



UNEVEN DEVELOPMENT AND THE ENVIRONMENT:  
TOWARDS A THEORETICAL FRAMEWORK FOR  
THE STUDY OF ENVIRONMENTAL ISSUES.

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ABSTRACT.

The central concern of this paper is an examination of the political economy approach to the questions of regional and national imbalance in the distribution of economic activity, and an application of this approach to environmental issues in general as well as to the specific economic and environmental problems facing Tasmania. Basic tenets of the centre-periphery approach to the question of spatial imbalance include (a) that regional imbalances are but the spatial expression of certain characteristics of the private-enterprise system; (b) that the relevant characteristics include i) private investment decisions according to considerations of private gain, ii) divergence and conflict between the public and private costs and benefits of such decisions, resulting in iii) uneven development manifesting itself in inequalities of various forms and at various levels, which are both undesirable and cumulative; and (c) that a vital link exists between the various parts of the system so that each part can only be studied in the context of the operations of the whole.

These arguments are exemplified by consideration of the two most important applications of the centre-periphery approach: its application in explaining inequalities between regions and its application in explaining inequalities between nations.

At the level of regions, it is argued that, contrary to the assumptions and expectations of orthodox theory, not only do inequalities exist and persist but also that they are growing over time and, further, that this constitutes a problem. It is found that the 'centre' is almost invariably favoured by private investors over the 'periphery', thus reinforcing the advantages that the former already holds over the latter in terms of an economic structure more favourable to growth.

The argument is extended to the level of nations and the centre-periphery (or dependency) approach is contrasted to orthodox development theory. The former views both development and under-development as the necessary result and contemporary manifestation of a single system, the product of a single yet dialectically contradictory economic structure and process whose mechanisms are

colonial and neo-colonial relations between the developed and the underdeveloped parts of the capitalist world. Where the orthodox approach sees poverty, tradition and backwardness as the defining characteristics of underdevelopment, to the dependency theorists poverty and backwardness are symptoms of underdevelopment and underdeveloped countries are not 'traditional' societies. According to this approach the defining characteristics of underdevelopment are external dependence of a form which results in (and is perpetuated by) the disarticulation of the various sectors of the economic system and the extraction of surplus. Persisting and cumulative inequalities between nations are explained in terms of the 'mechanisms of imperialism', to be found in the forms of trade and other linkages between developed and underdeveloped countries and reflected in the latters' internal structures as well as in their external relations.

It is finally argued that the centre-periphery approach to questions of intra- and inter-national imbalances and inequalities offers significant insights to the study of environmental issues and can contribute to the construction of a more satisfactory theoretical framework for this purpose.

## CHAPTER 1: INTRODUCTION AND RATIONALE

i) INTRODUCTION.

The slow rate of growth of economic activity in Tasmania, stemming from the State's apparent inability to attract and retain sufficient levels of industrial activity, has manifested - and continues to manifest - itself in an employment structure characterised by high levels of unemployment relative to the rest of Australia; low levels of participation in the work force, particularly by married women and young people; a steady flow of net outmigration; relatively low levels of per capita income; limited choice of employer and a restricted range of available types of employment; limited promotion prospects; limited career opportunities of an administrative nature; and a relative lack of stability of employment due to the State's greater sensitivity to conditions of boom, slump and structural adjustment.

These employment characteristics are, in turn, closely related to the nature of Tasmania's industrial structure, predominant characteristics of which include:

- Industry dominated by large export-oriented mining and manufacturing enterprises (almost invariably with head offices in other states or countries) with emphasis on resource extraction and basic first stage processing and a consequent lack of more sophisticated types of processing and manufacturing;
- An economy vulnerable (to a considerably greater degree than the rest of Australia as a whole) to the periodic changes in international prices and demand related to the State's export products, stemming largely from its relatively narrow export specialisation, both in terms of products and markets;
- Dependence of entire regional communities on the (international) fortunes of a single dominant industry, or even a single company.

The structure of industry and its relation to Tasmania's employment situation were the subject of a recent Federal Government Inquiry, whose Report characterised the State's industrial structure as 'unbalanced', 'uneven' and 'dissimilar to that in other states' (Callaghan 1977).

According to Callaghan, one of the most important factors to

which this state of affairs can be attributed is Tasmania's physical separation from mainland Australia. "The major disability facing the people of Tasmania ... is that Tasmania is an island" (Callaghan 1977, p.3). When however, one considers the striking similarities between Tasmania's problems and those faced by the peripheral - i.e. remote from the major centres of industry - parts of many countries (such as the U.K., Italy, the U.S., France and Canada, to give but a few examples from among the so-called 'developed world'), most of which are not physically separate from the rest of their respective national economies, the conclusion must emerge that the Bass Strait is in reality a small additional burden alongside the general problems common to remote regions (Wilde 1977).

While, therefore, any important peculiarities of the Tasmanian situation must be firmly borne in mind, the evidence would seem to suggest that they do not by themselves offer a satisfactory explanation of the difficulties facing the State in its attempts to attract and retain high levels and diverse types of industry. The basis for such an explanation would instead seem to consist of the suggestion that there exists "a general and very distinct response by economic enterprises to different locations within a country, in other words activities are carefully organised in space" (Wilde 1977, p.3). The approach followed in this paper is broadly consistent with this observation and is based on the notion that spatial inequalities are the manifestation of the operation of the economic system under which industrial location decisions are made; in other words, a satisfactory explanation of the existence and persistence of regional inequalities must be sought in terms of the behaviour of individual business firms responsible for decisions about investment location and expansion. In turn, the rationale behind this behaviour must be sought in terms of some of the defining characteristics of the socio-economic system, including i) private investment decisions according to considerations of private gain, and ii) divergence and conflict between the public and private costs and benefits of such decisions. The combined effect of these system-defining

characteristics is uneven development, manifesting itself in inequalities of various forms and at various levels, which are both undesirable and cumulative.

The explanation of regional inequalities will therefore be sought in terms of the general theoretical framework known as the 'centre-periphery model', which puts particular emphasis on the forces leading to increasing regional imbalance (Stilwell 1974). The application of this model in explaining a) inequalities between regions and b) inequalities between nations will be considered in turn and will be contrasted to the respective mainstream paradigms.

At the level of regions, it will be argued that not only do inequalities exist and persist but also that a) they are growing over time, and b) this constitutes a problem on grounds of efficiency, equity, economic health and environment. This will be done in terms of both a priori reasoning and empirical observations. Stress will be placed here on the nature of the grounds on which individual investing units (private business firms) make decisions affecting the location of their investments. Almost invariably, the 'centre' is favoured over the 'periphery', thus reinforcing the advantages that the former already enjoys in terms of an economic structure more favourable to growth. Attention will also be given at this level to the argument that, for various reasons, activities that might have once been located in peripheral regions are increasingly being located in, or transferred to, underdeveloped countries. That is, instead of 'going multi-regional', large firms are increasingly 'going multi-national'.

At the level of nations, the centre-periphery approach to the question of development and underdevelopment \* will be likewise contrasted to the orthodox position. A very important divergence from the orthodox position is that the centre-periphery approach views both development and underdevelopment as the necessary simultaneous result and contemporary manifestation of a single yet dialectically contradictory economic structure and process. Thus, where the orthodox approach views the two as relative and quantitative,

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\*Perhaps better known in this context as the dependency approach

the centre-periphery approach sees them as relational and qualitative.

The defining characteristics of underdevelopment are therefore seen not as tradition, poverty and backwardness (although these may well be symptoms of underdevelopment), but as external dependence of the structural type (Galtung 1971, Senghaas 1975a), characterised by a disarticulated economic system (Amin 1974) and the extraction of surplus (Frank 1971; Baran 1973; Galtung 1971) - a very important implication being that some so-called 'underdeveloped' countries may not be underdeveloped at all, while, more important, some countries or regions traditionally referred to as part of the 'developed world' may well be underdeveloped.

Finally, this paper will raise the question of the possible applicability of this underdevelopment model to the Tasmanian economy.

#### ii) RATIONALE

Before we turn to the questions of regional and national imbalance, it seems appropriate to engage in an attempt at explaining certain aspects of both the choice of topic and the choice of approach, as well as the crucial importance of the issues at hand to the study of environmental problems. Additionally, an acknowledgment of what this paper is not about and certain possible shortcomings and limitations seems necessary. It will be necessary to pursue certain questions in the explanatory part in some detail, as this paper possibly constitutes a somewhat radical departure from what is considered normal and acceptable by the Centre for Environmental Studies.

The sorts of questions that might be raised here include the question of choice of topic ("What is the relevance of a discussion of regional and national inequalities to the study of environmental issues?"); the question of choice of approach ("Why choose to deal with this topic in terms of what may be termed a controversial approach?"); and the question of content ("Why bring together such academically separate areas of study as regional imbalance in countries of the 'developed West' and underdevelopment?"). It might be noted at the outset that the answers to these questions are clearly interrelated: thus the discussion on underdevelopment becomes highly relevant to the study of environmental issues largely because it is



carried out in the centre-periphery framework; while the relevance of regional and other inequalities to a satisfactory understanding of environmental problems becomes more apparent in the light of the answers to the remaining two questions. In view of this, it may clarify the argument somewhat if the first question is tackled last.

Taking the question of approach first, the centre-periphery paradigm was chosen for a number of reasons.

First, there is the obvious one, namely that it happens to form a more satisfactory basis for the understanding of the existence, persistence and growth of inequalities both between regions and between countries - 'obvious' because, unless this was the case, another approach would have to be followed. What must for the time being stand as an assertion will be taken up in the following two chapters. It might not however be too soon to mention that profound dissatisfaction with existing theories of both regional imbalance and underdevelopment was expressed as long as twenty years ago by a writer of some renown in both fields: While adamantly stressing what he terms the Logical Necessity of a Theory,

" ... Theory is indispensable to scientific work. Theory is necessary not only to organize the findings of research so that they make sense, but, more basically, to determine what questions are to be asked. Scientific knowledge never emerges by itself, so to speak, from empirical research in the raw, but only as solutions to problems raised; and such solutions presume a logically coordinated system of problems stated. Theory, therefore, must always be a priori to the empirical observation of the facts. Facts come to mean something only as ascertained and organized in the frame of a theory. Indeed, facts as parts of scientific knowledge have no existence outside such a frame. Questions must be asked before answers can be obtained and, in order to make sense, the questions must be part of a logically coordinated attempt to understand social reality as a whole. A non-theoretical approach is, in strict logic, unthinkable."

Myrdal (1963, p.160) quickly continues to add that

"In our present situation the task is not, as is sometimes assumed, the relatively easy one of filling 'empty boxes' of theory with a content of empirical knowledge about reality. For our theoretical boxes are empty primarily because they are not built in such a way

that they can hold reality. We need new theories which, however abstract, are more realistic in the sense that they are to a higher degree adequate to the facts", concluding that "attempting to do without a general theory would seem to be a safer course than one that is biased and faulty", characterised by "biased and inadequate predilections and unreal and irrelevant theoretical approaches" (Myrdal 1963, pp.160,163, 164).

The use of such a lengthy quote is justified in that it contains, or points to, the second reason for the choice of approach: A theoretical rather than an empirical approach was chosen largely because fact-finding in the environmental field, as in any other, is, as Myrdal eloquently points out, unthinkable and illogical outside a "logically coordinated attempt to understand social reality as a whole". Such an understanding however, it will soon be argued, is largely non-existent in this field. The centre-periphery approach would therefore seem invaluable in this connection, deriving as it does from the broader field of political economy, which stresses and highlights the interconnections between problems of space, the environment, etc. on the one hand and the broader workings of the socio-economic system under which they occur on the other.

Thirdly, it is a great merit of the centre-periphery approach that it points out the way in which seemingly unrelated and geographically distant environmental problems are in fact intimately connected to each other. Thus, for example, Tasmania's inability to attract its 'fair' share and range of industrial activity creates - or intensifies - it will be argued - what may be termed the environmental problems of the periphery: rapid resource depletion, inadequate or underenforced environmental legislation, etc. The same mechanism responsible for this (viz. uneven development) also causes or intensifies what may be termed the environmental problems of the centre - pollution, congestion. Concentrating separately on the two sets of problems would therefore amount to the artificial compartmentalization of what is in reality a single process. The centre-periphery paradigm seems, however, capable of establishing the necessary connection. The example can of course be extended to consider in a similar light the environmental problems of underdevelopment and overdevelopment respectively, of 'too much' and 'too little'.

Lastly, while it is undeniably correct to point out that the proposed approach is controversial and, particularly in its application to the underdevelopment field, has become identified with the 'neo-Marxist left', it by no means follows that research based on it must necessarily be ideologically biased, subjective, or pseudo-scientific. According to one of its pioneering proponents, such suppositions form part of that false liberal maxim "according to which only political neutrality permits scientific objectivity, a maxim widely used to defend social irresponsibility, pseudo-scientific scientism, and political reaction" (Frank 1971, p.18). Furthermore, Frank argues, such an approach is not only permissible but indispensable regardless of personal cost: "A conscientious effort to develop it ... even at the cost of some intellectual security and personal ease, is the least of the sacrifices that history can ask of us" (Frank 1971, p.19).

Turning from the question of approach to the question of content, it need only be pointed out that the seeming separateness of regional imbalance and underdevelopment is largely a product of the artificial compartmentalization pointed out above, itself a product of 'academic specialisation' generated by and itself generating rigidly separated disciplines and partial theoretical approaches to what is essentially an indivisibly single process. While therefore one may not necessarily or readily agree with Carney et.al. (1976, p.11) when they argue that nations such as France and Britain are "attempting to internalise their lost empires by importation of alien labour and regional underdevelopment", no reasonable exception can be taken with Galtung's argument that the mechanisms of development and underdevelopment he discusses "are used not only between nations but also within nations", (1971, p.90), nor to Myrdal's considered conclusion that "the two types of inequality are a cause of each other in the circular way of the cumulative process" (1963, p.50).

Another fundamental although related reason however exists for the discussion of development and underdevelopment as well as regional imbalance in this paper: Not only are regional and national inequalities symptoms of the same mechanisms and processes, but also the mechanisms and processes involved are much more clearly

discernible in the case of the latter. This is due first to the existence of much greater inequalities between nations than between regions and, secondly, to the more systematic and sophisticated attention that has been given to the former than to the latter, especially by writers such as Baran (1973), Frank (1971), Amin (1974) and Galtung (1971). The content of these writers' works, rich in ideas and concepts, may well provide invaluable assistance in arriving at a new set of understandings for dealing with problem regions such as Tasmania, providing a new set of perspectives that can illuminate new aspects of the problem; further, it is hoped that they will assist in adding substance to the argument that underlying a wide range of environmental problems is the question of inequality and uneven development.

Having dealt with questions of approach and content, we will now turn to the question of topic or, more precisely, the question of the relevance or usefulness of a discussion on spatial inequality and uneven development to the study of environmental issues. As this is largely the subject of a following chapter, it will only be given brief consideration here.

At the general level, many environmentalists' understanding of socio-economic systems, theories and processes is severely limited. This may be viewed partly as a consequence of their natural science-background and of the insistence of many among them that "the environment transcends politics and economic theories". Yet, such understanding is vital: It is becoming increasingly clear that problems of population, hunger, pollution, resource depletion, urbanisation and employment, to mention but a few examples of ecological and spatial imbalance, are both interrelated and intimately associated with the pervasive socio-economic imbalances characteristic of our economic system. A discussion of such imbalances within the political economy framework of the centre-periphery approach may be the best available starting point for generating such understanding, not only because the approach recognizes and makes these crucial interconnections explicit, but also because, in doing so, it becomes akin to ecology, thus constituting an approach that ecologically-minded environmentalists can understand.

At a less general level, the present approach to the questions of regional and national imbalance implies a radically different

approach to, and may enhance the understanding of, quite specific environmental issues such as pollution, resource depletion, soil erosion and 'overpopulation'.

As stated above, these issues will be examined a little more systematically in another chapter. What remains to be said here is to acknowledge what this paper is not about, as well as to point out some of its limitations and shortcomings.

It is not intended that an exhaustive treatise be carried out of either regional imbalance or underdevelopment. Time and space limitations (as well as the author's lack of academic training in either of these disciplines) mean that the treatment of the issues will be rather schematic and the selection of authors and points of view arbitrary to a certain extent. The aim however is not a bibliographic review, but an exercise in drawing on these disciplines in an attempt to arrive at an improved set of understandings which may prove useful in their application to the study of environmental problems.

Secondly, this paper does not purport to be other than a partial contribution. Thus, the question of the role of the state in relation to social change, a major aspect of the political economy approach and of particular relevance to environmental issues (Gunningham 1974) has not been entered into as it could be the subject of such a paper on its own. All that will be said on this issue is that the conventional view, assuming that social problems need only be highlighted by concerned 'moral crusaders' for government to take action, implies a "false element of automaticity" (Stilwell 1974; Gunningham 1974). Nor has the question of whether the capitalist mode of production is inherently anti-ecological been explicitly entered into - although some of the arguments presented here, as well as the evidence available in numerous published works (e.g. Heilbroner 1975; Weisberg 1971) would tend to suggest that this is in fact the case. To satisfactorily deal with this question one would need to a) isolate certain system-defining institutions of capitalism, e.g. production and consumption activity organized privately and for private profit, the need for continuous expansion, the problem of surplus-absorption (Baran and Sweezy, 1968) and underconsumption, etc; b) show that these institutions and contradictions are central rather than peripheral to the capitalist mode of production; and

c) demonstrate the anti-ecological character of this mode of production by showing environmentally destructive activity to be the necessary concomitant of the normal functioning of these institutions and contradictions. In other words, one would again be writing a paper on its own.

Thirdly, the ideas and concepts discussed in this paper do not claim a high degree of originality. However it is believed that they are largely new to a sizeable proportion of those concerned with the study of environmental deterioration, particularly in the case of Tasmania, and this seems sufficient to satisfy the primary aim (see above).

Lastly, one must agree with Carney et.al. (1976) that in attempting this kind of project it is difficult to strike a correct balance between theoretical sophistication and attention to empirical detail. Any conclusions that will emerge should be therefore treated not as a series of clear-cut answers but as a set of perspectives that illuminate new aspects of the problem.

## CHAPTER 2: UNEVEN DEVELOPMENT: THE NATIONAL LEVEL

According to much of orthodox regional theory (e.g. Lefebvre 1958) there should be no regional problem. This follows from the premises of the spatial equilibrium approach which, assuming perfect information and unfettered movements of labour and capital, argues that, in a situation of regional disparity, labour will flow from the low-employment, low-wage region to that of high employment and wages, while capital will tend to flow in the opposite direction. Thus, in the long run, spatial equilibrium will be established, in a process of harmonious self-adjustment, with any change from equilibrium towards disequilibrium automatically setting forth a series of counteracting, equilibrium-restoring changes. It is therefore argued that such regional disparities as there may exist within a nation will balance out, and any remaining disparities in levels of profits, wages or employment between regions would be frictional and peripheral to what is essentially self-equilibrating economic apparatus.

Yet, the promises of such a self-adjusting, harmony-inducing model have not been fulfilled, and fail to correspond to the observable realities of persistent inequalities in regional income and employment levels and rates of growth. The self-balancing spatial equilibrium model has been refuted by writers such as Myrdal (1963), Friedmann (1966), Stilwell (1972a; 1972b; 1974), and Holland (1975; 1976), both on empirical and theoretical grounds. These writers have, in turn, preferred to adopt the centre-periphery approach to the question of regional imbalance, which both corresponds to and explains the reality of persistent regional inequality which not only does not diminish but widens overtime.

A refutation of the orthodox spatial-equilibrium approach may be carried out as follows:

First, the empirical observation that, as just stated, regional inequalities are not only not diminishing but, on the whole, increasing overtime, especially in the absence of government regional development policies, but also often in spite of these.

Second, an explanation of the reasons why the orthodox approach has so obviously failed to correspond to reality. Such explanation needs to a) point to those parts of the spatial equilibrium model which are theoretically unsound and unrealistic, and b) make a number of empirical observations pointing out actual developments which the orthodox approach failed to take into account.

Thirdly, an alternative explanation of uneven development and growing regional disparities, in terms of the rationality of private investment decision-makers operating in a given economic framework, and the mechanisms of cumulative divergence, or laws of uneven development, which ensure that "to him that hath shall be given and to him that hath not shall be taken away that which he hath" (Myrdal 1963), in a process of circular and cumulative divergence.

An illustration of how this refutation has been carried out by the proponents of the centre-periphery approach is the subject of the next few paragraphs and has largely been drawn from the works of Friedmann (1966), Stilwell (1972a; 1974), and Holland (1975; 1976).

The following may be cited as among the main reasons for the failure of the orthodox theory to correspond to reality:

Firstly, the theoretical unsatisfactory nature of the orthodox model, which assumes that demand, supply and the level of technology are given and constant. The fact that they are not has meant that the anticipated diminishing marginal returns to scale in metropolitan 'centre' regions have not eventuated. To the extent, furthermore, that diseconomies of scale and externalities<sup>\*</sup> - e.g. in the form of pollution and congestion - have set in, they have to a large extent been avoided by precisely that class of people responsible for decisions regarding industrial location. Thus even the largest metropolitan regions have continued to grow and problems of market saturation have been avoided, partly by the continuous process of 'innovation'.

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\* See Kohler (1966) both for an explanation of the term 'externalities' and for a discussion of the difficulties it has created for orthodox theory's comfortable assumptions of coincidence of private and social welfares.



Secondly, the emergence of nationwide trade unions has led to a relative equalization of wage rates in different regions, severely reducing, if not altogether eliminating, the need for capital to flow to a backward region in search of cheaper labour.

Thirdly, much new capital investment (two-thirds to four-fifths in the 1950s and 1960s according to Holland (1976)) is in the form of replacement of outdated plant and equipment existing in the more developed regions.

Fourthly, leading national firms that might have once turned to less developed regions in search of cheaper labour can now secure far greater gains by turning multinational rather than multiregional, for two basic reasons:

- a) The labour savings secured by setting up operations in many underdeveloped countries are far greater than any incentives governments can offer firms for setting up plant in depressed regions;
- b) These countries have the attraction of being not only 'union havens' but also 'tax havens'.

These then are among the principal reasons for the persistence of regional inequalities, i.e. their failure to disappear overtime as predicted by the spatial equilibrium approach. As mentioned above, however, regional disparities have in reality not only persisted, but also tended to widen overtime. A refutation of the orthodox approach is not sufficient to explain this widening, and for such an explanation we must turn to the approach of the centre-periphery theory, which contends that "growth centres, having been established for an assortment of historical-geographical reasons, develop cumulative advantages so that the gap between their prosperity and the rest of the nation tends to widen" (Stilwell 1975, p.61).

The principal reasons for widening regional disparities include the following:

Firstly, the initial lead established by firms which located and expanded in the higher income markets of the wealthier regions over their peripheral counterparts meant higher cash flows, faster and higher self-financing for future capital requirements, more capital-intensive techniques and, therefore, higher productivity.

Secondly, this head-start was reinforced by precisely the opposite of what is predicted by the orthodox approach, namely capital

outflow from less-developed to more-developed regions; private investors in the former could earn a higher return on their capital by investing it in successful firms of the developed regions. Thus less well-structured firms in lagging regions were deprived of the funds necessary for their own successful modernisation and competitiveness.

Thirdly, the higher productivity and profitability of firms in leading regions has made even more capital-intensive techniques possible, thus both furthering their advantages and offsetting the labour shortages that might have been expected in a situation of increasing production and constant technique.

Fourthly, the selective nature of outmigration from the periphery (Parr 1966) tends to deprive it of its youngest, most educated, and most enterprising population. The selectivity of this outmigration from the periphery to the centre may "foreclose adjustments that might lead to a recovery and to subsequent growth on a sustained basis" (Friedmann 1966, p.17) in the former, while further advantaging the latter.

According to Stilwell (1972a; 1974), not only have regional inequalities in economies such as that of Australia or Britain failed to disappear as predicted by the orthodox approach, but they are widening overtime, as predicted by the centre-periphery approach. Using the technique known as 'shift-and-share-analysis', Stilwell shows that this is partly due to the fact that 'core' centres, having developed first for a variety of historical and geographical reasons, exhibit characteristics more favourable to growth than do peripheral regions and their growth is partly at the expense of growth in the latter; and partly due to corporate preferences for centralisation: Stilwell shows that whether one assumes cost-minimization, revenue-maximisation, profit-maximisation, growth maximisation, security, or 'satisficing' behaviour on the part of investing firms,\* it is in business' self-interest to centralize. A large part of his book (Stilwell 1974) is devoted to the question of whether this self interest is consistent with the broader social

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\* It may be worth noting here that the 'soulful corporation' arguments of the 'satisficing' school of thought represented by Carl Kaysen and others who argue that profit maximisation has ceased to be the guiding principle of business enterprise, were soundly discredited more than twenty years ago by James Earley, who convincingly demonstrated that the big corporation, if not more profit-oriented than the individual entrepreneur, is at any rate better equipped to pursue (see over)

interest.

Persistent and widening regional inequalities are thus explained by the centre-periphery approach in terms of the rationality of a private investment-led economic system, and both Holland's and Stilwell's conclusions are essentially the same as Myrdal's: "If things were left to market forces unhampered by any policy interferences ... almost all those economic activities which ... tend to give a better than average return would cluster in certain localities and regions, leaving the rest of the country more or less in a backwater" (Myrdal 1963, p.26).

Thus we arrive at what might be termed the capitalist law of uneven development - 'capitalist' because uneven development is intimately connected with the profit motive: "The key link between the two is the fact that it is almost always most profitable, from a private business point of view, to build on the best. Thus a businessman locates a new factory in an urban centre, rather than out in the hinterlands, in order to gain access to existing supplies, a skilled labour force, and high-income consumers; to maximise profits, he hires the best, most qualified workers; a banker extends loans to those who are already successful; an educational system devotes its best efforts to the superior students, and universities, imbued with the private business ethic of "efficiency", offer education to those best prepared, most able; promoters locate cultural centres amidst urbanites best able to appreciate and pay for them; the most profitable business firms attract the best workers and have easiest access to loanable funds; satellite capitalist countries, in the interests of efficiency and comparative advantage, are induced to specialize in cocoa or peanuts or coffee - to build on what they have always done best" (Gurley 1971, pp.330-331).

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Footnote continued from previous page ...

a policy of profit maximisation. Therefore, the economy of large corporations is more, not less, dominated by the logic of profit-making than the economy of small entrepreneurs ever was.

(Baran and Sweezy 1968).

It is not however sufficient to show that regional inequalities exist, persist and widen overtime - it must also be shown that they constitute a problem. Of the writers mentioned earlier, Stilwell in particular is aware of the need to show this and spends considerable effort in doing so. It is thereby shown that regional imbalances cause, or contribute to the intensification and severity of, a number of social, economic and environmental problems.

Firstly, regional inequalities mean the loss of output and income and the inefficient utilisation of available resources, especially the underutilisation of social infrastructures in depressed regions and the congestions costs in precisely the same infrastructure in overdeveloped regions (Holland 1976; Stilwell 1972b). Stilwell argues that the costs of infrastructure provision are higher in existing urban areas than in locations where the expansion of such services is not as constrained by existing developments. A survey is quoted, showing that "to provide the basic services and facilities for a new workforce member (in Sydney) costs six times the amount necessary for similar cases in N.S.W. country towns" (Stilwell 1972b, p.8).

Secondly, regional inequalities contribute to the problem of inequalities in the distribution of wealth: "... There is mounting evidence that the effect of metropolitan primacy is to increase the degree of inequality within the society ..., one aspect of the problem being the effect of metropolitan growth on land and housing prices" (Stilwell 1972b, pp.6-7).

Thirdly, not only does regional inequality cause severe localised unemployment problems and the loss of income and output that this entails, but it also leads to a higher level of inflation corresponding to any particular overall level of unemployment than would be the case if regional inequalities did not exist. This Stilwell explains in terms of the Phillips Curve (which shows the relationship between the rate of change in earnings and the percentage level of unemployment), pointing to evidence which suggests that a change in the rate of inflation associated with a given change in unemployment tends to be greater in the regions with low unemployment than in those with high unemployment. It follows that an increase in unemployment in the latter

regions and a corresponding reduction in the former regions (i.e. a reduction in regional disparities) would enable the economy to run with a lower rate of inflation at any given level of unemployment. It is further argued on empirical grounds, as well as by a priori reasoning, that core, metropolitan areas form, in effect, "seedbeds of inflation" (Stilwell 1972b, pp.5-6).

Lastly, regional imbalance has deleterious environmental effects, adversely affecting both the social and physical environment, in the centre as well as in the periphery. Detailed consideration will be given to this aspect of the problem in the appropriate chapter.

In closing, the centre-periphery approach to the question of regional imbalance in capitalist economies enables the achievement of a number of valuable insights: Firstly, that regional inequalities are the natural outcome of the private enterprise system. Secondly, that they can be expected to persist and widen overtime in the absence of sufficient social intervention. Thirdly, that they constitute a problem on a variety of grounds. Fourthly, that they are causally related to the more general problems of an economic system which is characterised by many types of uneven development, and in which the costs and benefits of investment-location decisions to private investors diverge from the social costs and benefits of these decisions.

### CHAPTER 3: UNEVEN DEVELOPMENT: THE INTERNATIONAL LEVEL.

The processes and mechanisms responsible for growing regional disparities at the national level are also clearly discernible when we examine the growing disparities between the nations of the so-called First and Third Worlds.\* In addition, it will soon be argued, underdevelopment is characterised by the existence of a disarticulated economic system whose various sectors do not relate to each other, the export of multiplier mechanisms, the extraction of surplus, and a heavy reliance on the export of a narrow range of agricultural or mineral commodities to narrow markets, resulting in a form of structural dependence. Furthermore, and as a consequence, underdevelopment cannot be viewed apart from (over-) development, as the two are intimately and causally connected.

This conceptual framework not only highlights, clarifies and expands the insights offered by the centre-periphery approach to regional disparities at the national level but also, it will be argued, a) contains various implications for the focus and approach to the study of environmental issues generally and b) throws a new light on the economic and environmental problems of both centre and periphery. It will also be contended that few if any of these insights become apparent when the question of underdevelopment is perceived in the orthodox manner.

As the field of study under consideration is highly complex and very extensive, the discussion cannot be anything but schematic, with various points of view not receiving the attention they perhaps deserve. In an attempt to achieve and retain an acceptable level of coherence, this chapter will be divided into a number of parts, each advancing a separate part of the argument.

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\* It will soon become obvious that I do not subscribe to this concept, implicit in which is - among others, equally erroneous - the assumption that the First and Third Worlds - the developed and the underdeveloped parts of the capitalist world - are largely self-contained entities that can be studied apart from each other.

Part (i) will consist of an outline of the orthodox approach to underdevelopment and its policy prescriptions; part (ii) will be devoted to outlining the basic weaknesses of this approach, both in terms of the world's failure to conform to the theory's prognostications; part (iii) will provide some of the essential arguments of the centre-periphery approach (better known in this field as the metropolis-satellite or metropolis-hinterland approach, stemming from the outlook of the somewhat diverse "dependency school") to underdevelopment, some of which will be taken up in subsequent parts; part (iv) will discuss the question of surplus extraction; and part (v) will examine further aspects of this approach such as disarticulation and structural dependence.

(i)

The mainstream approach to underdevelopment, in good currency during the 1950s and 1960s but less so in the 1970s, begins by assimilating underdevelopment to poverty in general. Thus it greatly concerns itself with the various manifestations of poverty, using indices such as health, literacy, death rates and life expectancy, and per capita income. It is assumed that at one time all nations were traditional, primitive societies, with low life expectancy, little education, and very low GNP per capita. Then some societies, it is argued, developed in one way or another (and there is much controversy as to how this came about), some developed later, and others are still developing (Jenkins 1971).

A very systematic and concise formulation of the orthodox theory of development and underdevelopment is that of W.W. Rostow, set out in his The Stages of Economic Growth, (1960), which "crystallized the assumptions of the western image of the world" (Jenkins 1971, p.74). Rostow has given a universal theory of the five stages through which, the theory argues, all societies either have passed or will have to pass (Rostow 1960; Jenkins 1971; Amin 1974):

- (a) The stage of Traditional-Primitive Societies;
- (b) The stage of the preconditions for development characterised by 'Traditional Civilizations';
- (c) The stage of the "take off" characterised by Transitional Societies;
- (d) The stage of maturity, characterised by Industrial Revolution Societies;

and

(e) The stage of the High Mass-Consumption Societies.

Each of those stages is defined in rigidly universalistic terms, such as 'the level of savings' (Amin 1974).

According to Rostow, there is a period of capital accumulation which marks the 'preconditions for development stage', after which it is possible for a society to 'take off' into sustained growth. A lot of data has been collected which is relevant to this theory and it results in an evolutionary model of the world (Jenkins 1971, Tables 7 and 8, pp.57 and 75-77 respectively).

'Development' is therefore conceived as a constellation of characteristics, prevalent in most western industrial countries, which are (implicitly assumed to be desirable) the defining characteristics of a high level of 'developedness':

"The nations of the world are ranked on a theoretical 'ladder of development' \* according to the degree to which they possess these particular attributes. Implicit in this approach is the idea of 'the gap' between countries which have high scores on this 'checklist' of attributes and those that do not ... " (Currey 1973, pp.18-19).

The logical imperative following from this division is that 'development' is a process of acquiring more and more of the missing attributes, particularly a higher level of per capita income, to be achieved by high rates of economic growth. Economic growth in its turn, according to theory, is best achieved by capital accumulation - creating the 'preconditions for development' - which is the product of savings and investment. A requirement for this is a high degree of inequality in the distribution of income and wealth inside the 'developing country' as, it is assumed, people with a higher income save (and invest) a greater proportion of it; thus high inequalities increase the investible portion of national income. This process of capital accumulation can be speeded up and the level of available capital augmented by the inflow

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\* For an example of which see Jenkins (1971) pp.75-77.



of foreign capital, in the form of investment and aid.

Further development-assisting consequences of this infusion of foreign capital, it is argued, will be the diffusion of modern knowledge, skills, organization, values and technology (Camilleri 1976) - 'development assisting' as, in this context, 'development' more or less coincides with the modernisation of traditional societies in a process of diffusion from centres of modernity (Alan Smith in Mortimer 1973). This process of modernisation, initially confined to the modern enclave in the developing economy, will gradually spread out or 'trickle down' to encompass the whole of the hitherto 'traditional' hinterland.

A further main prescription of this theory of development-by-integration-and-diffusion is that 'developing' countries should maximise their income from the production and export of goods for which they are best suited and enjoy a 'comparative advantage', that is, goods in the production of which the relatively more plentiful factors (labour and land) are most intensively employed, and the relatively scarce factor (capital) is least intensively employed (Currey 1973, Amin 1974). This will maximise their importing capacity upon which, together with capital and technology, their economic growth is seen to depend (Currey 1973).

Summing up, the orthodox approach to development and under-development perceives development as the process of passing through a series of stages from tradition to modernity by a strategy of capital accumulation and the infusion and diffusion of modern techniques, modern values, and capital from the developed to the developing countries.

(ii)

As mentioned earlier, the orthodox approach to under-development from which it stems no longer enjoys the good currency it was in during the 1950s and 1960s, when it formed the basis of most national and international programs and proposals. This has been in no small part due to the growing realisation that many of the characteristics of the so-called developed countries are not only physically almost impossible to universalise (e.g. per capita consumption of energy and irreplaceable mineral resources) but also, in large measure, not necessarily conducive

to human happiness and well-being. This leads us to the first main charge levelled against the orthodox approach, namely that in adopting a 'checklist', 'ladder' or 'gap' approach to development, it becomes autobiographical and self-justifying, ethnocentric and racist (Jenkins 1971; Currey 1973).

The orthodox approach has come under increasing criticism from a variety of quarters and on a variety of other grounds. A list of its most important 'sins of omission and commission' might include the following:

1. First, it concentrates upon economic development as an objective outside the general field of social relations. By emphasising the ends, particularly economic change, it assumes that the means are of largely neutral character in determining the kind of society which change produces, and that they can be safely employed regardless of the existing socio-economic context. Specifically, it assumes that modern technology is a neutral element for social and economic betterment and the development record of the last three decades has provided more than sufficient grounds for contending that this is simply not so. It has become increasingly clear, for example, that the application of modern technology to an economic system characterised by pervasive inequalities has the effect of intensifying these inequalities and creating additional ones. The job and craft-destroying, pauperising effect, of the introduction of modern technology to many 'Third World' Nations have been well documented (George 1976; Smith in Mortimer 1973), as have been the deleterious consequences of its most celebrated example, the 'Green Revolution'. It is true that Norman Borlaug's work represents a significant agricultural breakthrough: Mexican wheat yields tripled in only two decades, while India's 1971 harvest of over 100 million tons of food grain can only be described as a record beater. It is also a fact, however, that - according to, among others, Frances Moore Lappe and Joseph Collins of the Institute for Food and Development Policy - there are now more hungry people than ever before, even when allowances are made for population increases (Moore Lappe and Collins 1976). With the 'Green Revolution' came the increased incidence of tenant and sharecropper evictions, the decreased use of agricultural labour,

and the increased concentration of land ownership into fewer and fewer hands. Not being socially neutral, the new technology intensified the contradictions of a system already shot through with vast inequalities. The result has been increased, not decreased, hunger as, while there might have been more food in the market, many more people now have less money to buy it (New Internationalist, July 1976).

2. This brings us to the second main charge against this approach to development, namely that by placing too much emphasis on the rate of economic growth it a) neglects the very real possibility that maximizing this rate may well be incompatible with the achievement of other 'ultimate' goals, such as the elimination of vast pools of unemployment or of mass poverty, or the preservation of the environment's ecological integrity, and b) overlooks the fact that, from the point of view of people's wellbeing, the content of growth is just as important as its rate, if not more so. The very real basis of this charge is borne out by the 'development' record of the last three decades: Despite quite impressive GNP growth rates (in overall as well as per capita terms) sustained over quite a few years in many 'Third World' countries (a very obvious example being that of Brazil or that of Indonesia (Mortimer 1973)), indicators of general wellbeing such as levels of unemployment and nutritional standards are strongly suggestive of a worsening rather than improving or even stationary trend for the majority of the people (Mortimer 1973; George 1976). While, according to the theory's assumptions, this may be held to be an effect of development confined to the short run, this 'short-run' is nowhere nearer a visible end today than it was at the beginning of the 'modernization programs': Research carried out for the 1976 International Labour Organization World Conference suggests that even huge and unprecedented economic growth rates as high as 12 per cent per year, would not be sufficient to trickle down and meet even the basic needs of the 'Third World's' poor by the year 2000. While, according to a report on India, in order to achieve a minimum subsistence level for everyone in the countryside, "the upper crust would have to increase their wealth by 2,555 per cent. On present trends it would take centuries". (New

Internationalist, September 1976, p.31).

It is therefore obvious that the theory's assumption that modernization, development and an improved standard of living would gradually spread out from the 'modern' enclave to the 'traditional' hinterland have not been borne out in reality. This can be attributed in no small measure not only to the fact that, contrary to one of the theory's major assumptions, the rich elite do not save and invest (Myrdal 1970), but also the fact that the huge inequalities in the distribution of income and wealth condoned and advocated by this theory have resulted in a form of 'development' dominated by the consumption patterns of this elite for capital intensive luxuries - epitomized by the motor car - which, whether imported or locally produced by foreign enterprise, often soak up scarce foreign exchange and result in the domination of the market by patterns of demand that have little to do with satisfying people's basic needs. As put by Eldridge (1976, p.8), "the most important criticism [of the orthodox approach] is that the content of development strategy is crucially affected by internal patterns of distribution - in terms of the cake analogy, it is a question of quality as well as quantity". As Myrdal (1970) convincingly demonstrates, equality and development are not only not incompatible but, contrary to orthodox assumptions, inequality inhibits development in various ways, and egalitarian policies are in fact an indispensable concomitant of any meaningful development strategy.

3. The destructive environmental consequences of cash-cropping monocultures and the heavy emphasis that is placed in many underdeveloped countries on the extraction and export of mineral resources will be discussed in some detail later in this paper. The point to be made here, constituting another major misgiving of the orthodox approach to development, is that it is through the theory behind this approach as well as the associated theory of comparative advantage that such production and export specialization has been actively encouraged and justified on the grounds

that it constitutes the best hope for development. The concept of comparative advantage is not only theoretically problematic (it treats existing factor endowments as somehow fixed and ordained by nature, contrary to evidence suggesting that factor endowments of individual societies and continents are politically and economically mediated (Senghaas 1975b) ); its prescriptions form a questionable policy for development, given the deteriorating terms of trade bedevilling many underdeveloped countries, in extreme cases resulting in a situation where the foreign exchange earned by the export of cash crops is not even sufficient to buy the food that could have been grown in their place, much less the industrial imports such as machinery and fertilizer required for cash crop production (George 1976).

4. Perhaps the most damaging weakness of orthodox theory is the extent to which it falsifies or ignores historical reality. Firstly, in recommending development along the lines of free trade and integration, it ignores the fact that the now developed countries developed and industrialized by policies of protectionism (Currey 1973). Secondly, and much more importantly, the theory of 'stages' of economic growth and development very nearly assumes that development as a process takes place in an international vacuum, in which the now-developed West developed, as it were, on its own. In so doing, this theory totally ignores the crucial role played by the now-underdeveloped countries both as sources of raw materials for, and markets for the export of the products of, the industrial revolution. A noncomitant and equally unrealistic premise of orthodox theory lies in viewing underdevelopment as the result of tradition and backwardness. In thus equating and confusing underdevelopment with undevelopment, it "... takes account neither of the history of the now underdeveloped countries nor of their crucial relations with the now developed ones over several centuries past ... which transformed the entire social fabric of the peoples whose countries are now underdeveloped" (Amin 1974, p.8). These questions will be returned to in subsequent parts of this chapter.

5. A final reason for doubting the validity or theoretical consistency of the orthodox approach has already been referred to, and is itself the product of the theory's severe weaknesses, such as those already discussed: its promises have not been fulfilled. The model on which the theory is based is linear and unidirectional - "it is only possible within the model for nations to develop and it raises only one problem. That is, why do some nations develop and other nations stand still? A large proportion of the literature in modern sociology and economics is devoted to this problem. In fact there is no problem to be solved because the assumptions of the Rostow model are wrong" (Jenkins 1971, p.74). Not only has the 'modern sector' failed to expand outwards inside individual underdeveloped countries themselves; also the substantial inequalities between the 'First and Third Worlds' the existence of which, it must be emphasised, is a relatively recent phenomenon in the history of mankind, have more than tripled this century and continue to grow (Sunkel 1972). The failure of orthodox theory to satisfactorily explain the origins of inequalities and their persistence are the basis of Myrdal's claim that the theory is bankrupt and must be replaced: It "cannot provide much of an explanation in causal terms or how the facts of international inequalities have come into existence and why there is a tendency for the inequalities to grow" (Myrdal 1963, p.9). The failure of that theory's prescriptions to stem this tendency led to its characterisation by the Cocoyoc Declaration on the Human Environment as "a travesty of the idea of development" (New Internationalist 1975).

The orthodox approach to underdevelopment therefore suffers serious deficiencies, both in its perception of the nature and causes of underdevelopment and, partly as a consequence, in its policy prescriptions. Some of these deficiencies have been discussed here and are well summed up by Camilleri as "intellectual ethnocentrism, excessive emphasis on the role of elites as agents of development, selective treatment of historical reality"

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\* Most striking, according to Camilleri, being "the tendency to overlook or dismiss the significance of the colonial experience".

and simplistic models of unilinear change" (Camilleri 1976, p.70).

(iii)

The vacuum of both intellect and credibility created by the growing realization that the dominant theory in the field of underdevelopment is shot through with inconsistencies and other theoretical weaknesses has been filled to a large extent by the centre-periphery approach to development and underdevelopment, pioneered by Paul Baran (1973) and extended by writers such as André Gunder Frank (1971), Samir Amin (1974) and Johan Galtung (1971). This approach differs radically from that of the orthodox policy prescriptions. It is also known in this field as the metropolis-satellite or metropolis-hinterland approach, and its various proponents constitute the dependency school of underdevelopment. It will be referred to here as the dependency approach, and the terms 'centre', 'periphery', etc. will be invoked where necessary.

The dependency approach begins by refuting the orthodox definition of underdevelopment (Frank 1971; Amin 1974). It is argued that although poverty, illiteracy, low per capita incomes etc. may well be manifestations of underdevelopment, they are not its defining characteristics.

The main flaw in the orthodox approach, it is argued, is that it confuses underdevelopment with undevelopment. Thus, equating underdeveloped countries with the now-developed ones in some past stage of their development neglects the fact that the latter may have once been undeveloped but were never underdeveloped. (Frank, in George 1976, p.95). This is because underdevelopment and development as defined here are both the necessary result and contemporary manifestation of a single yet dialectically contradictory economic structure and process: the capitalist system, consisting of both developed and underdeveloped parts. As such the two are not relative and quantitative, as the orthodox approach assumes and implies, but relational and qualitative (Amin 1974, vol.1).

The principal contribution of three main exponents, Amin, Frank and Galtung will be briefly discussed in turn, as, taken as a whole, their work is largely representative of the dependency approach.

Rostow's theory, Amin (1974) argues, takes account neither of the history of the now underdeveloped countries, nor of their crucial relations with the now developed ones over several centuries past, which transformed the entire social and economic fabric. Colonialism transformed societies that were coherent and with correspondence between their various sectors (that is, societies that, however far from perfect promoters of individual wellbeing, could be meaningfully analysed and understood on their own), into societies so integrated into a larger worldwide system and process that they are incomprehensible apart from their external relations.

According to Amin underdevelopment is therefore characterised by the following:

- 1) Unevenness of productivity as between sectors;
- 2) a disarticulated economic system, whose various sectors carry out substantial exchanges not between themselves but with markets and businesses outside the national economy; and
- 3) External dependence appearing first on the plane of external trade, with exports largely made up of primary products and imports largely made up of manufactured goods; and secondly on the financial side, with outflows of profits, fees, etc. by the local subsidiaries of multinational corporations far exceeding the inflow of capital.

None of Rostow's 'stages' account for or describe this situation, and his definition of underdevelopment suffers from "confusion between independent precapitalist economies and societies, characterized by their overall coherence, and economies and societies integrated into the dominant capitalist world through the historical fact of colonial subjection" (Amin 1974, p.20).

Frank (1971) also argues that underdevelopment is not an original, traditional or historical stage of economic growth, but something that has to be understood in terms of two important characteristics of capitalism:

First, the expropriation of economic surplus \* from the many

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\* Defined by Baran (1973, p.132) who first introduced the term in 1957 as "the difference between society's actual current output and its actual current consumption".



and its appropriation by the few, an exploitation relations which "in chain-like fashion extends the capitalist link between the capitalist world and national metropolises to the regional centers (part of whose surplus they appropriate), and from these to local centers, and so on to large landowners or merchants who [in turn] expropriate surplus from small peasants or tenants, and sometimes even from these latter to landless labourers exploited by them in turn. At each step along the way, the relative few capitalists above exercise monopoly power over the many below" (Frank 1971, p.32).

Second, the polarization of the capitalist system into metropolitan centres and peripheral satellites with metropolis expropriating economic surplus from its satellites and appropriating it for its own development, the satellites remaining (or more correctly according to this thesis, becoming) underdeveloped for lack of access to their own surplus.

What has come to be known as the Baran-Frank or the dependency, thesis is summed up by Frank as follows:

"These capitalist contradictions [see above] and the historical development of the capitalist system have generated underdevelopment in the peripheral satellites whose economic surplus was expropriated, while generating economic development in the metropolitan areas which appropriate that surplus - and, further, that this process still continues" (Frank 1971, p.27).

Galtung (1971), in seeking to explain (1) "The tremendous inequality, within and between nations, in almost all aspects of human living conditions, including the power to decide over those living conditions", and (2) "The resistance of this inequality to change" (p.81), utilizes and extends the dependency thesis, and his argument may be summarized (in point form owing to its complexity) as follows:

(1) The world consists of Centre and Periphery nations; each nation, in its turn, has its centres and its peripheries.

(2) The Living Condition of a party or group is defined as that party's or group's 'true' interests as they may be observed or stipulated by an outsider; it may be measured by using such indicators as income, standard of living, quality of life, autonomy.

(3) There is disharmony of interest between two parties if they are coupled together in such a way that the living condition gap is increasing; harmony of interest if it is decreasing.

(4) In a two-nation model, imperialism is conceived of as a sophisticated dominance relation between the two, which bases itself on a bridgehead, which the centre of the Centre nation establishes in the centre of the Periphery nation for the joint benefit of both. It is a relation between a Centre and a Periphery nation so that

- (a) there is harmony of interest between the centre in the Centre nation and the center in the Periphery nation,
- (b) there is more disharmony of interest within the Periphery nation than with the Centre nation,
- (c) there is disharmony of interest between the periphery in the Centre nation and the periphery in the Periphery nation.

Thus imperialism is not merely an international relationship, but a combination of intra- and inter-national relationships.

(5) (a), (b) and (c) above follow once the process of appropriation is fully mapped out: In the Periphery, the centre is more enriched than the periphery, drawing on part of the latter's surplus. However, for part of this enrichment, the centre in the Periphery only serves as a transmission belt (e.g. as commercial firms and trading companies) for value (e.g. raw materials) forwarded to the Centre nation. This value enters the Centre at the centre, with some of it drizzling down to the periphery.

(6) There are two mechanisms of imperialism, both concerning the relation between the parties concerned:

- (a) The principle of vertical interaction consisting of a gap in processing level between the exports of the Periphery to the Centre and the exports of the Centre to the Periphery. The Centre exports contain a higher level of processing and are of higher complexity and diversity than those of the Periphery. Thus the multiplier or spin off effects of processing are felt at the Centre, making for a more connected society and economy.

- (b) The principle of feudal interaction, whose main features are (i) interaction (trade) between Centre and Periphery is vertical, and (ii) interaction between Periphery and Periphery is missing.
- (7) These mechanisms have the following economic consequences:
- (a) High levels of concentration of trading partners in the Periphery as opposed to the Centre, both in the case of imports and the case of exports;
  - (b) Commodity concentration, or the tendency for Periphery nations to have only one or very few primary products to export. The explanation for this is mainly a historical and not a geographical one.
  - (c) The combined effect of these two consequences is the structural dependency of the Periphery on the Centre: Since the Periphery normally has a much smaller GNP than the Centre, the trade between them is a much higher percentage of GNP for the Periphery, and with both partner and commodity concentration, the Periphery becomes particularly vulnerable to fluctuations in demand and price. At the same time, the centre in the Periphery depends on the Centre for its supply of consumer goods; this is largely due to a demand for equality between the two centres, maintained by demonstration effects and frequent visits to the Centre.
- (8) The vertical interaction relation is the main factor behind inequalities in the world today, while the feudal interaction structure is the factor that maintains and reinforces this inequality by protecting it.
- (9) The two mechanisms are used not only between nations but also within nations, but less so in the Centre nation than in the Periphery nations.
- (10) This model can be expanded by interspersing a third nation between the Centre and the Periphery. Such nation could serve as a go-between, for example exchanging semi-processed goods with highly processed goods upwards, and semi-processed goods with raw materials downwards.

(11) Imperialism not only operates at the economic level, but also at the political, military, communications and cultural levels, each type interacting with and reinforcing the others. \* Further, the more perfectly the two mechanisms are put to work, the less overt machinery of oppression is needed. For both of these reasons, perfect imperialism is a highly stable system, based on structural rather than direct violence.

Galtung's model therefore further extends and substantiates the claim of this approach that when some nations are rich and some are poor, when some nations are developed and others are underdeveloped, this is intimately connected with the structure within and between nations. The reason it received such detailed attention is that it encapsulates virtually all the claims and arguments of the dependency approach to underdevelopment. Further, it provides a strikingly realistic explanation of the existence of persisting and widening inequalities, particularly in the light of the tests for internal consistency to which it is subjected (Galtung 1971, pp.101-103), and its application in classifying some sixty countries as 'Centre', 'Periphery' or 'Go-Between' economies \*\* (Galtung 1971, pp.110-111).

Summing up, the greatest departure of the dependency approach from orthodoxy is contained in the emphasis that it places on the nature of the relationship between the developed and underdeveloped countries of the capitalist world system, both past (colonial) and present (neo-colonial). In so doing, it seeks to explain the existence and persistence of widening inequalities between nations (i.e. the failure of some nations to develop) in terms of (i) the exploitive nature of that relationship and (ii) the relationship's effect in creating and maintaining economic disarticulation in the periphery, resulting in (iii) the structural dependence of the periphery on the centre. These will be subjected to more detailed attention in the following parts of this chapter, which will also attempt to provide some empirical evidence in substantiating the validity of this approach.

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\* The very terminology of 'development' and 'modernization' being a symptom of political and cultural imperialism (c.f. Eldridge 1976).

\*\* Interestingly enough, Australia seems to emerge as a 'Go-Between' economy, in which the development variables are suggestive of a 'Centre' while the trade variables are more suggestive of a 'Periphery' (Galtung 1971, Appendix).

## (iv)

As shown in the previous part of this chapter, the explanation offered by the dependency approach to the question of widening inequalities places a great deal of emphasis on what the orthodox approach virtually ignores: the nature of the relationship between developed and underdeveloped countries, both past and present. In this part of the chapter the claim will be discussed, and supported by some empirical evidence, that one of the reasons why inequalities widen over time and underdeveloped countries have failed to develop is constituted by the fact that the nature of that relationship is inherently exploitative; that indeed, as Myrdal (1963) has repeatedly put it, "from he that hath not is taken what he hath by he that hath".

Simply put, the claim is that the developed capitalist world as a whole developed as rapidly as it did because its development received a large measure of assistance from the wealth appropriated from the underdeveloped world as a whole; consequently, the latter did not develop because its wealth was, and is being, systematically expropriated. As Jenkins puts it, "Capital, profits, information, skills and knowledge all flow upwards from the nations that have been underdeveloped to nations which brought about their underdevelopment ... Mankind's surplus value tends to end up in the United States because it is U.S. capital that owns the major part of the world ... In return for extracting the surplus from man's labour ... the U.S.A. renames the oppressed nations and calls them 'developing countries' ... and ignores the fundamental reason for the division of the world into rich and poor. Some nations are poor because they lack the resources that are necessary to become rich, but for the majority of poor nations, this is not the case: they are poor because their surplus is expropriated. Some nations are rich because they have the resources that are necessary to become rich but for the majority of rich nations that is not the case either: they are rich because now or in the past, they were imperialist" (Jenkins 1971, p.161).

While it will be argued below that Jenkins is wrong in implying that this is the whole story, what he does suggest is controversial enough, and therefore in need of empirical substantiation.

That the imperialism of the past - colonialism - was little more than a mechanism for providing the Industrial Revolution with raw materials and markets is, it is assumed, an accepted fact. For such unrepentant sceptics as there may still exist, the words of a high-ranking civil servant in the British administration of India and Lecturer in Indian History at University College, London, should make the point sufficiently clear, if quoted at some length. Writing at the turn of this century, Romesh Dutt had this to say: "It is, unfortunately, a fact, that in many ways, the sources of national wealth in India have been narrowed under British rule. India in the eighteenth century was a great manufacturing as well as a great agricultural country, and the products of the Indian loom supplied the markets of Asia and of Europe. It is, unfortunately, true that the East India Company and the British Parliament, following the selfish commercial policy of a hundred years ago, discouraged Indian manufacturers in the early years of British rule in order to encourage the rising manufactures of England. Their fixed policy ... was to make India subservient to the industries of Great Britain, and to make the Indian people grow raw produce only, in order to supply material for the looms and manufacturies of Great Britain. This policy was pursued with unwavering resolution and with fatal success; orders were sent out, to force Indian artisans to work in the Company's factories; ... prohibitive tariffs excluded Indian silk and cotton goods from England; English goods were admitted to India free of duty ... An excise duty has been imposed on the production of cotton fabrics in India ... Agriculture is now virtually the only remaining source of national wealth of India ... but what the British Government ... take as Land Tax at the present day sometimes approximates the whole of the economic rent. ... In one shape or another all that could be raised in India by excessive taxation flowed to Europe. ... Verily the moisture of India blesses and fertilizes other lands" (The Economic History of India, London, 1901; quoted in Baran 1973, pp. 280-81, e.a.).

This statement not only establishes the true motives and effects of British colonial rule, which resulted in so stupendous a plunder that in 1875 the Marquess of Salisbury - then Secretary of State for India - warned that, "as India must be bled, the bleeding should be

done judiciously" (quoted in Baran 1973, p.278); it also demolishes the fallacy perpetrated by the orthodox approach, that the causes of underdevelopment are 'backwardness', 'tradition' and 'lack of capital', treating colonialism as if it had never existed. Furthermore, it is a case in point of the disarticulating effects that colonial subjugation had on the colonies, resulting in the lop-sided economics characteristic of many underdeveloped countries today - a subject for part (v) of this chapter.

More contentious is the claim that the process of expropriation did not end with political independence but is continuing in the present day through the mechanisms of neo-colonialism\*. Adherents to this claim have been aware of its contentiousness: the ruling ideology on the subject is that, although colonialism may well have had deleterious effects on its subjects, the latter have at last achieved political independence and can therefore relate to the ex-metropolises in terms that reflect their mutual interests. Any view that so radically differs from this ideology must therefore demonstrate its credibility by thorough documentation of its tenets. In fact, despite their contentiousness, the dependency claims seem well founded when we examine observable flows such as those of capital (money) and resources between the developed and the under-developed countries.

At the level of monetary flows via multinational corporations and other agencies of private investment in underdeveloped countries, it seems virtually beyond dispute that, with the possible exception of a short period of time following the initial investment, more money leaves than enters the 'host' economies.

Thus, according to the chairman of the executive committee of the U.S. based Continental Oil Company, "From 1957 to 1962 ... American oil companies spent \$4.2 billion in foreign nations and brought home earnings of \$7.6 billion" (quoted in Sweezy and Magdoff 1972, p.33). "What is involved here", remark the authors, "is a vast transfer of surplus produced abroad to the United States.

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\* Defined by African leaders as "the survival of the colonial system in spite of the formal recognition of political independence in emerging countries, which become the victims of an indirect and subtle form of domination by political, economic, military or technical forces ..." (see Barratt-Brown 1974, p.256).

And these multi-billion-dollar payments to the United States, far from enabling the paying countries to acquire title to the assets within their borders, go hand in hand with a steady expansion of the holdings of the American giants" (Sweezy and Magdoff 1972, p.33). This latter point is brought out by the statistics collected by another impeccable source - the U.S. Department of Commerce publication Survey of Current Business - according to which during the period 1950-1963 American corporations extracted from the rest of the world \$12 billion more than they invested in it, while at the same time adding \$28.8 billion to their foreign holdings (for basis of computation see Sweezy and Magdoff 1972, p.34).

In terms of more recent trends, the outflow of profits from underdeveloped countries as a whole stood at \$3,890.0 million for the period 1965-67; \$5,291.4 million for 1968-70; and \$8,788.9 million for 1971-73 (computed from data in UNCTAD "Financial Flows to and from Developing Countries" TD/B, XV/Misc 3, June 3, 1975, by Clairmonte 1975).

The role of multinational corporations in transmitting economic surplus out of the underdeveloped countries in the form of dividends, fees, patents and hidden charges has been correctly observed by economist Joan Robinson: "The international corporations, perfectly correctly from their own point of view, arrange their investments around the world and manipulate the flow of production from one centre to another to suit the requirements of their own profitability, not to promote the viability and growth of particular economies" (Freedom and Necessity, 1970; quoted in Barratt-Brown 1974, p.215).

Given that the net direction of monetary flows is from the underdeveloped to the developed countries, especially to the United States, it may be thought that the net flow of goods would be in the opposite direction. Precisely the opposite seems to happen in reality however, with the exception of manufactured goods and, perhaps, low protein foodstuffs such as grain.

Thus a boredom of evidence exists (Myrdal 1970; Borgstrom 1972, 1973; Caldwell 1975; Ehrlich and Ehrlich 1972; George 1976; etc.), convincingly demonstrating the existence of what has come to be known as the 'protein drain' from the underdeveloped world to the developed West in the form of such things as Peruvian fish, Mexican and Indian



shrimp, African and Asian groundnuts and other oil-seed crops, mainly destined for the markets of Europe and America as animal feed, margarine and soap.

"The almost 3 million tons of grain protein recently contributed to the poor nations by the rich and well-fed has been more than counterbalanced by the flow to the Western world of no less than 4 million tons of protein in the form of soybeans, oilseed cakes and fishmeal. The West is benefiting from a most deceptive exchange", charges Professor Georg Borgstrom (1972, p.79) who, according to Gunnar Myrdal (1970, pp.96-7), "has done public enlightenment a service by reiterating unceasingly the fact that a number of under-developed countries are continually exporting large quantities of high-quality, protein-rich food products to preserve and increase over-eating in the affluent, developed countries."

To this must be added the vast outflows of low food value - or non food - cash crops, such as sugar, coffee, cacao, bananas, cotton, jute, and other such products from all of Africa, Asia and Latin America (Baran 1973; George 1976), preoccupation with the production and export of which has resulted not only in vast expanses of environmentally destructive monocultures (Baran 1973), but also in the creation of extremely lop-sided economics (see part v) and a deteriorating capacity for food production (e.g. George 1976).

The outflow of mineral and fuel resources from the underdeveloped world to the West has also been well established and documented (e.g. Mowbray 1972; Camilleri 1976; Magdoff 1969).

The heavy dependence of western economics on mineral and fuel resources from the underdeveloped countries, as well as the relative self-sufficiency of the socialist bloc, have been well documented (Caldwell 1975). Of great importance is the very high percentage of the consumption of such resources taking place in the United States, which only possesses within its boundaries adequate supplies of about 12 of the 100 or so minerals most essential to its industry (Mowbray 1972): "The United States, with 6 percent of the world population, uses 35 percent of the worldwide energy consumption, 50 percent aluminium, 25 percent copper, 40 percent lead, 36 percent nickel and zinc, and 30 percent chromium" (Mowbray 1972, p.12).

"With a quarter of the world's population, industrial nations consume 31 percent of the world's [annual consumption of] petroleum and 95 percent of the natural gas. The United States ... consumes 34 percent of the world's oil and gas ... The Middle East and Asia, with one-half of the world's people, consume less than one-tenth of the world's petroleum, yet that is where the bulk of the world's oil is located." (Weisberg 1971, p.138).

That such vast outflows of resources should also be accompanied by vast monetary outflows is partly a reflection of the fact that the extraction, cultivation or harvesting of these resources is often in the hands of western corporations; and partly due to the related and perennial deterioration of the underdeveloped world's terms of trade with developed countries. With the recent exception of the oil-producing countries, underdeveloped countries have been faced with a situation in which the value of their (primarily unprocessed mineral or agricultural) exports has been steadily deteriorating, not only relative to their (primarily manufactured) imports, but absolutely as well in many cases (e.g. Jenkins 1971; Camilleri 1976; Birch 1975; Eldridge 1976; Heilbroner 1972; Myrdal 1963; Sunkel 1972). To give but one example of this well-known phenomenon, the African state of Ghana exported 214,000 tons of cocoa in 1954 for ~~£~~84.5 million, while its 1965 export of 490,000 tons fetched only ~~£~~68 million - the picture being even more dramatic for Nigeria, where the cocoa crop trebled and revenue remained the same (Jenkins 1971, p.61). On the whole, taking 1958 as a base, it is estimated that in the period 1955-1965 the terms of trade improved for the major western economies by 8 percent and declined for the underdeveloped countries by 11 percent, resulting in losses to the latter which in 1965 alone amounted to nearly \$4,300 million (Camilleri 1976, pp.75-7).

This situation must be traced, in the final analysis, to the weakness of underdeveloped countries' marketing position vis a vis the developed industrial economies, which can be explained largely in terms of two factors: commodity and market concentration. Using data from ECLA, IMF and IBRD publications (all United States agencies), Camilleri (1976) calculates that, in 1964, cereals constituted 35 percent of the total of Argentina's exports, while coffee accounted for 53 percent of Brazilian exports; an equally dominant role was

played by tea in Ceylon (60 percent), jute and hemp in Pakistan (50 percent), cocoa in Ghana (65 percent) and groundnut oil in Senegal (70 percent); in 1968, 90 percent of all Latin American exports consisted of agricultural and mining products. On the question of trading partners, Western Europe accounted for 85 percent of African exports in 1965; the United States and Canada for 47.5 percent of Latin American exports; in 1973, Bolivia depended on the U.S. and the U.K. for 77 percent of its exports; South Korea (70 percent), the Philippines (70 percent) and Indonesia (66 percent) on the U.S. and Japan; Algeria (64 percent) on France, Germany and the U.S.; and Zaire (62 percent) on Belgium and Italy. This, it may be noted, provides a striking illustration in reality of Galtung's (1971) theoretical "mechanisms of imperialism", vertical and feudal relations.

In conclusion, the claim of the dependency approach that the relationship between the underdeveloped countries and the developed west has been, and continues to be, an exploitative one, is a claim quite well borne out by the evidence. It is a major strength of the dependency approach that this is being increasingly recognized today, especially by the proposals for a 'New World Economic Order', currently being pressed by the so-called Group of 77, calling for remedies such as the formation of producer cartels; agreement with consumer countries for some kind of indexation of commodity prices to those of manufactured goods; and diversification of exports as well as higher levels of local processing\*.

This realization is also evident in the more recent writings of some authors, hitherto very much under the influence of orthodox theory, who still however reason that as "underdeveloped countries are not in a position to use those commodities themselves", they should 'strive towards obtaining a much higher return on their commodities, especially their irreplaceable mineral wealth' (Ehrlich and Ehrlich 1972, p.405).

These proposals and proponents are however committing basically the same error as those adherents to the dependency approach who attempt to explain underdevelopment exclusively in terms of

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\* For a good description and critique of the main proposals, see Eldridge (1976).

exploitative trade relationships (Jenkins 1971, p.161(quoted earlier); Sweezy and Magdoff 1972; Magdoff 1969). To do so however would be implying that the essence of the whole problem is merely an international one, to be rectified by, perhaps, increased aid or the local reinvestment of multinational profits rather than their repatriation.

The problem here however is that the integration of underdeveloped countries to the west via the presence of multinational capital has not only meant the extraction of profits for repatriation; it has also led the whole economy and society to take on characteristics of disarticulated, incoherent economic sectors, structural dependence and a very specific class structure. As Paul Baran put the point, "The worst of it is, however, that it is very hard to say what has been the greater evil as far as the economic development of underdeveloped countries is concerned : the removal of their economic surplus by foreign capital, or its reinvestment by foreign enterprise" (Baran 1973, p.325).

The argument here is that to simply concentrate on unequal exchange and the appropriation of surplus as the causes of underdevelopment, and to call for a reversal of this situation as a remedy to this malady amounts to committing the twin error of (i) underestimating the deep-seated effects which colonialism and neo-colonialism have already had on the local economies and (ii) missing the whole point of neo-colonialism which was to set up a governing elite that would exist and operate in a 'harmony of interest' (as Galtung (1971) would put it) with the elites of the ex-colonial powers - calls for a 'New World Economic Order' notwithstanding. These issues will be discussed in the following part of this chapter but will not receive the detailed attention given to the claim that the relationship between the developed and underdeveloped parts of the capitalist system is an exploitative one. This is partly because they are largely the consequences of what has already been discussed; and partly because the implications of this approach for the study of spatial imbalance and environmental deterioration largely follow from what has already been discussed.

## (v)

The two claims of the dependency approach that will receive further attention here are (a) that the economies of nations subjected to colonialism and neo-colonialism have been distorted in severe and specific ways, and (b) that a simultaneous effect of this process, at the socio-political level, was the creation of a ruling elite whose interests largely coincide not with those of their own people but with those of their respective counterparts in the developed countries.

On the first point, the disarticulating effects that colonialism has had by destroying indigenous handicrafts and industries and by converting relatively advanced - or at least coherent - economies into sources of raw materials and captive markets for the products of the Industrial Revolution were generally the same everywhere as the effect of British colonialism on India, discussed earlier (Amin 1974; Baran 1973; Sunkel 1972; Barratt-Brown 1974). A similar process took place inside the developed countries themselves, in the early days of the Industrial Revolution as well as in more recent times as the example of Italy demonstrates (Myrdal 1963). The essential difference however was that in the case of the under-developed countries this resulted in the transfer to the colonial west of the spin-off effects and multiplier mechanisms associated with processing and manufacturing and which caused accumulation and industrialisation to be a cumulative process (Amin 1974; Myrdal 1963; Galtung 1971); further, it led to a situation (persisting to this day as the earlier discussion on cash crops and the composition of trade demonstrates) in which whole countries were turned into the mere suppliers of one or two agricultural commodities, a trend perceived with considerable foresight by John Stuart Mill in the middle of the last century (in, Guest 1976), as well as by his contemporary, Karl Marx: "The cheapness of the articles produced by machinery, and the improved means of transport and communications, furnish the weapons for conquering foreign markets. By ruining handicraft production in other countries, machinery forcibly converts them into fields for the supply of its raw material. In this way East India was compelled to produce cotton, wool, hemp, jute and indigo for Great Britain. A new and international division of

labour, a division suited to the requirements of the chief centres of modern industry springs up, and converts one part of the globe into a chiefly agricultural field of production for supplying the other part which remains a chiefly industrial field" (Capital, vol. 1; quoted in Sweezy 1972, p.162).

Once this is realized, it becomes quite clear that the future of the system cannot be adequately analyzed in terms of the forces at work in any part of the system but must take full account of the modus operandi of the system as a whole (Sweezy 1972; Amin 1974; Frank 1971).

Therefore underdeveloped countries constitute incoherent economies, whose various economic sectors are complementary not with each other but with respective sectors in western economies to which they are vertically integrated (Amin 1974; Camilleri 1976; Senghaas 1975a, 1975b; Sunkel 1972; Wallerstein 1974). This forms the basis not only of the argument that they cannot be meaningfully studied in their own right (Amin 1974), but also of the very important claim that underlying the grave environmental problems facing both the developed and the underdeveloped countries - the respective violation of the 'outer' and 'inner' limits of the environment's integrity - are the inequities characterising the relationship between rich and poor (Cocoyoc Declaration on the Human Environment, New Internationalist 32, 1975; Mesarovic and Pestel 1975; Rowland 1973).

Furthermore, underdeveloped countries constitute incoherent societies, whose various classes relate differently to, and have a greatly differing interest in the continuation of, this symbiotic relationship with the developed West. It will be remembered that the dependency model (Galtung 1971) postulates a harmony of interest between the centre in the Periphery (i.e. the elite in an underdeveloped country) and the Centre (developed country), as well as a disharmony of interest between the centre and the periphery in the Periphery; further, that the centre in the Periphery constitutes the 'bridgehead' through which the unequal relationship between Centre and Periphery is maintained, and via which the Centre extracts wealth from the periphery in the Periphery.

Thus Jawaharhal Nehru observed in 1946 that in India "British rule ... consolidated itself by creating new classes and vested interests who were tied up with that rule and whose privileges depended on its continuance" (The Discovery of India, 1946, quoted in Baran 1973, p.283).

The orthodox attitude to the huge inequalities which exist within underdeveloped countries, as we noted earlier, is that such inequalities are necessary to maximize the investible portion of national income, so as to produce the capital necessary for independent industrialization and development. We also saw however that the rich don't invest as much as they engage in the consumption of western luxuries (Myrdal 1970), subject as they are to the "... flow of foreign values and standards [whose function it is] to produce public tastes and consumer wants which bear little relationship to the needs of underdeveloped societies. Thus, for example, in Latin America the production of facilities of the car industry ... restricted in any case to a small and privileged minority, absorb many of the resources which would otherwise be made available for the production of more universally accessible means of transport such as bicycles, buses and trains. The transmission of imported standards of consumption invariably results in a misallocation of resources and imbalanced development. ... Another deleterious consequence of multinational investment is the natural inclination of the indigenous personnel, who are directly or indirectly involved with the foreign corporation to absorb its cultural package for the purpose of personal achievement. ... Gradually there emerges a new class of entrepreneurs highly dependent on the foreign firm, predisposed to accept its ideology but indifferent and even hostile towards any concept of power sharing or distributive justice" (Camilleri 1976, p.111).

Camilleri thus makes a number of significant points:

First the point made earlier, that inequalities of income hinder and distort, rather than assist, the development process.

Second, that the main contention of the dependency approach is not so much that underdeveloped countries are doomed to eternally low levels of industrialization unless they break out of their relationship with the industrialized West (Warren 1973); but that

any such industrialization (Sunkel 1972; Senghaas 1975b; Holland 1975) is likely to be distorted and unbalanced and unlikely to assist in meeting the basic needs of the masses because (a) it will inevitably reflect the existing income distribution and patterns of demand, and (b) is unlikely to be initiated by local capital\* (whose nature and orientation is closely tied up with foreign capital), which is merchant or 'comprador' rather than industrial or nationalistic (Barratt-Brown 1974; Clairmonte 1975; Baran 1973).

Third, that it makes little sense and is in fact positively misleading to talk about 'rich' and 'poor' nations, as if these comprised of undifferentiated wholes, in similar circumstances and with similar interests: "Though doubtless inconvenient at the level of diplomacy, it would be far more realistic to talk about rich and poor people, groups and classes in as specific a way as possible" (Eldridge 1976, p.11).

Fourth, that the rationality of the ruling elite will be largely that of the multinational corporation, not only because of the 'infusion of modern values' but also because their interests are inextricably tied up together. Not only do ruling elites rely on the operations of multinationals for their economic fortunes, but multinationals rely on the loyalty of these elites "to keep these countries open to capitalist enterprise" (Barratt-Brown 1974, p.215). The implication of this is that ruling elites can be hardly any more concerned about the viability and growth of their countries, let alone about any ideas of redistribution or ecological integrity, than multinational corporations are (Joan Robinson in: Barratt-Brown 1974). For example, the almost irreversible state of environmental degradation in Sabah; the "extravagant exploitation of its natural forest resources - its main source of export income - and its failure to get the proper return for these; and the absence of steps to ensure the wellbeing of present and later generations of Sabahans" (Jones et al. 1977), cannot be attributed to ignorance, irresponsibility, or failure to take into account the environmental dimension, as the authors imply. For "one can only characterize this behaviour of the ruling elites in the peripheries as the

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\* Even though a great deal of it is financed by multinationals by local borrowing (Sunkel 1972; Barratt-Brown 1974).



expression of a miscalculation if one attributes to them genuine development intentions, i.e. a strategy for satisfying mass needs. If one does not presume such an intention ... this behaviour is rational in the sense that it aims ... at the survival of the elites within the framework of integration into the world capitalist market" (Senghaas 1975b, p.261).

In conclusion, the many manifestations of the problem of underdevelopment have to be understood not only in terms of the position of underdeveloped countries in the international capitalist system but also in terms of the internal structure of underdevelopment. The asymmetry that characterizes the relationship between the developed and underdeveloped parts of the capitalist world cannot be rectified by simply stemming the flow of profits or by improving the terms of trade. Talking in terms of rich and poor nations blurs the disharmony of interest inside underdeveloped countries as well as the harmony of interest between the two centres.

Concluding this chapter as a whole, the dependence of industrialized societies on the 'Third World' (crucial as this chapter has shown it to be and highlighted as it has been by recent political events such as the so-called energy crisis) pales into relative insignificance (considering the western world's powerful economic position) when compared with the deep-rooted structural dependence of underdeveloped countries on the economic processes of the West, in the context of a world economic system dominated by the latter (Sunkel 1972).

The underdeveloped countries do not represent coherent or autonomous economies, characterized as they are by unbalanced, lop-sided development and economic sectors with little cohesion, the result of their historic integration into a system of exploitative and unequally divided international division of labour. Thus they represent "a reflex reaction to the developmental direction of the world economic system, which is decisively determined by the capitalist industrial nations" (Senghaas 1975a, p.249). By concentrating on the nature of that integration, both in its colonialist and in its present form, the dependency approach yields the important conclusion that development and underdevelopment are intimately and causally

related, the development of some countries resulting in the under-development of others.

By placing due emphasis on the linkages between seemingly unrelated social and economic phenomena, the centre-periphery approach to the question of regional and national inequalities not only explains their persistence and growth over time; it also results in findings rich in their implications both for the problems of remote regions such as Tasmania and for the study of wider environmental issues, the subject of the following chapter.

## CHAPTER 4: UNEVEN DEVELOPMENT AS AN ENVIRONMENTAL ISSUE

(a) THE SUBJECT MATTER OF ENVIRONMENTAL ISSUES

Central to the preoccupations of environmentalists have been their efforts to understand and convey an understanding of the highly complex and often very subtle ways in which the seemingly unrelated or distant parts of the natural environment relate to and depend on each other for the smooth functioning of the whole. Thus, environmentalists have been greatly concerned in pointing out how man's impact on one part or level of the natural world may manifest itself in quite deleterious ways as it is transmitted through the natural web by, for example, the food chain.

This has been the traditional subject matter of ecology, which since a little more than a decade ago has achieved the status of a household word, with the widespread realization that the human environment was being systematically poisoned by harmful substances at rates beyond those with which nature could cope, resulting in various forms of atmospheric and water pollution; that the industrial process was churning out more and more producer and consumer goods at the cost of rapidly disappearing fossil fuels and other non-renewable resources; that the world's population was increasing at rates requiring the everincreasing expansion of industrial production to satisfy human needs; at the same time, that the area of land suitable for the production of foodstuffs cannot be increased at will, and attempts to increase productivity by the application of fertilizers, pesticides and other such substances was leading to new forms of ecological imbalances, such as pollution and soil erosion.

Such has been the seeming urgency of doing something about this multifaceted threat to man's environment and its life-sustaining processes, that environmentalists such as Ehrlich, especially in his earlier writings, were convinced that "there is no time for politics". Thus a view that is re-echoed is that "almost all theories, Liberal or Marxist, about the future development of capitalism, imperialism or the third world will become of strictly academic interest when ecological considerations intervene and so action derived from them becomes irrelevant" (quoted in Lowe 1977, p.5). Responsibility for

the deteriorating state of the environment's ecological integrity was laid squarely on the shoulders of 'man' - an untidy and irresponsible creature, 'fouling his own nest' and committing hubris against nature. Faced with a perceived matter of life and death, man was exhorted to forget about class differences; 'overdeveloped' countries were urged to somehow 'de-develop'; and underdeveloped countries were told to 'do something about the Malthusian nightmare', in harsh and repressive terms if necessary as 'there is no time for democracy' (Ehrlich and Ehrlich 1972).

Reference was made above to the extreme perceptiveness with which ecologists perceive the often subtle inter-relatedness of natural and biological phenomena. Yet, it is a reflection of the fact that environmentalists have largely been drawn from fields of the natural sciences such as ecology that this very inadequate emphasis has been placed so far on the equally important and equally subtle ways in which the various parts of any given social and economic system relate to each other, as well as the crucial interconnections between social and economic problems. Thus Enzenberger charges that the Ehrlichs "have extended their researches to human society, but they have not increased their knowledge in any way. It has escaped them that human existence remains incomprehensible if one totally disregards its social determinants ... [and] that this lack is damaging to all scientific utterances on our present and future" (Enzenberger 1974, p.27).

It would be unfortunate however if the ecologists' methodological ineptitudes caused great numbers of social scientists to carefully dissociate themselves from the environmental movement. For, as Enzenberger is careful to point out, "it would be a mistake to conclude that, because of their boundless ignorance on social matters, their statements are absolutely unfounded. ... To demonstrate that they have not been thought through in the area of social causes and effects is not to refute them" (Enzenberger 1974, p.27).

It is increasingly recognized however, that the source and seriousness of environmental problems cannot be properly understood, nor can alternative proposals for dealing with them be properly evaluated, unless one first perceives their intimate relationship with the economic system under which they occur, the motivating

forces and requirements of that system, and both the power relationships and the kinds of attitudes, values and aspirations that the system under consideration engenders and requires.

Thus, according to biologist Barry Commoner, "There is, in fact, a close connection between the immediate practical problems of environmental improvement and the apparently remote, theoretical questions regarding the design of present economic systems.

... In the long run effective social action must be based on an understanding of the origin of the problem which it intends to solve" (Commoner 1975, p.283). While for economist Barry Weisberg "There can be no way to understand the global disruption of the biosphere without understanding the global organization of political and economic activity. We must begin with an understanding of the nature of production itself" (Weisberg 1971, p.57). And also, "the interrelationship between social and biological imbalance cannot be overstated" (Weisberg 1971, p.71).

Not only is an understanding of social and economic processes important for the correct diagnosis of environmental problems; coming to grips with terms such as 'poor' and 'rich', 'haves' and 'have nots', rather than taking refuge in neutral terms such as 'man', is also important for the equitable implementation of programs of environmental reform that may follow from this diagnosis. As historian and social theorist Hugh Stretton has eloquently pointed out, there are equal and unequal ways of conserving resources as well as of squandering them, and how to conserve is a harder question than whether or what to conserve.

"There are dozens of ways to economize energy : some would stop the rich wasting it, others would freeze the poor to death. ... Old city streets or neighbourhoods can be conserved for the people who live in them, or they can be conserved by methods which drive these people out, bring richer people in, and make speculative fortunes for a few richer still. ... So however urgent it may be to wake people up to physical ecological dangers, environmental reformers also need political philosophies. ... Besides being less or more effective in technical ways, environmental reform will usually also have to be Right, Left, or otherwise contentious in a social way. ... Rhetoric about universal benefits for everybody

fools scarcely anybody these days" (Stretton 1976, p.3).

Stretton thus argues that conserving resources for the future is a socially simplistic notion because it is unidimensional, ignoring the fact that the competition for scarce resources does not only occur over time but also over class and over space:

"Should limited fossil fuels serve rich people now, rich people later, poor people now, or poor people later? Should scarce metals ... supply luxuries to rich Americans and Europeans, comforts to poorer Americans and Europeans, life-saving necessities to much poorer Brazilians or Javanese - or what goods to the grand-children of which of them?" (Stretton 1976, p.5).

These questions are simply not asked - let alone answered - in the copious environmental literature that has appeared in the last ten or so years - nor have there been any notable attempts on the part of environmentalists to establish the connections between ecological and social imbalance that Weisberg regards as crucial to the whole environmental issue. One suspects that even if these questions were asked, no satisfactory answers would have been provided, given the lack of any theoretical understanding of the nature of these social imbalances. Except in the 'pressure group' (i.e. the American) meaning of the word 'politics', environmentalists have on the whole remained strictly non-political animals.

And yet, Commoner and Weisberg are absolutely correct; the relationship between ecological and socio-economic imbalance is a crucial one, and so is the importance of understanding it. As will be argued in the following part of this chapter, problems of pollution, resource exhaustion, soil erosion and even 'over-population' are usually caused - and almost always intensified - by spatial and economic inequalities and their tendency to widen over time. They may be usefully thought of as, on the one hand, the environmental consequences of overdevelopment and, on the other, the environmental consequences of underdevelopment.

#### (b) THE SOCIAL DIMENSIONS OF SOME SPECIFIC ENVIRONMENTAL PROBLEMS

Stilwell has argued that the question of environmental quality must be understood in terms of uneven development as both the social

and the physical environment are adversely affected by metropolitan primacy (Stilwell 1972b, 1974). The adverse effects on the social environment that Stilwell refers to are the much-discussed problems of big cities. Important as these are, it is more relevant for this paper that the discussion be confined to the effects of spatial imbalance on the physical environment.

The congestion problems of big cities are well known, and manifest themselves in a variety of ways, including traffic congestion and other such pressures on all forms of social infrastructure. However congestion is not only a cost in itself; it also makes the problems of pollution worse than they would otherwise have been, particularly water and air pollution. In simple terms, this can be demonstrated in terms of two main concepts: 'threshold levels of pollution', and the 'interaction of contaminants' (Stilwell 1974, pp. 130 ff.).

Threshold levels of pollution are those levels beyond which the natural waste-disposing mechanisms in ecological systems cannot cope; over-reaching these levels can cause irreversible changes in ecological systems, which would not occur if the polluting activities were more widely dispersed in space - or would take much longer.

The 'interaction of contaminants' concept is important here because, while the air or water systems may well be able to cope with individual pollutants reasonably well, a complex of pollutants may interact with each other in such a way as to cause irreversible ecological change, the total effect being greater and qualitatively different than the sum of the parts.

Therefore, the spatial proximity of the various polluting activities in large metropolitan areas - the product, it has been the argument of this paper, of the spatial imbalance that characterizes capitalist economic development - leads to high concentration of residuals, more interaction and therefore a more intense pollution problem than would exist if the same amount of pollutants was discharged over a wider area.

Furthermore, because of the divergence of private and social costs and benefits and the tendency for environmental costs to be

unevenly distributed (see earlier discussion), no natural economic mechanism exists that would ensure that environmental deterioration of this type leads to the decentralization of economic activity.

That the vast metropolitan cities of the western world should become so heavily polluted that they are virtually unfit for human habitation (Poleszynski 1977; Galtung 1976; Caldwell 1972; Adamson 1975) comes as no real surprise in view of the vast amounts of energy and mineral resources that constantly flow from the underdeveloped countries to the developed west. Given the special position of the United States in this matter, it may be worth noting that "Los Angeles County alone has more registered automobiles than the entire continent of Africa ... [and] the state of California consumes as much electricity as ... China" (Weisberg 1971, p.148), in illustrating his argument that "centralization of industry and other basic necessities generates ecological imbalances both in terms of population congestion as well as the other ecological results of intense industrialization" (p.136), and his contention that "America as an empire is today the primary and most substantial agent of biological and social destruction" (p.148).

Key emphasis has been placed by the centre-periphery approach to the importance of the processing and manufacturing stages of production in creating the spin-off, or multiplier effects that lead to development. It was noted earlier in this paper that the lack of development in some countries and its presence in others can be largely traced to the export of unprocessed raw materials from the former to the latter. That development in the west should turn into overdevelopment and the serious infringement of the environment's 'outer limits' could well have been described as an revengefully ironic turn of events, where "the modern King Midas becomes a victim of his own greed and turns his environment into muck rather than gold ..." (Galtung 1971, p.89), were it not for the fact that the 'inner limits' of ecological integrity are still being seriously infringed at the opposite end of the scale: the environmental problems of overdevelopment are rivalled by the environmental problems of underdevelopment as a cause for serious concern, the two being intimately and causally related to the inequities between centre and periphery - the connection being



well articulated by the Cocoyoc Declaration on the Human Environment:  
 "Large parts of the world today consist of a centre exploiting a  
 periphery and also our common heritage, the biosphere"

(New Internationalist 32, October 1975, p.12).

The 'inner limits' of ecological integrity mentioned here refer to the poverty, hunger and disease to which large masses of people in the underdeveloped world are subject. In the words of the Cocoyoc Declaration they constitute as much of an ecological threat as does the pollution and congestion of the overdeveloped West, not least due to the by now well-established fact that unless and until these conditions of human misery and degradation are eliminated by meaningful development that centres on the satisfaction of basic needs, human fertility rates are unlikely to decline (George 1976; Miro 1973; Boserup 1974).

The environmental consequences of underdevelopment are much more extensive however.

The depletion of non-renewable resources is taking place at a very rapid rate, and has been implicit in much of what has been already discussed in this paper. The erosion and water pollution caused in the process are well documented by Miro (1973, p.121-2).

Equally as environmentally destructive in their direct and indirect consequences are the massive outflows of food crops and other agricultural commodities (extensively discussed earlier in this paper). These have been many and serious, and have been adequately described by writers such as Moore-Lappe and Collins (1976), Baran (1973), and Miro (1973). They relate not only to the ecological dangers associated with extensive monocultures and the ruthless exploitation of the soil's wealth by absentee farmers, but also to the process in which flat, fertile land is increasingly being taken over by large, often foreign-owned, cash-crop farms and subsistence farming is consequently pushed onto marginal lands at the cost of irreparable erosion.

Problems of hunger and environmental destruction, generally attributed by environmentalists to 'overpopulation', can thus be seen to have their cause in the pervading inequalities behind underdevelopment. If however overpopulation does in fact constitute an environmental threat in certain countries, the evidence of the last

decade on the subject would seem to suggest that the answer lies not in the enforced sterilization programs attempted in India and advocated by many western environmentalists, but in the kind of development that would reduce fertility by making large families unnecessary (e.g. George 1976).

Finally, not only are the environmental problems of the centre intimately connected to those of the periphery, but may also constitute the grounds for further assaults on the fragile equatorial and tropical ecosystems where most underdeveloped countries are situated: the possibility that multinational corporations, facing increasingly stringent environmental legislation in the developed countries, will increasingly relocate their 'dirty' industries and processes in the underdeveloped world, a strategy already engaged in by the developed countries, which are beginning to "locate polluting industries elsewhere in the economic cycle" (Galtung 1973, p.107), and probably welcomed by many 'Third World' governments, already engaged in heavy competition with each other to attract industry, in what one writer has described as an "incentive scramble" (Senghaas 1975b).

Such an eventuality would of course be quite consistent with the dependency approach and a good illustration of one of its basic tenets: that economic development in the periphery takes place according to the requirements of the centre, and not according to the requirements of the periphery for economic viability, satisfaction of basic human needs, or a decent environment.

## CHAPTER 5: UNEVEN DEVELOPMENT AS A TASMANIAN PROBLEM.

This concluding chapter constitutes a preliminary attempt at explaining Tasmania's economic and environmental problems in terms of the centre-periphery approach to spatial and economic inequality. This will take the form of outlining the principal features of these problems and drawing on the conceptual framework of this approach to highlight their inter-relatedness. It will be concluded that Tasmania's environmental predicaments are largely due to the nature of its economic development which should, in turn, be examined and understood both in terms of its internal structure and external linkages.

Reiterating and expanding the brief description given at the introductory part of this paper, Tasmania's industrial and employment structure displays the following principal characteristics:

First, Tasmania's economy is dominated by a few relatively (by Tasmanian standards) large companies, seven of which accounted for 28 percent of all mining and manufacturing employment in the State in 1976: Electrolytic Zinc Co. of Australia Ltd., Associated Pulp and Paper Mills Ltd., Cadbury Schweppes Pty. Ltd., Australian Newsprint Mills Ltd., Comalco Aluminium (Bell Bay) Pty. Ltd., Mount Lyell Mining and Railway Co. Ltd., and Coats Patons (Aust.) Pty. Ltd. (Callaghan 1977). Virtually all of these companies are local subsidiaries of multinational corporations whose management is located outside the confines of the Tasmanian (and, in the last analysis, the Australian) economy.

Second, these companies largely operate on an import-export basis in what is basically an export oriented economy. Therefore, while the level of their operations is a particularly important factor in determining levels of employment and income (particularly in some of the State's regional communities which, like Queenstown, depend on one or two industries or companies for their very existence); and while the frequent difficulties of most of them directly or indirectly affect the State's whole economy; the fact that they export their products and, in some cases, import most of their production materials, means that they "do not have as big an economic effect on the State as is sometimes suggested" (Callaghan 1977, p.35).

They do however, and this is the third point, contribute to the State's high degree of vulnerability to forces outside its control, such as demand and price fluctuations in overseas markets for its principal export products (Wilde 1977; Callaghan 1977; McRobie 1976). Thus Callaghan points to the "need to reduce the vulnerability of the Tasmanian economy to cyclical business fluctuations conveyed through the large companies" (Callaghan 1977, p.36); while, for George McRobie, "one of the principal goals of a development strategy ... would be to maximize local control over the economic and social environment, and minimize dependence upon the vagaries of the world market" (McRobie 1976, p.3).

Fourth, the vulnerability of the State to forces outside its own control is partly due to the preponderance in the economy of a few export oriented large companies whose management decisions are taken outside the State; partly intensified by the tendency of many of these companies (more clearly observable in recent years), to scale down their level of operations in Tasmania, or even leave the State altogether, usually to expand production somewhere else; \* and partly due to the high degree of export specialization characteristic of the State's economy, both in terms of markets and of products. Thus, out of total overseas exports valued at \$250.6 million in 1975-76, 72 percent (\$180.5 million) comprised seven products (beef and veal, copper ore and concentrates, iron ore and concentrates, lead ore and concentrates, refined zinc, woodchips, and greasy wool); at the same time, Japan, the United States and the United Kingdom constitute the State's main overseas export markets (imports are more diversified), with Japan receiving some 44 percent of overseas exports (Australian Bureau of Statistics tables reproduced in: Callaghan 1977, pp.18, 20).

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\* "The majority of existing Tasmanian-based industries do not envisage significant growth of their business activities within Tasmania and I was unable to find any significant new areas of development" (Callaghan 1977, p.34).

Fifth, industry in Tasmania is characterized by resource extraction and basic first stage processing, and lacking in the more sophisticated types of processing and manufacturing (Callaghan 1977; Wilde 1977; Young 1976), and heavy reliance is placed on the import of manufactured consumer and producer goods (Callaghan 1977). This has implications not only in terms of the low return received on the State's exported natural wealth (Young (1976) insists on these grounds that no primary product should be exported without having undergone processing); but also in terms of the loss to Tasmania of the multiplier effects such processing and manufacturing would have on the State's economy, but which is presently exported to other states and countries.

Sixth, these characteristics of the State's industrial structure are reflected in its employment structure features which include persistently higher levels of unemployment than in the rest of Australia, by as much as one-third; lower levels of participation in the work force, particularly by married females and the young; limited choice of employer and types of employment; limited promotion prospects and career opportunities of an administrative nature; and a relative lack of stability of employment. These result in a steady flow of net outmigration, particularly by the young and the educated, a major object of the State Strategy Plan's concern (Lyneman 1976; Callaghan 1977; Wilde 1977). The State's employment problem - particularly severe in some of the regional communities but increasingly so in the metropolitan areas as well - has been a major concern of successive State governments, reflected in various policies designed to attract industry, notably that of providing vast amounts of hydro-electricity to industrial users at unusually low rates (Callaghan 1977).

Turning to the State's environmental problems, we find that, in the words of a visiting consultant, "The general evidence of pollution is startling for so small a population. Not only is water pollution widespread, but includes both highly toxic compounds and pathogenic materials. The rivers are polluted by smelters, refineries, pulp mills, chemical plants and by discharge of raw sewage. Pollution has been measured, with undetermined accuracy, at supra-dangerous levels of mercury and cadmium, zinc and copper ... These are among the most lethal compounds known to man ... [in levels] much in excess

of levels which have caused very serious health problems in Canada-U.S.A. and approach[ing] the Japanese Minamata levels" (Young 1976 - Xerox copy, page number cannot be determined). The contamination of the River Derwent is a particularly well-known problem area, and Young's concern over this leads him to conclude that "law prohibiting the discharge of mercury is absolutely necessary" (Young 1976).

As well as facing these serious pollution problems, Tasmania is also subject to problems of resource conservation, particularly in the form of preserving some of the world's most unique flora and wilderness areas - the nationwide controversy surrounding such events as the flooding of Lake Pedder and the likelihood of a similar controversy over the proposed Gordon River power scheme being cases in point. Young (1976) also notes with concern the rapid rate at which the State's forests are being depleted, pointing to the fact that only four percent of the eucalypt and six percent of the myrtle still standing are protected by State forest reserves; furthermore, this situation is placing under a direct threat the survival of many of the State's native animals and birds whose habitat was eucalypt (Young 1976).

Underlying these environmental problems and adding a further dimension to their seriousness is the serious lack of official concern over the situation, an indication of which is the almost total lack of serious attention to the environmental dimension in the recent State Strategy Plan (Lyneman 1976). Young noted with concern the prevailing public service attitude "that Tasmania is somehow unique, that WHO mercury standards are unrealistic, and that to Tasmanians mercury is a vitamin". He further states that Tasmania's resource laws are permissive, usually first stating that no damage may be done to the environment and then proceeding to exceptions: "The result is a codification of specific authority to permit harvests, destruction and pollution. Where such codification permits the passage to future generations of a diminished resource base, it does so in defiance of the concept of stewardship on which it is based". Furthermore, Young argues, where levels of pollution similar to those facing Tasmania have been found in other countries, they

have been recognised as health problems: "Geoepidemiological studies follow. There is a public outcry. Industries are closed down, often after bitter legal battles, and usually a number of public figures fail to gain re-election" - but apparently not so in the case of Tasmania (Young 1976).

Therefore the State is facing quite severe economic as well as environmental problems, and while the former receive adequate recognition at both State (Lyneman 1976) and Federal (Callaghan 1977) government level, the latter do not (Young 1976). It is to the merit of the centre-periphery approach advocated in this paper that not only does it adequately explain the State's economic problems; it also explains both the environmental problems themselves, as well as official and public attitudes towards them, as largely a reflection of these economic maladies.

Thus a centre-periphery approach to Tasmania's economic problems would trace the State's economic structure to factors such as the tendency for industrial development to concentrate in the centre regions (Melbourne and Sydney), drawing resources, capital, as well as 'human capital' to those regions. It would be noted that Tasmania seems to be continuing to serve its historical role as a supplier of agricultural produce and other raw materials to a metropolis, be it Britain, the United States or Japan. It would relate the tendency for multinationals to scale down their operations in Tasmania to their simultaneous tendency to expand operations in various underdeveloped countries \* (Holland 1975; 1976). It would note both the export of multiplier effects in the form of unprocessed goods, and the loss to the economy of the State implied by the subsequently much higher value contained in the manufactured products embodying these goods - an implication being that, contrary to prevailing opinion, Tasmania is subsidizing the centre States of Victoria and New South Wales (as well as countries such as Japan). It would explain the State's environmental problems neither so much in such bland orthodox terms as "strategic problems between economic development ... recreation and

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\* In a process described by one writer as the Latinamericanization of Australia (Wheelwright 1977).

conservation" (Lyneman 1976, p.58) - these conflicts exist everywhere - nor in terms of particular personalities, as has been the tendency in the local 'environmental movement'; instead it would trace these problems to Tasmania's economic role as a provider of raw materials (including energy) and the economic structure that this role has dictated on the State since its days of white settlement. It would further explain the seeming lack of official concern over these problems not so much in terms of a 'comprador class' - the analogy should not be stretched too far, though even this may be a useful term to describe and explain certain situations - but in terms of the economic problems themselves, particularly the State's failure to attract industrial activity of sufficient levels and diversity in order to satisfy the demands of a job-conscious electorate. The latter's seeming preference for satisfying and well-paying employment over a clean environment - a study in political economy in itself - must mean that a government would need to show more than its ordinary share of courage, determination and lack of concern over re-election, if it is to adequately preserve the State's ecological integrity in the face of perennial stagnation and high and rising unemployment.

There would seem to be more need than ever before for concerned environmentalists to at least begin to come to grips with questions of political economy - even though its insights make the possibility of effectively solving environmental problems within the existing economic framework appear quite remote. (Stilwell 1972b; 1974).



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