THE POVERTY OF MODERN GEOGRAPHICAL ENQUIRY*

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> . . . narrowness of outlook is characteristic of Western civilization. Since the middle of the nineteenth century a kind of university instruction has developed which is no longer interested in transmitting a unified image of the world, but rather in isolating, and mutilating facets of reality in the supposed interest of science. The tremendous impact of scientific progress produced a fragmentation of culture and pulverized it into little grains of learning. Each scientific specialist seized his granule and turned it over and over beneath the powerful lens of his microscope striving to penetrate its microcosm with a marvellous indifference to and towering ignorance of everything around him. Recently in Europe and the United States an extreme development of this type of university education has created within the culture a sort of civilization *sui generis*, a specialists' civilization, directed by men whose scientific outlook is rigorous but who suffer from a deplorable cultural and political myopia.
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> Josué De Castro, *The Geography of Hunger* (1952)

JUST over ten years ago, it was asserted that geography had experienced a quantitative revolution, which constituted an historical event of fundamental significance for the future of the discipline.[1] The application of quantitative methods of analysis, and the construction of various spatial models designed supposedly to explain particular facets of reality, have since become the hallmark of much of the geographical investigation carried on in North America, Britain and other parts of the capitalist world. We are now into the middle of the 1970s, and the growing numbers of geographers who have become rapidly disillusioned with much of the modern geographical writing continue to look for the presentation of detailed critical perspectives. Although the paper that follows is not meant to set forth a comprehensive critique,

*Some critical comments on the Anglo-Saxon mainstream of abstracted empiricism, and suggestions for an alternative approach with respect to the study of underdevelopment.

This paper was originally prepared for a staff-student seminar on Trends in Modern Geography at the University of Dar es Salaam, August 1974.

[1] Burton (1963).

it does at least aim at identifying and succinctly describing what are considered to be the essential weaknesses of the dominant Anglo-Saxon school within modern geography. It is concluded with a few brief suggestions for an alternative approach in the field of underdevelopment studies.[2]

TWO SCHOOLS WITHIN CONTEMPORARY ANGLO-SAXON GEOGRAPHY

In general terms, I would argue that it is possible to distinguish two schools of geographic enquiry which, although not isolated from each other, certainly do possess quite different characteristics. First, one can identify the man-environment school which is primarily concerned with studying the complex range of relationships between the physical environment and human activity, and, secondly, there is a much more dominant school, which we can call a contemporary mainstream. This latter stream has been referred to as the "new geography", and is usually distinguishable by its strong emphasis on quantitative analysis and model-building.[3] I shall refer to it here as the Anglo-Saxon mainstream of abstracted empiricism.[4] Although the criticisms that are mounted below are aimed at the mainstream, nevertheless many of these points also apply, with minor adjustments, to the original man-environment school.[5]

THE SALIENT WEAKNESSES OF THE ANGLO-SAXON MAINSTREAM

(i) *An Inverted Methodology*

With post-war improvements in computer technology, and the availability of increasingly sophisticated electronic computers, the foundations were laid for a cumulatively complex analysis of data. Accordingly, one of the fundamental aspects of the "new geography", born out of the quantitative revolution, was the use of more and more rigorous

[2] Elsewhere I have tried to develop a more detailed approach for the specific case of Tanzania; see Slater (1975).

[3] The aims and methodology of the new geography have been primarily based on the work of such people as Haggett, Chorley, Berry, Bunge, Gould, the early Harvey, and King.

[4] The term "abstracted empiricism" was first used by Wright Mills (1959) in his work on modern sociology.

[5] This is especially the case with weaknesses (i), (iv), (v), (vi) and (vii)—see text below. In the case of weakness (i), although the excessive concentration on techniques of analysis may not be as characteristic of the man-land school as of the mainstream, nevertheless the methodology of the more traditional school is also inverted because there has been relatively little development of theory, and, above all, a strong attachment to the ideological position that the "facts" somehow take on a meaning outside of particular conceptual frameworks.

techniques of spatial analysis which developed at a pace more-or-less commensurate with the expanded supply of data.

Now, as the mainstream has evolved, there has been a marked tendency toward making the collection of data, and the utilisation of various techniques of classification, measurement, prediction and so on, the central objective of research. Further, it would seem that the problems involved in the actual focus of research have often been predicated on the type of data being analysed, as, in a similar manner, the selection of appropriate theoretical frameworks has often been based on the empirical results of data analysis. Thus, instead of a concentration on the theoretical issues embedded in any substantive attempt at explanation of social reality, relative sophistication in the measurement and description of a set of abstracted relationships has tended to become the major gauge of scientific worth. And in this unsatisfactory way, the methodology of research has been inverted.[6] Its weakness lies precisely in the fact that it ignores the crucial point that "theories define data, not vice versa".[7]

(ii) *The Accumulation of Data is out of all Proportion to the Development of Theoretical Explanation*

Whilst the importance of using increasingly complex techniques of spatial analysis has grown, so too has the assemblage of greater and greater quantities of research data. In fact, these two trends reinforce each other in the sense that the greater the range of available data "targets", the more likely will it be that a pre-selected statistical technique will score a "hit". Therefore, in practice, what often happens is that one of the major aims of a researcher becomes the acquisition of as many data as possible. Unfortunately, in these sorts of situations, the researcher remains enclosed in a methodological framework where one can examine only the surface appearances of social reality and as such explanation continues to be elusive.

(iii) *Mechanistic Abstractions from Socio-economic Reality*

In the sphere of the new geography, particular variables have been torn out of their context and analysed in isolation from the social totality of which they are only a part. Thus, for example, one of the new geographers might be interested in analysing migration and relating

[6] A neat example of this is to be found in Gould's paper on modernisation in Tanzania, where he asserts that "a number of variables are available and we assume that they index the spatial intensity of modernization". Gould (1970): 152.

[7] Guelke makes this vital point in an interesting and seemingly somewhat neglected paper on the problems of scientific explanation in geography. Guelke (1971): 49.

the movement of individuals to a measure of distance. In this framework, it may be posited that there is an inverse relationship between rates of migration to a particular urban centre and distance, *i.e.*, those areas furthest away from the town under study will contribute, all things being equal, smaller proportions of out-migrants to the expanding urban centre.[8] This relationship can then be examined, first, by computing a correlation coefficient, and then, secondly, perhaps, by testing it in the form of a simple regression model. The work may conclude with some tentative theorising about the relationship of migration to distance, but little will be gained in the way of an understanding of the processes that act upon those people that actually migrate, and nothing will have been advanced on a wider interpretation of rural-urban migration in a specific historical and political-economic context.[9]

In a related fashion, one of the new geographers might be interested in changes in regional income inequalities within a Third World country and may utilize a quite complex measure of inequality on the income data that he has at his disposal. Then, the indices of regional inequality may, if the data permit (or if not the data may be extrapolated for intermediate years), be examined within a time dimension and conclusions drawn in a context of adopted theoretical constructs on trends in income inequality usually gleaned from orthodox economics.[10] The end product often makes rather depressing reading, as almost always the empirical results are interpreted as objective conclusions, with the implication that somehow or other the results of the data analysis represent a contribution, no matter how modest, to the development of theory. But, unfortunately, a theory of regional inequality in underdeveloped countries has not been, nor can it be developed in the context of abstracted empiricism, and it is here that we now move to what is considered to be a crucial and widespread weakness—the lack of an explanatory base in the Anglo-Saxon mainstream.

(iv) *A Concentration on the Description and Measurement of Forms rather than on Explanation of Underlying Processes*

Berry and Marble have contended that the identification of pattern is but "a first step in the search for processes that have generated that pattern". However, as Guelke argues, it is quite feasible to mathematically describe complex spatial patterns without acquiring any com-

[8] In this context, the rates of migration are calculated by taking the number of people who have migrated out of a given spatial unit as a percentage of the total population of that particular unit.

[9] A pertinent example of such an approach can be found in a recent article by Thomas and Catau (1974) who analyse migration in Guatemala.

[10] A good example here would be the work of Semple and Gauthier (1972) on income inequalities in Brazil.

prehension of the processes involved in their creation. He continues his line of argument by citing the example of the spread of banking facilities in Ontario, which one of the new geographers might be able to simulate with mathematical equations, but the equations themselves would not furnish a description of the process responsible for the generation of these patterns.[11]

The apparent inability of many geographers to explain the underlying processes that give rise to the spatial forms and patterns, which appear to be of such predominant importance in contemporary research, constitutes a widespread and fundamental deficiency. This is, to some extent at least, related to the previously described weaknesses of an inverted methodology and an over-expanded accumulation of research material which orientate the majority of new geographers away from theoretical considerations and thus tend to reproduce the undesirable concentration on forms and pattern. It would seem both more accurate and more constructive to suggest that it is this distorted orientation, rather than any permanent theoretical inaptitude of the geographer *per se,* that helps to account for the underdeveloped nature of explanation within the contemporary mainstream.

(v) *Attempts at Theoretical Formulation are Primarily Derivative and Uncritical*

Having briefly argued that there is a lack of explanation of underlying socio-economic processes in modern geographical analysis, it is now necessary to extend this point a little further, and in so doing we touch on a related and pervasive weakness. Here, I am referring to those geographical studies which have adopted and/or derived models and theories from other social sciences in a way that remains mechanistic and uncritical.

This particular defect has been identified and examined by a number of commentators for varying branches of the Anglo-Saxon mainstream. For example, Massey has clearly demonstrated the uncritical nature of industrial location theory, founded as it is on various erroneous assumptions of neo-classical economics; Doherty has critically examined studies of the spatial segregation of immigrant and racial groups, noting that geographical explanations in this field of enquiry are "derived from the stored orthodoxy of such disciplines as economics, sociology and psychology", and, significantly, one of his conclusions was that in their search for explanations of the patterns of racial segregation and deprivation, geographers have engaged in an unsatisfactory mode of thought which "abstracts things from their conditions of existence". McGee and Santos have both exposed the theoretical naiveté of much of the

[11] Again, Guelke has some useful things to say; in this instance, on the whole question of pattern versus process. Guelke (1971): 41-42.

geographical writing on Third World urbanisation; and, also in the context of underdeveloped countries. Slater has provided some analysis of the uncritical application of dualistic conceptions and modernisation theory in development geography.[12]

From these studies, it becomes clear that the mechanistic adoption and derivation of bourgeois concepts and theories from related disciplines have frozen geographical explanation at the level of surface phenomena, and as long as this situation persists theoretical explanation will remain underdeveloped. To show why this is so, we need to proceed to a consideration of two further and closely related flaws in modern geographical enquiry.

(vi) *A Failure to Grasp the Vitally Important Interconnections between Spatial Structure and Political Economy*

In his influential work on locational analysis in human geography, Haggett suggested an analytical framework for the study of regional systems which was organised around the following five spatial concepts: movements, networks, nodes, hierarchies and surfaces. These concepts are to be viewed in a sequential fashion, so that each concept represents a higher level of complexity in the functioning of a regional system.[13]

Now, certainly, this kind of framework possesses some logical elegance, but as Haggett goes on to develop and fill in the contents of the framework we are presented with a scholarly analysis of spatial forms, but nothing is really advanced by way of a substantive explanation of the underlying processes that give these forms their meaning. Throughout the work there is no attempt to place the analysis of forms into a specific historical context, and, for example, in concentrating on studies from Western Europe and North America, he gives no signs as to the ways in which differing spatial patterns have been moulded by the socio-economic forces of advanced capitalism.

Likewise, Safier, in using the Haggett schema to describe some of the main features of spatial organisation in African colonies, does not go into any analysis of the way in which capitalist penetration and the installation of a colonial state apparatus determined the organisation of space within the territories that had been created by the metropolitan economies. Although he does at least provide some historical background to the formal concepts of movement, network, node and so on, we are still left in rather a theoretical vacuum as to why, for instance, these particular spatial features changed in the way they did.[14]

[12]Massey (1973), Doherty (1973), McGee (1971), Santos (1971), and Slater (1973).
[13]Haggett (1965): 17-19.
[14]Safier (1968/69).

What I am arguing here, therefore, is that it is necessary to explain for any given space or territory the process by which the internal organisation and structure of that territory continues to change and develop. In the case of a colony, this would entail a detailed analysis of the way in which such a socio-economic formation was integrated into the capitalist world economy. It would be important to see how this external incorporation, within which the colony was allotted a particular role in the international division of labour, moulded and structured the internal space of the colony through a particular kind of resource exploitation and surplus extraction, with the concomitant development of the requisite transport and communications links, the establishment of urban centres and the creation of wage-labour and the control exercised over it by the colonial state. Elsewhere, and in the specific case of Tanzania, I have tried to develop this kind of approach where a fundamental starting point in the analysis is that the evolving structure of colonial space has to be explained in the context of the political economy of the expanding Western capitalist system.[15]

(vii) *Capitalist Ideology Conceals the Fact that the Organisation of Space in any given Social Formation is Directly Related to the Internal Class Structure of that Formation and its External Connections*

Usually, such phenomena as the movement of commodities, the spread and articulation of a transport network, the growth of urban centres, the concentration of economic activity in one or two dominant urban agglomerations, the emergence of particular zones with contrasting land-use features, and so on, are treated in isolation from the internal arrangement of class relations and forces within the society under scrutiny. It is conventionally assumed that in both advanced and backward capitalist systems there are no internal contradictions and that one can examine the development and organisation of a space-economy in the setting of a harmonious social order.[16] In other instances, where, say, inequalities in the distribution of income are alluded to, or mention made of the existence of certain social and political élites, nothing is advanced by way of a possible explanation of such features.

However, if we are looking at underdeveloped countries, it is not possible to begin to comprehend why the spatial structures of these systems have not been transformed unless the analysis is allowed to focus on the nature and role of the dominant social classes within the given society, and its encapsulation into the structure of the world

[15] Slater (1975).

[16] For a very thoughtful examination of the ideological underpinnings of human geography, see Anderson (1973).

capitalist economy. At the same time, the contemporary regional development strategies adopted by various Third World states can only be effectively explained within an analysis of the class basis of the state.

To briefly illustrate these points, let me take two examples. In the first place, if we look at urban development in the colonial period in Africa, it will be appreciated that, in general, urbanisation did not really get under way until towards the end of the 1950s and into the post-independence period. That is to say, large-scale rural-urban migration and the rapid growth of towns did not take place under colonialism.

This was basically because the export of capital to the colonies did not go into the establishment of industries but rather it flowed into various kinds of public works, railroads public utilities and the exploitation of natural resources. This meant, in effect, that colonial urban centres acted primarily as marketing and administrative centres, and not as the focal points of industrial growth and expansion. Hence, in contradistinction to the experience of the advanced capitalist economies, the demand for labour in the colonial towns was distinctly limited and thus it was not in the material interests of the respective metropolitan bourgeoisies to facilitate the flow of labour power from rural to urban areas. This was the case, because, first, in general, the towns were not the places where production was concentrated and where surplus value was being generated, and, secondly, because such a flow and the subsequent growth of an unemployed urban labour force might well have led to the emergence of political problems at the nerve centres of colonial control. In actual fact, of course, the movements of labour that did take place were predominantly toward the export-orientated zones of capitalist production, and these movements were structured and controlled by the colonial state so as to guarantee the continuous production of export crops, and the associated construction of infrastructure necessary for the export sector to be maintained.[17]

So, in this example, both the relative absence of urbanisation and the movements of labour during the colonial period can only be really effectively understood in the framework of the integration of African social formations into the world capitalist economy, and the material interests of the various metropolitan bourgeoisies in creating and reproducing the conditions for export production in the colony.

Secondly, in the specific case of contemporary Tanzania, if we want to understand and explain the strategy of *ujamaa vijijini,* it is impera-

[17]Of the various measures that were introduced by the colonial state to ensure the creation of a labour force, the imposition of hut and poll taxes, alienation of land and the overt use of force were the most widespread, especially the first and last.

tive to consider the material interests of the social class that controls the state apparatus in this society, and equally, it has to be remembered that the Tanzanian economy is still very much integrated into the international capitalist system. Further, the actual functioning of the present state apparatus is dependent upon continuing economic support from international capital.

In noting that the policy of *ujamaa vijijini*, like the relatively similar "villagization" schemes before it, entails definite and concrete changes in the spatial distribution of the rural population, it is essential to ask the question: will these spatial changes in settlement arrangements be accompanied by changes in the relations of production and a raising of the level of the productive forces, or will they simply be associated with rudimentary improvements in welfare facilities and social services, extensions of agricultural credit, and an increased production of cash-crops for the world market?

According to Shivji, it would seem that "the objective effect of the ujamaa policy, like its predecessor, the villagization programme, is to integrate the non-monetarized (or the so-called 'subsistence sector') within the world capitalist system."[18] And certainly from the evidence brought together by Cliffe, the vast majority of ujamaa villages have been formed in what he refers to as "marginal subsistence areas", *i.e.*, areas which are "only marginally involved in the cash economy", and other regions which are characterised by strong semi-kulak elements have witnessed very little formation of ujamaa villages.[19] So, on the one hand, in areas which are already characterised by a relatively high level of agricultural development, and within which are found influential capitalist farmers, there has been no concerted attempt to establish ujamaa villages, and certainly no consideration of expropriation and collectivisation, and, on the other hand, in regions which are relatively backward and marginal to the cash-economy, "villagization", in conjunction with an emphasis on increasing acreages under cash-crop production is, in some cases, being forced upon the least powerful sections of the peasantry with the object of reinforcing the main export-oriented prop of the economy.[20]

It is in the material interests of the "bureaucratic bourgeoisie"[21] that controls the state that, in the face of both growing competition on world commodity markets and deterioration in the terms of trade

[18] Shivji (1974): 120.

[19] Cliffe (1973).

[20] Towards the end of 1974, the emphasis on increased cash-crop production became rather less marked since more importance began to be placed on increasing food production. This was necessary in order to try to minimise the loss of foreign exchange on imports of basic foodstuffs.

[21] In the African context, the term "bureaucratic bourgeoisie" has been used by Nkrumah (1970), and more recently by Shivji for Tanzania.

for primary producers, the areas devoted to export agriculture are extended and the level of productivity raised through the introduction of more modern methods of farming. In a space-economy where the rural population, which forms the vast majority of the total population, tends to be relatively dispersed geographically, this can best be done by bringing together increasing numbers of poor and middle peasants into village units. It is in these units that the key decisions concerning the process of production and the organisation of village resources and services are worked out by various bureaucratic functionaries, after which meetings are called to inform the direct producers of decisions which are then to be "democratically" discussed, before being implemented.[22]

To summarise this seventh weakness, I have given, albeit very briefly, two examples of the way in which particular aspects of the organisation of space have to be examined in a specific context of the internal class structure of the given social formation and its external connections. Although one could put forward for discussion many other related examples,[23] suffice it to say at this juncture that the ideology permeating studies of spatial organisation which fall under the methodological umbrella of abstracted empiricism, draws a veil over the vitally important interconnections and interrelationships which I have attempted to outline in the case of the above two examples. As such, therefore, this seventh defect of the Anglo-Saxon mainstream forms an impenetrable barrier to the development of a viable theory of the organisation and utilisation of space.

Drawing together the seven identified weaknesses of the contemporary mainstream, I would argue that the combined effect of these criticisms leads us to conclude that the mainstream is inadequate and therefore must be superseded. However, there are certain other significant factors which must now be considered because they account for the reproduction of the very school of geographic thought and practice which contains all these seven previously-listed deficiencies.

INSTITUTIONAL FACTORS AND THE TENDENCY TOWARD THE CONTINUAL REPRODUCTION OF THE ANGLO-SAXON MAINSTREAM

A conditioning assumption of all bourgeois modes of thought and analysis is the belief in the theoretical and practical impossibility of

[22]Further, the role of the bureaucratic functionaries has been considerably reinforced by the recent decentralisation measures which, in effect, give much more power to the state machine, and contain no concrete and enforceable proposals by which the masses would be able to control and regulate the decision-making structure.

[23]McGee's (1971) consideration of "forced urbanisation" in South Vietnam is an example of this kind of thing.

comprehending and explaining the totality of social reality. From this it then quite naturally follows that, for the organisation of social and scientific research to be most effectively carried out, it must be compartmentalised into a variety of segments or academic disciplines, within which the researcher, either on an individual basis or in a team, may contribute to the furtherance of knowledge concerning these distinct, albeit related fragments of reality. The ensuing social division of labour has been gradually institutionalised and cemented within advanced capitalist society, and subsequently exported to the underdeveloped capitalist countries. And, although in some instances, attention has more recently been focused on interdisciplinary studies, these tend to result in an amalgam of varying "segmental" viewpoints, being mainly characterised by a disjointed eclecticism rather than by any unifying theoretical framework.

The atomisation of enquiry within the social sciences reinforces the apparent validity of the original premise, since an increasing trend toward more detailed investigations of smaller and smaller sections of the whole makes a "holistic" view seem more and more unattainable, more and more utopian. In addition, there are interlocking factors that tend toward the accentuation of increased specialisation, such as the so-called information explosion, the deadening weight of the established and conventionally accepted forms of analysis, and the career necessities of establishing a reputation in a particular and relatively narrow area of specialisation.[24]

In the geographic domain, the academic "system" guarantees a perpetuation of the dominant mainstream of abstracted empiricism, with the division of labour within university departments being increasingly concentrated in the direction of spatial analysis and model-building. In general, this mainstream is regarded as the "scientific", "objective" core of modern geography, and serious challenges to its dominant position are frequently dismissed as being idiosyncratic, or "political" or iconoclastic and negative. It is further assumed, either implicitly or explicitly, that positive contributions in the field have by definition to fall within the orbit of the new geography.

But, as I have tried to demonstrate in this paper, the Anglo-Saxon mainstream is ideological in the classical Marxist sense, and bears within it a number of structural weaknesses which, when taken as a whole, inevitably lead us to conclude that such a mainstream is not only outmoded and inadequate but also constitutes a total barrier to any positive development in the study of spatial structure and organisation. It must therefore be abandoned.

[24] See here Flanagan's (1972) useful and provocative article on social science as a whole.

WHAT IS THE ALTERNATIVE? THE OUTLINES OF A WAY FORWARD

Although it would seem reasonable to suggest that, at the moment, there is much more scepticism about the validity and usefulness of the geographical mainstream than, say, five years ago, it is still commonly contended that so long as no viable alternative is at hand, the conventional orthodoxy, despite all its drawbacks and weaknesses, etc., is "the best we have" and until something more "satisfactory" is developed the present structure of modern geography must be maintained. Even though this viewpoint is almost always advanced by those who, for one reason or another, react against radical changes, clearly there is at least a grain of truth in it. Definitely new approaches must be constructed, but, given the obvious inadequacy of the Anglo-Saxon mainstream, the point surely is to begin to mobilise the forces of academic production so that these alternatives can be formulated.[25] And it is here that we come to a definite crossroads.

I would argue that there is no such thing as geography in general, but that all one has are specific systems which have specific spatial structures. That is to say, there is no abstract thing called "geography" which lends significance to events in space, for space and its structure is not a unitary extension that subsumes all socio-economic formations, classes and states within it.

Consequently, in attempting to explain the organisation and articulation of space in any given and specific social formation, an historical perspective is required, but more fundamentally it is the firm view of this writer that any such perspective can be put to best effect in the framework of the Marxist method of social analysis. By using this method in a critical manner we are able to go beyond the artificial and rigidly-imposed boundaries of orthodox social science—we are able to break out of the invisible cage of abstracted empiricism and gradually come to grips with the essential structures of society.

One of the most creative and penetrating contributions to a journey along this road has been made by Harvey, in his work on the space-economy of urbanism. There is no evidence here of the sterility of conventional methodology and many Marxist categories are skilfully applied in the analysis of urban structures and wider spatio-economic processes.[26] Also, in the field of underdevelopment studies, other alternative approaches, which are not all Marxist, but which at least represent radical points of departure from the mainstream, are now

[25]By forces of academic production I am referring to: (i) objects of production such as socio-economic data and research materials; (ii) instruments of production such as cartographic equipment, instruments for calculation and analysis, etc.; and (iii) academic labour-power.

[26]Harvey (1973).

beginning to emerge at a quickening pace. Buchanan's pioneering work on the geography of empire and his socio-economic analysis of the way in which China was able to transform its territory in the years since 1949; McGee's stimulating analyses of urbanisation in relation to the structure of underdevelopment; the recent work of Chaves on the spatial pattern of the Venezuelan economy; Santos' examination of the urban economy of Latin American systems, and Folke's short but thought-provoking comments on the geography of imperialism all offer, in spite of the differences among them, constructive and positive pointers for future research in the 1970s and beyond.[27] Remaining in the context of underdevelopment and spatial organisation, let me conclude by briefly sketching an outline of an alternative method of analysis.

To give the outline a specific and historical focus, we assume that our aim is to explain the nature of spatial structure under colonialism. So we are referring to territories which have been geographically created through the alien superimposition of particular boundaries, and within which there is more than one mode of production, with the capitalist mode of production becoming increasingly dominant, although never by any means as pervasive as in the developed capitalist economies.[28] Further, in these kinds of territories or spaces, one has, through the installation of the colonial state, the development of unified political control over the process of production, although the speed and extension of such control naturally varied between the colonies. Thus, with these general points in mind, the following method of analysis may be outlined.[29]

Uneven Development of the Productive Forces

At the outset it is necessary to examine the level of development of the productive forces and the conditions under which surplus is generated and realised. In looking at regional differences in the development of productive forces, the objects of labour can form a starting point and here those geographers who are interested in analysing variations in physical resources could make an important contribution, remembering, of course, that this is only one aspect of the whole approach, which must not be seen in isolation from the wider context

[27]Buchanan (1970, 1972), McGee (1974), Chaves (1974), Santos (1974), Folke (1973). In addition, the earlier work of Lacoste (1965) still has much contemporary relevance for development geographers. Also, Watters' (1970) paper on geographical study in Latin America is an illuminating attempt to point in directions other than those of the mainstream.

[28]Bettelheim has some very perceptive things to say on this theme in reply to Emmanuel's (1972) theoretical treatment of unequal exchange.

[29]It might be pointed out here that the following method of analysis is based on aspects of Marxist theory, and in this sense the Marxist method of analysis can be viewed as Marxist theory in action.

of the social analysis. In our colonial example, the objects of labour are primarily agricultural and mineral resources that are in demand in the metropolitan economies, so that regions possessing particular mineral resources such as gold, copper or lead experienced capitalist penetration at a relatively early stage.

Similarly, the instruments of labour do not assume a uniform spatial character, and in the zones of capitalist production the application of machinery in the process of production will be a distinguishing feature in comparison with other areas. However, because this application was divorced from indigenous technology and also because it was monopolised by externally-based companies, there was no gradual internal integration of more advanced methods of production within the capitalist zones of the colony. Finally, it should be noted here that there will be spatial variations in the role played by labour in the process of production, much in this case depending on the specific policies implemented by the colonial state. In the colonial situation some zones were characterised by the predominance of wage-labour but here the wages paid in the mines and on the plantations were often not much above the minimum necessary for the reproduction of labour, and certainly did not induce any internal demand for mass consumption goods within the restricted areas of export-production. Conversely, the areas that supplied labour for capitalist production were denuded of much of their available manpower and consequently their own economic self-sufficiency was often undermined.

The Appropriation of Surplus and Class Formation

In the case of a colony, the relations of production will not assume a uniform aspect over the whole of the colonial territory. For instance, certain areas will be characterised by capitalist relations of production and here the generated surplus will be controlled and appropriated by a metropolitan bourgeoisie which has its base within the geographic confines of its respective nation-state. In other cases, semi-feudal relations of production may still prevail where labour power has not yet been driven into the service of capital, and yet again in other regions varying forms of traditional communalism will occur, where the contours of socio-economic differentiation have not emerged in any sharply-defined way.

Historically then, as the capitalist mode of production gradually becomes more dominant, its extension being facilitated and supported by the colonial state, and as production in general becomes more orientated to the needs of the colonial system, the mass of surplus being generated will tend to increase. The manner of its appropriation and utilisation by particular social classes thus becomes a key component in understanding not only underdevelopment as a whole but also its associated spatial structure.

Further, of course, the form that the surplus takes will vary so that, using Shivji's categorisation, we can distinguish three such forms: (i) surplus value; (ii) merchant profits; and (iii) surplus labour.[30] It will be found that these forms will vary in their occurrence. That is, in some zones where one has plantation-based agriculture, mining, quarrying and small-scale manufacturing, surplus largely takes the form of surplus value which is extracted by the owners of the means of production. In other areas, where peasant-based agriculture and small commodity production are the predominant features, the surplus is extracted through unequal exchange taking the form of merchant profits. Thirdly, in the non-monetarised zones, surplus is extracted in two ways: (i) through the provision of "free" (surplus) labour—forced labour, prison labour and very cheap labour; and (ii) through the supply of food to the zones of capitalist production.

As far as class formation is concerned, any analysis of spatial structure must include a consideration of the way in which the development of class structure varied over space. In the example of African colonies, one usually had the emergence in specific areas of a class of indigenous capitalist farmers which was sufficiently strong to permit the next generation to acquire educational qualifications and entrance into the bureaucratic structure or professions during the post-colonial period. So, for instance, the fact that, in the neo-colonial period, substantial amounts of investment funds are channelled into such regions should not be analysed in isolation from the class history of those areas, and the alliances that have often been forged between a rural class of capitalist farmers and the "bureaucratic bourgeiosie".

With respect to the "intermediary" class of middlemen and merchants there was a noticeable absence here of an obvious "geographical" base, for this particular class operated in a variety of areas, spending the surplus it extracted on consumption and in limited investment in urban infrastructure, amenities, transport and trade.

The proletariat was small in size although its significance must not be underestimated, as, in many cases, strikes by sections of the colonial working class were a key political factor in challenging the dominance of the colonial administration. Indeed, it played no small part in accelerating the process of decolonisation. This class was particularly concentrated in space—primarily in the major colonial towns and rural zones of export production.

Finally, in many other regions during the colonial period, socio-economic differentiation did not develop very markedly and in these sorts of areas there was also very little development of the productive forces.

[30] Shivji (1974): 39.

The Mode of Utilisation of the Surplus and the Role of the State

A crucial factor in the development of any spatial structure is the way in which surplus is circulated, concentrated and utilised in space. In the colonial economy, a substantial part of the surplus that was extracted was drained away to the metropolitan economy through repatriation of open and hidden profits of the foreign owners of the means of production and through unequal exchange of the commodities on the world market.[31] A disproportionate percentage of the surplus that remains in the colony is utilised in the non-productive services sector, *e.g.*, commercial and financial infrastructure and also in public administration. Some of the retained surplus may be invested in the export-oriented agricultural sector but essentially the accumulation takes the form of commercial capital and is not converted into industrial capital.

The vast bulk of the retained surplus is utilised in: (i) the zones of export production in order to ensure the expanded production of future surpluses in these areas; (ii) the various urban places that act as administrative and commercial centres within the colony; and (iii) in the construction of transport and communication links between the different points and zones of the export economy. The creation, mobilisation, concentration and control of the surplus is largely undertaken by the state which primarily acts in the material interests of the metropolitan bourgeoisie, and the spatial structure which thus evolves is very much externally-oriented with links between the internal regions of the colony being very limited indeed.[32] Throughout the colonial period, the control exercised by the colonial state ensures the reproduction of this structure, or "system of places" as Bettelheim calls it, and in the period after independence, although more of the surplus is retained in the underdeveloped economy, the externally-oriented structure tends to be continually reproduced. This occurs for a number of related reasons.

First, much emphasis continues to be given to export production, especially in agriculture, and in order to increase the "efficiency" of this production considerable investment is constantly required. Secondly, in those rural areas previously characterised by the rise of an indigenous capitalist class, investments also tend to be made, because of the greater possibilities of an adequate return on the capital invested. Thirdly, the industries that are established, being in the main either export processing or import substituting in nature, tend to be located in either the areas of export production or urban centres, and especially

[31] This repatriated surplus is a permanent loss to the colonial economy as it is utilised in the metropolitan economy for the advancement of that economy.

[32] In this way, one had in all colonies, and still in neocolonies, the contradictory combination of external integration and internal disintegration.

in the largest urban agglomeration where one has the greatest concentration of already existing industries, a skilled and semi-skilled labour force, a ready market for the goods being produced, superior infrastructure and services, access to a major port and so on. Fourthly, aid provided by international capitalist agencies such as the World Bank gravitates towards the major urban centres, *e.g.*, into modern infrastructure projects, or into areas of export agriculture, *e.g.*, tea and coffee production, because of the greater likelihood of profitable returns in the already "developed" areas. Fifthly, and very much related to the last two points, foreign capital also prefers to locate new factories in already semi-industrialised areas, and conversely projects in backward zones are quite naturally regarded as much more hazardous economically.[33]

Consequently, for the spatial system to be radically changed, it naturally follows that the structure of underdevelopment itself must first be overcome and with this, of course, both the nature of the relationships between the underdeveloped economy and the world capitalist system and the internal alignment of class forces in the Third World society must be changed. Such changes have been carried through in countries like China, Cuba, North Korea and North Vietnam, and in all cases the organisation and structure of space has been correspondingly altered in various fundamental ways.

In conclusion, therefore, I would simply like to say that the above sketch, which is based on aspects of Marxian analysis, is no more than the outlines of an alternative method of investigation. Although it is rudimentary in form, hopefully it at least offers a starting point for some fresh lines of enquiry which I believe to be a necessary departure from the sterile perspectives of modern Anglo-Saxon geography.

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[33] And as long as the profitability criterion is employed this orientation will persist. The alternative is to plan the utilisation of the surplus in accordance with the *needs* of the society *as a whole*. The entire question of the structural transformation of underdeveloped economies has recently been analysed by Thomas (1974) in an excellent book on alternative economic strategy in the transition to socialism.

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