (Edberg 1966: 141), after whom, according to Norwegian eco-socialist Hartvig Sætra “all politics has changed”. The central figure of Swedish environmentalism in the 1970s, Björn Gillberg, saw himself as continuing Borgström’s work, not only regarding food quality but also in the role of a public scientist (quotations in Linnér 1998: 13f.; cf Palmstierna 1967: 49, Gillberg 1973: 27, Ehrensverd

1971: 42; on further reception cf. Linnér 2003: 191). Borgström developed, extended, and popularised his critical perspective in a series of books (1962, 1964, 1966, 1969), but we will base our presentation mostly on (various editions of) his 1962 book, parts of which had great similarities to his 1953 work but, significantly for our purpose, introduced the concepts of *population equivalents* and *ghost acreages* ('spökarealer'), which provide important notions for a certain conception of ecological unequal exchange.

In *The Hungry Planet*, Borgström set out to correct abstract money evaluations, which could not exhibit "the real costs unaccounted for", "measured in terms of board feet of forests, cubic feet of water, acres of arable land, and tons of minerals", and "in absolute figures as represented in wasteland, eroded soils, polluted waters, eradicated plants and exterminated animals, and in desiccated, waterlogged lands or swamplands" (Borgström 1965: xv). Advancements of traditional computations of population density which measured inhabitants only against tilled acreage were insufficient and would have to be revised. European countries were maintained by the use of pasture land, fisheries providing food and feed, and transoceanic acreages for feeding. To the food scientist Borgström, even density calculations taking this into account would be deficient, owing to the fact that nutritional standards did not enter the picture, notably the protein standard.

A conceptual framework for these problems was worked out in the five initial chapters: the first chapter introduced the concept of livestock population equivalents and some of its applications; the second emphasised the worsening food quality, and not so magnificent yield increase when not only calories but proteins were taken into account, underlining the importance of fishing yields, or 'fish acreages'; the third continued the protein theme at the basis of true hunger gap between privileged and poor nations advocating nutritional equalisation; the fourth traced mankind's biological budget further to the plant kingdom and photosynthesis; the fifth complemented the traditional land acreage used in his population equivalents, with the previous fish acreage and an additional trade acreage, into the concept of 'ghost acreage'.¹⁶⁶

The human sector in living nature was much larger than population figures; for example, the total weight of all three and a quarter billion human beings were 180 million metric tons, but adding livestock total weight went up to over 925 million metric tons, or an equivalent of 15 billion people. Going farther, Borgström (*ibid.*: 7f.) introduced the concept of *population equivalents*, based on the idea of measuring the food consumption of livestock in terms of human intake. On top of its feeding burden of 195 million people, the United States in 1960 had to provide nourishment for livestock, which in terms of protein consumption corresponded to something in the order of 1,300 million people (cf. Borgström 1972: 10ff. his Tables 4 & 5, Fig. 3). The point of these calculations was to polemicize against optimistic economists, agricultural scientists, and geographers, who claimed that the world had a potential to sustain 12, 15, or 20 billion people. World total livestock added almost four times the population equivalents of human beings, and the world population of 3.5 billion people corresponded to 17 billion population equivalents, 7.3 billion of which were attributable to cattle, followed in order by man, hogs, sheep, buffalo, poultry, horses, mules and asses, goats, and camels. (Ruminants, eating food non-digestible to man, were close to 10 million and non-ruminants excluding man 3.7.) On this standard and according to the 1967 values, China was still the most populated country in the world, followed by India, the Soviet Union, the United States, and Brazil, together making up half of the world's population equivalents (and somewhat more of the actual population) (*ibid.*: 22).

¹⁶⁶ Subsequent chapters resemble his 1953 book, covering the most important regions of the world. These are followed by discussions of the sea, synthetic nutrients, fresh water and pollution, and the book's final chapters delivers a criticism of the technocratic civilisation and its officiating optimists.

Looking at ratios between livestock and people some clarifying patterns appeared. Asian and Pacific ratios were on the lower end. Japan was less overpopulated than might be imagined from its actual population. Africa, and Europe lay close to world average, with Western Europe (as defined) in general lying below it, Scandinavia and Eastern Europe above it, on the same level as the Soviet Union and Anglo-America. New Zealand, Australia, and Argentina play in a league of their own, and to a lesser degree Brazil and Mexico. The high ratios in Latin America, together with the 200 million malnourished and underfed, reflected their outmoded pastoral agriculture, inherited from colonial times and organised for feudal purposes, later canalised into substantial meat deliveries to the world market, and not for the feeding of the masses (Borgström 1965: 9, 1972: 11f.).

Borgström proceeded to create a new concept of population density, “based on the relationship between the total living mass within the human sector and the disposable acreage of tilled land, pastures, and available water”, for a given geographical region (Borgström 1965: 13; 1972: 14). To illustrate his point, he constructed tables of population equivalents per acres tilled land and pastures, and acres per population equivalents, of a kind that has become fashionable within ecological footprint calculations. In 1967, world population equivalents per acre were 1.6, and acres per population equivalent 0.628 (Borgström 1972: 16). These measurements of population equivalents had still “not accounted for all the living things that man controls and earmarks for his existence”, notably wild animals and plants, and the “multibillion armies of bacteria and fungi in the soil”, nor for that matter of the produce of the sea (Borgström 1965: 12). To remedy this shortcoming, he tried to set up “the biological budget of mankind”. Man was already the most numerous among the large mammals. The numbers of other, wild species could be counted in thousands or tens of thousands, and the only animal which could compete with humans was the rat, living in man’s shadow.

Although population equivalents indicated that of the calories consumed by humanity only a fifth originated directly from primary production, this did not mean that consumption could be as radically increased with a totally vegetarian diet. (World food intake as a whole was already almost vegetarian, although some nations in the luxury class, on the other hand, indulged in tertiary consumption, feeding their livestock animal products.) Not only was this because of nutritional requirements, a popular theme at the time with exaggerated claims about protein needs and consequent malnutrition (Djurfeldt 2001: 29), but also simply because the human gastric system can not assimilate most of the calories built into plants, such as lignin and cellulose. This underlined the importance of ruminants, who’s extra stomach made these accessible, and in addition allowed them to produce invaluable proteins. Their capability to synthesise protein, make use of cellulose, and graze lands which would otherwise not be utilised, had vastly expanded the human biosphere (Borgström 1965: 58f; 1972: 64). No wonder, then, that the biomass of ruminants was almost three times that of man himself and more than two-and-a half times that of the other non-ruminants together.

If man himself, according to plant physiologists, appropriated only one percent of primary productivity, including livestock would make it five or six. Accounting for the human biosphere had also to include that fifth of crops going to feed insects, fungi, and pests, even before harvest. However, even ‘normal’ microbial activity maintaining the soils and the long food chains and cycles at sea would have to be sustained. One pound of cod, for example, needed 50,000 pounds or more of primary products. Taking this into account made the toll at least ten percent of total photosynthetic produce, to which should still be added extraction from forests for fuel, lumber, and paper. With losses, this amounted to a minimum human share of 7 or 8 percent, but more probably at 20 percent of total photosynthesis, slightly more for terrestrial systems, slightly less for aquatic (Borgström 1965: 59ff.; 1972: 64ff.). Borgström’s sources gave an ocean primary production double that of land, whereas more recent estimates put them on about equal levels).

If humanity already appropriated a fifth of the earth's primary production, what should one say of those proposing to solve the problem of undernourishment by the world as a whole emulating the agriculturally productive Denmark or Holland? Well, in the case of the net-importer Holland "the earth would need to acquire a food- and feed-producing satellite larger in size [...] than the present globe", and "35-fold their present catch to provide the human household with a corresponding amount of fish as feed" (Borgström 1972: 28f.). Much computation had been based on a fallacious reasoning in terms of calories, Borgström (1965: 26f.; 1972: 29) argued, as if man could live on sugar alone: "It should be obvious, even to the layman, that apart from the intolerable monotony of such a diet, it would inevitably lead to a nutritional catastrophe." In fact, much of the increase in agricultural yields, he (Borgström 1965: 27-30, 34-37; 1972: 30-34, 39-41) maintained, had been a deception where calories had replaced quality, notably in the sense of declining relative protein content; protein shortage was the most serious threat to human nutrition, and the true dividing line between the privileged and the undernourished. However, from 1970 onwards it was convincingly argued by others that providing for a sufficient calorific intake in terms of grain, ca. 600g/day, would also provide all or most of the necessary proteins (cf. Djurfeldt 2001: 29ff.). The important point about cattle could be said to lie rather in the assembling or concentrating work they perform, as suggested by Odum's concepts.

In calories, fish did not account for more than two or three percent of man's consumption, Borgström (1965: 31f.; 1972: 35) continued, and this was true even of the Japanese. A more adequate picture was obtained by asking: "How many acres in each particular country would need to be tilled and devoted to an intensive production of feeding-stuffs in order to produce an amount of protein equal to that provided by fish?" Comparing with milk would give minimum figures and was therefore preferable. This estimate, referred to as the *fish acreage* of a country, Borgström (1965: 71; 1972: 74f.) arrived at by calculating "the acreage necessary to produce in the most acreage-saving way for each country [cf. Odum] an amount of animal protein equivalent to what presently is obtained through fisheries and with present techniques in the agricultural production of this very country". It revealed to what an extent a region relied on ocean resources. On this standard, 3.8 extra Japans would be needed in the mid-1960s, in terms of vicarious tilled land, to supply the same amount of animal protein; two and a half Netherlands would be needed, and their old mercantilist opponent the United Kingdom would need a supplementary two thirds; more than one and a half Norway and almost one and a half Taiwan. The United States could make do only 6.1 percent, but agricultural Denmark and even such an enormous country as China would need about an extra third (Borgström 1972: 35f.). (It should be noted that proportions were always in relation to tilled land, not the entire surface.) Another estimate was what proportion of the population that could be totally provided with animal protein through products of the sea. Unsurprisingly, Japan again led with three fourths, followed by many Asiatic (often island) states, Ghana and Portugal. The exemplary agricultural states Denmark and the Netherlands could both supply a third of their populations (*ibid.*: 38).

Fish acreage was the first element in the inclusive concept, which Borgström (1965: 71; 1972: 75) calls *ghost acreage*: "This is the computed, non-visible acreage which a country would require as a supplement to its present visible agricultural acreage in the form of tilled land in order to be able to feed itself." As can be seen, this definition assumed that each country was actually meeting the needs of its inhabitants. Borgström returned to this problem later on, and so shall we. It also means that if part of the tilled acreage is taken up by grazing lands or pastures, the calculated ghost acreage would be correspondingly larger.

Thus introduced, the concept of vicarious productive land, or non-visible acreage, was easily extended to include other elements. The second, referred to as the *trade acreage*, was calculated as "the acreage, in terms of tilled land, required to produce, also with present

techniques, the agricultural products constituting the *net importation*” (1965: 71; 1972: 75). He criticised traditional trade balance sheets based on metric tons or monetary values, as less realistic when estimating the food balance and feeding capacity of a country. First, weight varied with water content, rendering simple adding-up of various food absurd as nutritional estimates. Second, due to production regulations, quota limitations, subsidies, tariffs, taxes, and subvention purchases – and possibly other things – food prices both on the world market and in individual countries rarely reflected “true production costs”, nor were monetary appraisals acceptable from a nutritional point of view. “As a contribution to a discussion along new and more meaningful guidelines,” Borgström (1965: 72; 1972: 75f.) explained, “I have therefore introduced this acreage concept.” Having not, even by 1972, taken in the so called ‘Sukhatmes rule’ of 1970 on sufficient calorie intake, he underlined protein:

In the first place, this was done to place protein in its key role in human feeding. Protein raised through soils is in general the most acreage-demanding constituent. Besides, protein content and value have hardly ever been the prime yardstick in determining prices, although in so many cases it holds the first line in determining the nutritional value to man and to livestock. (*Loc. cit.*)

As befitted a food scientist, it was thus a *quantitative* indicator taking account of food *quality*.

Regions would have to be reasonably topographically homogenous to yield reliable estimates, and to avoid some such complications trade acreages were computed separately for individual countries. Thus, one acre in the United States did not mean the same thing as one acre in Scandinavia. Trade acreages comprised all categories of agricultural products (the nutritive value as well as their demand on acreage), including non-food items such as fibres or tobacco, as they affected the acreages available for food and feed. For products supplementing domestic production this could be handled, but with complementary goods (*e.g.*, for imports of tropical goods to temperate regions) often no reasonable yield figures would be valid for the importing country. In these cases world averages had to be used. This procedure seems nevertheless already to be superior to that used in many ecological footprint analyses, basing all estimates on world averages. Indicating a possible stimulation to Odum (cf. Chapter 21), Borgström (1965: 75; 1972: 78) also claimed to be in the process of “devising methods whereby the use of commercial fertilizers and the energy inputs are computed in corresponding terms and added to the ghost acreages.” Although bringing in energy inputs would bring the concept closer to ecological footprints, contrary to these, trade and ghost acreages are still wholly nutritional concepts. As such they might be less inclusive, but at the same time more tangible, phantoms though they may be.

Trade acreages showed countries to be either net exporters or net importers. Among the former were the many larger neo-European countries, such as the United States, Argentina, Australia, Canada, Brazil, New Zealand, South Africa (not wholly neo-European of course), and Mexico, some European such as Spain and Denmark, and Nigeria, being great agricultural exporters also according to conventional measurements. Among the latter were notably most (West) European countries (with the U.K. topping the list) and Japan, but also large countries such as the Soviet Union, China, India, and Pakistan, some Latin American countries such as Peru and Venezuela, and Egypt (Borgström 1972: 76-83, his Fig. 17 & 18, Tables 14 & 15). It is not what those would expect, who believe the dividing line to be drawn between developed and underdeveloped regions. Although this was not underlined by Borgström, the great divide appears to lie preferably *within* the temperate region, between Europe and neo-Europe. Borgström instead pointed to cases such as the Japanese and Dutch, whose success in feeding their populations had sometimes been held out as miraculous. Today, they are by contrast the most popular examples among ecologically minded trade analysts, having perhaps become so heroic as to inhibit understanding of the Europe/neo-Europe divide. Neither can the success of the ecological footprint in the Netherlands be a

coincidence.¹⁶⁷ Looking at total ghost acreages, Borgström did point out that European countries (and Japan) were the great beneficiaries of the world. He contrasted these not with net exporters, as one would have expected, but with “the plight of the billions”, which, then, must be caused by something else. Whatever this ‘else’ might be, Borgström (1972: 86) placed his argument in the Cold War ‘resource-security’ framework, when speaking of the sinister result of postwar fumbling in trying to narrow the gap by employing world trade and ocean fisheries. New models were needed to communicate the sufferings of the poor, if world peace was to be maintained.

As was noticed above, Borgström’s definition of ghost acreage assumed that the needs were actually met. Dietary surveys had demonstrated the existence of extensive undernourishment and nutritional deficiencies, he explained, which were primarily protein shortage. Borgström (1965: 80f.; 1972: 86) therefore introduced yet another concept, *nutritional acreage*, of which I have seen no following, but which lies nearest to the heart of his ideal of *nutritional equity*. By nutritional equity was meant “the additional acreage required to satisfy nutritional minimum needs but still taking into consideration the dietary habits prevailing in each country.” It is, thus, not a measurement of what it would take to give Brazilians a United States’ diet, but more realistically (*loc. cit.*): “How many more acres of beans or how much additional pasture would be needed to give the undernourished in the country a minimal diet without changing its relative composition?” An alternative method was “to calculate how large an acreage, or alternately how large an increase in yield, would be required, under present production conditions, to attain a defined, acceptable nutritional level.” (Borgström 1972: 87; cf. 1965: 81) Various combinations of different acreages were obviously possible.

Borgström’s ghost acreages unwittingly recanted some of Cantillon’s economics, and may have stimulated Odum’s initial studies on hidden (fossil) energy flows in agriculture. More importantly, however, they anticipated and inspired many later environmental accounting methods, particularly area-based ones. Thus, William Catton Jr. (1980) provided one link and, in line with Borgström’s efforts to include energy, extended them to include fossil acreage. Garrett Hardin (1993) spoke of ‘ghost acres’, further distinguishing between different kinds of land acres, and William Rees (1992) introduced the much debated concept of ecological footprint. Dividing Borgström’s original statement and these followers is the great surge of the environmental movement in the 1970s, and the rise of ecological theory to prominence. Borgström was primarily a food scientist, and there are few references to ecology as such in his early works. His primary interest was neither to preserve ecosystems for their own sake, nor to establish some unidimensional environmental impact assessment, but to raise food levels and particularly quality to some commonsense decent level. In his qualitative discrimination between calories and proteins, he differs from the above followers, but he resembles Odum, who on the other hand lacked most of his brother’s or Borgström’s skills for popular presentation.

In Linnér’s (2003: 182) estimation, Borgström’s political program was basically the same from the 1950s onwards, though with an increasing accent on population control: “With this shifting emphasis, the antidotes for coming to terms with the population-resource crisis presented in *The Earth – Our Destiny* are elaborated in his books from the 1960s and 1970s – especially the need for a moral appraisal, for worldwide cooperative planning and distribution of resources, and for population control.” In addition, the perspective of most neo-

¹⁶⁷ Adding tilled land to total ghost acreage one gets the total acreage consumed in a country. The ratio of tilled land to this total acreage, Borgström calls the agricultural self-sufficiency. Thus, a country that is an equally large net exporter of agricultural products as it consumes fish, will have a self-sufficiency of 100 percent. Only five countries in Borgström’s charts and figures (2nd ed.) live up to or exceed this criterion: Argentina, Canada, Eire, the United States, and Denmark. This casts some doubts on the usefulness of this part of the argument. There is also the obvious objection that, from time immemorial, humans have eaten fish.

Malthusians broadened to include several other environmental issues. The second edition of Borgström's *Too Many* in 1971 was concluded by a new chapter on man's general collision course with nature, presenting the leading problems of devastation of forest land and waste of fresh-water, nuclear waste, oil discharge, and contamination of water in general. But the main environmental problem always remained that of population. The conservationist neo-Malthusian political program to resolve the problems, as embraced by Borgström, has been aptly summarised by Linnér (2003:182f.) in five points:

- 1) "A *new ecologically based education*, which makes the citizens of the world aware of how the Earth's resources are being depleted".
- 2) "A *new economic world order*, which takes into account nutrition and public health", where "[w]ithdrawal of resources has to be accounted for, not just seen as productivity", and the "guiding star must be better utilisation of resources", and "long-term agreement to redistribute and supply their protein need to all humans."
- 3) "A *new technology*, [...] designed in consideration of the interplay of nature", freeing humanity from specialisation and misguided grand-scale projects, and instead prioritising "primary human needs: food, clothing, housing, and education."
- 4) "A *global development programme* for strategic planning of the world's common resources. Political leaders, conscious of their responsibilities need to 'retake the reins and get the world to cooperate', under the aegis of a de-Westernised United Nations, and conceived as a world, or global, household.
- 5) Finally, and essential for the achievement of all the other points, there was voluntary or, if necessary, compulsory *population control*, so that the Earth's carrying capacity would not be exceeded.

Although as time went on, Borgström began to lose faith in the possibilities of politicians and democratic decision-making to achieve the necessary control, and again to place more faith in scientists, his approach to the 'population-resource crisis' was much softer than many neo-Malthusians, such as Hardin. Thus he (1969: 49) pointed out that the "present economic order in the world leads to richer countries getting richer and the poor poorer", which scared a reviewer in the leading conservative newspaper in Sweden for its Marxist message, though he excused these nasty remarks as merely another example of Borgström's well-known bias towards exaggeration (cf. Linnér 2001: 181). Borgström, unperturbed, went on proclaiming the need for radical action or else the captain's bridge would remain empty on our industrial and developmental circumnavigation on the brink of disaster, and the and the battle against population growth would be lost. He proclaimed the necessity, in the *short* run, of "a restructuring of world trade and a massive assault on waste and spoliation", while in the long run population must be brought under control. The time was no longer five minutes to twelve, it was five minutes *past* twelve (Borgström 1971: 10, cf. 258). Although important, and a necessary step in the short run, mere redistribution was not enough; the basic problem was not that the world was underdeveloped, but that it was *overdeveloped*. This, at any rate, must be said to be a very un-Marxist attitude, although, as we have seen (Chapters 18, 19), the term itself was used by Emmanuel to describe the well-off countries.

Nevertheless, Borgström was perhaps the most important direct inspiration behind Hartvig Sætra's eco-political socialism (1977, orig. 1971). Along with the Norwegian 'populist' Ottar Brox, the 'eco-philosopher' Sigmund Kvaløy, the 'deep ecologist' Arne Næss, and Eric Damman, pleading for us to take the future in our own hands, the 'eco-socialist' Sætra is a central pillar of Norwegian ecologism. According to Næss (1977: 275), all the main points of his own 'ecosophy' was expressed in the work of Sætra, which furthermore predated by a couple of decades the surge of English language attempts to synthesise the newly won ecologist perspective with Marxism. More radical than Hans Magnus Enzensberger in Germany, Sætra's ecological Marxism sprung partly from the same traditionally strong regional ties in Norway (explainable by the country's geography) that had guided Brox's populism and proven useful for the Resistance against the Germans during the war – thus, not suspected of crypto-Nazism. Borgström was particularly appreciated for his demonstration of the 'protein imperialism' (Sætra 1977: 57-60). Although not specifically mentioning the

debate on unequal exchange, Sætra's writings on capitalism and the imperialist exploitation in three tenses – past, present, and future – has a freshness which at least to the present author is more rewarding than many later writings on the subject of ecology in relation to Marxism and unequal exchange, and included also a discussion of the terms of trade and the exploitation of raw materials from an eco-Marxist perspective. Had he been less of a developmentalist, Emmanuel, who had nothing to suggest by way of political program for well-off countries, could have benefited greatly from Sætra's discussion.

Sætra's primary objection against the standard ecologism of his day, such as expressed in the *Blueprint for Survival* (Editors of *The Ecologist* 1972), lay not in the ends or suggested measures, but in supposing that they could be achieved without winding up capitalism and its institutionalised love of profit (Sætra 1977: 75f.). On the other hand, merely achieving a socialist society, did not guarantee any ecological sense whatever; socialism was necessary, but not sufficient to create a society which could survive (*ibid.*: 92). Societal or collective ownership of the means of production was no guarantee against excessive extraction: "A revolution must therefore not only be directed against the power of capital, but also against the techno-structure, the consumption pattern, and extraction." (*ibid.*: 1178; trans. J.B.) To those who charged him with abandoning Marxism altogether, Sætra replied that he had always considered himself to stand in critical proximity to Marx, but was glad to abandon the label if it were unthinkable that it could be combined with sensible ecopolitics. On the other hand, he (1977: 101) countered: "It has never been the intention of the founding father that the Marxist front should be a giant transcription bureau or an orthodox priesthood."

His objections against traditional Marxism were many, starting already with the neglect of the complicated relation between the *forces* of production (a combination of means of production, the general technological and scientific level, and the people carrying out the process of production) and the *conditions* of production (climate, geology, raw materials, bioproductivity, etc.). Together with the *relations* of production (social property relations, division of labour, distribution of income, etc., *i.e.*, 'the class struggle') the three constituted the *mode* of production, which in turn constituted the *base* of society, on which the *superstructure* rested. In both Marx and the Marxists, the conditions of production were generally seen as a limitless resource, a nature which both could and should be conquered, at least under multirational socialism. From an ecological and eco-political point of view, nature (the conditions of production) played a much more central part in the base than traditional Marxism had ever allowed. The ecological crisis had definitely demonstrated that the relation between the means and conditions of production fraught with conflict, which threatened to become more important than the opposition between the means and relations of production, which in the standard story was what brought about revolution of the mode of production (*ibid.*: 90f.). Apparently, it seemed as if the 'final battle' was not necessarily between workers and capitalism after all.

Traditional Marxists believed that with the coming of socialism the fetters on the forces of production would be undone, along with the absolute or relative poverty of the masses. With the success of capitalism in raising the levels of consumption, the political struggle from this angle became something like an auction where the highest bidder was right. The outcome of this battle certainly did not bode well for socialism if the evidence of existing socialism had anything to say. Sætra, on the other hand, had no such ambition for his eco-socialism. A distinction had to be made between optimality and 'maximality', where the former instead of maximum output and consumption meant "balanced and sensible use of resources", or, very much in line with Odum's later 'maximum empower', "consumption of resources in such a way as to get greatest possible effect in the long run". Marx's disgust with Malthus and his downplaying of population increase, laid the ground for the embarrassing unanimity between

the Pope and Marxism-Leninism that humanity without any danger could replenish the Earth (*ibid.*: 97ff.).

He distinguished between extractive and reproductive forms of production, in a way resembling Boulding's (1966) cowboy vs. spaceship economies, only also applicable to socialism. The former was primarily based on the consumption of resource funds, overtaxing of ecological cycles, and irreversible changes weakening the environment or wrecking the productive potential of renewable resources. The latter was based on indefinitely renewable resources and on the labour necessary to optimise this usage or to repair previous damage done to the environment and the foundations of production. Norwegian and other fisheries over the past 50 years was a good example of the former, as was coffee production, the American 'dust bowl', and Khrushchev's agriculture in Turkestan (Sætra 1977: 104f., 107ff.). It was becoming ever harder to find examples of reproductive forms of production, or spaceship economies. They existed only in primitive tribal societies on the edges of civilisation, and closer by one had to revert to the old peasant economy, where, as praised in folklore and poetry, the principle ruled that 'the farm should be passed on in the same state as the peasant himself received it' (*ibid.*: 110ff.). The spaceship economy, or the old peasant economy, founded on clannishness and reverence for nature, provided the rationale of the new society to be built. The prospects for success depended on three conditions: (1) on the ability to clarify the gravity of the situation, (2) on the care for the future and on how low into the future people were willing to extend their family feeling, and (3) on the readiness for the necessary settlement of accounts with capitalism and imperialism, which must accompany an eco-political revolution. The strategy would require defining a reasonable global minimum standard in per capita resource consumption, and to estimate a socially necessary extraction. Everything beyond this standard must be combated both within capitalist and socialist societies, Sætra pointed out, making it in his view a struggle *within* the system under socialism, and *against* the system under capitalism (*ibid.*: 113).

From his ecological perspective, Sætra wanted to widen the concepts of exploitation and imperialism. Discussing the value of goods (confusing it with 'exchange value')¹⁶⁸ he observed that profits could be raised by lowering costs of production, either through automation, rationalisation, imperialism of raw materials, and by withdrawing from ecological rehabilitation cost, social costs, and future costs. The more interesting aspects here is his tripartition of the meaning of exploitation and imperialism, into past, present and future (*ibid.*: 126f.):

(1) To the *imperialism in the past tense* belonged automation, since machines, like all capital, was the product of previous labour, 'congealed sweat'. (Since Sætra has just criticised Marxists for thinking labour to be the sole creator of 'value' this statement reads as somewhat inconsistent).

(2) The *imperialism in the present tense*, i.e., exploitation of the contemporary proletariat, contained both *environmental* imperialism and *raw materials* imperialism. The environmental

¹⁶⁸ Like many Marxists, and probably every ecological critic of the labour theory of value to be considered in this text, Sætra has no conception of 'value' as an economic tool (the long-run equilibrium price towards which actual market prices are thought to tend), and instead interprets it in the sense of what is 'really' valuable to man and society. In the first case, 'value' is a tool to understand how a capitalist economy actually functions; in the second it is a statement on how society ought to appreciate things. Both kinds of debates are economically relevant but mixing them in a single concept leads to endless confusion. Since extraction depletes sources (forests, minerals, oil, biodiversity, etc.) that are (at least potentially) useful to society but which have not been created by labour, Sætra (1977: 122ff.) criticised Marxism and the labour theory of value for neglecting the intrinsic 'value' of resources. Considering the labour theory of value as an interpretative tool, the criticism is irrelevant (which is not to say that the theory is correct), and as statement on the general appreciation of nature among Marxists and politicians it amounts to the same thing as saying what he already has, that the conditions of production are not sufficiently integrated in Marxist theory and consciousness.

imperialism involved the degeneration of the working environment (through rationalisation, time and motion studies, and other attempts to speed up the pace), withdrawal from social costs at fusions, shutdowns, and dismissals, resulting from rationalisations, commuting, pollution of built-up areas, traffic, noise, and 'urban' health problems, in a both physical and mental sense. The imperialism of raw materials meant giving too low a compensation to people in raw materials producing areas.

(3) The *imperialism in the future tense* involved the environmental costs left for future generations to pay and the deprivation of their resource base through extraction (in the above sense as distinct from reproduction). Thus, extraction was not merely exploitation of 'Mother Earth', but of future generations, which was why the 'antennae' of family feeling or clannishness was so important.

At the time, said Sætra, the imperialism in the future tense was great enough so as to share its booty with the whole population of the rich countries, making it a gigantic 'people's imperialism', where the larger part of the people – 'involuntarily', as Sætra had it – as consumers were drawn into an economic and resource exploitation, partly of raw materials-producing underdeveloped countries, partly, and mostly, of future generations. The exploitation of the working classes in developed countries was primarily of the environmental kind, not economic like it had been, and as seen from the global and future scale their consumption of goods and resources was partly an overconsumption (*ibid.*: 128). While the workers had for the most part not asked for this excessive extractive personal consumption, Sætra (*ibid.*: 129; trans. J.B.) nevertheless believed that it would be starry-eyed to think that "man is by nature non-extractive", or that he had merely been "misled and bribed by capital". Like everyone else, workers had to decide upon a responsible attitude towards resources. Furthermore, this resolution must *precede* the revolutionary transformation of society and preferably *reinforce* the struggle against capitalism. The socialist struggle in the rich countries could not be directed only against the international 'monopolies', he (*ibid.*: 146f.) reminded, but must also include a struggle against their own levels of consumption and the exploitation of the resource stock. This was not what Leninist Marxism wanted, but it was central to the 'populist' or eco-political Marxism. Resources were clearly too small to support a long-run global welfare state by elephantiasising economic development, however much Social Democrats might wish this, and the Marxist-Leninist revolutionary path to the same goal was obviously equally utopian.

He was also critical of the idea of 'relative impoverishment', which was less dangerous in Marx's day or in present day underdeveloped countries, but which confused Marxists in rich countries into absurdities and dangerous group egotism, at the expense of classical socialist ideals of solidarity, and misdirected political devotion to raise the standard of consumption in rich countries. In a material and general sense as applied to the working population (though the unemployed and outcasts may be another matter), the word 'impoverishment' was without any meaning, no matter how many more cars the wealthiest may put in their garage (*ibid.*: 134f.). The true impoverishment in these countries was not economic but appeared in the form of *alienation* from meaningful and creative tasks (*ibid.*: 140ff.).

By contrast, in the underdeveloped countries one could find absolute impoverishment, subject as they were to both protein and raw-materials imperialism. The goods from primary production were disadvantaged because of the mere workings of the capitalist market laws, he maintained, although the mechanisms are not very clear from his account.¹⁶⁹ At one point he

¹⁶⁹ There is really no economic analysis in his work. However, one basic element, Sætra believed, was the different rates of circulation in the respective ecosystems. Ecological areas with high rates of circulation were all in the rich countries or in their puppet states, which made agricultural yields higher than average. His argument seems to have been that in a capitalist economy this inevitably created an extra rent, or a corresponding exploitation of those marginal areas whose ecologies supported only lower yields. In industry, labour and capital

invoked Frank's (1967) satellite-metropolis scheme. Satellites engaged in primary production, sub-metropolises in secondary, whereas tertiary production was concentrated in the metropolises themselves, and there was somehow a constant flow of goods and profits towards the centre, accompanied by the most educated workers (*ibid.*: 158-68, esp. 161). The solution to these problems on a global scale required a dominating block of socialist states with an internationally binding eco-political program. Such a program would have to include a biologically defensible nutritional standard, an international production and autarky goal for agriculture and fisheries, which must not involve shortsighted overtaxing of nature, and a thoroughgoing international equalisation of income. The basis for a supra-state organisation should be: (1) optimisation of reproductive resource use, and reduction of extractive production; (2) protectionism to substantiate the former point and be directed towards ecological balance in a wide sense; (3) equalisation of living conditions, something which also required a balanced ecology.

The concern over rising populations and declining resources reached a peak in the late 1960s, with popular books such as Borgström's *Hungry Planet*, Philip Appleman's *The Silent Explosion* (1965), William and Paul Paddock's *Famine – 1975* (1967), Arthur Hopcraft's *Born to Hunger* (1968), Paul Ehrlich's *The Population Bomb* (1968), and Garrett Hardin's (1968) most famous article. In addition there was an small avalanche of food experts, demographers and environmentalists who predicted the coming of mass starvation. Like Borgström, Ehrlich had also been influenced by reading Osborn and Vogt, and when his book surpassed even *Silent Spring* as a national bestseller, he became a leading voice in the choir singing 'people pollute'. Ehrlich argued that the 'quality of life', which depended on a healthy environment, would inevitably decline were population growth not hampered. He founded the Zero Population Growth Movement, which contended that it was already too late for voluntary measures to be effective (Pepper 1989: 20, 100; Linnér 2003: 170ff.). In Hardin's (1968) more hard boiled approach, compulsory legislation and population control was necessary to end 'the tragedy of the commons'. This consisted in the fact that the relative profits of individuals who broke the commonly agreed-upon rules of survival would oblige the rest to follow, which would ultimately wreak havoc upon all. The argument was basically one of those used for socialist planning, against the capitalist system of individual producers, only the freedom which had to be curbed according to Hardin was that of progeniture not of enterprise. An editorial in *Science* (Hardin 1971) argued that in an imperfect world territories had to be defended if they and American 'dignity', were not to be extinguished by a fast-breeding 'race'. His proposal for a 'life-boat ethic' (1974), *i.e.*, to shut out countries such as India, who refused to enforce programs for population control, from aid and letting them drown in their own overpopulation, did perhaps not inevitably follow from it, but whether it did or not, it may certainly still be an ingredient in international diplomacy.

The suggestions in Hardin's editorial, that zero-growth of birth rate should be enforced by compulsory legislation and egotistic wealthy seclusion, provoked the sensibilities of many environmentalists, notably Barry Commoner (1971: 114) who referred to it as the new barbarism of the lifeboat ethic. Commoner instead displayed a tendency characterising many more leftward or liberal environmentalists during the 1970s, laying greater stress on social

tended to flee such low-productive sectors until earnings returned, but such mobility of capital and labour was not possible in primary sectors, *i.e.*, agriculture, since peasant populations were domiciled on their land, and shutting down their unprofitable production involved painful readjustments, such as depopulation, elimination of cultural patterns and social life, and people mostly ended up in urban slums. To resolve the situation, international transfers of income were needed. He also reported how the a decline of demand for products of monocultural agriculture such as cocoa, attempts are made to increase output instead of diminishing them, so that the terms of trade decline into a vicious circle (*ibid.*: 143ff.).

relationships and maldistribution. He charged that the principal problem was not population growth but modern technology, in the hands of multinational corporations, and the economic order of capitalism and colonialism. The dispute on the relative impact of population and pollution continued. To Ehrlich (1968: 66f.) the problem was, by contrast, *too many* cars, factories, detergents, pesticides, carbon dioxide, etc., and too little freshwater, etc., all of which could be traced to *too many people*; from the fact that the present environment was deteriorating, he and Anne Ehrlich concluded that “*the planet Earth as a whole, is overpopulated*” (quoted in Linnér 2003: 173f.; cf. Pepper 1989: 20f.). The final outcome of the argument, so far as accounting methods are concerned, was the attempt by Ehrlich & Holdren (1971; Holdren & Ehrlich 1974), to assess the respective categories of environmental in the so-called “Ehrlich equation” – the identity $I = PAT$, relating the environmental *impact* to *population*, *affluence*, and *technology* (i.e., pollution). Later studies have preferred to speak of consumption rather than affluence, yielding the equation $I = PCT$, where the latter two terms could be expressed as respectively GDP per capita and impact per unit of GDP (Ekins & Jacobs 1995, Raskin 1995, Amalric 1995, Dietz & Rosa 1994, Rothman 1998). Although sometimes criticised and revised, according to Rothman (*ibid.*: 182), “the IPAT relationship provides a basic reference for considering the impacts of human activity on the environment.” In a famous study from 1986, Vitousek *et al.* (1986) estimated the contemporary “human appropriation of the products of photosynthesis” to have reached 40% of net terrestrial biomass production.

Environmental impact assessment has grown into a large industry over the years, but it seems as if concern over population growth has all but disappeared from debate today. Hardin is of course unperturbed, and continues to speak of what he calls the population taboos, but he has also contributed more directly to Borgström’s concept of ‘ghost acres’ (Hardin 1993: 121-33), introducing further distinctions between cropland, pastureland, woodland, and other land. Nothing is said of Borgström’s (1962, 1965) fish and trade acreages, nor of Catton’s (1980) fossil acreage. How much space does human beings use? he asked. Taking the example of the United States, his estimate simply assumed – “Without too much error”, he maintained – that imports and exports were in balance. For an advocate of life-boat ethics this must certainly be a reassuring thought. Unfortunately, he did not present a shred of evidence that it was so, but perhaps being aware of the United States’ net agricultural exports, and since he was only looking at the *land*, could probably assume no great bias. Nevertheless, his point in bringing in ghost acres was to enhance discernment of possible overpopulation, which he felt was commonly *better* among the poor peasants of the world:

The essential life of an educated urban dweller, from birth to death, is lived out on ghost acreage. Urbanites, lamentably unconscious of this support base most of the time, live a life of illusion. This does not make for ecologically realistic thinking; illiterate farmers of the poorest countries are often closer to ecological realities than are the most sophisticated city dwellers. Unfortunately urbanities, in most countries and in most times, control both the media and the political system.

[...] Since he is deficient in meaningful experiences with the sources of his being, the urbanite must have reality brought home to him through the intellectual gimmick of “ghost acreage.” Without some appreciation of the breadth of their dependency on the outside world, city-dwellers are apt to adopt political plans that erode the foundations on which their survival depends. Urbanization may, in the end, prove a fatal disease. (Hardin 1993: 123.)

Yet the argument admitted by Hardin for urbanites could, admittedly to a very much lesser degree than for the citizens of Manhattan, be true for whole countries, as indeed it is. Hardin did not want to mix with fossil acreages, nor ‘pollution acreages’ or the like, and this could perhaps be considered good sense, since it does not imply comparing apples with fossilized pears, by trying to apply a single area-based unit of measurement. Thus, he (1993: 123) simply concluded that “when the energy now available in the concentrated forms of oil and

coal has to be supplied by the more diffuse source of solar energy, the ghost acres per citizen will have to increase considerably.” If Hardin chose to specify the various components of ‘land acreage’ to illuminate the dependence of an urban population on the carrying capacity of the surrounding land, Borgström, by contrast, did not really included ‘land’ at all in the ‘phantom’ acreage of a nation, consisting instead of the two components ‘fish’ and ‘trade’, expressed as land acreage over and above their actual arable lands.

The Earth as a whole could have no trade acreage, and in the 1970s the sea was being harvested in greater than sustainable yields, in addition to pollution. Instead of cutting down on their fish crops, nations became even more competitive, somewhat in line with Hardin’s tragedy of the commons, and some were compelled to express their claims in the form of territoriality. The three-mile limit of national sovereignty became a twelve-mile limit, and various nations extended their fishing claims unilaterally out to fifty, a hundred or, like the United States on 1 March, 1977, two hundred miles, the talk of which had already occasioned large manifestations in the fish-acreage dependent Japan. These and similar conflicts between the United States and Peru, Great Britain and Iceland, compelled the United Nations to begin rewriting the law of the sea so as to institutionalise such marine claim-staking.

These conflicts had been noticed in 1980 by Catton (1980: 40), who remembered Borgström’s ideas of a phantom carrying capacity and invisible acreage. The oil crises had made another dependence all the more apparent (*ibid.*: 47), so Catton had no problem adding this third component to the previous trade and fish acreages: the “fossil acreage”. This consisted of ‘imports’ of photosynthetically gathered solar energy from the past in the form of coal, petroleum, and natural gas. “As an island in space, the world could not rely on imports from *elsewhere*; nevertheless, it was already heavily dependent upon imports from *elsewhen*. That we were importing from the past becomes clear when we logically extend Borgstrom’s [sic] ghost acreage concept to include [...] import of energy from prehistoric sources. Man’s use of fossil fuels has been another instance of reliance on phantom carrying capacity.” He calculated it as “the number of additional acres of farmland that would have been needed to grow organic fuels with equivalent energy content” (*ibid.*: 41). The original reliance on renewable, although similarly overexploited, wood, was abandoned in favour of fossil fuels, mistaken, according to Catton, by peoples and nations for an opportunity to permanently transcend the limits set by finite supplies of organic fuel. The increasing global dependence on fossil fuels for energy over the last full century is well illustrated in Table 22.

Table 22. *Total commercial and non-commercial world energy sources (%)*

	1875	1900	1925	1950	1975	1995
Wood	60	39	26	21	13	10
Coal	38	58	61	44	27	17
Oil	2	2	10	25	40	40
Natural gas	1	1	2	8	15	23
Other sources	<1	<1	1	2	5	10

Source: Porter & Sheppard 1998: 227.

In view of the current scale of international trade, it is readily perceived from these figures that *no* contemporary country can be considered ‘sustainable’ in the strict sense of the term, since they all require support by fossil acreage, either in its own production or in that of its imports. Catton estimated that to produce alcohol corresponding to the 1970 US per capita fossil energy consumption, equivalent to 58 barrels of oil, would take 20 acres of good farmland producing corn, whereas with half of US total area used as farmland in 1970 there was only 5 acres per capita available. Thus, he (1980: 46f.) concluded that the actual population of the United States had already overshoot its carrying capacity measured by the energy-producing capability of visible American acreage, and that to “achieve genuine self-

sufficiency in energy by 1980, assuming a 1970 way of life but depending on visible acreage only, the population of this nation would have to level off no later than 1880.”

In the midst of the second oil crisis (1979-80), Catton (*ibid.*: 47) apparently believed the rise of oil prices to be in a reflection of “the increasing difficulty of obtaining the fuels”. Those “opinion leaders” who sought “political explanations for the erosion of freedom”, were merely “neglecting the ecological pressure causing it.” Such minds, he explained, “insisted on remaining blind to a reality far more significant than its surface political manifestations.” Rather than even trying to provide an historically plausible explanation, he seems to have involved himself in ‘wishful’ thinking that the crisis was at hand – the situation certainly had nothing in common with that in the fisheries. And it must be admitted that the rise in oil prices was timely for the environmentally engaged who – now apparently believing that the market mechanism really worked – had been proclaiming for decades that resources were scarce and must be economised on.¹⁷⁰

However this may be, if harvesting of fish exceeded the replacement rate this made itself fairly quickly felt to human experience. By contrast, Catton (*ibid.*: 52) explained, the extraction of fossil fuels exceeded the replacement rate by about 10,000 to 1, although new discoveries made it look otherwise. Furthermore: “to become *completely* free from dependence on prehistoric energy (without reducing population or per capita energy consumption), modern man would require an increase in contemporary carrying capacity equivalent to ten earths each of whose surfaces was forested, tilled, fished, and harvested to the current extent of our planet.”

By the early 1990s, following the Brundtland report in 1987, there appears to have been a vogue for alternative but similar accounting methods under slightly varying names or originality of content. Their timing may also be related to the preparations for the 20 years jubilee of the Stockholm Conference, *i.e.*, the Rio Conference 1992, the Conference itself, or simply the greater ado among politicians. Part of the reason is certainly the actual or felt possibilities for increased funding, as well as attention, and the hope to stake a claim in dire competition. Thus, we have ‘environmental space’ and ‘environmental memory’, on the line of Odum’s ‘energy memory’, while in Latin America the concept of ‘environmental debt’ appeared, to which we shall return in Chapter 23. Writing on the possibilities of making Canada ‘sustainable’, J. MacNeil (1992) spoke of “shadow ecologies”, in line with Borgström’s ‘shadow acreage’, while another Canadian, the urban geographer William Rees (1992), and his Swiss student Mathis Wackernagel (Rees & Wackernagel 1993), introduced the concept of ‘ecological footprints’, soon to be adopted in the Netherlands.

However, they were not primarily in competition with each other, and many can be seen as a the counterpart to the rejuvenation of the idea from the Stockholm Conference, that increased economic growth and development was actually *good* for the environment. This, at first and perhaps third sight, bizarre conclusion sometimes goes under the name of the ‘environmental Kuznets curve’ (EKC), or inverted-U curve. The hypothesis was proposed as an analogy to the pattern found by Kuznets between changes in income inequality as economic development progressed: in the early stages of development, environmental pressure rises faster than income growth, then slows down, and after reaching a turning point finally declines. An important contribution arguing on these lines was Shafik &

¹⁷⁰ It is even possible the environmental debates could have contributed to the raising of prices by raising the eyes of producers and preparing consumers with a justifying logic to the new claims. Nothing is said by Catton on the high degree of monopolisation, or of the fact that OPEC’s efforts naturally were supported by US producers. If there is any truth in Catton’s interpretation it is that the production rate *in the United States* was less than the discovery rate. Another is that the ‘far more significant’ reality could make itself felt partly through the uniquely central place which oil occupies in current industrial society. The negative effects on economic growth can nevertheless not be attributed to the price rises *per se*, but perhaps to the reaction against them.

Bandyopadhyay (1992). It served as the basis for the 1992 World Bank development report (IBRD 1992: 308), concluding that resource prices and policy changes were the principal causes explaining trend reversals. Others arguing on similar lines were Selden & Song (1994), Grossman & Krueger (1995), the former proposing four theoretical arguments in favour of this relationship: (1) positive income elasticities for environmental quality, that is the environment is considered as a 'normal' good, for which there is a proportionately rising preference with higher income; (2) structural changes in production and consumption associated with higher incomes; (3) increasing information on environmental consequences of economic activities as income rises, presuming an influence of this information on either consumer preference, producer morality, or public policy; (4) more international trade and more open political systems with rising levels of income. It was also argued that developed countries have greater capacity to remedy environmental problems in response to consumer demand, and that higher turnover rates of production technologies would speed up obsolescence of older and dirtier ones. According to Bruyn (1997) and Berkhout's (1998) analysis of the material flow data of Adriaanse *et al.* (1997), there was a general delinking of economic welfare (GDP/cap.) and material throughput from the 1970s onwards (cf. discussion in Cleveland & Ruth 1998). Other relationships were also proposed, for example an N-shaped curve initially showing features of the EKC, environmental pressure then rising again as technological efficiency in resource use and other opportunities were exhausted (Bruyn *et al.* 1998: 161f.; Kaufman *et al.* 1998 even found a U-shaped curve for SO₂).

The second argument finds a strong explanatory case in the changing sectoral composition of production. As income levels increase, the dominant sector shifts from agriculture to industry and then to services (Table 23). The first shift is likely to result in increased environmental impact, and the second in a reduction. In a production-centred evaluation this could result in an EKC.

Table 23. *Historical shares of employment by sector*

	USA			UK			Japan		
	Agriculture, Forestry & Fisheries	Industry	Services	Agriculture, Forestry & Fisheries	Industry	Services	Agriculture, Forestry & Fisheries	Industry	Services
1820	70,0	15,0	15,0	37,6	32,9	29,5			
1870	50,0	24,4	25,6	22,7	42,3	35,0	70,1		
1890	38,3	23,9	37,8	16,1	43,2	40,7	69,0		
1913	27,5	29,7	42,8	11,7	44,1	44,2	60,1	17,5	22,4
1929	21,1	29,4	49,5	7,7	45,2	47,1	50,3	20,9	28,8
1938	17,9	31,2	50,9	5,9	44,1	50,1	45,2	24,1	30,7
1950	12,9	33,6	53,5	5,1	44,9	50,0	48,3	22,6	29,1
1973	4,1	31,2	64,7	2,9	40,3	56,8	13,4	37,2	49,4
1992	2,8	23,3	74,0	2,2	26,2	71,6	6,4	34,6	59,0

Source: Maddison 1995: 253.

The overall conclusion of general studies on the empirical basis of the EKC-hypothesis is that some environmental indicators, such as urban sanitation and air quality, access to clean water, certain pollutants, do indeed conform more or less to the suggested pattern, as do some studies of social metabolism, showing that the 'direct material input' (DMI) of several developed economies stagnated or declined in the 1970s, GDP continuing to rise somewhat. Since DMI does not include imported goods, hidden flows, or even wastes, it was not the relevant metric of environmental impact even within the methodology of societal metabolism itself. Other indicators, such as carbon dioxide emissions and municipal waste per capita, showed continued worsening as incomes rose (Ekins 1997, Stern *et al.* 1996, Forrest 1995; cf. Rothman 1998: 178f.). Even if the hypothesis were true, the irreversible environmental devastation before income induced reversal was achieved in developing countries could be

assumed or calculated to be considerable (Rothman 1998: 179, and references therein). Justified warnings have been raised against downplaying environmental concerns as transitional phenomena which growth in due course will resolve. Arrow *et al.* (1995: 520f.) pointed out the partial evidence focusing on pollutant emissions and concentrations, and the corresponding lack of linking with ecosystem resilience, carrying capacity, resource depletion and environmental sustainability in general. They cautioned that economic growth was “no substitute” for environmental policy. Ayres (1995: 97ff.) considered this an understatement and the view that growth was good for the environment as “false and pernicious nonsense”. In an overview and critique of previous studies, Stern *et al.* (1996) pertinently observed that the relatively high income levels at which pollution turned were not achievable for the majority of the world population and that translocation of dirty industries from developed to developing countries might offer an effective explanation for the observed EKC. Criticism was also levelled at the ahistorical methodology of trying to relate trend reversals to income levels, while surprisingly ignoring, in the case of carbon dioxide, the historical shock effect of the ‘oil crises’ of 1973 and 1979, resulting in policy changes and transition to other energy sources.¹⁷¹ The empirical data and the statistical models were questioned, and it was suggested that the environmental problems showing an EKC were those nearby in time and space, preferably where abatement costs were low in terms of money or life-style, the EKC thus not being valid for global problems (*e.g.* Rothman 1998: 178; Bruyn *et al.* 1998: 164). Although examples to the contrary are not difficult to find (*e.g.*, Panayotou 1993; Beckerman 1992), even in studies favouring the EKC-hypothesis, the relationship was not taken for granted. Shafik & Bandyopadhyay (1992: 23), for example, did think it possible to “grow out of” certain environmental problems, but maintained that “there is nothing automatic about doing so.” Grossman & Krueger (1995: 371f.) tried to caution against this reading of their findings, and believe an “induced policy response” of stricter environmental laws and standards driven by citizens’ demands to have provided the strongest link between rising income and lower pollution. As Torras & Boyce (1998: 148) observed, in this they echoed Kuznets (1955) original call for a shift from market economics to political and social economy. Torras & Boyce (1998: 158) agree with Grossman & Krueger (1995; 1996) that “citizens’ demand and ‘vigilance and advocacy’ are often critical in introducing policies and technological changes which reduce pollution,” this vigilance, however, not being a mere function of average income, but also of income distribution, literacy and rights. In line with the remark of Stern *et al.* (1996) above, Muradian *et al.* (2002: 60 & 64) considered “environmental load displacement” to be a possible factor in de-coupling growth and environmental degradation, and an environmental aspect of unequal exchange. Thus, increasing local political pressure to protect the environmental ‘public good’ can lead to relocation of pollution-intensive production. As we have seen (Chapter 17), writing on unequal exchange of ecological footprints, Andersson & Lindroth (2001) specifically argued against the conception of the environmental Kuznets curve.

On this line Rothman (1998: 177f.) argued for consumption-based approaches, concluding that “consumption-based measures, such as CO₂ emissions and municipal waste, for which impacts are relatively easy to externalize or costly to control, show no tendency to decline with increasing per capita income,” and that “what appear to be improvements in environmental quality may in reality be indicators of increased ability of consumers in

¹⁷¹ Unruth & Moomaw (1998: 228) found a simultaneous trend reversal for 16 OECD-countries at widely different income levels in the above mentioned years. They also noted that the EKC-hypothesis depends on data from the late 1970s and even 80s, when downward trends for many important pollutants were already on the decline. If this decline was partly due to public environmental concern with the growth-maniac ideology of the exuberant decades up to 1973, it would be ironic that it then be used, in the form of EKC, in arguing for renewed growth-mania.

wealthy nations to distance themselves from the environmental degradation associated with their consumption.” If reductions so far have primarily been “due to a composition effect, whereby countries tend to increase the energy and pollution intensity of their imports”, the currently developing countries may not be able to replicate this feat.

Several writers expressed doubts about adopting a production-based approach in evaluating environmental impact. Duchin (1998) argued that most environmental degradation could be traced to the behaviour of consumers, either directly, through garbage disposal or the use of cars, or indirectly through the production undertaken to satisfy them (cf. Rees 1995; Daly 1996). The EKC attributed changes in environmental impact to changing composition. If the shift in production patterns was not accompanied by a shift in consumption patterns, Ekins (1997) observed, then environmental effects due to the composition effect were being displaced from one country to another, rather than reduced, and accordingly this means of reducing environmental impacts would not be available to the latest-developing countries, since there were no countries left to which environmentally intensive activities could be located. Thus, in Rothman’s (1998: 182) view a relevant measurement of environmental impact would have to be consumption centred.

Building on the work of Borgström (1962), Catton (1980), and Vitousek *et al.* (1986), Rees (1992) and Rees & Wackernagel (1993) made the concept of ‘appropriated carrying capacity’ popular as ‘ecological footprints’. Theirs have turned out to be one of the more successful consumption centred approaches, at least in terms of publicity. Rees as a Canadian urban geographer could be assumed to have been familiar with the ‘metropolitanism’ of the Chicago school of sociology, and its Canadian staple-thesis next cousin (cf. Careless 1954). Observations of the material dependence of cities on the produce of the countryside must be as old as cities themselves, was integrated in mercantilist thought as well as Smith, reappeared in the ‘metabolism’ between nature and society in Marx. That the concept ecological footprint was soon adopted in the Netherlands, may have something to do with being the archetypal city-state, living in a very concrete sense beyond its geographical ‘endowment’ of land, in addition to having for centuries disputed with the English over fishing rights. Compared to the corresponding concepts adopted in Spain or Latin America, the ‘environmental debt’, the imagery was adopted rather to the wealthy consumer society, and not at all to Third World, or Latin American, debt and development. The ‘Southern’ line of environmentalism, which came to dominate the United Nations from the 1970s, is more bent on emphasising how much economic ‘catching up’ remains to be done, and its Latin American branch is particularly concerned with exports pouring out as raw materials, while the economic debt is contrasted with the ecological debt in CO₂ emissions, the rights to which are hotly debated and may well become economically important. Both traditions are concerned with the overconsumption and guilt of the wealthy, notably in the form of CO₂, but their languages are different and directed at different audiences. Both have been linked to ecological unequal exchange in one form or another. We shall consider footprints here and environmental debt in Chapter 23. In ecological footprints the traditional population component is stronger – man in himself is seen as a consumer – and the consequent ‘appropriation’ of the Earth’s total biocapacity, consequences for non-human nature, other species and nature as a whole, more underlined. Rees, in particular, appears to share beliefs with the early radical ecologism of the 1960s and 1970s. The perspective of ecological footprints is global, and the ambition now is to become an accounting method.

The starting point was the recognition that the level of consumption of a geographically delimited population, notably a city, often exceeded the available productive area:

as a result of high population densities, the rapid rise in *per capita* energy and material consumption, and the growing dependence on trade (all of which are facilitated by technology), *the ecological locations of human settlements no longer coincide with their geographic locations*. Modern cities and industrial regions are

dependent for survival and growth on a vast and increasingly global hinterland of ecologically productive landscapes. (Wackernagel & Rees 1996: 29.)

The concept was an inversion of ‘carrying capacity’, which was usually defined as the maximum population of a species sustainable in a certain habitat for an indefinite period without permanently diminishing the productivity of this habitat. Calculating the carrying capacity for a human population was made more difficult since the ecological burden of an area varied with income, technological level, material expectations etc., and by the fact that no area was isolated from the rest of the world. A difficulty for the concept of carrying capacity was that our exogenous, industrial metabolism was much greater than our endogenous, biological metabolism. Starting “from the assumption that every category of energy and material consumption and waste discharge requires the productive or absorptive capacity of a finite area of land or water”, the ecological footprint of a population was arrived at by summing up “the land requirements for all categories of consumption and waste discharge by a defined population”. The aim was to avoid arbitrary geographical delimitations, pointing out that it concerned impact “on the Earth *whether or not this area coincides with the population’s home* region. In short, the Ecological Footprint measures land area required per person (or population), rather than population per unit area” (*ibid.*: 51). This simple inversion of carrying capacity was found much more instructive in characterising the sustainability dilemma. The ecological footprint or appropriated carrying capacity for a specified population or economy was thus defined:

the area of ecologically productive land (and water) in various classes – cropland, pasture, forests, etc. – that would be required on a continuous basis

- a) to provide all the energy/material resources consumed, and
- b) to absorb all the wastes discharged

by that population with prevailing technology, *wherever on Earth that land is located.* (*Ibid.*: 51f..)

We are reminded that “whatever the specifics, the Ecological Footprint of a given population is the land area needed *exclusively* by that population. Flows and capacities used by one population are not available for use by others” (*ibid.*: 52). The concept even presupposed that present usage is sustainable, which was but all too seldom the case, and they therefore suggested that some such factor should be added (*loc. cit.*). Ecological footprints were said to be consistent with mass balance and thermodynamic reasoning, but “land or ecosystem area” was a more appropriate measurement than energy flux because “it reflects both the quantity and quality of energy and matter available to the human economy. The key limiting factor for human life is not the amount of solar energy that falls on Earth, but what nature can do with it. that transcended them considering not only energetic inflow from the sun, but also what life managed to do with this energy” (*ibid.*: 55f.). Speaking of energy ‘quality’ is an obvious reference to Odum, and in a sense footprint analysis may be seen as an attempted popularisation of his rather more intricate and neologistic formulations. ‘Land’ went beyond mere thermodynamics, they explained, not only by capturing the Earth’s finiteness, but by standing “as a proxy for numerous essential life-support functions from gas exchange to nutrient recycling” (*ibid.*: 56). Speaking of the accumulated natural structures embodied in their conception of the term, the systems ecological reference was extended with a Gaian (cf. Lovelock 1979, 1988) one of the Earth as in itself a living thing:

The state of the biophysical world can therefore best be estimated from the state of the self-producing natural capital stocks that perform these functions. Keep in mind that these stocks themselves represent the biochemical energy that has accumulated in the ecosphere. The point is that land supports photosynthesis, the energy conduit for the web of life. This singular process distinguishes our planet from dead ones like Mars or Venus. Photosynthesis sustains all important food chains and maintains the structural integrity of ecosystems. It has

miraculously transformed the originally inhospitable surface of the Earth into a self-producing and self-regulating ecosphere of spectacular abundance and diversity. (*Loc. cit.*).

However, it is not immediately evident how this transcendence is in fact captured or illuminated by being put in as an area, nor how the many problems they observe can be illustratively so translated.¹⁷² Estimating the carrying capacity of the Earth, they (*ibid.*: 55) found world consumption overshooting this. Examining the per capita “fair Earth share”, they found, hardly surprisingly, the rich and industrialised world exceeding this. One could thus speak of using up the “natural capital” or savings of past generations, and an ‘ecological debt’ (not their term) both towards future generations in the case of overshoot, and by high-consumers towards low-consumers.

Wackernagel & Rees (1996: 54) suggested that ecological footprints should be applied to trade to determine the embodied carrying capacity, but their principal point was another. It had been argued that ‘carrying capacity’ was made redundant as a concept by the fact that local populations could exceed it through trade. “This is an ironic error”, they argued:

Human load is a function not only of population but also of *per capita* consumption and the latter is increasing even more rapidly than the former due (ironically) to the expanding trade and technology. This led Catton to observe that “... the world is being required to accommodate not just more people, but effectively ‘larger’ people....” [...] Indeed, to the extent that trade seems to increase local carrying capacity, *it reduces it somewhere else.* (*Ibid.*: 50 & 53.)

In fact, this latter statement was in need of some modification. Martinez-Alier (1997: 224) agreed that carrying capacity “may make sense at a global level but it does not make sense at the regional or national level”. However, referring to L. Pfaundler (1902), he continued:

Although it is not possible for every country simultaneously to increase its carrying capacity through the use of resources from ecosystems in other countries they can all simultaneously make selective use of some resources from ecosystems in other countries because what is limited in one country may be abundant in another. The carrying capacity of the world as a whole is greater than the sum of the carrying capacities of all its countries.

Of course, even if it is true that the whole is greater than the sum of the resource endowments of the parts, such ecological optimisation is not a certain outcome of international trade, as could be assumed from some ecologised Heckscher-Ohlin perspective.

The most important contributions to have come from Wackernagel and his team, are probably the (continuously updated) national footprint estimates (Wackernagel *et al.* 1999), of which Andersson & Lindroth (2001) made use (Chapter 17), and an attempt at estimating the historical development of the world footprint 1961–1999 (Wackernagel *et al.* 2002). Extending this kind of estimates further back will probably prove difficult, since the FAO data they have been using ends that year. In their estimation the world transcended its available biocapacity in the 1980s. Although it is not spelled out in the text, it is clear from a comparison of the article’s two diagrams, that yields have increased more than degradation of soils, so as to make their so called ‘1 Earth’ – misleadingly drawn as a horizontal line – bigger. The poor visibility of calculations can be illustrated with one of the most important work by ‘non-collaborators’: an estimate of Austrian ecological footprints 1926–1995, where it is demonstrated that depending on method and assumption in calculating time-series

¹⁷² “The list of threats to the life-support system in which we are embedded is overwhelming: deserts are encroaching on ecologically productive areas at the rate of 6 million hectares per year; deforestation claims over 17 million hectares per year; soil oxidation and erosion exceeds soil formation by 26 billion tons per year; fisheries are collapsing; the draw-down and pollution of ground water accelerates in many places of the world; as many as 17,000 species disappear every year; despite corrective action, stratospheric ozone continues to erode; industrial society has increased atmospheric carbon dioxide by 28 percent. All these trends are the result of either over-exploitation (excessive consumption) or excessive waste generation.” (*Ibid.*: 31.)

footprints, three possible and very different outcomes result, with the most intuitive estimate, based on the local yield factor of agriculture, yielding a not so intuitive, more or less *unchanged* national ecological footprint (Haberl *et al.* 2001). The concept has been severely criticised as an accounting method.

In an oft cited article, van den Bergh & Verbruggen criticise it for not taking into account the sustainable vs. unsustainable present usages of land, a point which was as we have seen already admitted by Rees & Wackernagel themselves, thereby diminishing both the footprint and its usefulness for policy makers. They also levelled the relevant criticism of the concept as a hypothetical measurement of appropriation of carrying capacity, since it could exceed the worlds total available productive land, suggesting instead that attention be paid to actual bioregions (*ibid.*: 65; cf. Ayres 2000: 347). In view of the concepts intellectual history being an expression not only of 'land' (as with Vitousek *et al.*) but also of sea and fossil acreage (as with Borgström and Catton) this criticism would indicate a preference for a Borgströman approach, and also points to a difficulty with all aggregate indicators (Costanza 2000: 342). What seems to have raised the issue is the fact that more than half of the ecological footprint of the developed countries could be traced to the burning of fossil fuels (Bergh & Verbruggen 1999: 64 & 70). Of course this stemmed not from 'actual', *i.e.*, *present*, bioproductive acreage, but from *past* – the 'subterranean forest' (Sieferle 2001). In this instance it could be represented as land through present energy equivalents, but the problem is general to all non-renewable resources. Adding to the confusion might be that the most common method of calculation concentrated on the 'hypothetical', *i.e.*, (hopefully) *future*, bioproductive acreage that would be needed to absorb the CO₂-waste. The area difference in footprint between the two ways of measurement happened to be about the same, as Wackernagel and Rees liked to point out, but there is, in fact, no way the *same* forest could be used both for CO₂-absorption and as an energy basis. This has been hinted at from time to time, and would make the current EF-estimates of developed countries a third too low, if they are to indicate corresponding sustainable consumption.¹⁷³ As it stands, the contemporary calculations omit all problems of non-renewable resources. The ecological-footprint concept would perhaps be aided if distinctions were more clearly made between these present, past, and future acreages, in line with Sætra's (1977) above three 'imperialisms'. While the problems pertaining to presenting actual heterogeneity in unidimensional metric remain within such tripartite categories, it would at least eliminate some of the problems, and it would better render real-world ones. Ecological footprints would certainly profit, at least scientifically, by increased 'visibility' of calculations. Here, concreteness has been all but lost in pretty diagrams, tables and maps, and the increased 'visibility' of the world for which Borgström, Catton, Hardin, and presumably Rees and Wackernagel themselves strove, seems to have all but disappeared.

Finally, in what sense can ecological footprint analysis, or any of the other accounting methods, be seen as more than just accounting methods? That is to say, in the present context, in what sense are they also explanatory theories of unequal exchange? In spite of some reference to unequal exchange in footprint literature, this is not easy to say. It is evident that they can all be used to *illustrate* unequal exchange, and in this sense may provide illumination and concreteness to *existing* theories. This is notably in adopting the ecologically correct view of man as a *consumer* or appropriator of biocapacity, rather than as producer. There are

¹⁷³ Presently, the carbon footprint takes up about half of total footprint. If an energy footprint of equal size were to be added, this raises the footprint by 50%, making both present levels and the carbon budgeted share of footprint two thirds. Carbon's already large share, thus becoming overwhelming, is probably what has refrained Rees, Wackernagel, and others, from taking it fully into account, since this would make it into little more than a one variable metric. Incidentally, adding waste carbon from the past seems to have raised not only present *human*, but also the *primary* productivity of certain terrestrial bioregions (*e.g.*, untouched rainforests, explaining some of the missing carbon in the carbon cycle), the level of atmospheric CO₂ being geologically dangerously low for C3 plants. This is not proposed as an argument against restricting CO₂ emissions.

conflicting perspectives regarding the centrality of population or their per capita impact, both of which have a certain Protestant tinge. The same conflict of perspectives can be found in development theory, where unequal exchange theories have clearly focused on the per capita issues. However, in spite of Andersson (Chapter 17) having contributed to both individual discussions, the integration of economic unequal exchange theories in the strict sense, such as those studied in Part IV above, with some complementary ecological dimension or theorising can fairly be said to be non-existent. This is not so when it comes to centre–periphery perspectives in general, as has been indicated in Part III, and will be more evidenced in Chapter 23 below. The most concrete historical phenomena which has been touched upon by the theorists in the present Chapter, and where they have in fact had something to offer by way of explanation, is in countering the claims that societies passing from a predominantly industrial to a service economy will thereby undergo dematerialisation. A stronger variant of the same argument would perhaps state that the apparent local dematerialisation is the *result* of such environmental struggle and the attempts, or that the phenomena are complementary. The problem itself stands in interesting contrast to the bias inherent to many to those traditionally dealing with centre–periphery relations, notably the dependency tradition to whose ecological branch we shall now turn, in that it is no longer possible to ascribe the inequality of trade to the exchange of raw materials for industrial goods. It therefore also points much more directly and strongly to exploitation as a matter of *appropriation* rather than production, which on the other hand goes counter to the bias of most Marxists (whether in Part II or Part IV), although not Emmanuel, who, as we have seen, was concerned with understanding theoretically and (to a lesser degree) historically the workings and contradictions of the consumer society. The problem of how to construct a theory (of unequal exchange) which incorporates and is consistent with the phenomena of both of these worlds, will reappear again at the end of this our final chapter.

Chapter 23. Ecological Dependency in Stephen Bunker and Joan Martinez-Alier

In the critique of the environmental Kuznets curve in the foregoing Chapter, we came across a few writers to whom we may refer as belonging to an ‘ecological dependency’ tradition. By contrast to the ‘Protestant’ focus, this concerns itself not with ‘population’, and preferably only with those parts of ‘affluence’ and ‘technology’ factors of the $I = PAT$ equation that can be put on the account of centre countries. Doing so, it focuses not so much on the affluence and technology constituents of environmental impact themselves, as on what proponents consider to be their necessary precondition in (neo-)imperialist exploitation of Third World resources (rendered as a related transfer of usable energy) and the ‘fair share’ of global pollution (including its direct and indirect, or ‘trade-embodied’, relocation). We shall continue with some such exponents who, although not Latin Americans themselves, have taken a particular interest in, and also to share some of the concerns, or perhaps biases, common to those who engage in the study of that continent from a dependency perspective.

Most of the basic ideas in regarding the shortcomings and possibilities of Marxism form an ecological perspective could be found in Sætra above. His perspective included the connection between ‘techno-capitalist’ overconsumption in the industrial countries and the imperialism of past, present, and future, where that of the present in turn included both an economic and ecological, or raw-materials aspect. Nevertheless, and although Odum had elaborated the basic logic of the argument in the 1970s, the *explicit* connection between the unequal exchange theories of the 1960s and 1970s, on the one hand, and energy or

environmental impact, on the other, was possibly, as Martinez-Alier (1987: 238) holds, first made by the Chicago-born sociologist Stephen Bunker (1944–2005) in his book *Underdeveloping the Amazon: Extraction, Unequal Exchange, and the Failure of the Modern State* in 1985, and in a slightly previous article (1984; cf. 1980: 785).

Bunker (1985: 238) aimed to demonstrate that the processes which had led to and still maintained the underdevelopment of the Amazon could only be understood by taking account of “the succession of modes of extraction as they emerged from the interaction of regional and global constraints, pressures, and opportunities and as they affected both natural and human environments.” None of the prevailing models of development could do this, nor could conventional solutions be expected to be successful. “Massive state intervention in the Amazon has accelerated the environmental and social disruptions which extractive export economies have visited on the region for over 350 years” (*loc. cit.*). State bureaucracy which was directed to carry out capital accumulation and social welfare programs, had instead deranged development policies and undermined its own legitimacy, autonomy, and authority. Ill-founded and impotent institutions imposed from above, had increased costs, corruption, and wasteful self-management and -expansion. The responses by local dominant classes to the opportunities opened on the world market had ultimately impoverished the resource base on which their own wealth and profits depended. State projects reinforced the penetration of these classes and reduced administrative efficiency, intensifying ecological and demographic disruptions. The emergence of effective local and civil organisation was thereby prevented, reverberating in a further weakening of state administration. The second half of the book was devoted to case studies exemplifying how “the complex social forms imposed on an environment simplified by sustained energy loss caused unintended and systematically irrational results”, in which bureaucratic horrors became only all too evident. Bunker’s ambition was more general, however, and his examples were meant to illustrate and promote “an ecological model which explains uneven development, unequal exchange, and regional subordination as the consequences of (1) the physically necessary relations between extraction and production, (2) the resulting imbalance of energy flows between regional ecosystems, and (3) the differential incorporation of energy in different regional social and economic formations” (*ibid.*: 239).

Inspired by Richard Adams, Bunker wanted to expand the notion of uneven development to include differential rates and amounts of energy embodied in learned human experience, social organisation and infrastructure. Contrary to the Marxist view, exploitation was not merely a question of channelling surplus value from one region or class to another, nor of diverging rates of exploitation, and unequal exchange could not be interpreted only in terms of more labour for less. “The embodiment of energy in economic and social organization encompasses far more of the essential differences and relations between core and periphery than measures limited to commodity production and exchange can” (*loc. cit.*). National centres’ exploitation of their own peripheries build and build upon “energy-intensive social complexity”, which complexity at the same time tends to limit its ability to administer the periphery: “When the state extends its own apparatus and policies into a socially simplified, energy-poor region devoid of organizations and institutions which can compete against the state’s agencies and for the resources they control, the state enhances both its own, and the peripheral societies’ permeability to dominant classes at the national center” (*ibid.*: 242). Contrary to the predictions of modernisation theorists, the point here is that “the extension of energy-expensive organizational complexity into simplified, energy-losing formations inevitably fails to promote development there.” An unbalanced energy-flow from periphery to centre results in a concentration and strengthening of the latter’s energy-consuming structures. Social complexity evolves with accelerated flow-through (*ibid.*: 243).

Bunker did not mean that energy flows or their measures explain these processes, class

relations or regional inequalities, aspects which must still be included, nor did he claim that such measures were even possible to specify. He merely insisted that analyses take energy uses into account when considering the long-term potential for social reproduction and development. Such an approach to uneven development would give a more complete description of the relations between demographic, social, and ecological processes over time. It was perhaps a reflection of the penetration of the dependency tradition into American sociology when Bunker then explained that *all (sic)* theories of development and underdevelopment have assumed variants of the labour theory of value, none of which had taken into account that 'production systems' required 'extraction systems' (*ibid.*: 243f.). This illustrates that though speaking of also of 'modernisation theory' in general, what Bunker primarily sought to renovate was the Marxist tradition, in either its 'modes of production' or its world-systems versions, and its excessive focus on labour as the source of wealth and value. Any model assuming that 'modes of production' were indefinitely expansible, which considered value to be created only by human labour, or any theory of international exchange which measured commodity flows between regions only in terms of capital, prices, or labour incorporated was "fundamentally wrong". Instead, Bunker (*ibid.*: 246) emphasised that an "industrial mode of production can sustain itself only by drawing energy and matter from modes of extraction." "The short-term acceleration of industrial production requires a relatively high valuation of human energy in the articulated industrial social formation and a corresponding undervaluation of natural resources and extractive labor" (*ibid.*: 246f). Bunker, perhaps uncommonly for a Marxist even in those days questioned the concept of 'expanded reproduction', which hid both the depletion of the natural resource base and, so he argued, the negative impact on the social formations of extractive economies, ultimately to the ruin of the whole system: "The progressive impoverishment of single extractive regions must finally impoverish the entire global system" (*ibid.*: 247) A necessary, if not sufficient, factor in the solution, Bunker argued, was for local groups to achieve sufficient power within their environment to withstand outside predation.

Bunker (1985: 252) believed that "a particular country is less likely to suffer unequal international exchange to the degree that its inhabitants and direct producers achieve more favorable internal exchange rates". What Bunker referred to here as 'exchange rates' seems to imply the internal class struggle, or the 'price' of primary producers and workers: "The negotiation of exchange rates is ultimately a matter of the relative power of the exchanging groups and their relative control over their own environments." In this sense, he agreed, "Emmanuel was right to seek the sources of underdevelopment in measures of inequality between classes." Emmanuel's mistake was "to tie this idea of inequality to wages, even in profoundly noncapitalist societies" (*loc. cit.*). Bunker instead wanted to "amplify his notion of wages to include all measures of unequal exchange", saying that "countries where labor values and natural values are seriously undercompensated will tend indeed to be underdeveloped" (*loc. cit.*). He was unaware that Emmanuel had abandoned the labour theory of value and in the process also put his theory in physical terms. Though Bunker speaks of the value of 'labour', Emmanuel's theory concerned exclusively the value of labour *power* (*i.e.*, wages), and the point of his theory remained the same whether then transformed into 'embodied labour' or 'embodied nature'.

By the time of writing his book, Bunker had experience from Uganda, Guatemala, Peru, as well as Brazil, and he later studied the Japanese search for raw materials, particularly aluminium. Apart from the global flows and transportation of raw materials, Bunker had an interest in problems of the state which surfaces in the titles of his books. Like much of Latin American studies his work can be fairly placed in the dependency tradition, taking an interest in the long-term historical dimension which is not evident among every other theorists of ecological unequal exchange. As such, it is in line with the historical sociology of Wallerstein,

Frank, and many of their Marxist critics, with whom he shares both some of the strengths and some of the weaknesses. He accordingly entered what he considered to be the “fruitless debate about whether the causes of underdevelopment occur in a global system of exchange dominated by industrial nations or within specific regional systems of production”, where Marxists and modernisationists stand against dependency and world-system models of unequal exchange (*ibid.*: 20).¹⁷⁴ From the way of formulating the problem – ‘the internalist-externalist debate’, rather than, *e.g.*, ‘the-part-and-the-whole debate’ – and the subject of his book – the Amazon region – one might have suspected that his starting and ending point was more ‘internalist’ than ‘externalist’. However, the way of putting the solution, ‘extractive’ vs. ‘productive’ systems, suggested a traditional belief in ‘dependent’ primary producers – or, ‘extractors’ of raw materials – exporting to independent manufacturing and industrial economies. “My own strategy”, he explained, “is to elaborate a critical synthesis of the externally focused theories of imperialism, dependency, and world system with the internally focused theories of modernization and modes of production” (*ibid.*: 38).

He accordingly suggested that “a global system of exchange, made up of all importing and exporting regions, determines the terms of trade which differentially affect all of these regions, but distinct regional social structures and political arrangements determine how the commodities on which the global system depends are actually extracted or produced.” His interest was rather with the political arrangements, than with the terms of trade, which were thus said to be ‘determined’ by ‘a global system of exchange’, meaning “changing demand in the world market for specific commodities” (*ibid.*: 21). This designation of a ‘model of unequal exchange’ was a bit curious, since it had little to do with any of the theories of unequal exchange upon which he commented (though he may have been thinking of something that Frank or Wallerstein had written), and corresponds better to the kind of neoclassical theory which Emmanuel had set out to refute or replace. *Prices* appear only when reviewing the views of others (*ibid.*: 34, 43) and the *terms of trade* are rarely mentioned at all. The reason is also that “the differential capacity to direct human and nonhuman energy and to conserve part of energy flow-through in subsequently useful forms distinguishes the core from peripheral social formations more profoundly than the terms of trade for their respective commodities or their different processes of accumulation” (*ibid.*: 239).

Bunker’s (1985: 21) own proposed solution was that “different regional levels of development result from the interaction between” these changes in international demand “and the local reorganization of modes of production and extraction in response.” This is reminiscent of the late-classical economists such as Cairnes, Nicholson, and Taussig, who unsuccessfully tried to resolve the problem of price determination, the latter most consistently by letting the general level of prices be determined by the price of exported goods, and in turn the whole range of relative prices of products be determined by the domestic workings of the law of value. As noted, Bunker said nothing specific of prices, nor, ‘of course’, of relative national and international mobility or immobility of factors – in this he is accompanied by most or every other ‘theorist’ of ecologically unequal exchange – so we are rather left in the dark as to the mechanisms involved in said inequality. It is probably more likely that he believed factors, including capital, to be immobile, if only because this is the inherited Marxist view, and any diversion would have prompted reflection. Strictly separating ‘regional’ and international levels of exchange, because of their different *modus operandi*, suggests a position where the regional ‘mode of production’ followed, if not the law of value with domestic mobility of factors, then at least some corresponding thing, whereas the ‘systemic’ international market was “the result of the combined production and demand of all

¹⁷⁴ Although this division is conventional, the unity within and disunity without the proposed groups is a bit constructed. All of those considered by Bunker were Marxists, and they all believed in both internal and external factors influencing ‘regional’ economies.

of its component modes of production” (*ibid.*: 44), *i.e.*, suggesting mobility of (some) goods, but certainly not of factors, and determination of prices according to what Mill called the ‘prior law’ of supply and demand. Bunker was at any rate less consistent than Taussig. With time the wage-levels and standards of living were nevertheless determined independently for each region by the ultimate ‘productivity’ of the region. “The cumulative ecological, demographic, and infrastructural effects”, or perhaps repercussions, “of the sequence of the mode of production and extraction in any region establish limits and potentials for the productive capacities and living standards of regional populations” (*ibid.*: 21). Bunker believed the solution to lie in the circular nature of this alteration between global exchange and internal production, but the question remains whether it is not rather reason which is circular – between the one and the other there may be all the difference between long- and short-circuited logic.

Bunker made Wallerstein and Frank into principal exponents of unequal exchange theory, not differentiating it from arguments on international specialisation. His ‘synthesis’ did not really touch upon any of the theoretical arguments on unequal exchange as distinct from dependency, and was basically one between the rather vague views on the subject of said gentlemen, and those of their adversaries. Thus, the externalists saw “politically enforced unequal exchange as the root cause of an international division of labor which profoundly discriminates against the peripheral regions by siphoning off their capital and keeping their labor less productive” (*ibid.*: 42). Their critics “have inverted this formula by maintaining that the differential productivity in different modes of production is the root cause of unequal exchange” (*loc. cit.*). As noted above, according to Bunker, both groups had obscured how regional production was ‘particular’ while international exchange was ‘systemic’. They also “perpetuated the error of using labor as the standard of value and as the basis of comparison for exchange of all goods, even when these goods are extracted with relatively little labor or when the social relations of production do not involve wages” (*loc. cit.*). Mandel, Emmanuel, and Amin had all declared the primary mechanism in unequal exchange to be wage differentials, said Bunker – even though his quotation from Mandel clearly states it to be productivity, a position basically shared by Amin, though he wanted to supplement it with wages, and contrary to Mandel believed in international equalisation of profits. Neither did Bunker comment on the dispute over the independent variable of the system – ‘circular’ as his preferences were, he would perhaps have agreed with Amin that it was ‘meaningless’.

Nevertheless, the defining element in all three authors, he (1985: 43) maintained, was “the resulting unequal exchange of ‘more labor’ for ‘less labor’”. This is more or less the only thing remaining of the alleged content of the early theories of unequal exchange. He also charged (*ibid.*: 44) that by talking of labour and wages they “implicitly affirm” the pervasive capitalist character of societies, even when insisting on the specificity of the, according to Bunker, “non-capitalist, less productive modes of production in the underdeveloped regions.” According to Bunker (1985: 44), the authors’ “focus on the labor incorporated in a product assumes, incorrectly, that this labor is always the determinant of value.” Lest this be interpreted as a ‘Sraffian’ insight into the shortcomings of the labour theory of value, let it be understood that Bunker’s critique is at the very opposite end. The problem for Bunker was that a theory which only considered the *labour* ‘incorporated’ in the product, neglected the ‘incorporated’ “resource values, or values in nature, which occur on or in land”: “The fundamental values in lumber, in minerals, oil, fish, etc., are predominantly in the good itself, rather than in the labor incorporated in it” (*ibid.*: 44). With Marx’s quotation of Petty at the back of his mind, Bunker actually believed this to be Marx’s position.

While there was nowhere any mention of prices in Bunker’s argument, there was very much said on ‘values’, mixing briskly labour values, ‘fundamental values’, ‘values which occur in nature’, “the value of portions of the energy which society consumes and dissipated”, “the

cost, or loss of value, to future generations”, “[t]emporally and culturally bound attributions of value”, “the value of the ideas, beliefs, and information which underlie human social organization”, etc. (e.g., *ibid.*: 35f.). His basic understanding of the concept was evidently in line with the interpretation of the Marxian labour theory of value referred to as ‘naturalistic’, where labour is somehow seen as ‘embodied’ in the product in a quasi-physical – metaphysical – sense.¹⁷⁵ Believing this to be the meaning of the labour theory of value, he wanted to replace or complement it with *another* naturalistically conceived value, akin to that found in Odum, “the amounts of energy [...] ‘embodied’ or conserved in useful ways” (*ibid.*: 34). However, Odum, who by then had abandoned the concept of ‘embodied energy’ for the better-defined ‘emergy’, was careful to distinguish this naturalistic value from monetary value (prices), for which he hoped it would come to function as a substitute. In effect, what Odum said was that although already functioning in non-human nature, humans, to their loss – since it hindered obtaining the evolutionary imperative of ‘maximum empower’ – were unwilling to comply with nature’s regulations, and therefore put their own (future) interests at stake. Bunker referred to and discussed many other theorists on the ‘value’ of energy to society. It is perhaps fair to say that to Bunker an inequality depending merely on wages was more narrow than one including productivity, as in the designation by Bettelheim, but that since, again according to Bunker, both merely suggest an inequality in labour hours, they were both narrower than one in terms of energy, or *both* labour and energy, which pointed to an additional inequality of exchange in the mere passage from extraction to production.

Many Marxists admittedly share the above substantialist interpretation of labour value, and in this sense Bunker could be said to have made a valid point. Mandel, however, did not believe in labour being embodied in goods or of labour values as an aim to be achieved in communist society. Furthermore, ignoring that Emmanuel (1972a: 416f.; also 428f., n. 20) explicitly criticised it both as *erroneous* in itself and anyway *irrelevant* for a capitalist economy with several factors of production, Bunker (1985: 44) proceeded to criticise it as being too narrow: “The use of labor as a standard of value for unequal exchange thus ignores the exchange inequalities inherent in extractive economies, where value in nature is appropriated in one region and labor value incorporated in another.” Bunker’s (*ibid.*: 45) own point had less to do with what he criticised, even were it correct regarding Marx or the Marxists: “Once we acknowledge [...] that not only the value in labor but also the values in nature can be appropriated [...] we must consider the effects of the exploitation of labor and the exploitation of entire ecosystems as separate but complementary phenomena which both affect the development of particular regions.”¹⁷⁶ If we disregard the issue of the theory of value and unequal exchange, what Bunker wanted to do was simply to complement the concept of (international) exploitation with exploitation of resources, and he could therefore criticise Amin for locating the origins of unequal exchange to the rise of centre wages above subsistence. With his new definition he (*ibid.*: 45) instead revealed: “The appropriation of values in nature, from the periphery, in fact initiated unequal exchange between regions, and

¹⁷⁵ Cf. Preobrazhensky (1965: 149): “Ninety per cent of all the mistakes, misunderstandings and brain-torturings, which occur when our young people study Marx result from a naturalistic conception of the law of value. Having grasped in a formal way that the categories signify relations between people, many stubbornly revert to a conception of them as real categories”.

¹⁷⁶ Meaningful discussion is complicated when perspectives on the theory of value as dissimilar as that. Who are the ‘we’ implied? Are we the independent producers trying to make a profit under capitalism, in competition with others like us, and are we then to follow Bunker’s suggestion, having ‘acknowledged’ the correct value, and pay more to the vendors of raw materials than we do at present? Would this not increase the profits above average of those raw materials producers, in addition to diminish ones own, so as to stimulate others to enter the business, increase output until prices have sunk so low as to again ensure the normal rate of profit? Presumably this is not what Bunker means, but then it is no use criticising unequal exchange theorists, for whom this is what the theory of value says about the world.

between ecosystems, long before the rise of wages and the expansion of consumer demand in the core.” Bunker saw several ways, he explained, in which unequal exchange took place:

One, certainly results from the differential wages of labor. Another, however, is in the transfer of the natural value in the raw resources from the periphery to center. Another is in the location of the full realization of value and of its accelerated consumption-production linkages in the center, rather than in the peripheral sources of the material commodities. The outward flows of energy and the absence of consumption-production linkages combine with the instability of external demand and with the depletion of site-specific natural resources to prevent the storage of energy in useful physical and social forms in the periphery, and leave it increasingly vulnerable to domination by energy-intensifying social formations in the core. Finally, if the resources do not renew themselves naturally, the inequality of exchange is intensified by the loss of resources and by the disruption of associated natural energy flows in the periphery itself. (*Ibid.*: 45.)

Bunker, thus, ended up with four different inequalities of exchange, which can perhaps be reformulated as follows: (1) a wage-differential, presumably higher in industrial centres, will entail an unequal exchange in terms of the hours of labour needed for each to produce lot of goods of equal value; (2) raw materials have an intrinsic value, embodied energy, which is lost, or somehow unremunerated, when exported, but which would not have been lost had the raw material been processed domestically; (3) although “[a]dditional value is created when extracted materials are transformed by labor”, this value, for some reason which apparently has nothing to do with wage-levels, never comes to benefit the original extractor of the resource, but is sold on site, so that both the intrinsic value of the resource and the intrinsic value added by labour is retained in the core in a self-organising, self-perpetuating upward spiral; (4) the outflow of embodied energy, to which is added an inherent instability of demand for raw materials, by contrast, leaves the periphery and its diminishing natural values, to the extent these resources are not renewable, increasingly helpless and exposed to further extension of all of the above processes.

The two former concern transfers, while the two latter concern the respective self-reinforcing processes in industrial centre and primary producing periphery, or in his preferred terminology, in the ‘productive’ and ‘extractive’ systems. Bunker’s most cherished idea, concerned this distinction between ‘modes of extraction’ and ‘modes of production’. Thus, he spelled out his basic conviction that ‘extractive’ economies – an avatar of raw materials’ or primary producing societies, or even more precisely of Latin American export economies – were destined to become ecologically and economically underdeveloped, and that ‘productive’ systems – *i.e.*, industrial or manufacturing – are destined to prosper:

A labor theory of value excludes from consideration the usefulness to continued social reproduction of energy transformations in the natural environment. Nor can it take into account the value of the ideas, beliefs, and information which underlie human social organization. These and all other human experiences are formed out of previous dissipation of energy. They are all essential to humanly effective uses of natural energy and may make these uses more efficient in terms of their human energy costs. I believe that the unequal relations between articulated and disarticulated, and between extractive and productive, systems can ultimately be explained by the informational and organizational forms which energy-intensive economies foster in articulated productive systems and which simply cannot evolve in energy-losing extractive systems. The first generates more and more social power and the technology to extend this power over wider geographical areas. The second progressively loses social power. (*Ibid.*: 35.)

Crucial to Bunker’s understanding would seem to be the that raw materials extraction and exportation really *was* related to underdevelopment, and conversely industrial production and export to development. Moreover, it would seem to require also that the one was linked with the other by a transfer of incorporated labour and/or energy. As will be argued later on, any theory based on such a presupposition faces grave empirical difficulties, even without a mechanism explaining the transfers and self-perpetuations in terms of, *e.g.*, relative prices. It also set the stage for an ‘ecological’ renovation of traditional CEPAL and dependency ideas,

of which it can, in part, itself be seen as an outgrowth.

An important aspect of Bunker's perspective which we have had to neglect, was the focus on the state apparatus. Another aspect was the related social power relations which were included in his approach to a much greater degree than either Odum or the theorists considered in Chapter 22. A promising methodological aspect – for putting things in perspective if not for the confirmation of ecological unequal exchange, and which unfortunately is not often appreciated in most such studies – was the long-term perspective of several centuries rather than merely recent decades. Finally, because of the fear of sentimentalism which reigns in science, including the ecologically motivated, I would like to emphasise the, to me, sympathetic ecologist reminder, inspired by Rappaport's (1971) description of "a mature ecosystem as one in which all species enhance the survival and reproduction potential of the rest even while maintaining themselves", and the success tropical forest swidden-cultures had achieved in such symbiotic reproduction:

The history of capitalist development, the history of noncapitalist countries' responses to world markets, and the history of complex precapitalist civilizations do not provide much hope that societies not bounded by regionally limited ecosystems can achieve this maturity. Humans in complex societies have thus far used their prescience to increase their control over natural energy flows and over the social organization of human energies in ways which undermine the ecosystems that sustain them. Human groups could, however, use their prescience to enrich, rather than impoverish, the ecosystems in which they participate, both by striving to assure and strengthen natural regeneration and energy transformation processes and by enhancing the effectiveness of their own social organization. Systemic undervaluation of either nature or of human labor, and the unequal exchange which enforces such undervaluation, can only distort and impede human enhancement of the natural environment and of the socially created infrastructure and organization that are finally their contribution to the ecosystem. Rappaport's mature ecosystem, then, requires not only an egalitarian human society, but also an egalitarian human society which sees itself as part of, rather than master of, the natural environment. The population of extractive regions may learn from their own experience long before it becomes apparent to the populations of productive regions, but their capacity to reinforce this understanding and to resist the continued degradation of their own environments would require forms of social organization, coordination, and power that the internal dynamics and the external relations of extractive economies currently make impossible. (*Ibid.*: 254f.).

Ultimately, then, Bunker's principal project was to remind of the ever-present, and ever-extracted, resource basis of production and reproduction.

However, this basic ecologist perspective was linked with an equally strong will, present in more or less every attempts at an ecological theory of unequal exchange and reminiscent of dependency theory, Prebisch and Nurkse, protectionists and mercantilists of all ages, to link extractive economies – resource production and export – to underdevelopment and a general disadvantage *also in the strictly economic sense*. Thus, the basic mission in this respect remained "unmasking the illusion that extraction leads to economic development" (Bunker 2005: 236). The Amazonian example served as starting point for a more generalised model, in subsequent work, of the dynamics of how "the contradiction between the cost of distance and economics of scale" had "driven the progressive globalization of capitalism" (Bunker 2003: 236). If this was an improvement on the original model, in the meantime, however, references to 'unequal exchange' had become all but absent, *e.g.*, his last work (2005: 26, 70), containing merely two references in passing relating to an effort to sell raw materials as cheaply as possible or "incorporated electricity [...] at prices less than the cost of production".

By then, however, the idea of ecological unequal exchange had already taken hold in a more general literature. The achievement and importance of Bunker's (1985) book, was in catalysing this idea to the popular dependency perspective. It was widely reviewed and commented, often critically in sociological, geographic, historical and ethnological journals. First of all, however, comments had been incited by Bunker's (1984) previous summary

article on “Modes of Extraction, Unequal Exchange, and the Progressive Underdevelopment of an Extreme Periphery: The Brazilian Amazon, 1600-1980”.

Robert W. Volk admitted the sore need of integrating politico-economic theories of development with ecological principles in order to assess the complete impact of economic activities on the periphery, but claimed that Bunker failed to the extent he relied on the notion of ‘values in nature’, and rejected his assumption that extraction represented a separate mode of production (Volk 1986: 1431). He was uncertain “whether Bunker seriously intended value in nature to be an economic term or just a descriptive concept”, but found its utility suspect in either case. Pragmatically, it did not seem measurable, in terms of descriptive value, whatever the form of the drain of resources it was already well known, and the idea that ‘value’ existed in the material itself separately from ‘use value’ as used by Marx, was unsubstantiated. “In spirit, the concept is well taken, and it may be useful in developing the theoretical notion of “ecological colonialism,” but its application seems doubtful.” Furthermore, Volk found that “Bunker’s major thesis exaggerates the differences between the laws of motion in modes of extraction and in modes of production” (*ibid.*: 1432), that his usage of the latter expression was a breach of the conventional usage, “which concentrates on how things are produced rather than what is produced”, and suggested instead that what was described was “the result of an overspecialised export economy” (*ibid.*: 1433). Bunker’s case rested on the well-known idea of a ‘law of diminishing returns’ in primary production, which, if correct, presented him with the paradox that prices for primary products had declined during most of the century. Many of those factors attributed to extractive economies were applicable to export economies in general, such as the absence of ‘lateral linkages’, or ‘sectoral disarticulation’, dependence on foreign capital and technology, state participation, infrastructure designed for exports, and importation of labour after the indigenous populations have been depleted. Analytically separating the production process into extraction and production, ignoring their interdependence, Bunker offered a contracted definition of the former, which excluded agricultural activities, including sheep raising and cattle ranching, proceeding to narrow his analysis down to the ‘extreme periphery’, defined as an area where the exchange of extracted commodities is the principal connection to the world capitalist system, which excluded hunting and gathering, and limited commodity production to *exports* (*ibid.*: 1434ff.).

Bunker (1986: 1436) replied by trying to correct what he saw as Volk’s distortions and by restating his argument “that theories that attribute all value to labor and capital cannot account for the social and environmental costs of extractive economies and, therefore, cannot adequately account for the progressive underdevelopment of regions where such economies predominate”. This point was presumably implied by his (2003: 238) later referring to Volk’s alleged claim “that Marx’s labour theory of value provided all the mechanisms required to explain why ‘enclave economies’ led to unequal development”. He had instead demonstrated that rising unit costs accompanying increased extractive scale explained why it was labour intensive, his point being that the depletion of natural resources originally abundant and accessible meant that increased amounts of labour and capital were required to extract an equal value or mass of the same commodity (1986: 1437).

Unfortunately, this reply completely ignored the problem of price determination and the changes in terms of trade. This impression is strengthened by his reply that natural resources are *not* furnished by nature gratis, but extracted at the cost of depleting resources or of disrupting their regeneration. Again this confused the question of value as a price category and as something physically embodied in commodities. In the former case the point that resources were ‘gratis’ was the same thing as stating that nature was not remunerated (with which one would have suspected Bunker to agree) and so did not add to the price of an article – if the depletion, etc., had shown up in relatively higher costs of production than non-resources it would have shown in prices, or else in lower remuneration of the workers,

capitalists and/or land owners. Bunker claimed to side with theorists studying “unequal exchange between unevenly developed regions”, who “attempt to explain how commerce between capitalist and non-capitalist social formations leads to the underdevelopment of the latter”, particularly when their “exports are primarily extractive” (*ibid.*: 1439). Apparently, in Bunker’s (*ibid.*: 1439f.) view, capitalism “is the mode of production based on the production and circulation of exchange values”, and did not apply to extraction of natural resources, because rent only “assigns prices to natural resources, but the resources themselves have no value”. Bunker’s idea that rent, in this instance, was any different from, *e.g.*, wages (cf. the difference between ‘labour’ and ‘labour power’) is curious, but the idea that capitalism incorporated only labour and capital, but not land is bizarre. He (*ibid.*: 1440) reminded that his “extractive export economies constitute an extreme case of what de Janvry has called dependent disarticulation” (*idem*, 1985: 32), but that “by measuring trade inequalities *only* in monetary or labor quantities, de Janvry and most other analysts miss the crucial and accumulating environmental costs that extractive export economies impose on regional environments”, and that “a consideration of energy transformation processes that underlie a specific type of export economy, the extractive type, must be *added* to the labor-based calculus of unequal exchange and uneven development that he employs” (*idem* 1986: 1440). Bunker also objected that Volk’s “belief that falling prices for raw materials contradict the tendency of extractive costs to rise assumes that prices are cost determined, an extraordinarily naïve idea”, according to Bunker, who believed this meant reverting to a neoclassical and marginalist idea. Unfortunately for Bunker, the idea that the ‘cost-of-production’ side determines prices belongs to the *classical* and *Marxian* law of value. What he had in mind was evidently some version where core capitalists or countries were the villains: “In fact,” Bunker (*ibid.*: 1440) explained, “except in cases of extreme monopolies, resource-exporting economies have little effect on price except by competing with each other and thus driving prices down. [...] core industrial capacity to seek new sources or to develop technological substitutes for high-priced resources pushes prices down as extraction costs rise and [...] the resulting squeeze has ruined many extractive export economies”. On other points, Bunker’s reply is perhaps more convincing, such as when reminding that his descriptions of the indigenous populations’ uses of fruit, nuts, fish, turtles, grubs, and game, “constitute concrete referents for the abstract category – hunting and gathering”, with which Volk was presumably familiar, that when speaking of mining concessions to foreign companies he was speaking of multinational corporations, and that his discussion of pasture formation in the Amazon implied extractive cattle ranching. Bunker also finds room to argue that his statement “that ‘different agricultural and pastoral economies – present a gradient’ between extraction and production” was different in meaning from Volk’s placing these “in between” activities, and that he had never intended his ‘mode of extraction’ to suffer under ‘laws’, only ‘tendencies’, of motion (*ibid.*: 1443f.). Volk’s point still remains, however, that the concept’s area of application diminishes.

In a subsequent review of Bunker’s book in the same journal, Chilcote (1986: 1015) called it “a superb analysis of Amazonian development and underdevelopment”, based on original and exhaustive field work and an integration of existing studies. In another sociological journal, Ragin (1986: 651) called it “a major interpretative study of an important region” and “a model case study”, at the same time making “solid theoretical contributions to the study of dependency and development”. The Amazon was never lost from sight, but its centrality was balanced by an attempt to use existing theories to understand it, finding them lacking and using the chosen region to rectify their shortcomings. A further benefit was that it linked past and present by showing the continuity of contemporary efforts, using a historically based insights to criticise them, and address contemporary issues. Bunker’s main theoretical concern was that the relative inattention of dependency theorists to ‘extractive’ economies and the

value contributed by the environment itself should be complemented by examinations of matter and energy flows (*ibid.*: 652). His main theoretical contribution was the concept of 'mode of extraction' which had already aroused lively debate. In spite of Ragin's sympathies for Bunker, he (*loc. cit.*) still objected that "Bunker presents extraction in an exaggerated, ideal-type formulation that heightens the contrast with mode of production." Of the two empirical sections the one devoted to the history of extractive underdevelopment of the Amazon was devoted the lesser space, and that devoted to the failure of the modern state the greater. There he also departed from the exclusive attention to the mode of extraction as organising principle, instead focusing on the state's bureaucratic and authoritarian character, in an argument which was part political, part ecological. Some studies were nevertheless undertaken, claiming to lend empirical support to Bunker's modes of extraction and production dichotomy (Firebaugh & Bullock 1986; Smith & Nemeth 1988).

Bunker's "useful" and "dispassionate" study of the Brazilian military government's attempt to develop (or exploit) the region during its reign from 1964 to 1985, was the focus of Maybury-Lewis (1987: 582) review. Originally in an attempt to colonise the Amazonian region with rural poor from other regions, but this program was haphazardly carried out, the soils proved less easy to farm than had been expected, government agencies supposed to help them were not provided the necessary funding or support, and "only large enterprises with energetic lawyers could gain legal title". After considerable ecological damage, failure of colonisation schemes, and abandonment of the idea of solving the problem of land hunger, the government finally used the Amazon to solve Brazil's balance of payments problems rather than its agrarian dilemmas, encouraging large mining and ranching enterprises instead of small-holders. In this familiar story, Bunker had clarified relationships between a myriad of agencies, demonstrating insights into official corruption, and pointing out that though government agents were aware of the incoherence of their bureaucracies, they nevertheless blamed failure to develop on the people's backwardness, seeing themselves as 'civilising' as much as assisting. The failed Amazonian adventure at state-controlled development ultimately weakened the state, tipping the scale in favour of the dominant classes and large enterprises. Bunker's analysis was excellent in dealing with micropolitics of the backlands, Maybury-Lewis concluded, but his main thesis, "constantly restated throughout the book", that extractive economies are better understood in terms of energy flows than production systems or political imbalances, was "unfortunately couched in almost impenetrable jargon" (*loc. cit.*).

For Norgaard (1986: 615f.), Bunker's study was evidently placed within the richer Marxist camp, and it was here that his mission lay, in adding environmental content to the periphery. Bunker's summary of 400 years of Amazonian history was "charged with excitement" as it linked the complex dynamics of the rainforest ecosystem with economic, social and political history, but his synthesis was "better than the portrayal of the parts" (*ibid.*: 616). Mathewson's (1986: 279f.) enthusiastic review specifically observed Bunker's reliance on geographers for his ecological insights, though "curiously", as it happened, only those of the so called 'Berkeley School' and with historical and cultural ecological perspectives. He suggested that a geographical foundation could allow dependency sociologists to reach their own take-off stage of sustained scholarly growth. Dickinson (1986: 419) found it an important and challenging study, which deserved attention because it utilised the theoretical literature on development to formulate a model for understanding processes of change in Amazonia, and he noted that it took a longer time perspective than most comparable volumes at the time (for yet other reviews see Creevey 1986 and Meggers 1986).

However, since it was claimed for the book that it "shows 350 years of different extractive economies have periodically enriched various dominant classes but progressively impoverished the entire region", Moran (1986: 624) was surprised "that the history and prehistory of aboriginal Amazonia is treated in only two pages, and that the colonial and

empire periods up to the rubber boom of 1883 receive a scarce five pages”, all of which was based on secondary and tertiary sources. The rubber boom itself, “which tends to agree more with the author’s views and is better documented, receives about seven pages, but the treatment is vague, and the prose is tied to world-systems theory in a rather mechanistic way” (*ibid.*: 624f.). By contrast, the “important period between 1910 and 1950” had received only three pages, “even though a great deal happened in, and to, the Amazon during this stage, such as major migrations from Europe and Japan; internal migration and settlement; and the development of some communities with favourable communication routes to markets” (*ibid.*: 625). “The book has minimal value as historical analysis and is burdened with jargon from world-systems theory and political economy of center–periphery relations.” Its strength lay in the description of “the workings of Brazilian bureaucracy in a frontier setting based on the author’s extended interviews with mid-career professionals”, but Moran found it unfortunate that he had not tried “to connect his analysis of bureaucracy to the historical changes in bureaucratic structure in Portuguese society.” Processes were treated as unchanging, because readers were given no historical detail. Of the book’s nine chapters the first and second attempted to characterise Amazonian resource extraction through “a peculiar ‘energy theory of value’ that tries to show that because Amazonia is a net exporter of value, it is exploited” (*loc. cit.*). This Moran found “a trivial finding”, since any region was likely to experience cycles in which it is a net exporter of value or energy, and other periods where it is in balance or gaining from this exchange. Bunker’s theory could not explain underdevelopment, likelier reasons for which Moran (*ibid.* 625f.) found in the region’s high diversity of species and in habitats, which made it costly to develop technical knowledge applicable on a region-wide basis, or of that same bureaucracy to which Bunker devoted his main energy, and which had not sufficiently appreciated the difficulties of diversity any more than Bunker had.

This was not the first time that Bunker and Moran had crossed swords. In fact, the title of Bunker’s book suggests that he was already involved in a controversy with Moran’s earlier *Developing the Amazon: The Social and Ecological Consequences of Government Directed Colonization along Brazil’s Transamazon Highway* (1981). Bunker’s (1983: 190) review of that book had called it “naïve” as an analysis of Amazonian development potential, and he further believed (*ibid.*: 191) that the information was gathered “in ways that disguise the enormous damage that political ambitions and economic rapacity wedded to incompetent planning have inflicted on the biological and social systems in the Amazon.” Now, it was Bunker’s (1987: 367) turn to be disappointed with his reviewer, whom he charged with being an environmental determinist. Moran’s dismissal of net exports of energy as an explanation of underdevelopment had missed that “the extraction process itself destroys a wide range of resources produced by energy flows through ecosystems in which the extracted commodity formerly participated”, which “destruction limits the potential for more productive economies”, and “increases susceptibility to disruptive exploitation as more resources are discovered”. Moran’s own attempt “to extrapolate from specific habitats to the region as a whole” was inappropriate. This renewed charge occasioned yet another comment by Moran (1987: 368) to correct the misrepresentation of his own work and to reaffirm the criticism that Bunker neglected microlevel adaptation and presented no data to “demonstrate the explanatory value of his approach”, that “nearly every frontier is a net exporter of energy in the early stages of development, and that there are many possible explanations for the trajectory that follows”. The ‘energy hypothesis’ had some value in that it might encourage quantitative analysis. “However, his claim that this theory explains Amazonian processes is inadequately grounded in the historical record which [...] he glosses over.” Moran also referred to a more extensive critique by Katzman (1987).

Observing that mainstream development economics placed little emphasis on natural resources, Katzman (1987: 426) saw two diametrically opposed alternatives to it. The vent-

for-surplus theory (cf. Caves 1968, Watkins 1963, Williamson 1974) saw natural-resource exploitation as an engine of growth, whereas dependency school, to which Bunker's study evidently belonged, looked upon it as the road to underdevelopment. The latter tradition originated in the perception that tropical exporters did not develop when intergrated in the world economy. It went back to Prebisch (ECLA 1949), Singer (1950), Nurkse (1959), Levin (1960), and others, who concluded that prices of primary products tended to decline secularly, basically because of supply and demand elasticities. The neo-Marxist variant placed the emphasis on political and monopolist class, who controlled the chain of import-export activities and had an interest rather in hindering import-substitution. Dependence on resource-based exports was therefore simply harmful (Frank 1967, Beckford 1973). Now, as Katzman (1987: 427) pointed out: "The interesting general question is why some staple-exporting regions, particularly in the temperate zones, developed, but others, primarily in the tropics, did not." His own, or what he called the "now conventional", explanation (referring especially to Hirschman) looked at differences in technology and how "the relative marginal productivity of skilled labor, brute labor, capital and land in a region's staples influences its social class structure" (Katzman 1987: 427). Instead of technology, Bunker looked to ecology and politics for answers.

Katzman (*ibid.*: 430) took great interest in the ecological approach in general. In ignorance of its particular ecology, many projects had "fallen victim to the rapid metabolism of the tropical rain forest, the correspondingly low nutrient content of the soil, and the large number of potential pests immanent in the highly diverse ecosystems." A decade of research and experiments had in fact shown that soils were similar to those of the south-eastern United States and could be cultivated by continuous cropping minimising direct exposure to rain and sun (*ibid.*: 432). "Shifting pastoralism, not shifting cultivation, is responsible for the major share of deforestation in Amazonia", he pointed out, implying that sustainable agriculture could and eventually would also reduce deforestation. Among anthropological studies, Moran (1982, 1984) had made "the most precise measure of energy and material flows in his examination of the hunting and farming strategies of Amazonian aborigines and *caboclos*." Now, even from the ecological perspective Bunker's attempt was unfortunately unsuccessful, making "no distinction between depleting activities, like mining, and potentially sustainable activities, like agriculture and lumbering", merely seeing resource extraction as a one-way flow of energy and materials. In contrast to Moran, Bunker had made no attempt to measure these flows directly, only referring metaphorically to the second law of thermodynamics as applied to ecosystems. His 'energy theory of value' evaluated commodities by their embodied energy, but like the labour embodied theory of value, it was "widely discredited by economists as irrelevant in describing and predicting economic behavior" (Katzman 1987: 430). That Amazonian trade flows showed it to have been a net exporter, Bunker took as evidence of exploitation, but as Katzman (*ibid.*: 430f.) pointed out, the "continual influx of solar energy dwarfs the small amount of energy embodied in staple exports." Similarly, there was a continuous renewal of nutrients from the gradual decay of bedrock and pasture reforestation, which left it an open empirical question, which Bunker did not address, whether the rate of nutrient exports exceeded the rate of renewal.

Finally, whereas Bunker had argued that Amazonia had become underdeveloped because capitalism maintained it "in a posture of unequal exchange", it was not clear from his presentation why capitalism should sustain mechanisms of regional rather than class inequality. His presentation had in fact implied that institutions, as it did against smallholders and small businessmen in the centre, discriminated against small-farmers, and that the mechanism was the state bureaucracy: "The more strictly bureaucrats adhere to legal standards imposed from the center, the greater the ability to exclude the poor" from appropriating land and capital. "Indeed, the transactions costs explanation is more powerful

than an appeal to political economy of center-periphery relationships under capitalism" (*ibid.*: 433).

To an economic historian, Bunker's sketch of the subsequent export products of the Amazon would have called to mind the well-known Canadian model of how consecutive staples restructured European and Amerindian societies situated on the St. Laurence drainage basin, along with its ecology. When hearing of the staple thesis from his reviewer, all this was apparently novelties to the sociologist Bunker. Without referring to Katzman, he (1989) set out to counter the misrepresentation he felt Innis's work had undergone through linkage with the development economist Albert Hirschman, the American institutionalist economic historian Douglas North, and most of all the reworking by Melville Watkins (1963) into a 'staple theory of growth'. Bunker's article was a welcome reminder of some fundamental differences between Innis's reflective and critical approach, and the subsequent reworking into a theory of growth. On the other hand, as we have seen (Chapter 5), by the 1970s, Watkins and the Canadian dependency tradition had themselves reversed this perspective, some therefore fearing that Canada was becoming underdeveloped. It seems unlikely that Bunker was aware of this tradition, but setting out from a dependency perspective he reached a similar conclusion, only with more sensitivity to ecology and mostly leaving out Canada.

If Moran's earlier book may have been a point of departure for Bunker to contrast his interpretation of Amazonia, Katzman's review article set the stage for the future. Characterising it as a challenge from the right, and forgetting the ecological arguments, Bunker (2003: 238) recalled it as "an encyclopedic summary and critical deployment of neo-classical resource economists['] claims that vent-for-surplus of natural resources was a regular and reliable means for the economic development of 'newly settled' frontiers." Katzman's bibliography served as a guide to literature that he had previously ignored. Bunker (2003: 239) was thereby driven "to search for the reasons that some extractive peripheries, most notably the United States, but also Sweden, Denmark, parts of Germany, Canada, and Australia, had subsequently industrialized sufficiently to achieve at least partial participation in the core." This was not the first time a dependency theories had been reminded of such 'paradoxes', *i.e.*, refutations, of the idea that raw-materials' extraction and export led to underdevelopment. As he informs, Bunker (*loc. cit.*) "gradually became convinced that notions of unbalanced energy flows were too abstract and too aggregated to permit analysis of the specific binary and multilateral production and exchange relations that structured and periodically reorganized the world economy." This basically meant abandoning his previous unequal exchange theory. The new perspective was inspired instead by David Harvey and Harold Innis. Somewhat like Innis, though unlike him wanting to explain underdevelopment, he concluded (*loc. cit.*) that the "physical and chemical attributes of raw materials, and their location in space as mediated by topography, hydrology, geology, climate, and biology provided much more direct bases for explaining the social and geopolitical strategies for extraction, transport, transformation, exchange, and consumption of the secularly expanding diversity and volume of commodities." Unfortunately, instead of comparing said counter-examples from this perspective (Scandinavia, the British Dominions, the United States) with those extractive economies which underdeveloped, he continued to search for examples which can be fitted to his preconception of manufacturing developed countries and extracting underdeveloped (the Netherlands, Japan, Amazonia). What Katzman (1987: 427) referred to as the "interesting general question", why temperate staple-exporting regions developed while tropical did not, is basically left untouched. Thus, references to 'wheat', the principal bulk commodity exported by the former group, are as scarce as those to 'unequal exchange'. While no comparison is made between such exports and respective ecologies in developed and underdeveloped regions, we instead have "transtemporal comparisons of spatio-material processes" and leading-country "access strategies", showing in essence that as resources

became scarcer close by, instead of perishing, hegemons developed their means of transportation, thereby lowering ton/miles costs and supplying market demand. As before, the long-term perspective is laudable, but the historiographical execution unfortunately thin, particularly as compared with what can be found in Innis.

Two years after Bunker's initial book was published, Martinez-Alier (1987: 238), in a history of ecological, or energy, economics, identified it as the first ecological theory of unequal exchange, wondering: "Why has the question of unequal exchange not been posed in ecological terms until quite recently [...] and still without political consequences?" He has since spent a respectable number of years to promote what he believes to be some of these political consequences, not only with respect to 'ecological unequal exchange', but also in the language of many other ecological distribution conflicts around the globe. The argument has been summed up in his (2002) book on 'the environmentalism of the poor' and 'ecological conflicts and valuation'.

There, Martinez-Alier's (2002: ix.) stated purpose was "to explain how *the unavoidable clash between economy and environment (which is studied by ecological economics) gives rise to the 'environmentalism of the poor' (which is studied by political ecology)*", that is (*ibid.*: x), "the resistance (local and global) expressed in many idioms to the abuse of natural environments and the loss of livelihoods". In the first chapter, as well as in a previous book (Guha & Martinez-Alier 1997), Martinez-Alier distinguished it from what he considered the 'cult of the wilderness' of Northern environmentalists such as Aldo Leopold, and 'the gospel of eco-efficiency', which was popular with ecological engineers and mainstream environmental economists. He (2002: xi) stated his own stake in this "potentially the most powerful current of environmentalism" as "one of the midwives at the protracted births over the last 20 years of ecological economics and political ecology". Among other things, Martinez-Alier has been involved in the origins of the journal *Ecological Economics*, which subject was introduced in the second and third chapters, described (*ibid.*: 19) as "a recently developed field which sees the economy as a subsystem of a larger finite global ecosystem", and which questioned "the sustainability of the economy because of its environmental impacts and its material and energy requirements, and also because of the growth of population". It was distinguished from mainstream environmental economics, with its "pious invocations to 'internalise the externalities' into the price system" (*ibid.*: 54), etc., in that it concentrated instead on "developing physical indicators and indexes of (un)sustainability" (*ibid.*: 19). A peculiarity central to Martinez-Alier's version of ecological economics, which distinguishes it from both environmental economics and much ecological economics, was the incommensurability of values, and their irreducibility to unidimensional – indeed, even multidimensional – indicators whether monetary or physical. As in the distinction between the political economy of Marxists and Sraffians on the one hand, and the economics of neoclassicals on the other, so the ecological economics and political ecology of Martinez-Alier was distinct from environmental economics by relying on ultimately socio-political determinants (*ibid.*: 45): "Estimations of environmental values depend the endowment of property rights, the distribution of income, the strength of environmental movements and the distribution of power." Thus, a central and important observation of his book is that "externalities that fall on poor and powerless people are cheap, even when 'internalised'" (*ibid.*: 95; cf. 246-50). This will create a further tendency for environmentally harmful or costly branches to be re-localised to regions in which environmental movements are politically weak, whatever their level of environmental 'consciousness' (so emphasised by ecologists). It is in identifying and exemplifying the international problematic of such ecological distribution conflicts, *i.e.*, conflicts "on environmental entitlements, on the loss of access to natural resources and environmental services, on the burdens of pollution and on the

sharing of uncertain environmental hazards” (*ibid.*: 97), and pointing to possible connections with the types of environmentalism, that Martinez-Alier’s greatest strength and service lies.

The task Martinez-Alier had set himself was not really to construct a theory of unequal exchange, on which subject he often seems to rely heavily on Bunker, but to assemble a wide range of seemingly disparate environmental debates under the common designation ‘the environmentalism of the poor’. As such, his approach is more programmatic than actually achieving a coherent theoretical and historical perspective within political ecology/ecological economics. The focus on political power relations and class-struggle as factors in ecological distribution conflicts (and vice versa) nevertheless makes Martinez-Alier’s work more interesting than most other ecological versions of unequal exchange. This seems partly to be a fruit of his collaboration with the ecologist Sraffian, Martin O’Connor. Together they introduced the concept of ‘ecological distribution’ for “the social, spatial, and temporal asymmetries in the access to natural resources, or in the burdens of waste disposal and pollution”, whether traded or not: “The economic values which non-traded, and traded, environmental goods and services, or negative externalities, might be given, depend [...] on the endowment of property rights and on the distribution of income” (Martinez-Alier & O’Connor 1996: 154). They also established that prices of environmental resources and services formed by transactions among humans who are alive and present, will depend on the existence and endowment of property rights on ‘natural capital’, and also on the distribution of income already within the present generation of humans (*ibid.*: 155).

World Bank chief economist Lawrence Summers (1992: 66; cf. Foster 1993) once made an infamous remark that health impairing pollution should be allocated “to the country with the lowest cost, which will be the country with the lowest wages.” The “economic logic of dumping a load of toxic waste in the lowest-wage country” was found “impeccable” and it was the job of the World Bank to face up to that fact. This piece of *Realpolitik* explained rather well, as Martinez-Alier & O’Connor (1999: 380) saw, why the best chance the poor have of addressing ‘externalities’ will not be in the market or in surrogate markets, but through other types of social action referred to as the ‘environmentalism of the poor’ (cf. Guha & Martinez-Alier 1997; Martinez-Alier 2002). According to neoclassical equilibrium theory a low price would indicate non-scarcity relative to demand over a vaguely defined time-horizon, the changed perception of which should result in an altered price. By contrast, the Sraffian approach, preferred by Martinez-Alier & O’Connor (1996: 155; 1999: 380), looked “directly at the power relations that underlie pricing”.

Indeed, Martinez-Alier’s conception of ‘political ecology’ as the study of distribution conflicts is basically Sraffian, and distinct from the foci on ‘utility’ or ‘embodied values’ in other traditions: “In Sraffian economics, the value of human-made capital is shown to depend on the distribution of income. Assuming there would be a Sraffian ecological economics, we would need first to decide which items belong to ‘natural capital’ (i.e. are appropriated and by whom), and then we could show how their valuation depends on the distribution of income” (1997a: 233). However, Martinez-Alier objected, even ecologised Sraffian economics would still only attempt to explain economic values, and “not deal with the wider issues of ‘ecological distribution’” (*loc. cit.*). Following, as he informs, suggestions from Frank Beckenbach and Martin O’Connor, Martinez-Alier (1997a: 233f.) referred ecological distribution conflicts “to the social, spatial, and temporal asymmetries or inequalities in the use by humans of environmental resources and services, i.e. in the depletion of natural resources (including land degradation, and the loss of biodiversity), and in the burdens of pollution, whether traded or not.” Everything from ‘environmental racism’, ‘ecologically unequal exchange’, ‘ecological debt’, disproportionate use of ‘environmental space’ were all referred to such ecological distribution conflicts – the true subject of *political ecology*, just as economic distribution conflicts were studied by *political economy* (1997a: 234).

In Martinez-Alier's view (1997a: 232), Georgescu-Roegen and Sraffa were "the two great critics of neoclassical economics", and in a sense his own mission has been to break the ice between these two. Although Georgescu-Roegen never saw fit to comment on Sraffa's work, nor had anything to say on unequal exchange – and in fact was much more of a neoclassical economist than ecological economists commonly wish to believe (so much so that Paul Samuelson could suggest him for the Nobel Prize for economics) – Martinez-Alier (1997a: 234) interestingly reminded of his strong stands on some issues of ecological distribution. One of these was a manifesto, parallel to the Club of Rome report for the Stockholm Conference (to which he had not been invited), proposing "to permit the free movement of all peoples to any part of the world without passport or visa restrictions". The world-wide territorial distribution of population was both a major question in human ecology and indubitably political. Neither ecology nor economics had any explanation to offer, Martinez-Alier reminded (*loc. cit.*; cf. 2002: 204), for the restrictions to migration between South and North America, or between North Africa and Europe: "At such borders, there stand a sort of Maxwell's Demons, who successfully maintain [...] the large differences in the per capita use of energy and materials between adjacent territories." One can only regret that Martinez-Alier has not observed the links between this observation and that of unequal exchange. It is difficult to see how Georgescu-Roegen, from his theoretical vantage point, could have come up with a theory to handle this problem any more than those ecologists and economists mentioned by Martinez-Alier, but it was in fact the central problem of unequal exchange for both Emmanuel (1969; 1972a; 1975a) and Lewis (1969; 1978a; 1978b). Instead, Martinez-Alier's contribution to ecological unequal exchange was inspired by the CEPAL and dependency traditions.¹⁷⁷

There is a deep rooted tradition in literature and investigative journalism of denunciation and criticism of the plundering of the Latin America's natural resources by corporations from the North Atlantic world. It was strongly articulated in works such as Eduardo Galeano's *Las Venas Abiertas de América Latina* (1971), closely related to the 'dependency' tradition. Academic ecological economic and environmental historical contributions by Latin Americans was less enterprising, but there was a sprouting interests in environmental history and economics towards the end of the 1970s. For example, in 1978 the Chilean geographer Pedro Cunill pointed to the necessity of establishing an historical horizon in the analysis of environmental problems, going back at least to the 16th century (Herrera a). Economists in the CEPAL tradition have generally not cared for ecological aspects, and the earliest contribution, according to Martinez-Alier (1998: n.p., n. 3), appeared only in 1980, with the "excellent volumes compiled by Oswaldo Sunkel and Nicolo Gligo" (1980), to which Gligo and Jorge Morello contributed a brief article, "Notas para una historia ecológica de América Latina". In 1983, Luis Vitale's *Hacia una Historia del Ambiente en América Latina* replied to Sunkel and other social scientists linked with CEPAL, and in 1987, Ortiz Monasterio and others published a manifesto against the plundering and destruction of Mexico's natural resources since the European conquest, but so far as environmental history was concerned, according to Herrera (a; 2004), this was followed by a prolonged silence. According to Martinez-Alier (1998: n.p., n. 3), in the 1980s and 1990s, Axel Dourojeanni and Nicolo Gligo "unfruitfully

¹⁷⁷ Contrary to one of his reviewers (Featherstone 2003: 1032f.), I believe that the links Martinez-Alier (2002: 48-53) tries to establish between neo-Malthusianism and eco-feminism are not in the least unsettling and by contrast promising. It also indicates that my placing him in the 'dependency' rather than the 'Protestant' camp is rather to denote his stance on unequal exchange. Still, he concluded (2002: 53), rather prematurely in my view, that "[d]ecreasing human fertility across the world means that the main factor [in environmental impact] is now overconsumption." The observation is not even very meaningful, since whether of not consumption is 'over' some undefined level, is of course dependent on the numbers consuming.

tried to drag CEPAL toward ecological economy”, which was difficult in the face of the neoliberal orthodoxy, who revelled in memories of the golden age of exports until the 1920s.

Limited and dispersed funding in Latin America obliges to make use of opportunities provided by international institutions such as the CEPAL and the Interamerican Development Bank. These “tend to emphasise the structural over the temporal in their analyses of problems, and to subordinate the treatment of environmental issues to the necessities of economic policy”, Herrera (a) suggests, which, in turn, helps to explain why contributions including an historical dimension of environmental problems have appeared mainly in proximity to international conferences on the environment. The main interest has remained structural, however, and even when the environmental perspective is not subordinated to *economic* policy, it seems still to be subordinated to *policy*.

The 1990s saw a more sustained official interest in problems of the environment, and the important event was the preparations for the World Conference on Environment and Development, to be held in Rio de Janeiro in 1992. On another plane, it is also possible, although admittedly speculative on my part, that the traditionally Marxist bent of dependency thinking felt a need for a new rationale after the fall of Eastern European communism, which gave new opportunities for, or tipped the scale in favour of the more ecologically minded. The Latin American usage of the concept of ‘ecological debt’ can be traced to the first of these events, and possibly to the second.

According to Martinez-Alier *et al.* (2005: n.p.) the intellectual roots of the concept goes back in a very general sense to observations in the 19th century that “all parts of the world are ransacked for the Englishman’s table”, to Borgström’s concept of ‘ghost acreage’ in the 1960s, to various concepts of ‘environmental space’ and ‘ecological footprints’ in the 1980s and 1990s (Rees & Wackernagel 1993; Buitenkamp *et al.* 1993), all of which amounted to the intellectually not so challenging, but all of a sudden politically burning, idea that rich people and big cities use up resources acquired elsewhere. Then – actually a little earlier – came the ‘ecological debt’, Martinez-Alier *et al.* (2005: n.p.) explain, broadly defined as including pollution, ‘theft’ of resources, and disproportionate use of the environment. Under the shadow of the debt crisis “South American researchers and academics such as the Instituto de Ecologia Politica from Chile pointed to the exploitation of their countries’ natural resources and began to speak about ecological debt.”

Apart from the simile with the economic debt, though with reversed signs, the Chilean experience of exporting mineral products and guano probably played a part in this formulation of the problem. However, without the influential CEPAL tradition, and its dependency avatar, linking underdevelopment to raw materials exports, it is unlikely that a concept such as this would have appeared when and where it did. Like most of these concepts, its function is more directed to serving political strategy and policy than science as an explanation.¹⁷⁸ Virgilio Barco, the President of Colombia, had used the expression in a speech in the USA in 1990. Latin American NGOs occasioned discussions around 1992, Martinez-Alier (2003: 25) informs, and Fidel Castro was persuaded by Latin American activists to use the concept in his speech at the official conference in Rio de Janeiro in 1992. In 1999, Friends of the Earth made Ecological Debt one of its campaigns for the following years. However, Martinez-Alier explains, the notion itself was first proposed in 1985 by the eco-feminist Eva Quistorp, a

¹⁷⁸ “Ecuador is now home to a campaign to reclaim its eco-debts”, Martinez-Alier *et al.* (2005: n.p.) explain: “The international Jubilee debt relief campaign has also embraced ecological debt following work by the British aid agency Christian Aid and think tank the New Economics Foundation. Friends of the Earth include ecological debt as one of its campaign themes. In Belgium the former Minister of International Cooperation asked the Universities and NGO’s to realize a study on ecological debt and how to use this concept in international policy work.” This will be undertaken by the University in Gent and the Flemish Platform on Sustainable Development (VODO), and on the global level there is an ‘International Alliance on ecological debt creditors’, “trying to promote and integrate this useful concept in their analysis, policy and educational work.”

founding member of the German Green Party: “Women are creditors of economic debts arising from unpaid labour, they are also entitled to compensation for the political and social subjection they have suffered, also they are owed ecological debts caused by the plundering, pollution, and irreversible destruction of our natural resources which make it ever more difficult for women to secure the existential basis for their lives and those of their children” (quoted in Martinez-Alier 2002: 212).

In Martinez-Alier’s (2003: 25) opinion, its merit was that it “brings together many international ecological distribution conflicts”, one of which was that of ‘ecological unequal exchange’. Furthermore, it “puts on the table the question of the languages in which such conflicts are represented.” Although the perspective is rather consistently Latin American, ‘Latin America’, ‘the Third World’, and ‘the South’ are used interchangeably, and the definition is couched in the global categories of North and South, or the like: “Ecological debt is the debt accumulated by Northern, industrial countries towards Third World countries on account of resource plundering, unfair trade, environmental damage and the free occupation of environmental space to deposit waste” (Martinez Alier *et al.* 2005: n.p.). Martinez-Alier (1998: n.p.) underlined that the environmental disruption was caused by exports, and found a “long history of the pillaging of nature, something not due to the pressure of population on natural resources, but the pressure of exports. More and more is exported in order to be able to pay the External Debt”. Exports, Martinez Alier *et al.* (2005: n.p.) believe, had not enriched Latin America, but in a recursive trend gone to pay for foreign debts: “In many cases the payment of external debt causes further depletion of natural stocks and environmental degradation, because of the emphasis on and nature of the export sectors.”

The exponents of environmental debt give a somewhat mixed image of why they talk about it, sometimes claiming a wish to effect a paradigm shift “about how and why countries become impoverished and enriched, and at the expense of what and who”, sometimes boiling it down to: “The crucial question is: who owes who?” (*ibid.*: n.p.). Although an economic concept, Martinez-Alier (2002: 233) would not have it be a mere exchange of external debt for protection of Nature, but “to consider that the external debt from south to north has already been paid on account of the ecological debt the north owes to the south, and to stop the ecological debt from increasing any further.” The concept thus served to boost morale in Latin American countries with large budgetary deficits and foreign debts (cf. *ibid.*: 233; 1998: n.p.). The concept has a generational aspect, and is sometimes invoked with religious connotations (Donoso, *et al.*, 2005), but commonly, in the end, it all boils down to an unwillingness to *pay* on behalf of the industrialised nations (*loc. cit.*; Anon. 2005; Acción Ecológica 1999; Christian Aid 1999), and little is said on debt to non-humans, ‘ancestral peoples’, or a global deficit. Martinez-Alier’s involvement is of course part of the attempt to give the powerless a language in which to express their claims. The possibility that these campaigns are successful makes the concept interesting as a prospective economic category in the sense of a possible claim to a share in societal output, with ‘ecological taxes’ paid to the South, thus affecting distribution. Perhaps such campaigns may function to raise the willingness of Northern citizens to pay more for their banks and their Third World imports. This will in all probability particularly benefit the Latin American countries, and may help explaining why these seem to be particularly vocal. There is much to sympathise with in the world-egalitarian and ecological ideals of the advocates of the ecological debt perspective, but the question we shall turn to now is rather what they contribute to understanding, in particular, what they have to say on the question of ecological unequal exchange.

According to Martinez-Alier, environmental debt had two components, where one was ecologically unequal exchange and the other was the disproportionate use of environmental space. He consented to put them in monetary terms, where the unequal exchange had the following four major components:

- [1] The (unpaid) costs of reproduction or maintenance or sustainable management of the renewable resources that have been exported. For instance, the nutrients in the agricultural exports of Argentina [...]
- [2] The actualised costs of the future lack of availability of destroyed natural resources. For instance, the oil and mineral no longer available, the biodiversity destroyed. [...]
- [3] The compensation for, or the costs of reparation (unpaid) of the local damages produced by exports [...], or the actualised value of irreversible damage.
- [4] The (unpaid) amount corresponding to the commercial use of information and knowledge of genetic resources, when they have been appropriated gratis ("biopiracy") (Martinez-Alier 2003: 26; 2002: 227f.).

It may be remarked that all of them were exports. The two remaining components of disproportionate use of environmental services, were both imports:

- [5] The (unpaid) amount reparation costs or compensation for the impacts caused by imports of solid or liquid toxic waste.
- [6] The (unpaid) costs of free disposal of gas residues (carbon dioxide, CFC...), assuming equal rights to sinks and reservoirs (Martinez-Alier 2003: 26; 2002: 227f.).

The areas to be included in ecologically unequal exchange are thus (1) renewable resources, (2) non-renewable resources, including biodiversity, (3) environmental pollution, and (4) the rather special case of genetic letters patent, actualised because of the Northern claims in this direction and which Martinez-Alier (1998) initially included among the unpaid environmental services. Among these services, the 'carbon debt' has received particularly widespread attention (Christian Aid 1999).

The oddity of only including poor-country *exports* in ecologically unequal *exchange* (while environmental services include only imports), is reaffirmed in the definition as "imports of commodities from poor regions or countries, which do not take into account either local externalities or the exhaustion of such resources" (Martinez-Alier & O'Connor 1999: 382; cf. Martinez-Alier 2002: 258), and in the identification with *Raubswirtschaft*, a 'plunder economy', rather than an actual market economy. This is a serious weakness in Martinez-Alier's handling of the concept, even if one agrees with the 'eco-Sraffian' approach. Others would probably prefer formulating it as an actual exchange, thereby including the relative and/or absolute environmental costs or benefits of both exports and imports, monetized or (more commonly) not. Apparently, it was not a mistake on Martinez-Alier's behalf since this unilateral terminology is consistent with his idea that only the South could suffer from it, while the North was only causing 'ecological dumping'.

Unequal exchange had functioned as part of a theory of underdevelopment in terms of labour and health, and of deterioration of the terms of trade expressed in prices, Martinez-Alier *et al.* (2005: n.p.) explained, but by recognising links to the environment "the notion of unequal exchange can be expanded to include unaccounted, and thus uncompensated, local externalities." What they mean by ecologically unequal exchange, then, is "the fact of exporting products from poor regions and countries, at prices which do not take into account the local externalities caused by these exports, or the exhaustion of natural resources, in exchange for goods and services from richer regions". The authors had no intent to add an ecological dimension to the terms of trade (something on the other hand done in Muradian *et al.* 2002: 56), but rather to reverse the former charge of 'social dumping' made against low-wage countries, now instead speaking of 'ecological dumping' – the phenomenon of selling at prices which did not include compensation for externalities and for the exhaustion of resources. Such dumping, they agreed, "happens not only in the trade of natural resources from South to North but also sometimes from North to South, such as agricultural exports from the United States or Europe to the rest of the world which are directly subsidised, and also indirectly because of cheap energy, no deductions from water and soil pollution and use of pesticides, and no deductions for the erosion of biodiversity." While they retained the

denotation 'ecological dumping' when it occurred at the expense of the environment of the North, they preferred 'ecologically unequal exchange' when it occurred at the expense of the South: "We describe the first kind of ecological dumping (from South to North) as ecologically unequal exchange to emphasise the fact that most extractive economies are often poor and powerless, and therefore they are unable to slow down the rate of resource exploitation or to charge 'natural capital depletion taxes', are unable to internalise externalities into prices, and unable to diversify their exports" (Martinez-Alier *et al.* 2005, n.p.). This distinction was defended on the grounds that environmental disruption in rich countries was voluntary, while in poor countries it was not. Thus, whatever the historical reality of relative environmental destruction and load, whatever the reality of the 'environmentalism of the poor', or, indeed, any connection with exports and imports, the poor were, by definition, suffering from ecologically unequal exchange. The language of *social dumping* was and is a pure lobbyist tool (since those who speak of it do not mind low wages when they occur in non-competitive branches), but do we really need more of that? A curiosity with this view is of course that, it is irrelevant to speak about any empirical or historical record of net transfers, with which Martinez-Alier nevertheless would seem to be have been concerned.

Martinez-Alier's basic idea can be put like this. Since he was not interested in the *relative* environmental burdens and consequences, what he says in effect is that environmental costs were already fully internalised in the rich and powerful North, while in the South they were not internalised at all, and that, consequently, the poor were already paying an unacknowledged ecological tax to the rich. How was this 'tax' transferred? Partly through the ether, perhaps (or atmosphere in the case of eco-services), but hardly by the rich lending money to the poor, if only to pay the interest on previous loans. The only way would be the exchange of goods and (eco-)services, and if the balances of payments and trade did not contain sufficient explanation, the 'tax' must have been incorporated in the terms of trade. How the 'tax' originated was not on Martinez-Alier's agenda, preferring to speak of how social movements, born by suffering disproportionate environmental damage, try to redress the imbalance of power, "so heavily biased today in favour of multinational corporations" (2002: 271). 'Power' was clarified as an ability to "impose decisions on others", by causing environmental havoc in a 'cost-shifting' way, and as procedural power to "impose a language of valuation determining which is the bottom line in an ecological distribution conflict". Implying a future struggle, Martinez-Alier ended his book by asking who had this power.

In fact, if we look instead at the past, the only historical agent imaginable would have to be the environmental, and/or workers movement of the North, perhaps born of suffering disproportionate damage in the past. Incidentally, this would be in complete parallel to the nationally confined labour movement in Emmanuel's theory, but is probably not the solution looked for, which may be the reason why it is not mentioned. It would be consistent with Foster's (1994) identification of the environmental movement as a parallel people's movement in the United States to the labour movement in Europe, and Guha & Martinez-Alier's [1997] consent to American scholars that environmentalism had been mostly an American affair, characterised by its 'cult of the wilderness' and 'eco-efficiency', just as it would be consistent with the nationalist 'lifeboat ethics' of Hardin (1974), and the shift in German Greens "who used to be internationalists, [but] have now joined the European 'eco-efficiency' movement" (Martinez-Alier 2002: 8). In addition to the political factor, however, in what seems to be a consent to the CEPAL or dependency tradition, Martinez-Alier sees one pertaining to what he believes to be an inherent difference in the characteristic export good.

Thus, the basis of ecologically unequal exchange in Martinez-Alier's understanding is (1) a relative social and political weakness, creating a corresponding inability to incorporate social and ecological externalities in export prices, and (2) a relative weakness in the relation

between the regenerative powers of an ecology and its respective goods, whether because of differences between tropical or temperate ecosystems, or because of some inherent property of the specific goods produced, which Martinez-Alier tends to write of in terms of primary commodities (raw-materials and 'preciosities', *i.e.*, Wallerstein's term for 'luxuries') on the losing side, and secondary and tertiary commodities (manufactures and services) on the gaining. The first point, he says, was inspired by Bunker's exposition of ecologically unequal exchange; the second by Altvater's (and before him Soddy's) identification of the antagonism between economic and geochemical-biological production times:

Ecologically unequal exchange is born, therefore, from two causes. In the first place, the strength necessary to incorporate local externalities in export prices is often lacking in the south. Poverty and lack of power induce local environment and health to be given away or sold cheaply, even though this does not mean a lack of environmental awareness but simply a lack of economic and social power to defend both health and environment. In the second place, the ecological time necessary to produce the goods exported from the south is frequently longer than the time required to produce the imported manufactured goods or services. As the north has profited from an ecologically unequal trade, it is in a debtor position. (Martinez-Alier 2002: 219)

Although Martinez-Alier draws the line between the type of good, since the per capita production of raw materials is higher in the North than in the South, it would perhaps be more appropriate to emphasise the relation between the type of goods produced and the regenerative powers of the respective ecologies, which I interpret as implying basically temperate and tropical ones, in which they are produced. If this is admitted, it would give a new dimension to Lewis's unequal exchange between temporal and tropical areas, or to the admittedly marginal observations by Innis in that direction.

Martinez-Alier (1997b: 219) regretted that "[h]istorical research on such topics, as 'ecological unequal exchange' and the 'ecological debt' is still lacking", but nevertheless claims with some assurance that the north has profited from an ecologically unequal exchange. This remains to be demonstrated, and would also require stricter definitions, but it is intuitively plausible at least for the postwar period, as we shall soon see from available material balances. An estimate of relative fossil fuel *consumption*, if this is included in the definition, would certainly be in accord with this approach, and since for the postwar period Northern consumption has exceeded its *production* (extraction), as we shall see, there are also net imports in purely physical terms. A similar argument can be made for many pollutants. According to the so called 'pollution haven' hypothesis (Mani & Wheeler 1998), similarly advanced against the existence of an environmental Kuznets curve, more stringent environmental regulations in the North will make pollution-intensive branches migrate to the South. This issue has stimulated some labourious estimates, to which Martinez-Alier has lent his hand. Studying the pollutive emissions 'embodied' in physical imports and exports between three core regions (the United States, Western Europe and Japan) and Southern countries between 1976 and 1994, Muradian *et al.* (2002: 56) found that these were generally higher in imports from the South than in the goods sold by the North (see also Muradian & Martinez-Alier 2001). One way of interpreting this is that there is an accordant displacement of environmental load from the North to the South through international trade. Participating in this study, Martinez-Alier had no problem estimating the "environmental terms of trade", defined as environmental pressures associated with Northern exports in relation to those associated with imports from the South. These deteriorated for the United States, improved slightly for Western Europe, and significantly for Japan, where an improvement means that exports are coming from relatively less pollutant industries. Does this mean that the United States are to be lauded for diminishing its ecological exploitation through trade, or are they to be scolded for using relatively more polluting industries? The lessened relative embodiment of pollution of Japanese exports is due to structural changes away from polluting industries, so this would seem to be a good case of attack, but, again, is this related in any significant

way to environmental legislation or is it merely incidental to wages have risen and these branches having met with competition from newly industrialised lower-wage countries or China? While it reveals historical trends, the moral lessons are not evident.

Most ecologically minded writers in the dependency and world-systems tradition have a further intuition that ecologically unequal exchange of some kind goes much farther back in time, perhaps as far back as 500 years, although the studies performed in this line of argument is confined to only the most recent decades. This ‘intuition’ is much less intuitively plausible, however, if only because it is related to the *myth*, as Paul Bairoch (1993) and Arthur Lewis (1978a) called it, that Third World raw materials were crucial to development and industrialisation of the North or West. Martinez-Alier’s major book on the environmentalism of the poor has in fact been criticised for being “quite devoid of history in any *analytical* or *theoretical* sense, and for this reason as well as other reasons lacks a convincingly dialectical engagement with its worldhistorical subject matter” (Bernstein 2005: 434). While waiting for something more substantial we should note that the historical research which *does* exist gives no indubitable support to the idea of a *net* transfer of raw materials from the underdeveloped world to the developed, until after the Second World War.

Thus, in a well-known study emphasising the regional character of industrialisation, and commenting on nineteenth century trade, Pollard (1981: 174f.) observed:

These trading relationships between the more and less industrialized nations have for well over a century been consistently misinterpreted as an ‘exchange of food and raw materials’ against ‘manufactured goods’. As it happens, the coverage is not dissimilar, but it is false. It remains false also when converted to Colin Clark’s scheme into ‘primary’ and ‘secondary’ industry products [...] Thus coal, which is plainly a primary or raw material, has always belonged to the export list of the most advanced European economies, and thus has upset innumerable statistical tables. [Pollard instead argued that coal mining be regarded as a ‘high-technology’ industry.]

Coal was by far the most internationally traded raw material through the 19th century. Whereas the least developed regions of Europe were importers, the largest producers and exporters of coal were Germany and the United Kingdom, who even exported to the future Third World. According to Bairoch’s figures, annual net exports of coal from the UK amounted to one million tons by 1837, 20 million by 1880, and in 1913 had reached 78 millions or 27% of production. Oil was beginning to grow as an import, but looking at commercial energy in general at a pre-World War I date, the developed world was still a net exporter of almost 19 million tons of coal equivalents (Table 24).

Table 24. *Production and commercial balance sheet of energy products for 1909/11* (annual average; millions of tons of coal equivalent)

Millions of tons of coal equivalent)					
	Production	Imports	International trade		Balance In % of production
			Exports	Total	
Coal ^a					
Europe	546.2	90.7	110.2	19.5	3.6
Russia	26.3	4.8	—	−4.8	−18.2
North America	467.5	13.6	17.2	3.6	0.8
Oceania	12.0	0.2	1.9	1.7	11.9
Japan	54.3	0.1	3.0	2.8	5.2
Total developed	1113.2	109.6	133.6	24.0	2.2
Oil ^b					
Europe	3.4	5.4	1.2	−4.2	−123.8
Russia	9.3	—	0.8	0.8	9.0
North America	27.3	4.5	4.8	0.3	1.1
Oceania	—	0.1	—	−0.1	—
Japan	0.3	0.3	—	−0.3	100.0
Total developed	40.2	10.4	6.8	−3.6	−9.1
Coal and oil					
Europe	553.3	98.5	112.0	13.5	2.4
Russia	40.2	4.8	1.2	−3.6	−8.9
North America	527.8	20.4	24.2	3.7	0.7
Oceania	12.0	0.4	1.9	1.5	12.5
Japan	54.8	0.5	3.0	2.4	4.4
Total developed	1195.0	124.8	143.5	18.8	1.6

^a Including lignite/brown coal in or calculated from coal equivalent; ^b In or calculated from coal equivalent

Source: Bairoch 1993: 61. Though scale is not affected, there are apparent oddities of calculation in Bairoch's figures as presented, which seem not to be explicable only by oddities of rounding.

The energy balance of trade shows the developed world in 1913 as a net exporter, in which position it remained during the inter-war period (Table 25). A deficit began to show only with the rapid growth of Middle Eastern oil production after World War II. The soaring increase in Developed country deficit is not explained by the depletion of coal sources, but by the fact that oil (incidentally produced in low-wage regions), for the first time in the mid-1950s, became cheaper than coal (produced in high-wage countries). In addition, being liquid, oil leaves almost no ashes and is thus locally – or in the direction of the wind – advantageous, thus supporting the thesis of ‘internalising’ environmental costs.

Table 25. Production and trade balances of total commercial energy, 1909/11–1989^a
(in millions of tons of coal equivalent)

	1909/11	1929	1937	1950	1973	1980	1990
Western Europe							
Production	469.8	728.7	714.6	507.3	617.5	816.4	928.1
Trade balance	12.1	31.5	10.4	–67.0	–846.3	–741.8	–705.3
North America							
Production	527.8	873.3	847.4	1195.9	2453.6	2326.6	2466.5
Trade balance	3.7	15.3	33.4	8.7	–168.1	–292.1	–287.2
Japan							
Production	54.8	45.1	61.4	44.1	38.0	42.3	47.6
Trade balance	2.4	–1.8	–4.9	–1.9	–340.0	–392.7	–464.5
All “West” Developed							
Production	1071.2	1592.8	1554.5	1795.8	3285.4	3397.6	3801.8
Trade balance	20.9	40.7	31.7	–68.5	–1348.0	–1414.1	–1362.3
Eastern Developed Countries							
Production	123.7	60.5	176.8	470.9	1907.8	2379.5	2749.3
Trade balance	–2.2	–12.7	–11.4	24.2	20.8	319.5	307.6
All Developed Countries							
Production	1195.0	1653.3	1731.3	2266.7	5193.2	5777.2	6551.2
Trade balance	18.8	53.4	43.1	–44.2	–1327.2	–1094.6	–1059.7

^a Calculated by comparison of production and consumption statistics; except for 1909/11: calculated on the basis of foreign trade

Source: Bairoch 1993: 63.

The relevant issue in understanding changes in the mineral balance is also relative cost and transportation. Looking at the major mineral, Yates (1959: 127), observed that the “iron ore trade before 1914 was primarily an intra-European activity, France, Spain and Sweden supplying the needs of the United Kingdom, Belgium and Germany; Europe also obtained some ore from Algeria and Tunisia. This European commerce accounted for 28 million out of the 32 million tons in world trade.” The rest was mostly attributable to a small shipment from Cuba to the US, exchange between the US and Canada, and a small quantity from China to Japan. It was neither necessary or profitable to transport iron over long distances, and the picture remained similar even forty years later, though requirements were twice as large (*loc. cit.*): “much of the increase was met by more intensive exploitation of home and nearby resources.” Thus, even in 1950, developed country deficit of iron ore was merely 6% of its production, and began to rise rapidly only thereafter (Table 26).

Table 26. Production and trade balances of iron ore, 1913-1990 (millions of tons of metal content)

	1913	1937	1950	1960	1970	1980	1990
Western Europe							
Production	35.5	33.0	28.3	51.3	54.3	38.4	21.0
Trade balance	-0.2	-2.6	-0.6	-12.4	-48.3	-54.4	-65.0
North America							
Production	27.0	37.9	51.1	58.0	83.8	79.1	58.3
Trade balance	-0.8	-1.2	-3.8	-10.8	-1.6	3.6	5.3
Japan							
Production	—	0.3	0.5	1.0	0.9	0.3	0.1
Trade balance	—	-1.9	-0.8	-8.6	-63.2	-80.3	-75.2
Other West Developed ^a							
Production	0.1	1.5	2.2	4.1	37.5	81.1	91.0
Trade balance	—	0.2	—	0.3	28.3	63.7	70.9
All West Developed							
Production	63.0	72.6	82.1	115.1	176.0	199.5	170.3
Trade balance	-1.0	-5.4	-5.3	-31.6	-84.8	-67.5	-65.3
Eastern Developed Countries							
Production	—	16.4	23.2	60.2	109.0	138.3	142.7
Trade balance	—	-1.0	-5.9	-2.6	-0.8	-7.4	5.0
All Developed Countries							
Production	64.0	89.0	105.3	175.3	285.0	337.9	313.0
Trade balance	-1.0	6.6	-6.6	-34.2	-85.6	-74.8	-60.3

^a Australia, New Zealand, South Africa.

Source: Bairoch 64; cf. Yates 1959: 128f..

Furthermore, Bairoch (1993: 65f.) points out: “The story of the other main ores after 1913 is more or less that of iron ore; the 1950s and the 1960s saw a rapid increase in the dependency of Western developed countries.” Summing up some of Bairoch’s statistics we get the overall picture of the main internationally traded minerals reproduced in Table 27.

Table 27. Production and trade balances of coal equivalents and main ores for 1909/13–1990

	All Developed Countries			Western Developed countries				
	1909/13	1934/8	1953	1953	1960	1970	1980	1990
Coal equivalents	(1909/11)	(1937)	(1950)	(1950)		(1973)		
Production	1195,000	1731,300	2266,700	1795,800		3285,400	3397,600	3801,800
Trade balance	18,800	43,100	–44,200	–68,500		–1348,000	–1414,100	–1362,300
Iron		(1937)	(1950)	(1950)				
Production	64,000	89,020	105,280	82,100	115,110	176,010	199,530	170,310
Trade balance	–1,000	–6,570	–6,640	–1,380	–34,600	–84,780	–67,490	–66,270
Copper								
Production	802	986	1,641	1,309	1,709	2,653	2,563	3,218
Trade balance	–217	–620	–996	–1,239	–1,939	–2,859	–3,711	–3,329
Lead								
Production	1,002	1,062	1,347	1,062	1,125	1,918	1,770	1,724
Trade balance	–120	–340	–501	–502	–773	–712	–1,547	–1,937
Bauxite								
Production	110	520	1,330	840	1,363	4,040	7,884	11,000
Trade balance	0	0	–	–	–2,875	–4,116	–5,320	–5,020
Tin								
Production	16	–	–	8	7	14	19	17
Trade balance	–100	–	–	–106	–148	–139	–119	–117
Manganese								
Production	–	–	–	–	2,012	4,496	7,991	5,905
Trade balance	–	–	–	–	–4,073	–5,592	–3,311	–1,300

Sources: Bairoch 1993: 63, 64, 66.

The non-metallic minerals are as rule found in most parts of the world, their wide availability and thereby relatively high transport costs assuring that they are locally produced and consumed. The most important materials in this category are those used in clay, cement and glass industries, the most important in terms of volume being clay, of which Bairoch estimates a production in 1910 of 80 million tons, followed by cement, 34.2 million tons, and glass 2.2 million tons, all in all twice as much as the metals and all locally produced.

Turning next to non-fuel organic raw materials and fertilisers, early Third World inputs play a more important but not dominant role. The former include numerous textile fibres (cotton, wool, jute, silk, flax, and hemp) and their dyes, as well as rubber, hides and skins. Textile fibres were the most voluminous, with an annual consumption in developed countries of 7,200,000 tons for the period 1909–13, half of which was cotton, of which most came from the United States (certainly within the developed world, and no longer based on slave labour, though still cheaper than it would have been without it). Cotton imports from the future Third World, therefore contributed only 13% of that consumption, which also happen to be the share of wool. Jute was all imported, raising the share for all fibres taken together to 22–3%. The annual consumption of rubber for the same period 107,000 tons, all of which was of course imported. More important were the imports of fertilisers. Guano, of which so much is spoken, amounted to less than 60,000 tons, whereas the net imports of natural phosphates amounted to 2.9 million tons, over 40% of consumption, though for all fertiliser-related products the deficit was closer to 20%, representing less than 3 million tons.

Therefore, Bairoch (*ibid.*: 67f.) concludes, “on the eve of World War I when the developed world already had a volume of per capita manufacturing production some seven to nine times higher than that of the world in 1750, 98% of metal ores used by the developed countries came from the developed world; 80% of its textile fibres; and, as we have seen, over 100% of its energy. In terms of the volume of the rest of raw materials (such as those used in glass, cement, paper and clay industries), the degree of local autonomy was over 99%. Furthermore, [...] the excess of net coal exports represented a volume about five times larger than the net imports of the rest of the raw materials.” The self-sufficiency of textile fibres was about 90% in 1830, but had decreased to 80% in 1913. Furthermore, (*ibid.*: 69f.) “even at the end of the

1930s the self-sufficiency of the developed countries in raw materials was around 96-8% in terms of volume". Thus, finally, says Bairoch:

By 1953 the per capita level of industrialization of the West was some twenty-two times higher than that of the beginning of modern development and global industrial production some eighty-five times higher. Therefore, if in fact from 1955 onwards the large dependence on raw materials from the Third World was a reality, before that period it was a complete myth. (*Ibid.*: 70.)

After all, the reason for the largely balanced raw material exchange is not so difficult to understand. The earlier we go, the higher were the relative costs of transportation. In order to avoid empty cargoes, ships had to be filled with something. Thus, even the arch-industrial, arch-trading, and arch-imperialist Great Britain had a materially balanced trade until the post-war period, easily explained by coal exports benefiting from the lower rates for outgoing vessels. If one 'hopes' to find great sins of ecologically unequal exchange related to trade in raw materials, or in order to explain the diverging histories of the developed and underdeveloped world, there is an upward slope of such immensity already to begin with that most people are probably daunted by the task. It is no argument that one can find regions *within* the developed world which, up to the first half of the 20th century, have suffered from such an ecologically unequal exchange, since this could in no way explain the divergence *between* the developed world as a whole and the underdeveloped world. The reason why the idea is popular has something to do with the fact that from the point of view of the underdeveloped world, most exports were indeed raw materials. To this is added strong 'mercantilist' and protectionist traditions, in addition to the age-old paradigm of city-countryside relations. The significant lesson to be learnt from modern capitalist development, the 'take-off' economy, however, is that it began in the countryside, not in the city. This is the basic reason why attempts to ascribe the development-underdevelopment rift to an 'exploitative' exchange of raw materials for manufactures are misdirected. This does not necessarily mean that none took place, and certainly not that they are unimportant in today's development and underdevelopment.

The implication of the above figures for Bairoch is that, since the regions of the world now developed could become so with raw materials found within that same territory, so could the now underdeveloped world. This is quite another cup of tea, however, as we realise by looking at the known reservoirs and estimated resources of some of the above raw materials, and the future prospects following from projecting various consumption trends as Porter & Shepphard have done (Table 28).

Table 28. Global Mineral Resources: Availability, Demand, Estimates of Lifetimes (Years)

Table 28. Global Mineral Resources. Availability, Demand, Estimates of Lifetimes (Years)													
Mineral	Reser- ves	Resour- ces	World output (1989)	US demand (1989)	Units	Global growth rate of demand (1980s)	Static	Reserves			Resources		
								Dyna- mic	Redis- tribu- tive	Static	Dyna- mic	Redis- tribu- tive	Goeller & Zucker % left in 2100 A.D.
Energy													
Coal	1,167,000	20,000,000	6000	930	10 ⁶ MT	4.0%	195	80	55	3333	110	941	–
Oil	991	2,100	21	6	10 ⁹ Barr.	2.3%	47	25	7	100	45	15	–
Natural gas	4400	9,000	54	21	10 ¹² ft ³	6.5%	81	20	9	167	30	19	–
Main ores													
Iron	66,100	800,000	539.9	54	10 ⁶ MT	3.0%	122	50	54	1482	150	648	14%
Copper	352,000	2,300,000	8751	2211	10 ³ MT	1.6%	40	30	7	265	110	45	0%
Lead	70,000	120,000	3420	1236	10 ³ MT	1.0%	20	15	2	35	25	4	0%
Aluminium	4,250,000	8,000,000	39112	6457	10 ³ MT	1.9%	109	50	29	205	80	54	0%
Tin	4,280	37,000	205	45	10 ³ MT	0.9%	21	15	4	180	90	36	0%
Manganese	819,000	3,540,000	8347	900	10 ³ MT	–0.5%	98	105	40	424	Long	172	0% [?]
Fertilisers													
Phosphate	13855000	Immense	157700	39035	10 ³ MT	2.3%	88	40	16	Long	Long	Long	–
Potash	17075	250000	31.43	5.264	10 ⁶ MT	1.8%	543	195	142	7954	Long	2077	–

Source: Porter & Sheppard 1998: 212 & 224. Note: MT, Metric tons; Barr., barrels; ft., feet. Assumptions: ‘Static’, world demand will not increase; ‘Dynamic’, world demand will increase as previously; ‘Redistributive’, world demand will instantaneously settle at US levels; ‘Goeller & Zucker’, per capita demand in the first world countries does not increase after 2000 A.D., increases gradually in the Third World reaching half of First World levels in 2100 A.D.

I am the last to deny that the estimated resources are very likely to be too low, since, as we can understand from the above exercise, prospecting has been much more thorough in the already developed regions of the world. On the other hand, it is certain that resources are not *growing* and that consumption *is*, not only continuing to eat away the funds at the same rate. The above minerals are not at all the most uncommon, but as we can see, any upwardly, ‘redistributive’ projection leaves the world short of crucial minerals in only a few decades excepting coal and iron.

As we have observed before, the explanatory contributions of ‘ecologically unequal exchange’ have so far been very slim, whether in Martinez-Alier’s version that of some other. One reason is probably the uncertainty of what to explain. Yet Martinez-Alier (2002: 218) maintained that “an explanation why market prices and market mechanisms have not provided a fair and reciprocal exchange” is “precisely something which a theory of ecologically unequal exchange has to provide”. So where does he go for such an explanation?

As Martinez-Alier sees it, the theory of ‘ecologically unequal trade’ only revived the tradition of CEPAL in spite of their sustained lack of interest in ecology. It is only fair to say that so far as there exists any explanatory *theory* of ecologically unequal exchange of Martinez-Alier’s kind, the origins and leading ideas are not so much to be found in the environmental movement, as in the dominant CEPAL-tradition originating with Raul Prebisch:

The economic thinking of CEPAL in the years between 1950 and 1973 did not incorporate ecological aspects to the Latin American agenda. In its creative era, the thinkers of CEPAL were unorthodox economists, but still economists. Now, the new doctrine of ecologically unequal trade has recovered these old unorthodox Latin American ideas and complemented them with an ecological economics analysis, even though this debate will not be heard within institutions such as CEPAL. The discussion on unequal trade will reappear as part of the ecological debate, in NGOs and academic magazines, and in universities, and perhaps in some political groups and governments (Martinez-Alier 1998: n.p.).

Its reappearance was guaranteed because there were still periods in which the terms of trade worsened for primary commodities.

Not much attention was paid to the economic and empirical criticism levelled at the Prebisch-Singer thesis over the years, or to their own recaptures and reformulations, but Martinez-Alier (1998: n.p.) mentioned at least how “in some periods economies can grow on the basis of the export of primary materials, and these open economies can create significant urban and industrial bases (as the history of Buenos Aires until 1925, shows). This has been called the staple theory of growth, the theory of economic growth based on the export of primary materials, and applied to countries such as Canada, New Zealand, Australia, and the Scandinavian countries.” This ‘objection’ – some would call it ‘refutation’ – was inspired, as he was well aware, by Innis, whose contributions to this field predated Prebisch’s by two decades or more. He nevertheless believed that Prebisch’s theory, or at least that “the theory of the deterioration of the terms of trade (which laid the basis for the Latin American policy of “import substitution”) is again relevant given the present neoliberal export wave” (cf. also 2003: 18). The Argentinean experience suggested that the policy would have appeared with or without Prebisch’s theory to support it, but we can at least conclude that what Martinez-Alier was interested in, then, was not a general theory, given regional differences, but one useful for policy purposes. He was quite right to suggest, following Bunker (1989), that although attributed to Innis, ‘the staple theory of *growth*’ was really a later construction by Watkins (1963), and that Innis had a much more critical and sceptical perspective. On the other hand, Watkins, whom as we know was one of the pioneers of the Canadian branch of the *dependency* school, is ironically denoted a ‘doctrinaire neo-liberal’ (Martinez-Alier 1997b: 236).¹⁷⁹ It was furthermore something of an understatement to refer to the United States, the British Dominions, temperate Latin America, Scandinavia, constituting by far the lions share of world primary exporters in the 19th century – or should we also include British and German coal exports? – as ‘some regions’ which have developed on the basis of extractive enterprises (the Latin American areas would perhaps not have been included by Martinez-Alier). Since these countries include the wealthiest regions of the world, they may be considered important enough to cast some doubt on a logic which presumes exports of primary products to be the mainspring of poverty and ecological debt. To be honest, as the originators of the Prebisch-Singer theorem were, what can be learnt from the experience that in some *other* regions “extractive economies often produce poverty at a local level and an absence of political power, leading to the inability to slow down the rate of resource extraction or to raise the prices” (*loc. cit.*), is that the trouble does not lie with the kind of export at all, but in the ‘kind’ of something else.

When Martinez-Alier did not try to find a theory of unequal exchange he was familiar enough with the influence of ‘power relations’ and the ‘class struggle’ have, particularly in the Sraffian perspective, on the pricing of products. What he seems to have been completely *unfamiliar* with is that, at least since 1970, the language of the original unequal exchange theory as well as its major alternatives has been Sraffian. Perhaps following Bunker, Martinez-Alier believed instead that Emmanuel’s theory depended on some kind of unequal transportation of embedded labour hours: “There is a real deterioration in the terms of trade, and also (as Marxist economists such as Emmanuel (1972) had explained many hours of

¹⁷⁹ The reason for including, if this was really the intention, economic historian C.B. Schedvin’s (1990) useful article under this heading is presumably because he thought Péron’s policies of ‘populist nationalism’, protectionism and import-replacing industrialisation, to have effected a fall to 5% in Argentina’s export ratio. On the other hand, tariff protection in Canada was one of the factors responsible for Canada’s relative success, so no conclusion could be drawn from that (*ibid.*: 548). It should be said that Schedvin’s study, considering only the temperate regions of recent settlement, manages to retain the explanatory relevance of the staple thesis crucially by pointing to the respective strong and weak ‘domestic linkages’ of the leading staple export, by its ‘degree of dominance’, added to what he believes to be the strong “influence by [its] distinctive production function and other technical characteristics” (*ibid.*: 545), agreeing, finally, that “both institutions and the staple need to be taken into account” (*ibid.*: 546).

badly paid work are “exported” in exchange for a few well-paid hours. Such theories [are now] complemented by adding to them the environmental component” (Martinez-Alier 2003: 18). Very recently, he (2006: 31) reiterated how the Prebisch-Singer approach on peripheral raw materials had been complemented by Emmanuel, who had supposedly pointed out that “exports from poor countries were more labour intensive than imports, so there was also unequal exchange in terms of human labour”. Apparently, Martinez-Alier still believes that this standard Marxist idea, perhaps available already in the work of Quesnay, was what Emmanuel’s theory was about, in spite of his clear statement that he (1972a: 60) did “not regard this type of exchange as unequal.” I will not go through the extensive critique of the labour theory of value to be found in that book, nor all its ironies over “the esoteric reality of the Marxists” (Emmanuel 1972a: 399) where it was relevant, only establish beyond doubt that the relevant measuring rod is *not* quantities of labour:

Since equivalence in capitalist production relations signifies not the exchange of equal quantities of labor, but that of equal aggregates of factors ([e.g.,] labor and capital), nonequivalence (unequal exchange) can only signify the exchange of unequal aggregates of these same factors.

This is certainly not the view taken by the majority of Marxists, including Bettelheim, for whom exchange value, whatever it may be, is merely a (phenomenal) form of the “value” created in production, appearing at the level of circulation and accompanying the commodity as an intrinsic quality, like a substance that has, so to speak, been injected into the commodity by productive labor. This unconsciously metaphysical belief in a perennial content of value, independent of its form, a sort of thing in itself, is to be found to a greater or lesser extent among most Marxists. (*Ibid.*: 325.)

It is ironic that Emmanuel is both criticised by Marxists for not following the labour theory of value and by non-Marxists (neoclassicals as well as ecologists) for doing so.

Having defined a factor of production as a ‘claim’ to a primary share in the economic product of society, and in that sense being strictly speaking a ‘factor of price’ (*ibid.*: 29, n. 2), he (*ibid.*: 1f.) could explain that “the exchange of commodities represents, in the last analysis, an exchange of factors, that is, an exchange of claims to a primary share in the economic product of society.” Since he was concerned with *established* claims, *i.e.*, fixed incomes such as wages, rent, or indirect taxes, and variable incomes (profit), it is true that in his theory of unequal exchange did not include unremunerated natural factors. His was a ‘positive’, not a ‘normative’ economics, in the language of Martinez-Alier, whose theory is instead an attempt to *establish* resources, etc., as a claim in the form of ecological taxes levied by Southern producers or states on Northern consumers. Alternatively, if Northern environmental costs have really somehow been internalised in export prices – through the environmental consciousness *and* political power of their people – it can be seen as an attempt to *redress* the balance, although the more ‘positive’ scientific labour remains to be done.

Emmanuel (*ibid.*: 259) nevertheless agreed, in his critique of comparative costs as a theory of optimal specialisation, that the use of natural resources constituted an expense on behalf of *society*, the only problem being that capitalist reality did not recognise it (and through voluntary abstention or neglect the same may apply to any planned economy). On the one hand, assuming full employment, labour and capital represented an equal ‘sacrifice’ on behalf of both society and the enterprise. On the other hand, while rent and indirect taxes influenced relative prices, and thereby the decisions of individual enterprises, they did *not* constitute a burden on society as a whole. Finally:

There may even exist a third category of “factors,” such as certain natural resources liable to exhaustion, for example, certain forest or mineral resources that, insofar as they are available to production units without any equivalent, or any adequate equivalent, being required, are not true factors by my definition and do not count for the enterprises and for the establishment of equilibrium prices – the basis of comparative costs – though their utilization nevertheless constitutes expenditure on the part of society.

Among the restrictions to the theory of comparative advantage as a theory of optimal specialisation, then, one would also have to include “the absence of these “other” factors” (*loc. cit.*). The same point was made by ecologists, such as Odum when he observed that since the circulation of money only involved humans, non-human inputs being destined to remain unvalued in terms of ‘emergy’. Martinez-Alier was of course also aware of the problems involved in monetization. While Odum, true to his Technocratic beliefs, appears to have wanted to construct a more objective accounting tool than money for such evaluation, Martinez-Alier was much more sensitive to the basic incommensurability in evaluation and decision making. For Emmanuel, as I read him, either way the solution required the abandonment of the capitalist economic system for a planned economic system, even though there was no sign of more optimal organisation under existing socialism.

For Emmanuel (*ibid.*: 400), too, ‘values’ were basically incommensurable, and one quarter of wheat could equal one kilo of iron, either through active decision in a planned economy, or through the relative claims resulting in such prices in the capitalist economy – it could *never* be arrived at by “reducing commodities to a *single* common property, *physically given*.” This did not mean that one could not, if one so wished, *translate* ‘one quarter of wheat = one kilo of iron’ into such an entity. Having arrived at this identity, for example in the capitalist economy, by the established relative wage-levels and a common rate of profit under given technical conditions, “[n]othing now prevents us from transforming the relative prices [...] into absolute prices by means of some unit of reckoning”, for which, if only to please Marxists, we may “choose an hour of labor as our unit of reckoning” (*ibid.*: 405). This said, it is of course equally possible to choose some *other*, for example *ecological* or *biophysical*, unit of reckoning. Indeed, this was what Emmanuel did when he wrote:

The impasse of development can be made brutally plain if it is translated into real terms. Some 6% of the world's population – the inhabitants of the USA – consume more than 40% of an available quantity of raw materials. An equalization of consumption to US levels implies, therefore, a more than sixfold multiplication, on average, of the present volume of extraction – assuming that the USA does not progress any further. Geologically and technically, a leap such as this is out of the question in the foreseeable future (Emmanuel 1974b: 78).

If the present developed countries can still get rid of their waste products by dumping them in the sea or expelling them into the air, it is because they are the only ones doing it (Emmanuel 1975a: 66).

The actual measurement of unequal exchange, ecological or not, was never central for Emmanuel who was interested in the explanatory logic behind it, the historical understanding it provided on ‘overdevelopment’ and the lack of international solidarity, as well as the consequent prospects for the revolutionary end of capitalism.

A historical materialist, Emmanuel believed that the weakest link of the capitalist system lay in the underdeveloped regions of world, just as Martinez-Alier, an ‘ecological materialist’, pins his faith on the ‘environmentalism of the poor’. Both are in this sense Third Worldists, and neither has any great patience with ‘non-materialist’ environmentalism, such as the discussion of ‘quality of life’ in affluent countries, or the “biocentric religions (as distinct from ‘Western’ anthropocentric religions)” (Martinez-Alier 1995: 84), on which other environmentalists (*e.g.*, Lynn White 1967 and Claude Lévi-Strauss 1983) pinned their hope. Although showing his neo-Narodnicist sympathy for peasant movements in the Third World, Martinez-Alier was silent on the political engagement of similar small-scale peasants and small traders in the now developed world, at least in Europe. The reasons for this seem fairly obvious.

Martinez-Alier's (pers. comm.) interest in ecology began while in Peru in 1973, via the ecological anthropology and agricultural energetics of the time, when everybody was counting calories (*cf.* Rappaport 1967; Odum 1971a; Pimentel *et al.* 1973; he read Georgescu-Roegen [1971] only in 1974). His history of ecological economics (1987) can largely be seen

as tracing the origins of this tradition. His first encounter with an environmental conflict, on the other hand, concerned the construction of some hydro-electric dams under Franco “in the lower Ebro valley in Spain in the 1960s and early 1970s” (Martinez-Alier 2002: 36f.). This was quite another experience than calorie counting. Scientific literacy was not a requirement for environmental engagement, as one of the local fights was led by a tailor and a priest. “The priest did pass around a few publications in English on nuclear risks, and tried to convince the villagers (still under the Franco regime) that they should oppose the nuclear power stations. He himself liked to say in private that, since the villagers knew he could speak some Latin, they believed he could also read English texts on radioactivity.” The moral was that, “popular environmentalism is not hampered by lack of knowledge, it either relies on old traditional knowledge on resource management or it relies on the uncertainty or ignorance which scientific knowledge cannot dispel about the risks of new technologies”, and that this was often misrepresented by servants of power as anti-rationalism: “Industry spokesmen get frantic when science can no longer (in such situations of uncertainty) be used in the service of power. Thus activists are described as ‘master manipulators’ who rely on ‘junk science’ or on ‘tabloid science’, who demand ‘zero-risks’, who ‘substitute politics for sound policy’, making it impossible for regulators to base their decisions on ‘sound science’” (*loc. cit.*).

The local struggle against top-industrialist, more seldom agriculturalist, invaders, supported by state and law, is presumably the essence of most popular environmentalism whether in the North or South or in between. The felt exposure to British-American cosmopolitan capitalism and Soviet industrial state communism, was a factor in the popular support of German ‘ecologism’ in the interwar years. Martinez-Alier is unwilling to acknowledge any such connection, pointing out, as many environmentalists have done, that actual National Socialism was more about ‘Blut und Autobahn’ than ‘Blut und Boden’. ‘Autobahnism’ is of course not limited to the First and Second worlds, but some students of the *Autobahn* have even come to realise that they were projected so as to provoke as little disruption of landscape aesthetics as possible. Others have pointed out that, whatever the actual content of National Socialist policy – that they privately had many *spiritual* connections with anthroposophy, etc., is beyond doubt – the German’s who supported them in the conclusive election, mostly small-scale farmers and small enterprisers, could very well have *believed* in the sincerity of their wish to re-establish connections with the ‘blood’ of the local community and the soil. Naturally, when the environmentalist movement began to revive, the charge (insinuation was enough) was frequently made by their opponents, notably against the German Greens, of connection with German National Socialism. Whatever the historical accuracy of the allegation, any postwar environmental activist with some remainder of survival instinct, whether ‘realist’ or ‘fundamentalist’, is bound to react with instinctive horror against any such implication. It is certainly true that most often the purpose of the claim has nothing to do with historical accuracy either. The ‘folly’ of such charges was not, as Martinez-Alier believes (1995: 71), that the German National Socialists did not have green leanings, but that these were so greatly overshadowed by the militarism, imperialism and racism, for which they are hated – elements absent among the environmentalist Greens.

Bramwell (1989: 12) noted that today’s Right and conservatives fear what they believe to be an anti-rationalism in ecologism, together with the oppositional nature of its conservative values and non-conservative means:

The frequent attacks on alternative science, medicine and evolutionary theories launched by luminaries from the scientific establishment clearly display this fear; together with its corollary, that the oppositional, anti-establishment and radical nature of the Greens could lead to revolutionary phenomena. Of its essence, the fear of anti-rational revolution is the fear of a Pol Pot as opposed to a Lenin. A Lenin is seen as working, however destructively, within a recognised and familiar Western framework. The revolt of the peasant, however, is boundless, formless and terrible.

As she comments, attacking a philosophy “because it claims to overthrow progressive aims through its objectivity and closer grasp of reality, and to attack it because it appears to do away with rationality, does seem to imply that there is a confusion somewhere. It may be a valuable pre-paradigm-breaking confusion, or perhaps a sign that existing values are under attack, – but certainly it is something that warrants investigation” (*loc. cit.*). By contrast, Martinez-Alier (1987) deliberately confined his history of energy, or ecological, economics to authors who offer specific calculations of calorific values and resources. Of course, Bramwell (1989: 10) noted, this “naturally excludes biological ecologism, as well as philosophical or mystical ruralism,” for which Martinez-Alier, while taking on the cause of poor peasant environmentalists, appears to have no great sympathy. Perhaps this explains his complete silence on Bramwell’s work after its publication, although he referred to it in manuscript form. It also influences his later historiography of environmentalism (Guha & Martinez-Alier 1997), where the ‘German connection’ is wholly absent, and where the Third Worldist environmentalism of the poor – not including Pol Pot –, is confronted basically only by the American and ‘dematerialised’ tradition of the rich. He thereby refuses to learn, or teach, *anything* from the human experience which these dark events nevertheless represent. Yet in the conclusion to his first and justly reputed book, Martinez-Alier (1987: 238f.) could write, “so far there are almost no ecological social movements with roots in the Third World”, though the idea of a Third World ecopopulism had grown in recent years, and was to become his principal theme in the years to come. At the same time, back in Europe, “while current of competent and persistent ecological politics keeps growing in Germany and other countries, there is the puzzle of the failure in France of a link between the traditions of the Marxist left and the new ecologism, in contrast to Germany.” Furthermore, he admitted (*ibid.*: 237): “I am puzzled by the fact that left-wing ecologism has grown in the 1970s, and is still growing, not so much in the Third World as among part of the youth of some of the most over-developed countries. This book [...] is probably also a by-product of ‘German’ political ecologism.”

Martinez-Alier’s work contains more fragments of a useful theory of ecological unequal exchange than other political ecologists that I am aware of, but they are insufficiently integrated into a coherent theory and historical context. The principal problem with his contribution to such a theory, is, I suspect, that his orientation on what the originators of theories of unequal exchange actually meant to say is much more restricted than his knowledge of ecological economics or Sraffian political economy. However, one suspects also an incapacity to critically confront problems related to a dominating paradigm within CEPAL, dependency, and ecological traditions, confusing the manufactures/raw-materials divide with the developed/underdeveloped one. There is also the deep-rooted tendency preferring to accuse multinationals for the evils of environmental destruction rather than attempt a balanced historical understanding of the (Maxwellian) ‘demons’ involved in maintaining, or even increasing, per capita consumption along with its differential. In my view, this would, on the one hand, involve confronting cherished ideas of the progressiveness of worker, democratisation as well as environmentalist movements, in their confrontation with increasingly internationalised communications and the corresponding ‘multinationalisation’ of capital movements. On the other hand, understanding the global, small-peasant movements, on which Martinez-Alier sets his hopes, would probably benefit from examining the parallel movements in occidental societies over the centuries. This would also imply trying to learn by facing the demon of national socialism. If this is too provocative, similar confrontations with the demons of once existing socialism, colonialism, neo-liberalism, and so on, could put all existing ideologies and politico-religious projectors in the same bag of good-willing do-baders, and thereby, through deliberate, self-critical appraisal, hopefully advance the chances of much-needed, possibly revolutionary, creative dialogue on things of ultimate concern.

Part V began by rehearsing the standard mercantilist argumentation for a surplus balance of trade and particularly one in manufactures and services, in the systematic form given to these ideas by Cantillon. Basing himself significantly on some sort of land theory of value, he constructed a model centring around a fixed total of landowners' rents. When opened up to international competition, it provided arguments for said mercantilist concerns, expressed in terms of an unequal exchange of the produce of land. Inspired by Petty and Boisguilbert, Cantillon was himself a great inspiration for Quesnay and the Physiocrats, although perhaps without the same obsession with land as the sole factor of production, as well as future organised political economic thinking in general, in contrast to which he accepted policy reality. Classical political economy and Marxism systematised their theories instead around the other original factor of production pointed to by mercantilists, *i.e.*, labour, often contrasting it with the unproductive earnings of the capitalists, while land rents were by then too insignificant to function as organising principle. Ecological revival meant that land again emerged, but now as the producer of 'real' wealth, often in an attempt to supplant or complement what one believes to be an unecological obsession with labour, which is unscientific because everything, including everything of economic value – ultimately spring from the Sun (energy) and the Earth (matter) and the labour of man, along with all his technical extensions (including money), is only a derived aspect of these. Odum has constructed the most systematic system to incorporate the former, whereas industrial and social metabolists have been more concerned with the latter. Odum, in particular, has systematically applied it to international unequal exchange, where it was related partly to the emergy inherent to raw materials not being included in prices (meaning that, ecologically speaking, land rents are too low), whereas the emergy of labour and capital was. It was also related to the unequal emergy ratios of different currencies, which in turn was explained by the level of urbanism, meaning that in rural areas labourers to a greater extent could supply themselves with non-monetised goods of nature. This neglects politically enforced differences in wages, which also have their emergy equivalent, an impression reinforced by confusedly referring to any raw materials production as an 'underdeveloped' trait, even when concerning New Zealand, Australia, Alaska, etc.. The policy suggestions drawn from this were unoriginal, but much in line with the common-sense ones drawn, *e.g.*, by mercantilists, protectionists, or Latin American structuralists, with the notable exception, however, of the permanent effort to sell more than one buys. This remains an incomprehensible absurdity in Odum's intellectual empire, just as it remains a feature of the real world of capitalism that he felt a calling to reform if not revolutionise.

If nuclear testing assembled an environmental consciousness, ecology as a science profited from these tests and its symbiosis with the military. Another link to the Cold War, common to development economics, was the feared population–resource crisis which risked driving people to communism and fascism. Part of Truman's Point Four, this imagery had a political and an ecological side, and in the latter camp certain neo-Malthusian, and rather Protestant, concerns emerged over the inhibited procreation of the poor, but also the embarrassing overconsumption of the rich, in which sense even Europe and the United States were 'overpopulated'. If the former showed up in malnutrition, as it was believed for lack of proteins, the latter was made possible, in Brogström's conception, only through the incorporation of phantom 'land' areas from fishing or trade, the latter being the acreage, in terms of tilled land, required for the produce land constituting net importation. 'Ghost acreages' implies living on the resources of others through hidden transfers, wherever in this world or the next or the former, they may belong – an idea better caught in Sætra's imperialisms in past, present and future tenses, than by any other. Believing that the Earth's output, with current technologies was limited in a quantity-quality continuum sense, increased

quantity of output had only been achieved through lost quality, and at the cost of widespread undernourishment. The more radical ecological stance was that the latter, if not caused by, was nevertheless linked to the overconsumption of the rich, necessitating a reorganisation on an international scale to achieve less exuberance, greater nutritional equity and restraints on procreation. The less idealist, such as Hardin, concentrated on the enforcement of population control and closing the poorer masses from overpopulated areas out of ones own and more well-fed, so as to maintain 'dignity' and 'civilisation'. If it has had no intellectual offspring, it seems to fit better what actually happens. Borgström translated all produce of land, sea and trade, into factors of tilled land, and suggested adding fossil fuels (something explicitly done by Catton). His public success may have added stimulus to Odum's turn to similar concerns in the second half of the 1960s, either directly or through becoming involved in official projects (but the more important factor in this case would seem to be the Green Revolution). By interpreting livestock etc. into population equivalents, Borgström pointed to humanity's heavy appropriation of bioproductivity, another idea via numerous ecological studies, incorporated in Rees's ecological footprints, or appropriated carrying capacity. Apart from many other difficulties, impenetrabilities, and a possibly growing Earth, by mixing past, present and future in one unidimensional metric, the concept unnecessarily confuses the nature of environmental problems, which would be better illuminated and probably better helped on the lines suggested by Sætra. Drawn to its limits, the spatial and quantification bias ultimately becomes unpedagogical, loses its motivation, and should, evoking Innis, be escaped and complemented with a consideration of time, and an understanding of quality and heterogeneous detail as stretched through or standing out, three-dimensionally in time.

The same problematic informs the discussion in ecological dependency writers, obsessed with finding a spatial relation between development and underdevelopment, this time understood as a transfer, hidden or otherwise, of resources and ecoservices from the latter areas to the former, causally linking ecological degradation to underdevelopment, or perhaps the development of the one to the underdevelopment and ecological degradation of the other. The time dimension of both ecological and economic problems, current limitations and prospects arising from heritage and dispersed possibilities for the future, is subsumed into present-minded accounting of real or imagined transfers. There is another, and so far as it concerns unequal exchange more promising, streak in this tradition, which is mostly absent from those referred to above. This refers to the illumination to be had from looking at the relative strengths in the sphere of social conflicts, and their repercussions on distribution, pricing, and international division of labour from an ecological perspective. Here there are prospects for added understanding of our historical existence, most recently on the question of the environmental Kuznets curve, which on the other hand does not fit nicely into the explanatory paradigm of raw materials exchanging for manufactures usually favoured. Adding ecological concerns to our historical understanding, we should try to avoid falling into conventional and politicised irrelevancies. Notably absent from most writings on ecological unequal exchange is, ironically, any particular concern with non-human nature, 'ecological conflicts', or the relative ability to wreak havoc upon fellow species. Taking on the perspective of these species, might be a useful exercise in trying to get perspective also on social conflicts.

Finally, as concerns the obvious lack of theoretical sophistication among the above ecologists when it comes to unequal exchange, this might be remedied first of all by acquainting oneself with the literature. Emmanuel, along with Lewis and Innis, as should have become evident by now, would be my own recommendations and would also be those with most historical sense.

Summary and conclusions

Since the primary aim of this thesis has been historical, its principal point is in the telling. In this summarising conclusion or concluding summary, I shall therefore rehearse the main outlines of the historical arguments above. As stated initially, I have tried to avoid a merely internalist perspective focussing on the evolution or not of theoretical content, and instead tried to use the entourage of history to illuminate possible shortcomings or strengths of theorists and in their theories. Paying homage to the personal involvement of the internalist perspective with the progression of one's particular branch of learning, certain questions of theoretical content have nevertheless reappeared throughout the text. These have first of all concerned the usefulness as aid and interpretative tools to understanding our historical existence. I have accordingly argued that certain popular traditions of interpretation such as those of 'monopoly capitalism' and much of the centre-periphery literature trying to link underdevelopment to the exportation of raw materials are very much less useful than believed to be. I also argue against confusing the Marxist labour theory of value understood as a theory of pricing, in which sense it is meaningful but erroneous and had better be abandoned, and the favourite Marxist or ecologist understanding of labour as the creator of 'value' in some more metaphysical sense, in which sense it may be correct (in the minds of believers) but not very meaningful and had better be abandoned. By analogy, theorists – should they so qualify – of ecological unequal exchange had better beware of falling in the same trap, whether their preferred measuring rod is emergy, footprints or something else in stead of embodied labour hours. Historically, the labour theory of value in its Marxist guise has served as an illuminating tool in many instances, notably, in the history of non-equivalent exchange theories, in the case of Bauer or Preobrazhensky, or indeed on the huge sections of the world trying to organise planned economies, and in the history of unequal exchange theories in Emmanuel's initial formulations, when the problems are concrete and the theories serve precisely as interpretative tools. In fact, the doubts to whether there really are any *theories* of ecological unequal exchange is not so absurd as it may sound in the ears of those who may consider themselves to be contributing such. In current writing it is for the most part a mere question of more or less successfully *accounting* for nature and unequal exchanges in ones preferred metric. Only rarely is there any useful explanatory theory involved aiming to cast light on historical change – or more precisely, rarely if ever have ecological theories of unequal exchange been brought in to explain phenomena because they have proven inexplicable by other means. The rematerialising of the so called dematerialisation setting in from the 1970s, may be a notable exception, and this may be enough, but it contrasts starkly with often grand projections – perhaps indicating a strong sociological element where the ambition often seems to be to explain everything and one succeeds in explaining nothing. When not merely accounting or classifying for its own sake, there seems to be some uncertainty of what is the riddle to be solved.

If the problem is industrialisation and underdevelopment, as one is sometimes led to believe, then the net transfer of raw materials is a lost cause doomed to failure. I have tried to illuminate some of the reasons for the recurrent belief in such a link, starting with the strong common sense tradition of mercantilism (in itself continuing an interpretation in terms of the city-countryside dichotomy), which, it has been suggested, is perhaps much more reasonable than conventional economic teaching would have us believe, but which was not concerned with the problem of the rift between developed and underdeveloped countries for the simple reason that it had not yet appeared. It is doomed to fail, not only because the actual transfers from periphery to centre were minuscule in comparison with domestic production or the

goods themselves peripheral luxuries without much importance to economic development (gold and silver being possible and already extremely well-researched exceptions), but basically because the actual historical discontinuity set in in the countryside, and the reason for expanding to the periphery was largely the domestic openings sprung from such already keen activity. Linking the centre–periphery, metropolis–hinterland dichotomies to that of development–underdevelopment is a mistake, also because the geographical peripheries who did the most exporting of raw materials were also the most successful ones economically – Scandinavia, the United States, the British Dominions, Argentina. The reason for the popularity of this idea, then, may be as I have suggested, first, in classifying Latin America as a whole an underdeveloped, peripheral region, forgetting that the regions doing the most exporting were also the ones to become prosperous themselves, and then transferring this paradigm to the rest of the Third World.

If neither monopoly capitalism or the above concern with raw-materials are examples to follow, what is the use of unequal exchange theory to the ecologically concerned? More positively, then, I have suggested rejuvenating Emmanuel's original concerns with unequal exchange as an explanation of terms of trade phenomena, pointing to the underlying sphere of social conflicts between the *great masses* of peoples, and thus with understanding the overdeveloped, globally inequalisable, high-wage, high-profit consumer society. This is not an overtheorised field of human ecology or ecological economics, and certainly not among Marxists, for whom the very question is suspect. Nor is it very concretised field in Sraffian economics, nor in conventional economics for which the very question of social conflict underwriting price mechanisms is suspect. Finally, and rather more peripherally, I have suggested that the problem of ecological accounting for this society, is better done with greater attention to the past and future tenses. I would suggest drawing up some kind of expanding or contracting global 'possibility-sphere' in which past and future generations are included along with other species and other Earthly co-processes. This may ultimately be much more of a literary and imaginative challenge, involving much of historical (including historical ecologies) understanding, than a diagrammatic and quantification one. With this program for the future, we shall instead return to our history of theories of unequal exchange. As said initially, it is one which would not have been conceivable without the work of Emmanuel, who has functioned as rejuvenating theorist in this instance just as Keynes or Sraffa for other traditions.

Among the sciences, human ecology is among the more peripheral and its field of inquiry vaguely and vastly defined. Like many of its sister sciences it can be regarded as complementary to the tradition of political economy. The attempt has been made to trace unequal exchange as a theme of political, economic, and ecological theory and debate. It has lead us through a field which is largely complementary to standard histories of economic theory. The point has not been to replace standard economic theory or its historiography of the subject, but rather breach an opening for debate and questioning. Whether this takes place under the umbrella of the one science or the other – preferably both – may be of lesser importance than the attempt at a more inclusive approach. More important still, perhaps, is the revelation of how deeply political motivations, or factors of 'general history', intermesh with allegedly 'pure theory', and though the present study has been with peripheral theories, there is no reason to think that the same is not true of standard theories. Unequal exchange is a fundamentally political question, and in the political field, considered not in the 'party political' or 'vested interest' sense, the present study has been an initial probe into areas with some uncomfortable associations of nationalism and chauvinism. The globalism or internationalism often held up as ideals must, in my opinion, be complemented by even more uncomfortable and therapeutic questioning into this field. The same approach will be needed if the equally pressing problems relating to future generations are to be resolved.

I. We began with a brief examination of two very basic and interrelated mercantilist doctrines, stating, in essence, that it is better to exchange manufactures for raw materials than the other way around, and better still to exchange them for the money commodity (gold or silver). This hierarchy of goods is almost definitional for what is called 'mercantilist', and the reasons for it have been the essence of more than two centuries of interpretative disputes, during which the concern over a favourable balance of trade and payments was considered futile by theorists but was still practiced by politicians. I have argued that the reason why debates continue, and why no generally accepted solution to the 'mercantilist paradox' has been found, must be that the problem lies rather with the shortcomings of post-mercantilist theory, due to insufficiently questioning of its preconceptions. I would thus argue that the 'realism' which some interpreters have found in mercantilist thought is not limited to politics but also to the workings of a market economy.

In terms of the development of abstract theory, the mercantilist period may well be characterised as a period of decline compared with the foregoing scholastic, and (as de Roover has maintained), the higher sophistication of classical economics represents the re-emergence of scholastic systematic eminence – along with, we may suspect, a certain idealist moralism related to higher abstractness and literacy. If the mercantilist conceptions came to prominence in the interim left open between learned scholastic and classical free trade scribes, this does not mean that they also originated in that period. What appears to have happened is merely that common sense opinions and preferably oral (in themselves invisible) traditions on the appropriate policies in and the workings of a market economy were put on paper, in an era which saw the cheapening of that material following the introduction and constant profitable outpourings of the printing press. (To be sure, the foremost writers were often still learned, as demonstrated, *e.g.*, by Sir Thomas Smith, Gerrard de Malynes and Edward Misselden, though markedly less so the arch-mercantilist Thomas Mun.) Thus, following Magnusson, a certain mercantilist 'language' came to dominate for a while. In one sense it was a necessary predecessor of systematic, scientific – and literary – political economy, but which had been rejuvenated by a dose of oral and unquestioning, common sense realism. Its long and strong standing, constantly reappearing whenever the fury of free-trade guardians slackened, indicated to Heckscher the perception of the 'natural man' in a money economy, too close to his every day workings to perceive the ultimate absurdity and, so he believed, counter-productivity of their ideas. Why this close perception of the reality would be so natural to men if it had no foundation in the workings of that reality, Heckscher did not explain any more than did Adam Smith.

On the other hand, the absurdity of continuously selling more than is bought is easily comprehensible in that, if successful, it would mean giving away one's useful materials and labour products, for an ever increasing hoard of gold and silver ingots which one is precluded from using. In view of such absurdity, how is the proposed mercantilist 'realism' defensible. Resolving the problem would appear to require allowing that the 'absurdity' found in the heads of politicians and relatively unsystematic economic advisors and pamphleteers corresponds to an absurdity inherent in the market economy itself. Indeed, the corresponding intellectual trend in the 20th century went in the opposite direction, driving theoretical sophistication to the point where the old realism again re-emerged as theory, as illustrated by Keynes and Emmanuel. A more dynamic perception of the market economy would allow for a tendency towards underutilisation of productive capacity (identified at the time as land, labour, and art), in Emmanuel's case because of a persistent lack of purchasing power and tendency to falling prices. This could be compensated, on the one hand directly and absolutely, by the progressive *increase* in domestic purchasing power and stimulating effects of a net inflow of money, and on the other indirectly, by a preference for exporting products

of art and labour (manufactures) over products of land (raw materials). The hierarchy of preferable exports, from services and manufactures, via raw materials, to money, would thus be made not only comprehensible, but also under the circumstances of a market economy rational. This, I would argue, explains the perceived realism and the worries over the inequalities suffered in sales and exchanges.

From the internalist perspective, it may be argued that to qualify as a *theory* of unequal exchange requires organising ideas into theoretical systems. Though this would perhaps obliterate the majority of later contributions as well, and though it may allow entrance to several late mercantilists, from this perspective, theories of non-equivalent exchange could appear only with the economic systems and level of abstraction of the Physiocrats and classical economists. Their clear separation between 'productive' labour and sectors of the economy, creating the 'surplus' on which the 'unproductive' classes fed, indicated a non-equivalent exchange in terms of that land or labour which they, too, tended to consider the mainspring economic real values. We have argued that, inspired by his French predecessors' attempts to understand why France had fallen behind England, Quesnay emphasised agriculture as the mainspring of wealth. Contrary to the mercantilists, he argued that exports of agricultural goods were preferable since it tended to stimulate investments and increase productivity in that sector, which was precisely what France needed to catch up with England. It has also been argued that Quesnay preferred agricultural exports because they incorporated what in Marxist terms would be called a higher 'organic composition' of capital than did manufactures, which would imply an abstract transfer of labour values.

In a sense, Adam Smith represents the apogee of the preceding centuries of British political-economic debate on the best policy for the Commonwealth. For example, the fear of importing luxuries was as great in his work as it was in that of both mercantilists and Physiocrats. Fructified by his background as a learned rhetorician and moral philosopher, stimulated by French Physiocracy and the Scottish historical school, he reintroduced a higher degree of systematics into economics – according to some even into the work and thought of his mercantilist predecessors, which he presented as a systematic absurdity. Nevertheless, a rather modern version of the idea of unequal exchange was derivable from his interpretation of the trade between town and country. His interpretation of the advantageous location and monopsony of the town, and notably the monopoly on the factors market, due to better organised labourers and merchants and restricted entry, contained all the ingredients of a theory of unequal exchange, with prices biased in favour of towns and consequently expressible as a non-equivalent exchange in terms of the labour theory of value. His defence of free trade was based on the same argument as Quesnay that anything increasing the annual produce of the country was likely to increase its wealth, and increased international specialisation though free trade was one way to assure this for all parties. His argument was probably less influential than that of the late mercantilist Josiah Tucker, who argued for free trade as a means to improve the balance of trade because England was so much more advanced than her neighbours.

Since England was absolutely more productive than other countries in both agriculture and manufactures, Smith's argument was inconclusive as to which was to be her ideal specialisation, corn or textiles. In the theory of international trade Smith was therefore soon overshadowed by Ricardo, who answered that since England was relatively more productive in manufactures, it would be better for all if she specialised in that branch rather than in agriculture. Whatever the reasons for which Ricardo came up with his theory (and they may well have involved 'pure' science), so far as England was concerned its conclusion that England was predestined to be an exporter of manufactures fitted perfectly well with centuries of mercantilism, and perhaps even more with the rising conception of 'racial' superiority demonstrated by technical in the free entrepreneurial struggle for survival.

Reactions to the free trade theories set in before its practical application, first in the American colonies (Hamilton, Carey, and the German immigrant Friedrich List), where the old mercantilist ideas were turned into the idea of 'protectionism' and later partially reintroduced by J.S. Mill into standard classical political economy as the 'infant industry' argument. A separation was nevertheless clearly visible between, on the one hand, standard political economic theory, preferably in Britain and France, and, on the other, those more involved in practical policy and the practical matters of economic history, preferably in neighbouring countries, but also the English historical economists.

Many seeds of future unequal or non-equivalent exchange theories are already perceptible in these early developments. Our presentation has tried to organise subsequent contributions into Marxist and the geographically peripheral versions of interpretation. Via Mill, Jevons, and Marshall, the mainstream classical strain eventually evolved into neoclassical orthodoxy. The Ricardian version won an all but total victory as international trade theory, but its 'abstractions' and free-trade recommendations were combated by historical economists who also suspected them of having fostered domestic class-struggles. It was consequently in Marxism that the strictly classical tradition of the labour theory of value was continued, notably in the dominant German language and Russian strains.

II. I have argued that the factual vagueness of what was to constitute a 'nation' in the Habsburg empire, contributed to theoretical innovation in Austrian Marxism. Otto Bauer and others often complained about their bad luck of having been born in that Empire where conflicts between different nationalities had diverted attention from the truly important socialist issues of class struggle. Bauer was unaware of introducing any theoretical novelty in his discussion of the economic aspects of national hatreds between Germans and Czechs in Bohemia. He treated the German and Czech regions trading with each other as respectively more and less subject to capitalist development, or as relatively more industrial and more agrarian, and introduced Marxian price theory to explain oppositions. Profiting from the debates on the 'transformation' of values into prices of production, he observed that the equalisation of profits under the latter implied a transfer of surplus values from the branches and regions with lower than average 'organic composition' or level of productivity, to those with higher than average productivity. Within Bohemia, thereby treated as a 'nation' in the economic sense with a uniformly equalised rate of profit, the more developed, industrial, region thus benefited from such an implicit transfer of surplus value, or a non-equivalent exchange. There is no theoretical novelty in this and it is not presented as such. The novelty arises when the 'nations' are instead said to be the German and Czech peoples of Bohemia, whose hostility Bauer had set out to illuminate. If his former argument had assumed an equalisation of the rate of profit, here he instead reminds that the different levels of development corresponded to different wage rates between the regions. This explained the trend of low wage Czech workers to move to high-wage German regions, where they were seen and treated as strikebreakers undercutting wages and wage demands. According to Bauer the issue had been resolved, not by German workers keeping the Czech out by force, but by winning their support for German trade union organisations and training them for union struggle. Bauer was pleased to confirm that the Czech now tended to demand almost as high wages as the German, but he forgot that according to his own figures they were also the second most developed of Bohemia's many peoples. Fundamentally, the reason for this equalisation of wages was due to the mobility of workers characteristic of capitalist countries (Bauer 1907: 207). Bauer was still oblivious to *international* mobility of capital, and did not consider the potential conflicts which may, and had already started to occur in a truly international setting where wage differentials were of another order than those between Bohemian Czechs and Germans.

The first self-conscious attempt to speak of *international* prices of production, and thereby of international non-equivalent exchange, appears to have been Henryk Grossmann, adapting an example by Marx comparing Europe and Asia. He introduced it as one of the counteracting tendencies to the tendential fall in the rate of profit, which he argued, using an argument to the contrary by Bauer, would lead to the breakdown of capitalism. Although the argument about the breakdown of capitalism was fundamentally flawed, the possibility of international non-equivalent exchange to counter-act a fall in the rate of profit was not, or not necessarily so. Like Bauer's argument on the economic reasons behind international hostility, it also has an interesting parallel in one of Emmanuel's later argument on unequal exchange as counteracting the fall in the rate of profit occasioned, although in his case it was occasioned not by some alleged automatic tendency, but by successful domestic wage negotiations.

The Russian tradition of Marxism was concerned more directly with the obstacles to economic development in a backward, predominantly agrarian country. The problem of how to construct socialism under these circumstances was accentuated in the debates between Evgenii Preobrazhensky and Nikolai Bukharin, when the Bolsheviks eventually found themselves in power in the 1920s. If Bukharin by then had come to see the problem of industrialisation as one of the restrictions of a poor peasant market, Preobrazhensky, with perhaps greater economic skill and observance on the different mode of accumulation in a planned economy, argued instead for 'primitive socialist accumulation', on par with that in capitalism. The best and politically most acceptable way to achieve this was through the price mechanism in a 'non-equivalent exchange', as he was perhaps the first to call, though he agreed that for political reasons it would have to be called something else. Such exchange had only characterised the initial stages of capitalism – *primitive*, not mature, accumulation – and the same would be true under socialism, where primitive socialist accumulation would eventually give way to socialist accumulation, and non-equivalent exchange disappear. Preobrazhensky is perhaps unique in being the only Marxist actually to *advocate* non-equivalent exchange, an outspokenness which is wholly foreign to later periods, not only in the eastern bloc.

The Russian, German, east- and central European Marxist traditions were cut short by National socialism and Stalinism in the 1930s, but revived again in eastern Europe and Communist countries as their ascendancy over body and mind slackened or withered. (If something similar happened in Japan, there was a striking re-emergence after the war when Tōichi Nawa and others also debated non-equivalent exchange.) Thus, the earliest postwar species of a Marxist theory of non-equivalent exchange came in 1949 as part of Tito's break with Stalin, when his Minister of Foreign Trade, Milentije Popović, wrote a polemical pamphlet against Soviet trade practices. He was followed in 1951 by Tadeusz Lychowski in Poland, who was greatly involved in obtaining reparations from Germany, but whose book was not published until the year after Stalin's death in 1953. The subject was only banned from discussion so far as it concerned communist states, as illustrated by I. Ivanov who in 1952 explained how 'the possibility of non-equivalent exchange is excluded in the trade of democratic countries'. By 1954 Lychowski was accompanied by A. Santalov in the U.S.S.R. and Gunther Kohlmey in the G.D.R.. Santalov seems carefully to restrict argument to trade between "backward countries, on the one hand, and imperialist powers, on the other", *i.e.*, not between communist states, which must have remained a rather sensitive subject. The active introduction of Marxism in Eastern Germany was also part of a deliberate attempt to free oneself and one's institutions from National socialist elements, and in this process the theory of Kohlmey (ironically, perhaps, a former member of the NSDAP), rose even to some international celebrity. Although Kohlmey, like most Eastern bloc economists, was mostly involved in domestic affairs and price policy, it was in his revival of a Marx as a theorist of international trade that he appears to have had greatest influence in the West, notably via

Ernest Mandel. A similar debate on non-equivalent to that of the 1950s emerged in China after the change of policy in the late 1970s, basically agreeing that Ricardo's comparative costs was still applicable, fortunately enough in line with the official line to open up the economy.

III. Though the former Marxist traditions, pushed eastwards by events, have certainly been both theoretically and geographically peripheral to classical and neoclassical Western orthodoxy, there is also a rather heterogeneous and often non-Marxist tradition of interpretation in the West. Notably in transatlantic societies, this tradition emphasises the disadvantages suffered by geographical peripheries in a 'centre-periphery' relation. In the 19th and early 20th century free-trade was often the preferred policy of landholders profiting from agricultural exports to the British metropolis. For those increasingly important elements whose aim was to catch up with the more developed regions, first in the northern American states and Europe, the mainstream alternative can rather be characterised by their protectionism, and will to industrialise and develop. Intellectually, this tradition is a continuance of the mercantilist one, which, to the dismay and incomprehension of political economists has been 'revived' on numerous such occasions. In this alternative or peripheral mainstream, the inequality between periphery and centre is thus often interpreted in terms of an exchange of raw materials for manufactures. Instead of elaborating on this mainstream, however, I have tried rather to pick some illustrious exemplars from different areas to show its heterogeneity and who have in one way or another been linked to theories of unequal exchange.

Even before the emergence of Marxism, following the Ricardian socialists, sharing the conservative fears of domestic contention, and even observing the ecologically disruptive effects of cotton plantations, George Fitzhugh attacked the soundness of the free, competitive society as it evolved in England and America. This was one reason for his propagandist defence of a patriarchal slave economy, though his hopes that it would generalise to the North sealed its fate as propaganda. His argument, less sophisticated in itself than that of Stuart or many others, included a conception of non-equivalent exchange inspired by Ricardian socialism in terms labour values. The product of one hour of southern labour should exchange for one hour northern labour, but this was not the case. The same principle of equality could not be expected to apply between individuals within society, only between sufficiently large populations such as the North and South. And yet, though he admitted its seductive short-run advantages, free trade did not assure this because the agricultural labour, which he believed to characterise the South, was unskilled and uneducated 'hand-work' in abundant supply and whose price would always be determined by the cost of subsistence. By contrast – and etymologically ironic – manufacture was 'head-work', which tended to be better paid and which he believed to characterise the industrial North. Theoretically unsophisticated and with ideals highly unsympathetic to the later dependency theorists, his and their perspective on trade inequality has many parallels including the advocacy of autarchy. In the case of Fitzhugh the solution was a patriarchal slave economy, which could secure the livelihood and old age of its workers, whereas dependency theorists advocated a socialist state for the same purpose, and against the same northern state enemy. In both cases, the identification of the periphery with agriculture may be correct, but interpreting the centre as an industrial region is equally false. In Fitzhugh's case, it denied the fact that it was rather the North who exported agricultural products to the slave society of the South, and that the economic problem for the latter seems to have been the generally lower productivity in both manufactures and subsistence agriculture, although not in export goods sector.

Turning from the southern to the northern periphery of the North American continent, we examined the case of Harold Innis, inspired by the historical economists' interpretation of

Smith and the satirical science of Veblen. His so called 'staple thesis' has been linked both with the Canadian and with more strictly ecological versions of the dependency tradition. The staple thesis was an interpretation of 'the case of new countries', which in their initial stages tended to focus on finding a small-bulk, high-price export product, fur and fish, in order to retain or augment the consumption patterns of emigrants. The habits, economic and social structures thus erected, eventually leading up to the establishment of Canada around the network of water communications and the export of furs, were highly dependent on the geographical and ecological peculiarities of the region, as well as on the existing Indian civilisation, canoes and local knowledge. If the technically more advanced European civilisation had tended to disrupt Indian civilisation to the point of extinction, Innis similarly believed that the technology of the industrial revolution, particularly as reexported from the former American colonies, tended to undo European civilisation. Contrary to the otherwise in some senses similar Turner thesis for the United States, which focused on the alleged individualist purification bath of the frontier experience, the staple thesis claimed that new countries were basically directed towards the metropolis, and in the case of Canada the frontier experience tended to foster a centralised political organisation, reinforced by the railway and the wheat economy. Contrary decentralising effects on political organisation was observed for the fisheries, in this case the problems of the British Empire with New England, and later the importance of Nova Scotia in establishing 'responsible government' in the Dominion of Canada. Part of Innis's interest in the hidden effects of economic minutia on political organisation, was his concern with the disruptions effected by changes in the same seemingly harmless minutia. Sudden changes in production or sales technique reverberated 'cyclonically' in societal reorganisation throughout the metropolis-hinterland system. Thus, with each change of staple product followed serious social disruption and reorganisation, not merely in the periphery but also in the centre, notably with the export of wheat in the depression of the late 19th century, pulp and paper or the new journalism in the First World War. Although the peripheral situation was considered politically and economically problematic, and often socially disruptive, there was never any question of Canada becoming underdeveloped, and the attempts of the 1970s and even later, to fit the Innisian staple thesis to the dependency perspective, only illustrates the shortcomings of the latter. Similarly, in the search for an ecological theory of unequal exchange the Innisian perspective has been rediscovered, and although even here it has been oddly linked with the problematic of underdevelopment, this tradition perhaps has greater prospects of success, if only because the comparison between the British dominions and Latin America is so illustrative of the shortcomings of much contemporary theoretical musing. There are other things to be learnt from the Innisian perspective. His principal concern was with detecting trends and avoiding their effects, but whereas the problem of underdevelopment was as yet undetected, he instead focused on the problematic nature of Western civilisation to excessive expansionism and the lack of institutional means for self-reflection. The former he believed to be an aspect of the 'space bias' of the media of communication which had dominated Western political organisation. The problem of finding an politico-religious organisation which could handle the 'problem of space' and regain a sense of 'time' was as yet unresolved, and is no less so in the era of global inequalities and problems of the future and 'eternity', which have been partially reawakened in the environmental and perhaps various religious or ethnic movements.

Based on his contribution to the debate on the falling terms of trade for raw materials, Raúl Prebisch has been held the originator of 'the' theory of unequal exchange. He is certainly an important figure in that context, but it was pointed out that his argument on and interpretation of the changes in the factorial terms of trade had been borrowed from Hans Singer, whom he quoted. I have furthermore argued that, as in the case of Innis in Canada, the centre-periphery perspective by Prebisch in Argentina was not initially adopted to explain the

underdevelopment of Latin American countries. Indeed, it could not have been relevant to think of Argentina as underdeveloped, and in Prebisch's own formative experience of the early 1930s, the link between exports of raw materials were common to Argentina, the United States, and the British dominions, neither of which was underdeveloped but all of which were or had been peripheral to Britain. In fact, though using Singer's statistics and some of his conclusions, not even in Prebisch's most illustrious contribution from 1949 is Latin America identified as 'underdeveloped', but only as 'periphery'. Always deeply involved in formulating practical policy issues, the consequences of the depression, and perhaps the encounter with Keynes's writings, 'converted' him to protectionism and industrialisation. It is perhaps significant that Prebisch came to his policy conclusions before he had formulated any theory with which to motivate them. Although an important figure, his change of perspective was part of a more general trend which arguably would have occurred with or without him. There are many parallels between Prebisch's ideas, including the concern over the balance of payments, and those of Heckscher's 'natural man', and it has even been argued that they are not sufficiently distinct to qualify even as *neo-mercantilism*. This is not in itself an indictment. Many similarities have been observed between Prebisch's and well-known figures of the 1930s, such as Schmoller, Manoïlescu, Keynes, or even Innis, although Prebisch himself liked to present himself as a self-made man. If the ensuing debate on the falling terms of trade was conducted in terms of raw materials vs. industrial goods, this is partly explicable by the consistent predictions to the contrary by classical and neoclassical theory. The debates themselves, however, led to a refocus, significantly through the work of Kindleberger, and notably by Singer himself, from raw materials to underdeveloped countries, although a falling trend is perhaps perceptible even for raw materials. If the rising trend for raw materials has not materialised, as was previously unanimously predicted by classicals and neoclassicals, Marx and Marshall, Keynes and Clark, then one may suspect them to be hard pressed for explanations. Prebisch's and Singer's explanation(s), on the other hand, merely constituted modifications of the neoclassical stance and laid great emphasis on certain allegedly inherent characteristics in the demand for raw materials, although they added a battery of additional explanations, notably in Prebisch's emphasis that the trade union power of industrial countries tended to assure that wages rose with productivity in the upswing faces of the business cycle, but then did not decrease again in the downswing. Kindleberger pointed out, however, that if the elasticity of demand for raw materials were such as they said it was, then the additional explanations were unnecessary. But as the actual trend was not exactly for raw materials but rather for a certain type of countries, there would seem to be better reason to abandon the elasticity argument and focus instead on the trade-union, or some other such argument. This, Lewis tried to do by adapting the classical, instead of the neoclassical, perspective, and Emmanuel by adopting the Marxian.

If it was not so much the type of good, but the type of country that mattered, Arthur Lewis instead suggested that it was the different evolution of wage-levels between these types of countries that explained the evolution in the terms of trade. Furthermore, if Prebisch as an Argentinean was sensitive to the fortunes of agricultural exports, Lewis as a black West Indian, was obviously sensitive to racial discrimination in both wages and migration policies. This origin is the only reason for referring to him as 'peripheral'. Apart from Innis, Lewis was probably the most talented historian of those studied in this work, made significant contributions not only to economic theory, but also as a compiler of world trade statistics, and eventually was awarded the Nobel price for economics. Having established himself in Manchester, Lewis, like many other development economists at the time, searching for alternatives to socialist planning, was first of all inspired by the example provided by the British industrial revolution. This served as the template for his development model, according to which wage levels were basically determined by a sector of subsistence

agriculture, where labour tended to be of 'unlimited supply' and wages correspondingly to be pushed down to subsistence. High agricultural productivity in England and the simultaneous uninhibited possibility of emigrating to new and 'uninhabited' lands overseas, served as the basis for the higher wage-levels in England and its colonies. Similar processes were at work in other parts of Europe, migrating to other temperate areas where agricultural conditions were similar, although German wage increases are somewhat curiously explained through the force of 'habit'. Eventually, and while his story here may be less convincing, the 'unlimited' supply of labour dried up and wages started following the general level of productivity. By contrast, tropical agriculture tended to allow lower levels of subsistence and wages – be it only because they had evolved without great prospects of migration. The corresponding stream of Indian and Chinese low-wage workers had tended to become directed towards tropical plantations, was forcefully resisted by the democratic majorities of these high-wage "workers' paradises", and for the same obvious reasons that Bauer had observed in Bohemia, only without any prospects of reconciliation. The diverging wage trends thus established, in concert with various trends in the productivity of respective tropical and industrial goods, constituted Lewis's explanation of the observable falling terms of trade for the underdeveloped countries. Thus, he said epigrammatically, it was the factoral terms of trade that determined the barter terms of trade. Thus put, his theory very much resembles that of Emmanuel, although the latter favoured what he argued to be Marx's idea that wages were determined by social struggles, historical and moral elements, rather than the classical idea that wages levelled off towards the subsistence sector or the neoclassical idea that they were determined by productivity. Had he been a Marxist, Lewis might well, like Emmanuel, have been driven to challenge the idea of international worker solidarity. But he was a Fabian socialist and a social democrat, and furthermore a talented critic of the prospects for a totally planned economy. Like much of development economics, Lewis was well ingrained in the cold war competition over the souls and support of the underdeveloped countries. If Hayek and Rostow were on the one end in their opposition to communism and planning, Lewis was in the middle, and at the other end was Baran, who instead argued that communism was the only escape from underdevelopment.

Strictly speaking, Paul Baran does not belong in a history of unequal exchange theorists, or if so, rather on the side of its opponents. His importance in the reformulation of the traditional Marxist stance on underdevelopment, the association often made between 'dependency' and unequal exchange, as well as the tendency to 'develop' unequal exchange theory into a version of the monopoly capitalist interpretation, nevertheless prompted a discussion, and it seemed more appropriate to place him in the Western 'peripheral' context than in the eastern Marxist speaking of non-equivalent exchange. Educated by his Menshevik father with most of his family bonds in the Jewish community of Vilna, he eventually came to work in his uncle's timber business and be stationed in London. By then, Baran had become affiliated with Preobrazhensky and the Trotskyite opposition during a Moscow respite in the 1920s, with Hilferding and Marcuse in the Weimar Republic, and when the business was shattered in the persecution of Jews following the German-Soviet partition of Poland, he became acquainted with Sweezy in the United States. These liaisons perhaps explain his internationalism and concern over the industrialisation of backward regions, the centrality of 'monopoly' in his interpretation of capitalism, as well as the defence of communist society in 'critical' terms (in an ideal-type theoretical sense of an optimally producing society) rather than actual (although he also defended actual Stalinist socialism in the McCarthy era). He was largely instrumental in bringing the monopoly capitalist interpretation into postwar western Marxism. The 'transfer of surplus', for which they were responsible, hindered the development of backward areas, or even brought underdevelopment upon them. Significantly, however, he did not concern himself with the possible 'transfers' due to price differentials and the terms of trade,

and this tradition was brought into the 'development of underdevelopment' argument of Andre Gunder Frank, who was also an open critic of Emmanuelian unequal exchange, and, in spite of his references to unequal exchange, to the 'world-systems' perspective of Immanuel Wallerstein. Although no effort was made to cover Latin American dependency theory in general, the theory of Ruy Mauro Marini on unequal exchange as the cause of super-exploitation was briefly reviewed, as it has been called the most sophisticated of its kind springing from this tradition. Active in the same circles as Frank and Amin, and similarly vague on certain theoretical issues, he also shared the view that monopolies were ultimately to blame for unequal exchange, however defined. Apart from the openly expressed rejection of international transfers of value on Sweezy's behalf, a reason for Baran's relative neglect of the terms of trade argument, formulated at the time in terms of raw materials vs. manufactures, may well be linked to his experience in the Baltic timber trade at a time when that branch experienced a price-boom. Baran nevertheless had a profound impact on the understanding of, *e.g.*, Bettelheim in France, who, by contrast, was more concerned also with the terms of trade argument.

IV. In spite, or perhaps because, of all the attention and controversy allotted to Arghiri Emmanuel's work, it has never been considered as a whole. His basic vision, in which his theory of unequal exchange has a specific theoretical and historical role to play, has therefore mostly remained unperceived. We started by tracing the outlines of Emmanuel's formative years in a Greece whose recent and failed imperialist ventures in Asia minor had accentuated the problems of 'ethnic purification', and whose traditional emigration during periods of hardship had to face the closing of the American continent. Going instead to trade in the Belgian Congo, the immense wage differential between Belgian and African workers could not have gone unnoticed, and may well have occasioned an observance on the relation between racism and wages. Being in trade between Belgium and its colony he also observed that a commonplace charge of exorbitant rates of profit by such tradesmen in the Congo was not well-founded, at least as compared with their Belgian counterparts, which may have suggested to him the idea of an international equalisation of the rate of profit. Involvement in the Greek resistance and a leftist or republican uprising against the Alexandrian government in exile, supported by Churchill's whim for monarchs and crushed by the British without any opposition by the mainland communists or Stalin, may have added to his basically Third Worldist stance. Whatever the reality of his possible involvement with Lumumba, the rising insecurities, visible in Lumumba's arrest, seems to have occasioned a speedy departure to France.

It was here that he first formulated his theory of unequal exchange in 1962, as an explanation of the falling terms of trade for underdeveloped countries and occasioned by organised working classes obtaining wage-increases and thereby pushing up prices. This price problem was indicative of conflicting interests on the underlying socio-economic plane between workers in different (higher- vs. lower-wage) countries, such as those which had haunted Marxists and communists since the collapse of the Second International. The theory was hotly contested from various angles, starting with French and other Marxist traditions, proceeding to neoclassical defences of comparative costs, and then formalist Sraffians.

The initial establishment of Marxist economics in France was partly an offspring of interest in Marx as the philosopher of alienation, but was also dependent on the strong position and popularity of the French Communist Party (PCF), seen as the major force of the Resistance, and on the apparent robustness of the Soviet planned economy both during the depression and in opposing Germany. Finding themselves in government, the PCF was forced to distinguish themselves from the general vogue of étatism and Keynesianism, which reinforced the 'monopoly' interpretation of the state (eventually materialising as a school of 'state monopoly

capitalism'). The monopoly tradition was also an interpretative outlet for a communist party opting for a peaceful, democratic road to socialism in France, when faced with the complex issues of colonial liberation in Indochina and Algeria, and with the 'paradox' of workers who were also imperialists. Emmanuel's tutor, Charles Bettelheim, followed the this second line, and as noted became inspired by Baran's theory where economic backwardness was explained by dependence under monopoly capitalism, and the solution was to be found in state planning of the Soviet or some as yet undreamed of kind. If the PCF was considered by Emmanuel to be the most internationalist in Europe, Bettelheim probably showed more concern with the underdeveloped countries than most of them, eventually turning towards Maoism. His ultimate opposition to Emmanuel was both economic and political, centring largely on the correct interpretation of Marx and the 'law of value'. While initially, in 1962, himself suggesting the great significance of wage-differential in the explanation of underdevelopment, in the later debates he argued instead that wage-differentials were determined by productivity differentials, in which case international worker solidarity could still be defended. He did not attempt to explain the abundant manifestations to the contrary. By contrast, Emmanuel's position risked merely to stimulate a necessarily abortive trend, which had thus far been met with great popularity in Latin America, requiring economic 'justice' within the capitalist system. It furthermore presented Third World countries with illusory, 'bourgeois' prospects of being able to develop through a mere increase in wages. If Bettelheim had himself underlined the great importance of wages in this respect, it would seem reasonable to argue that the political aspects of Emmanuel's theory were more important for its final rejection. This image is reinforced by other contributions to the dispute following the publication of Emmanuel's thesis in 1969, which added nothing essential to Bettelheim's. They seem to have debouched into an attempt to reintegrate the concept of unequal exchange with the conventional image where 'monopolistic' multinationals determine and are held responsible for unequal pricing, underdevelopment, maliciously biased investments, control of state apparatuses in poor and rich countries alike, and bribery of and ultimate treachery against the well-off workers of the world. Ultimately, however, the sheer incomprehension in face of Emmanuel's difficult and novel argument to explain why externally increased wages did in fact lead to development, and its insufficient presentation until 1974 when positions had already been entrenched, certainly presented important additional obstacles to fruitful debates. The general decline of interest in Marxist economics from the late 1970s onwards, explicable by disappointments with Soviet economic and moral standards, by the dogmatism and problems inherent to the labour theory of value, and by the professionalisation of economics as a subject, perhaps explains why no significant discussion or disciple has appeared. British Marxist reactions began with the English translation and, like most, followed the lines drawn up in Bettelheim's critique. Unaware that the distinction between unequal exchange in the 'broad' and 'narrow' (Bettelheim) or 'strict' (Emmanuel) sense, was drawn up by Bettelheim in 1962, and commented on by Emmanuel in 1969 for this reason, Emmanuel has variously been accused of not taking a significant interest in the 'broad' sense, or conversely for introducing confusion by making this distinction. Of such confusion there were significant amounts, whether in neoclassical crusaders or Marxist. There has been a substantial inability to fathom that the problem with which Emmanuel was concerned was not a net transfer of incorporated labour values, but the historical phenomenon of the falling terms of trade, as reflecting underlying wage-differentials and therefore social struggles. A similar net-transfer approach has been involved in all or most of the attempted developments of Emmanuel's theory, whether they take on old Marxist or new Sraffian clothes.

The problems inherent to the labour theory of value, and the dogmatism with which it was adhered to in France, led Emmanuel to reformulate his theory of unequal exchange in Sraffian

language, perceived by some to be a rejuvenation of a Marxist focus on class conflicts underlying price determination, and by others to be yet another bourgeois mystification. This accompanied a shift from France, where more purist Marxism was held to be the only alternative to neoclassical economics. There was a significant early debate in Italy, where the communist party had a similarly strong position to that in France, as it did in Finland, where Jan Otto Andersson found an institutional basis to develop his own version. Beginning as a Marxist theorist of unequal exchange he reappeared after a longish pause as an ecologist one. It was always of crucial importance to be able to unequivocally define unequal exchange against some quasi-physical norm of equality. His Marxist version of non-equivalent exchange, even when termed in Sraffian language, required that the equality of exchange must be expressible as an equal net transfer of 'labour values',¹⁸⁰ whereas his ecological version required that kind of expressibility in terms of 'ecological footprints' (though any other unit would presumably do equally well). Andersson's long-standing insistence on such foundation was visible in the classification, found in his major work, of types of exchange relations into 'disjunctive', 'asymmetric', and 'non-equivalent exchange', where the latter were further divided into four subgroups, but all consisting in an exchange of unequal amounts of labour. It also explains the fact, deplored by Raffer, that *Emmanuel's* unequal exchange did not fit in anywhere in this classification. By contrast, Martinez-Alier argues for the ultimate *inexpressibility* in terms of a single unit of measurement, for a fundamental incommensurability of values, which can only be determined through social and political struggles and decision-making. As to the economic model itself, I argued, following Raffer and Gibson, that Andersson, de Janvry & Kramer, Brewer, and others, are mistaken in their criticism of Emmanuel's version as lacking a stable equilibrium point. Though they may have a valid empirical point in criticising the theory's assumption of goods specific to high- and low-wage regions, Andersson's objection regarding the price of timber trade is ill chosen. His early attempt to rectify the perceived shortcomings were similar to Oscar Braun's and both show a wish to reintegrate unequal exchange in the general dependency tradition where the villains are monopolies and their political henchmen. Realising the excessive reliance on protectionism, Andersson (like Gibson) constructed a new model in which the assumption of non-competing groups was abandoned, and along with it (again like Gibson) Emmanuel's assumption of externally determined wages in the centre was also abandoned. As noted by Andersson himself his model is rather a modification of Lewis than of Emmanuel. Andersson redefines the concept of an 'aristocracy of labour' from implying a 'certain stratum' which has managed to 'establish notably better conditions for themselves than the rest', to meaning 'living at the expense' of that rest, and thereby manages to liberate the majorities of developed country workers from this charge. Unfortunately, Andersson does not make the same examination in his new ecological phase, where the focus has commonly moved back again from production to appropriation. Fairly unknown, already in 1974, Emmanuel, too, gave his theory an ecological expression. His route was different and sprang directly from expressing his theory without 'values', but with direct material inputs in Sraffian terms. This way of putting the problem was inspired by Somaini's charge that his theory required that profits became negative in case of wage-equalisation upwards. Having easily emonstrated this, he found that such upwards inequalisability was never more visible than when expressed in physical or ecological terms.

¹⁸⁰ These can only be defined either as that kind of self-employment market economy described in volume I of Marx's *Capital*, which in all probability has never existed and the moral point of which would be curious, or, 'critically', as a system in which all wages would be equalised and at the same time the rate of profit would be zero, all 'profits' thus falling to the working class, but which would seem to exclude the possibility of accumulation.

Italy had lost its best economist(s) to England in the Mussolini era, however, and when the English Sraffians discovered their extra-English Sraffian colleagues, they began a formalised cleansing process in which not many of the alternative versions survived. The most prominent interpreter in this context was David Evans, who translated Emmanuel's static demonstration of unequal exchange as a comparison between prices of production in the actual state with a hypothetical state in which labour mobility had allowed wages to be equalised, into its dynamic counterpart (though just as hypothetically defined). While superior to most interpreters, like other Sraffians, Evans sticks to the strictly formal questions, disregarding most questions of historical plausibility, although he takes great interest in policy matters and statistics on the terms of trade. Even Evans definition of unequal exchange in terms of comparative dynamics did not try to relate its 'laws of motion', or the tendency for unequal exchange to be reinforced over time. In fact, not only did he not pay any attention to Emmanuel's argument relating unequal exchange to the general 'overproductionist' tendency of a capitalist economy, but his model contains assumptions which had been the principal target of Emmanuel's second major work (referred to by Evans in another context). (Evans's model nevertheless does those great service in making these assumptions explicit to those potentially interested in formally relating Emmanuel's various arguments to each other.) Instead of trying to understand this argument, however, Evans, like Bettelheim, prefers charging Emmanuel with being a 'circulationist' – a standard derogatory term in Marxist parlance equal to the 'fetishism of commodities' in Marx. Again, the reason was apparently his too outrageous claim that an increase in wages was a stimulus to investments rather than the opposite, remarked upon in Emmanuel's debate with Bettelheim: "what scandalizes him in my book is that it leads the reader eventually to a recognition that increased consumption brings about greater development and greater enrichment of nations." In itself, the observation seems not to be all that different from Nurkse's, but with a penchant and talent for the paradoxical, in a way which still challenges his adversaries' astonishment (whether Andersson, Bettelheim, Evans, or Raffer), Emmanuel (1972a: 337f.) generalised his observation: "*No capitalist country has ever become poorer for having spent too much.*"

The capitalist 'laws of motion', as interpreted by Emmanuel, depended crucially on the lack of purchasing power compared with the value of produced output. The lack originated in part of the income (purchasing power) of capitalists (profit of enterprise) not being realised until the very moment of sale. Dynamically, the total sales' prices of production thus exceeded the total of realised income at any moment, even though formally and after the sale the value of output equalled the value of incomes. This created a general tendency for prices to decrease under their prices of production (in spite of the fact that statically these are defined as long-term equilibrium prices), for investments to be withheld, and for economic development to be blocked. Capitalist production could therefore only reproduce by producing in below full capacity, in waves of overtrading stimulated by rising prices and profits, or hopes thereof. If the system is left to itself, this expansionary phase is ultimately limited by the roof constituted by full productive capacity. At that point the general imbalance between purchasing power and the value of output would again make itself felt, certain investors start to withdraw, and thereby set off the general regression. The glorious years of the postwar period had demonstrated that the capitalist economy could indeed grow without major depressions, and this could only be explained if investments had somehow been stimulated in spite of the system's normal functioning. Relative redistribution of incomes away from profit of enterprise could only explain the diminution of the gap between income and production, the ultimate explanation had to be sought elsewhere, in some external factor. Possible factors were the inflow of purchasing power from the balance of trade, budgetary deficits securing the sale of goods before their production, and finally 'overtrading' which was in Emmanuel's view the outstandingly most important factor in the explanation.

Incentives to overtrading – purchasing without any corresponding available income – could be ‘recurrent’, as in the business cycle, ‘erratic and momentary’ as the opening of new markets, innovations, discoveries, and finally ‘chronic’, due to some modification in the basic structure of the economy. It was among these chronic incentives, that unequal exchange had its significant and specific historical role to play. They comprised, on the one hand, currency depreciation – which, if the general problem is one of excessive demand for money compared to other goods, would obviously act as a stimulant facilitating sale and as an incentive to overtrade – and on the other an institutionalised increase in wages, which had been occasioned by increased trade union power and political influence, and which had only been possible through unequal exchange and thanks to the low-wage labour and resources provided by Third World. Emmanuel’s argument on ‘underconsumption’ (in the economic sense) thus had certain apparent similarities with the ecologists critique of ‘overconsumption’ (in the physical sense). Indeed, the debate with Somaini and in Sraffian language occasioned formulating his case in terms of the impossibility of an international equalisation of wages, downwards for social and political reasons, and upwards since this would on the one hand make the total value of profits negative, and on the other would not be ecologically and biophysically possible. It is only in this perspective that Emmanuel’s theory of unequal exchange comes into its own, completely dislodged from abstract ‘labour values’ whose possible transportability may stimulate metaphysical speculation, but whose explanatory power is highly questionable. Emmanuel conceived his political economy on the one hand as a crucial advancement in line with the vision at one point projected, but not completed, by Marx, but also as an interpretative rejuvenation more in line with the realities of the 20th century than anything to be found in Marx or most of contemporary Marxists. Observing the many unresolved issues still remaining one of the more crucial was the underdeveloped theory of the state, and the contradictions involved in the transition to socialism via the usurpation of the state bureaucracy. In spite of his ecological formulation of unequal exchange, he did not observe the similar contradictions involved in reaching a socialism which was ecologically sound via the fullest possible development of the productive forces in East and West, North and South and in between.

V. According to traditional mercantilist, and premercantilist ideas, the creator of ‘natural’ and ‘artificial’ wealth was basically God and man, and the source of ‘value’ consequently, in more worldly terms, land and labour. Admittedly, when not seduced by this analogy, the mercantilist authors also understood very well the necessity of an accumulated art and ingenuity to make anything of value. An important origin of ecological theories of unequal exchange is the reaction against what has been perceived as the classical and Marxist economic obsession with ‘labour’ as the origin of value – an obsession which may largely be the case for much of Marxism examined in Part II and IV, including certain Sraffian-Marxist versions such as Andersson’s. Recent ecological theories of unequal exchange can largely be seen as an expression of the rediscovery of ‘land’, for example by Marxists of a more ecological ilk. However, if it is admitted that ‘land’ can function as such a unit, then the origin of ecological theories of unequal exchange can be traced at least to the 18th-century economist Richard Cantillon. Building on Petty, Boisguilbert, and traditional mercantilism, his only remaining work follows a method of abstraction from a simple system to the international and general (in something of the pattern later to be projected though not realised by Marx). It is divided into three parts dealing with a definition of wealth, a survey of the social and institutional framework, and value analysis (Part I), prices, money and interest (Part II), and finally international trade, foreign exchanges, banking and credit. Accepting the aim of society to increase population for military reasons, the essence of the unequal exchange model was to achieve this. The total produce of the land was given, but a state exchanging a small

product of land for a larger in foreign trade could increase it. Furthermore, with a greater abundance of money than its adversaries it would always come exchange a smaller product of land for a greater. In thus linking gain in land produce to the general money level his theory reminds perhaps only of Odum. An exchange of labour (manufactures, services) for the produce of the foreign land was similarly advantageous, since one's inhabitants were fed by the foreigners land (cf. Cantillon 1931: 225). Hailed as 'the first of the moderns' and the creator of the first economic system, his policy conclusions were nevertheless mercantilist, as opposed to Quesnay whom he greatly inspired, recommending exports of manufactures and securing inflow of bullion. Placing him within the ecological, rather than the mercantilist camp can be defended by the break with more traditional mercantilists, who had greater confidence in the arts and ingenuities of man, much as in the growth theories of the 1960s. By contrast, Cantillon had a cyclical view of development, within the limits set by the scarcity of land and luxury consumption characterising phases of decadence. With trade and correct policy the relative position in the inter-state system could be raised, money and population increased, and all be supported by the inflow from competing nations. The absolute limits set by the rent of land reminds of Borgström's different acreages, or the limited source of renewable solar energy in Odum's theory, which seems to incorporate also the refinement of labour and the arts (cf. Odum's 'emergy') if real value was to be enhanced.

Howard T. Odum's emergy concept is certainly the most advanced modern ecological descendant of Petty's or Cantillon's attempted unidimensional measure of 'value' – in the 'real' as distinct from monetary sense – and arguably also the most comprehensive and inclusive estimation tool of ecological unequal exchange developed so far. A central figure in the 'age of ecology' as the main originator of ecosystem ecology, his theory of unequal exchange is an aspect and outgrowth of his more general system as applied to human societies. If Odum could thereby be seen as more of a 'pure scientist' than any of the other contributors to this branch, neither he nor ecosystem ecology were exempt from crucial political motivations or context, with nuclear test sites and military funding. In Odum's case there is notably the additional 'Technocratic' mission to replace monetary standards of value by biophysical ones in order to give the correct feedback-signals and secure the most 'empowering' development possible. The approach was inspired by the movement with that name, but also by his famous father and brother, by Lotka, Hutchinson, and the postwar vogue to create a cybernetically sound society. Like Cantillon before him and Borgström among his contemporaries, he pointed to the stored energy of organic matter produced over a broad land surfaces at a slow rate. This was then collected and concentrated by the consumer systems of animals and of tree twigs and limbs, and the cost which concentrating work was 'paid' for from some of the collected food. Ecological applications to society began in earnest only from the late 1960s and early 1970s, through a parallel with concentration and storage of the 'dilute' energy of the sun through the hierarchy of the food-web, on the one hand and the similar 'concentration' involved in different sources of energy and energy support systems for human societies and production. The true value of energy to society was the 'net energy' remaining after the costs of getting and concentrating that energy have been subtracted. This idea was evolved into 'energy quality', 'embodied energy', and finally 'emergy', all of which do not content themselves with the *direct* costs of transforming one type of available energy into another, but also of the *indirect*, or hidden, costs involved in the 'support systems', and ultimately was an 'emergent property' or function of the general system. By analogy with the above, 'emergy' could perhaps be seen as an attempt to capture the 'arts' and 'ingenuity' of natural systems – natural capital, the accumulated structural organisation of species and ecosystems, or simply the time dimension – which was then reapplied to societies. Along with these concepts of energy quality, his most important contribution to biophysical economics has been seen as the countercurrent flow of energy and money. Money circulated in a closed

loop, bought goods and services derived from, and using up, low-entropy energy which then left the economic system as degraded heat. In a monetary economy, it operated as a feedback, stimulating more energy to be drawn into the economy to produce additional goods and services. It was the dysfunctions of this feedback which was criticised by the Technocrats in the 1930s depression. In this sense, 'emergy' was his corresponding suggestion to a new 'currency'. He reminded that the large natural energy flows of solar radiation, water, wind, and stored in raw materials, had no associated dollar flows, and did not, therefore, enter into economic transactions directly. This often led to their misuse or to the mismanagement of life-sustaining environmental services, along with decreased overall 'empower' and thereby sustainability.

The new currency, was calculated by taking solar insolation to the earth as baseline. Odum the social reformer, not the economist, wanted to construct a coherent and what he believed to be a "scientifically based value system for human service, environmental mitigation, foreign trade equity, public policy alternatives, and economic vitality" (Odum 1988a: 1132). Being paid only to people for their services, money and prices were biased against nature, and could not be used to evaluate environmental contributions or impacts. Because a resource contributed most to the economy when it is easily available and required little labour, prices were not proportional, but *inverse* to its emergy, or real-wealth contribution (*ibid.*: 1136f., 1996: 60). Drawing up a rural-urban division among countries of the world, the latter being the highly developed, predominantly urban centres in the global hierarchy, he concluded that when an environmental product was sold from a rural to a more developed state or economy, the latter earned a large net emergy benefit. This was expressed by the emergy of environmental products being higher than in the money paid 'for the processing services', *i.e.*, for the labour, and secondly because the emergy money could buy was higher in certain regions than others, benefitting the currencies of urban over rural countries (Odum 1996: 210ff.). While sharing the erroneous identification of 'underdeveloped' with 'exporter of resources' (obliging him to include Alaska and New Zealand), his approach is in fact applicable to any other high- or low-cost differential, whether rural or urban, including that of wages as in the approach of Emmanuel and as partly reflected in the argument about emergy-ratios. What remains inexplicable in an Odumian perspective is why countries should strive for a surplus balance, selling *more* (of anything) than they buy, thereby sending emergy away. It obviously has something to do with money's counter-current feedback-flow, but what this is, remains unexplained by Odum, and an absurd self-flagellation according to his principles.

Of the much criticism of Odum's approach, one of the more pertinent, advanced by Georgescu-Roegen and others, was that it neglected *matter* – like a sun-worshipper who needed to get his feet on or in the ground – and indeed many other aspects limiting niches. The material flow analyses of Fischer-Kowalski and others was an attempt to compensate for the much calorie counting of the 1970s, but has in itself been recompensated for energy – direct and 'hidden' – as well as for human appropriation of net primary production, and perhaps for biodiversity and so on. Much work is being done, but more remains to be done. So far, the material analyses of the historical North-South problematic has yielded no significant additional information to that available from economic historians such as Bairoch. While important historical points have been, *e.g.*, with respect to transport, the approach would probably benefit from closer attention should the ecological and economic functions of various materials if anything more useful is to arise from the 'social metabolic' approach in this area. What is required is perhaps not so much more modelling and measuring, as some simple 'dirt economics' such as that conducted by Innis.

Like many others in the ecological movement, Odum was more interested in planning for a 'correctly' organised and downscaled society, in his case with according to an emergy-currency, than in historically interpreting and understanding the political economic and socio-

political causes of distortions. His proposed solutions, or at least the language in which it was expressed, thereby seem politically naïve, ‘Technocratic’, and incomprehensive of the problems of international planning, agreement, and perhaps even revolution involved. Comprehension has so far been limited regarding emergy as an ‘emergent property’ aspect of the system as a whole, where any true innovation in technology or social organisation ‘mutates’ the whole system and changes the emergy ‘content’ of all its constituent parts. The problems in planning for such a system was pointed out by Lewis, but there may be reason to believe that they will be *lessened* by looking at the *global* system as a whole. Odum seems to share Lewis’s liberal or mixed economy views, but his approach may be a welcome addition to such prospective planners. The *general* system which is most ‘sustainable’ is that in which ‘empower’ is maximised, but this does not imply that it is predetermined, only that should it be achieved it would improve the evolutionary sustainability of the system and its constituent parts, and it is therefore not illogic of Odum to try to bring such sustainability about, whatever the limitations of his political, economic or historical analyses, and the language in which he expresses them.

If the step from Odum and social metabolists to some of their colleagues may seem a downturn in terms of accounting methods, it also brings us closer to the political battlefield, where it is rather language that counts. We first turned to the ‘Protestant’ line of argumentation focusing on restraints on promiscuity (population) and resenting or feeling a certain embarrassment before luxurious overconsumption (affluence). This line was traced from American conservationism and the cold-war concern over a possible ‘population–resource’ crisis, to Georg Borgström’s ‘ghost acreage’, and after some decades of environmental debate, presumably reinvigorated by prospects of funding and political hearing related to the 1992 Rio Conference, by Rees’s and Wackernagel’s ‘ecological footprint’. The basic idea is merely to account consumption in a land-unit, as was suggested by both Cantillon and Odum. The popularity of area-based accounting methods is probably related to their easy comprehensibility to traditionally agricultural peoples, as well as the long-standing tradition of seeing ‘land’ as a source of wealth, and often classified as of different quality and of differing availability. As such it is related to insolation but more concrete and dependent on temperature, precipitation, soil quality, etc., but also, and less obviously, on social organisation. Ideally, consumption and production are accounted by ‘double-entry’ book-keeping, where the consumption within an area is compared with what is biologically produced within the same area, perhaps including maritime sources. The rest is ascribed to trade, whose flows are thereby classified as unequal. Borgström’s approach differs from later approaches, in a sense resembling Odum’s, in his great concern for the energy ‘quality’ of food, and the impoverished protein standards hidden in increased calorific bulk. Borgström also classified the trade relations he thought he saw, into inequalities between the raw materials producing and underdeveloped countries on the one hand, and developed manufacturing countries, on the other, but as can be seen from his figures, the contrast is rather between Europe and the ‘neo-European’ regions of recent settlement. The confusion is similar to that introduced in Prebisch’s work, and significantly, Borgström’s original inspiration, like that of Vogt, came from his experience in Latin America, which is characteristic in being both an historically major supplier of raw materials and in being classified as ‘underdeveloped’. Like most, Borgström had a political agenda, involving the organisation of the world as a ‘household’, but as in the case of Odum, the specifics, political-economic and socio-political problems involved, remained unanalysed. In the early 1970s, he inspired the approach of eco-socialist Hartvig Sætra, who classified different versions of ecological ‘imperialisms’ in past, present, and future tenses, involving also the terms of trade (again seen as through a raw materials- and manufacturing lens). This kind of division in and

through time may well be more pedagogical in the end than the increasingly hypothetical unidimensional land areas of other approaches.

The language in which this 'Protestant', (neo-)Malthusian, line, concerning itself with population growth and the overconsumption of the rich, can be contrasted with the more 'Catholic', Latin American, or Third Worldist, of the dependency tradition, where population pressure on natural resources is of neglectful importance. Here, focus is placed directly on how the affluence of the rich is said to cause ecological (and economic) degradation of the poor, notably, as it is believed, by the direct transport of materials and energy products, but also in the 'transfer' of environmental degradation, *e.g.*, through international specialisation. An environmentalist awakening seems to have come later to the Latin world than the above Protestant. Furthermore, Galeano and Gligo notwithstanding, the first *explicit* attempt to connect the unequal exchange theories of the 1960s and 1970s with an energy or environmental impact accounting seems to have been made by the American sociologist Stephen Bunker. He aimed at an ecological model to explain uneven development, unequal exchange, and regional subordination as the consequences of the relations between extraction and production, a resulting imbalance of 'embodied energy' flows, and its subsequent long-term differential incorporation in social and economic formations. Bunker's main objection to Marxism, which was his principal discussing partner, was that the labour theory of value, conceived as the amount of labour 'embodied' in goods, was incomplete and had to be supplemented by a corresponding 'energy theory of value', inspired by the concept of embodied energy in Odum. Like with Sætra and Odum, no great effort was made to understand the theory of value as theory of price determination, the terms of trade did not appear in his work, and his understanding of the unequal exchange theories of those preceding him accordingly left something to be desired. Bunker considered four types of unequal exchange: (1) a wage-differential, presumably higher in industrial centres, would entail an unequal exchange in terms of the hours of labour needed for each to produce lot of goods of equal value; (2) the embodied energy in raw materials was lost, or unremunerated, when exported (and somehow in a different way than had it been processed domestically); (3) both the 'intrinsic value' of the resource and the intrinsic value added by labour was retained in the core in a self-organising, self-perpetuating upward spiral; (4) the outflow of embodied energy, to which was added an inherent instability of demand for raw materials, left the periphery and its diminishing natural values increasingly helpless and exposed to the above processes. The two former concerned transfers in terms of respectively Marxist and ecologist unequal exchange, while the latter two concerned the respective self-reinforcing processes in industrial ('productive') centre and primary producing ('extractive') periphery. The identification between development with manufactures and underdevelopment with raw materials is obviously crucial to this model and its shortcomings are the same as its predecessors in this branch of interpretation. The links found to specific ecologies was promising but more infrequent than one could have wanted, even in later writings where the energy embodied approach was abandoned as too blunt along with most references to unequal exchange. Bunker's strongest analytical points were instead when relating underdevelopment and environmental disruption to social relations and the weak autonomy of the state bureaucracy.

Similar strengths and weaknesses has been found in Joan Martinez-Alier's approach, although in his case the prospective strengths may outweigh the weaknesses. Whereas he considers himself sprung from the German tradition, he was also engaged in environmental movements in Franco's Spain, and related how his interest in ecology was awakened in Peru in 1973 from the vogue for calorie counting. Having written a well-reputed book on the forefathers of energy economists related to the latter, his later effort was more akin to small-peasantry environmental struggles. Synthesising his concerns he wanted to explain how the

clash between economy and environment (studied by ecological economics) gave rise to the 'environmentalism of the poor' (studied by political ecology). The latter referred to various forms and expressions of local and global resistance to the abuse of natural environments and the loss of livelihoods. One of his central points was that environmental 'externalities' falling on poor and powerless were cheap even when 'internalised', and that this gave rise to a tendency for their global re-localisation to such regions, whatever the level of environmental 'consciousness'. The reintroduction of such struggles over 'environmental entitlements', over 'the loss of access to natural resources and environmental services', over 'the burdens of pollution' and over 'the sharing of uncertain environmental hazards' into the traditional notion of class struggles was a most important addition, which has significant implications for unequal exchange. Introducing this concept via a political movement advancing the notion of 'environmental debt', he has been less successful in making it a valuable interpretative tool. Environmental debt was said to consist on the one hand of ecologically unequal exchange and on the other of the disproportionate use of environmental space. The former was curiously identified only with exports, referring to non-renewable and the reproduction or maintenance of renewable resources, related irreversible damage and environmental pollution, and genetic materials. Environmental services, defined as imports consisted of polluting impacts caused by imports of toxic waste the free disposal of the atmosphere. The reason Martinez-Alier did not define unequal exchange as an exchange was apparently that the powerful were taken to have 'internalised' all environmental costs and services already. In spite of references to Prebisch, Innis, Emmanuel, and many others, there was an unfortunate lack of theoretical clarity in his work. This is unfortunate since the approach to relate relative power relations and strengths of environmental movements to the relative 'internalisation' in prices, would be one of the more coherent expressions of a useful theory of ecological unequal exchange. There is little said on prices and their determination, nor on the relative mobility of labour and capital, whereby he could avoid taking any stance on the international equalisation of the rate of profit, or on the problematic of an economic foundation of international solidarity. As in common dependency literature, the 'villain' can still be presented as the 'monopolistic' multinationals and state apparatuses, and the problematic of some foundation or not for international solidarity among the great masses of peoples was not theoretically or historically enlightened. One may suspect, however, that greater familiarity with the problematic of the unequal exchange literature in the versions of Emmanuel or Lewis, would have brought interesting revelations – deeming from an apposite application of Maxwell's demon to national borders, installed to maintain a consumption differential. This is as good an image of the fundamental problem of what the most illuminating theories of unequal exchange, ecological or not, have been about. What is still lacking is historical flesh and concreteness, and more fearlessness of spirit than in common. Martinez-Alier's own historiography of environmental movements, focusing so heavily on the small peasantry, unfortunately avoids any confrontation with the small-peasant, small-business 'ecologism' in the *developed* countries of the past. He is notably silent on that attempted German alternative ideology to capitalism and communism, studied in Bramwell's (1989) well-known work, by Martinez-Alier even in manuscript form. Furthermore, though complaining of the lack of historical studies on ecological unequal exchange, suggesting a long-tradition of material transfers, neither he nor any other exponent of ecological unequal exchange, has made use of the available economic historical evidence, suggesting that net-material or energy transfers between developed and underdeveloped countries could only have become significant in the post-World War II period, not in the preceding centuries or so often suggested in popular, politically biased and mythological literature. There is simply both much more to be done in this field, and much more already done, than most theorists of ecological unequal exchange realise.

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