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Unified Development -

towards a new paradigm for planning

Andrew Marsay

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ABSTRACT.

This thesis advances the notion of a new paradigm for planning. This idea is based on the belief that many of the problems faced by the planning institutions in Britain result from the limitations of a fragmentary physical definition of environmental problems. The importance of the socio-political and personal dimensions of the environment is gaining currency not only among critics of the planning system but among a broad spectrum of writers concerned with the future generally.

Using as its starting point the crisis of planning in Britain, the thesis attempts to outline the significance and meaning of a new paradigm. The problems facing the planning system are located within a far wider context by means of a survey of the "World Problematique". Theoretical support for the notion of a new paradigm is then presented. Finally, the practical viability of the new paradigm is illustrated by reference to some aspects of the Tennessee Valley Authority regional development project.

The thesis does not advocate the rejection of planning as it is currently practised but suggests that by recognising the essential unity of developments in the personal, socio-political and physical dimensions of the environment, new insights and responses to existing problems may become apparent.

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1. INTRODUCTION.

It is the contention of this thesis that planning as it is practised in Britain today, is derived from a philosophy of action that is no longer appropriate to contemporary environmental conditions and problems. Thus, planning is anachronistic, (Hancock 1978, p. 321), in that it represents the legitimisation of a method of response to problems that are no longer as important as they were previously. It will be argued that the reason for the failure of planning to maintain contact with the changing nature of environmental problems is its reliance on a conceptual framework or paradigm which is restricted effectively to the physical environment.

Of course the planning profession has responded to changes by adapting its procedures and organisation; but these changes have not fundamentally altered the institutionalised concern with order in the physical environment as opposed to other dimensions such as those of individual personal development or social and political relations.

This thesis represents the writer's conviction that it is quite feasible, and indeed desirable, for planning to retain its role of guiding the relationship between man and his environment: but in order to retain and justify this role it is necessary for planning to "take stock" of the contemporary situation, analyse the main trends of development and to re-establish itself on different principles.

To do this however, the nature of the current crisis must be related to its widest possible context, for the factors contributing to the current state of the environment are not

simply British issues, but rather international and global concerns.

Firstly, the historical origins of concern for the state of the physical environment.

An acceleration in Man's impact on the physical environment may be traced to the Renaissance when the emergence of science as a legitimate human pursuit began to increase man's capacity to control his environment. Combined with the "work ethic" of Protestantism, science contributed to the rapid expansion in economic productivity associated with the Industrial Revolution. So great was the impact of rational thought on the ability of human societies to better themselves materially, that there emerged in the nineteenth century the conviction that the problems of economic and political justice would automatically be solved. The habit of relying on economic expansion as the key to human progress became established virtually as an ideology in the nations of Western Europe.

The Marxist tradition of social and political thought which led to the establishment of the Communist nations did not substantially alter their reliance on economic expansion for the fulfilment of human aspirations. Likewise, in Western nations, responses to the adverse physical and social consequences of the pursuit of economic expansion did not initially question the feasibility of the material Utopia. In Britain such responses took the form of improvements in the quality of the physical environment. The need for post World War Two reconstruction provided the opportunity for the institutionalisation of this remedial action in the form of

urban planning and later environmental planning. The basic ideology of economic expansion and of a physical Utopia was still not seriously challenged.

During the 1960's however, a series of factors combined to cast doubt on both the feasibility and the desirability of this goal. Relative affluence among a majority of the population resulted in changing aspirations. In addition concern was growing about the impact of human activities on the natural environment. In view of these new concerns, planners were led to a reassessment of their role in society. The idea of planning as an ongoing "process" emerged as a response to society's changing aspirations, replacing the previous emphasis on Utopia end states. The consequence of the new approach to planning was a proliferation of techniques and analytical tools to assist in coping with the complexity that a dynamic view of the physical environment imposed.

Concomitant with the above development was the growing influence of humanist philosophies on matters of public policy. The harmful effect of modern mass societies on the individual's ability to influence his own future was central to the argument of writers in this field. Of course, ideas such as "alienation" and "anomie" had been in existence since the work of Marx and Durkheim, but over the past fifteen to twenty years they have gained a currency not previously enjoyed. Taking as a starting point Fromm's "The Sane Society", an increasing number of writers have pointed to the disintegration of social cohesion and breakdown of human personalities

as a result of the "atomisation" of society. Fromm (1956, 1976) has argued that the readiness of individuals to rely on ideological panaceas for their fulfilment has led us to the situation of environmental instability currently being experienced. The argument suggests that the first step towards stability in the wider environment must be in the shape of the growth of balanced individual personalities able to cope effectively without relying on panaceas.

Berger (1974) makes a similar point with respect to ideological conflicts about development strategies in Third World nations, calling for a balance between "antiseptic" aloofness from issues and fanatical commitment. Others such as Peccei (1977) explain current environmental instability as follows;

".... while our technological and material ascent made a tremendous jump - achieving in a few decades progress comparable with that made previously in many hundreds of years - we have not been able culturally to climb the same ladder quickly enough."
(p.147)

The planning profession has at least implicitly recognised the significance of the social and personal dimensions of the environment by attempting to democratize planning procedures. Ironically, exercises in public participation, far from giving back to people a degree of autonomy and control are often experienced as further evidence of government control over peoples' lives. The same could perhaps be said of Local Government reform and the Scotland Bill, both of which responded partly to demands for greater local autonomy. The problem with initiatives originating in government or in the planning system is that they tend to define problems in a

manner such that an institutional solution is required. As Pahl (1978) has pointed out with regard to the inner city problem, however, local residents may define their problems in a radically different way to the planners - and in fact might welcome expert "planning participation with the public", rather than vice versa.

The above changes in environmental conditions to which the planning system had to respond were compounded by events in the early 1970's, when the energy crisis forced government to curtail public expenditure. Uncertainty about the future was added to complexity of the environment as a basic parameter of the planning context. With the analytical tools that had been developed in the late 1960's planners began to explore the implications of their new restrictions. Although they had the capacity to predict some of the consequences of some changes, (e.g. energy requirements, population growth, expected unemployment), this did not give the means of controlling or preventing such changes. Furthermore, in the absence of total knowledge of the environment, new and unpredictable occurrences have to be faced regularly. But to regard this situation as alarming or as an unfortunate impediment to the goals of full employment, order in the physical environment and economic growth, is simply an admission of the limited framework within which these "problems" are being viewed. What is needed are flexible methods of adapting to new situations as well as a wider conceptual framework in which the social and human dimensions of the problems can be appreciated. The adoption of such a new framework may

allow new insights or new ways of looking at problems which could suggest entirely new types of response.

Consequently, the present writer believes that a new "paradigm" for planning is required in order to provide a wider context within which new insights may be sought. A paradigm is a pattern or conceptual model which defines the context within which problems are constructed.

Kuhn (1970) has referred to the term in the context of "scientific revolutions". He argues that even when a new scientific insight, challenging the assumptions of all previous work is made, it may take time before members of the scientific community recognise its significance. When sufficient members acknowledge the breakthrough and are prepared to discard old ways of thinking, the new insight is accorded due recognition. It then provides a new paradigm to replace the old one and problems are subsequently structured within the context defined by the new paradigm. Kuhn notes the cases of the Copernican and Newtonian revolutions to illustrate this process of a "paradigm shift".

Many of the insights into the nature of current environmental conditions appear to contradict the existing paradigm of planning. Yet institutional inertia and professional conservatism, prevent many planners who have recognised the anachronism of this paradigm, from exerting significant influence for change. Growing concern for social and human issues may gradually add to pressures for a paradigm shift. Two prominent members of the planning profession have pointed to this tendency:

"... developments both affecting and even within planning itself are leading to changes which will almost certainly result in a new intellectual outlook being established. The new paradigm seems certain to imply heavy reliance on a social science methodology. ..." (Diamond and McLoughlin 1974, p.ix).

The present writer shares this conviction, though with some reservations as to the meaning in that context of "social science methodology". A clearer recognition of the importance of local autonomies and individual values is perhaps more likely to be a characteristic of a new paradigm. When the trend for change does gain more widespread recognition, the harbingers such as Pahl (op.cit.), Robertson (1978 a & b), Chapman (1978) and others will, as it were, "come in from the cold". An alternative to change in the paradigm guiding planning has been spelt out clearly by a recent writer:

"If planning does not change its ways, it may experience decreasing influence and even fade away" (Hancock, op.cit., p.315).

The purpose of this thesis is not to propose a new strategy for planning, but to draw attention to some of the elements that a new paradigm for planning would incorporate. The most important aspect of a new paradigm is the incorporation of physical, political, social and psychological dimensions of the environment as part of a unified whole; thus acknowledging the interactions not only within each dimension but also among them.

The tendency to treat problems in only one of their dimensions is a characteristic not only of planning institutions but also of political and religious institutions. In drawing

attention to the consequences of "one-dimensional" action the writer has been influenced considerably by the works of Fromm (op.cit., 1974). Theoretical support for the notion of a multi-dimensional paradigm has come from an important book by Bennett and Chorley (1978) on "Environmental Systems". Their use of the term "environment" stresses the interdependence of developments in the psychological, social and ^hpsychical spheres of the environment.

Before outlining the structure of the argument contained in the thesis, a number of terms that are used with a specific meaning must be defined. A distinction will often be made between "physical", socio-political and human or psychological aspects of the environment. As used here, "physical" will refer not only to the natural and land-use features of the environment but also to all the material products of society - goods and services - as distinct from the political and social institutions by means of which they are produced. The term "economic" is avoided except in the context of "economic growth", because it tends to confuse this distinction.

Although not referred to extensively in the text, the concept of order as opposed to stability is relevant to a multi-dimensional paradigm of environment. Stability implies a state of a system that is sustainable with respect to its wider environment, whereas order refers to an imposed state of a system that requires constant efforts to maintain it in face of influence from the wider environment. One of the criticisms of the planning system in this country will be that its goals tend more towards achieving the latter state in the physical environment than the former.

The concept of a "World Problematique" is discussed in chapter three. It is used between quotation marks throughout because it signifies a perspective on a series of problems rather than any specific issue. It was used by Meadows et al (1972) in their report on "The Limits to Growth", in recognition of the perception that no single global problem could be considered in isolation from all others. The "World Problematique" will be treated as the broader context within which the problems facing planning in this country may be located.

It is important to bear in mind that the central concern of this thesis is to communicate the significance and meaning of a new paradigm. Unlike a logical argument within an accepted reference framework, this process of communication is questioning, and proposing an expansion of, a particular reference framework, namely that of the British planning system. The thesis is structured in such a way as to link three strategies or approaches to the task of motivating the need for a new paradigm. The implications of the new paradigm for human action will be considered in the conclusion.

The new paradigm that is proposed is clearly of relevance to all spheres of human activity but for the purposes of this thesis the case is made with reference to the practice of planning in its institutionalised setting in Britain. The purpose of chapter two is therefore to establish a reference point, namely the crisis of planning in Britain, to which the three strategies can be related.

The first strategy is to locate the planning crisis in as wide a context as possible. The rationale for this is that

by presenting various alternative perspectives on problems to which the planning crisis can be related, the tenability of a particular narrow perspective may be questioned. This then is the purpose of chapter three; the "World Problematique"

Chapter four attempts to strengthen the case by referring to certain theoretical analyses of environmental systems which point to the need for a new paradigm. Theoretical support for the notion of a paradigm shift is also presented in this chapter. Drawing on a number of critical analyses of the nature of environmental systems, the defining characteristics of a new paradigm are outlined.

The third strategy concentrates on the meaning of a new paradigm for planning in practice. Theoretical and contextual evidence may convey the relevance of the new paradigm but to understand what it implies in terms of response to environmental problems, an illustration is necessary. For this reason a survey of the regional development strategy of the Tennessee Valley Authority, (T.V.A.) was undertaken, emphasising those factors which appear to explain its unique success.

Although it originated in the pre-War United States, the T.V.A. is still considered to be one of Man's success stories in his relationship with the natural environment. (Arvill, 1967, p.24) Even a brief study of the methods employed by the T.V.A. indicates how it differed radically from the concept of public planning as it is practised in Britain. Furthermore, its methods and philosophy are substantially in harmony with the paradigm of planning set out in this thesis.

It is the underlying philosophy of unity between Man, his institutions and Nature that made of the T.V.A. what it was. The T.V.A. was directed in its enabling Act to promote the "unified development" of the resources of the Tennessee River basin. The T.V.A.'s interpretation of this brief however, was based on the belief that unless the physical development of the region's resources contributed to the personal development of all the people involved, then it would serve no purpose. This fundamental tenet led to the development of methods of planning in which the T.V.A. experts encouraged and cooperated with the existing activities of people in the region. The directive for unified development thus acquired a wider meaning.

In acknowledgement of the Tennessee Valley Authority's success in harmonizing and synchronizing developments in the human, institutional and physical spheres of the environment, this thesis has been given the title; "Unified Development: Towards a New Paradigm for Planning".

2. THE CRISIS OF PLANNING.

2.1 Origins and Development of the British Planning System.

The origins of planning in this country may perhaps be best understood in terms of two complementary sources or roots, namely, practical and theoretical. Because it was only after the Second World War that a coherent body of planning theory began to emerge, the discussion must commence with a brief account of how the practice of planning has evolved.

No account of the development of planning, however brief, can afford to ignore the crucial significance of the Industrial Revolution and the changes that it produced in the social and physical environment of the country. The scale of human settlements that emerged during the nineteenth century, and the speed of their growth, began to present totally new problems to governments accustomed to playing a limited role in the internal management of nations. New technologies had to be sought to cope with the problems of water supply and sewage disposal. New forms of public management were devised to control and implement the infrastructural requirements of the growing towns and cities. Most importantly, however, the central government was forced to introduce important legislation in response to the growing environmental problems. The Public Health Act of 1875 was perhaps the key piece of legislation upon which the later Town Planning Acts were based. This Act defined the functions and duties of local authorities throughout the country and has provided the framework for concerted efforts aimed at im-

proving standards of building and sanitation in the cities. (Ashworth 1954, p. 90).

The Housing, Town Planning etc. Act of 1909 and subsequent Acts gradually extended the scope of planning and culminated in 1947 in a comprehensive system of development control. With the recent extension of local authority powers in terms of the Community Land legislation, environmental planning in Britain now probably has;

"the most extensive professional back-up,
the most complex legislation and the
most comprehensive bureaucratic organ-
isation of any planning system."
(R.T.P.I. 1976, p. 45)

In addition to the problems of urban areas, the effects of rapid economic growth were experienced in terms of structural changes in the country's economy which led to the relative decline of formerly prosperous regions of the country such as central Scotland, and North-Eastern England. The Barlow Commission Report linked this regional problem to the rapid growth of the major cities, presenting them as two faces of the same problem. (Hall, 1975, p. 93) The result was an extension of the scope of planning to "regional planning".

The War itself provided a great impetus to the concept of planning as a method for co-ordinating responses to various fields of community concern, such as health, education, employment and social services. Perhaps most significantly in view of later trends, the need for post-war reconstruction served to strongly focus environmental planning (as embodied in the Planning Acts) on the redevelopment of the physical environment. Indeed, the sense of purpose

engendered within the planning system at the time has been likened to an ideology, because of the vision of order and stability in the physical environment that it reflected. (Booker, 1979) This vision has continued to exert a strong influence upon the way in which the planning system defines its terms of reference.

The theoretical roots of planning in this country lie in the development of operations research both in Britain and the United States during the last War. The insights into cybernetics, the science of systems and systems control, that was stimulated was readily applicable to modern technologies such as the control systems of aircraft and automated production processes. Economists began to adopt this approach in their attempts to model the economic system. It was not until the 1960's however, that the concept of systems analysis began to gain currency in planning circles.

Apgar (1978), has traced the evolution of modern planning in Britain from the original narrow concept of land-use planning, through the thinking behind structure planning, to systems planning. He considers systems planning as a complementary development to structure planning, one which sought to further elaborate the distinction between strategic and local issues, made by the structure planning process. Systems planning stresses the idea of interaction between two systems; the planning or controlling system, and the system which it seeks to control. Initially the idea of systems planning led to the proliferation of sophisticated modelling exercises and forecasting techniques. Subsequently the notion of strategic planning emerged, stressing the

need for rational selection of priorities for action as opposed to the comprehensive description and control towards which systems planning leaned. Strategic planning is viewed by many planners today as the key to the continuing relevance of the environmental planning system. (Apgar op.cit.; p.17; Steeley, 1978). Diamond (1979, p. 18) even argues that, "From the mid 1960's most of the innovations in British planning have been attempts to find ways of implementing the concept of strategic planning". Faludi (1973 a & b), whose books perhaps distil the essentials of current theory, supports this trust in the ultimate role of strategic planning. Faludi envisages a central strategic planning agency in society which would "set the framework within which other actors in society plan" (Faludi 1973 a, p. 294). More recently however the idea of strategic planning has been used to criticize the "compartmentalism" which the structure of local government imposes on the planning system, thus continuing to restrict its scope to the traditional physical definition of environmental problems. (Apgar 1978, p. 13)

2.2 Coping with Change.

During the 1960's the ability of the environmental planning system to cope with the pace of change in Britain was severely *tested*. Greater affluence and geographical mobility for the majority of the population produced unprecedented demands for land from all sectors of the economy. Housing, education, social services and transport were the largest sources of this demand. The need not only to process vast numbers of applications for planning permission, but

also to reconcile the conflicting demands of different sectors, placed an intolerable strain on the development control system. Most local authorities also discovered that it was virtually impossible to prepare and review their development plans in accordance with the requirements of legislation. Later, in the early 1970's the change to conditions of relative financial austerity provided the planning system with still further problems.

This section reviews some of the changes in the planning system that came about in its attempt to cope with the environmental conditions of the 1960's and 1970's. These changes were generally of two kinds; organisational and procedural. Organisational changes that have taken place have tended to widen the scope of planning - to extend its influence to areas previously not involved in the planning process. Procedural changes on the other hand have focused on improving the quality of planning by facilitating more effective analysis and decision making.

Transportation was perhaps the greatest single sector to which the attention of planning had to be extended. The report on Traffic in Towns (H.M.S.O. 1963, quoted in Hall, op.cit.) marked the beginning of this development. The massive demand for land to build motorways and extensions to airports contributed significantly to increasing concern for the quality of the physical environment, especially the countryside. The 1968 Countryside Act and the emergence of the Countryside Commission provided for the extension of planning to this sphere.

A further series of demands was also being made on the planning system by the community itself. The wider scope

that planning enjoyed by the end of the 1960's meant that it also had greater influence on the allocation of resources such as recreation facilities and transport routes and modes. There arose considerable concern as to the distributional impact of planning policies and consequently a demand for greater public participation in planning decisions. Such demands lead to the introduction of statutory public participation, more searching public enquiries and the appointment of local government "ombudsmen".

The extension of planning methods to various other aspects of the local authority's responsibility became increasingly necessary, with public demands for more and better local government. The application of management techniques such as Planning Programming Budgeting Systems (PPBS) had been experimented with by some progressive local authorities, but it was really the local government reform of 1972/3 that consolidated the extended concept of planning. The concept of corporate planning, the coordinated management of all local authority functions, was adopted as the key strategy with which local government would be expected to cope with changing environmental conditions.

The most significant change that has taken place in planning procedure since the 1947 Act was the introduction of structure planning in 1967/68. The separation of the level of policy proposals from the detailed level of specific developments represented an attempt to cope with the rapidly changing environmental conditions of the 1960's. The rate of change, and the volume of work this imposed on the planning system had demanded this attempt to rationalise the process

of decision making by distinguishing between broad issues and trends affecting a wider area on the one hand and locally soluble problems on the other. Systems planning furthered this trend of rationalizing the planning process. "Coping with complexity" was the goal of this procedural innovation. Planners in the late 1960's made use of the systems approach to predict the impact of ongoing social and economic changes instead of relying on simple projections of past trends.

The emergence of strategic planning in the early 1970's was a logical development from the systems approach. Whereas systems planning stressed the complexity of environmental systems, strategic planning stressed the need for improved decision-making in local government. Planning was seen to be a process of "strategic choice" (Friend and Jessop, 1969) in which the capacity to decide on priorities was considered crucial for planning. Decision-making in public authorities was the key concern of the strategic approach to planning. A great deal of research was stimulated into the factors influencing planning decisions and also the techniques utilised to improve the quality of decision-making. (Hickling, 1974; Eden, 1977).

One of the conclusions arising from such research was the realization that under conditions of rapid change in the environment, uncertainty would always be faced by planners. The management of uncertainty was therefore considered by some writers to be the key to effective decision-making. (Hickling, op. cit.). However, in spite of improvements in its efficiency and public accountability, the planning system is still subject to a great deal of criticism. A possible

explanation for this is that factors external to the system are responsible for the hostility it experiences. The focus on "uncertainty" as an element in public decision-making implicitly recognises that this is the case. Hickling (op. cit.) identifies three forms of uncertainty with which planners have to cope. Firstly uncertainty as to appropriate value judgments - recognizing the possibility - that the values of the planners may not be shared by a majority of the community which they serve. Secondly uncertainty about the decisions that may be made by other agencies acting in their area, such as private firms and community groups. This uncertainty simply acknowledges that the planning system itself is only one of many forces acting in the environment. Finally, there is the uncertainty of knowledge about the environment. In contrast to the second case, this recognises the importance that completely unknown and unpredictable factors may have in the planning environment. Examples are sudden large-scale job redundancies or unemployment in an area, natural disasters, and the energy crisis.

Uncertainties such as these tend to shift the focus of criticism away from organisational and procedural problems inherent in the planning system to the role and function of the system in its relationship to the broader national environment. Instead of there being a crisis in planning as Ash (1977) has suggested, it may be more appropriate to think of a crisis of planning.

2.3 The Nature of the Current Crisis.

"Planning generally has a poor press. Apart from the academic and professional papers, it is rare to find planning and environmental matters reported seriously." (Cherry 1979, p.7)

This approach adopted by Cherry tends to obscure the distinction between those critics who are committed to the planning system and whose interests lie in maintaining and improving it, and those who are either reacting to some aspect of the system or who view the problems of the system in the context of wider environmental influences.

One of the strengths of the British planning system, which is immediately recognizable to visitors from less developed countries is its comprehensiveness, both in its institutional structure and its procedures. But the very fact that planning has become established as a permanent institution of government and moreover, as a professional career, appears to add to the tendency of planners to analyse the problems they experience in terms of the organization and procedures of the planning system. At best this process of renewal from within may be considered as a healthy sign of a willingness to change; at worst however, it exhibits a failure to re-assess the nature of the environmental problems to which the planning system purports to respond. The truth is perhaps that the institutional structure in which planning operates inhibits the emergence of strategies that are inconsistent with the physical planning legislative framework which shaped that structure.

Apgar has recognized this difficulty, noting that:

"Innovative solutions and demonstrable contributions have more often been made by planners in spite of rather than because of, the system. Planning has thus been discredited." (op.cit., p. 13)

Other writers have exhibited greater concern about the ability of the planning system to respond appropriately to environ-

mental problems which today can no longer be construed in simply physical terms. Hancock (1978, p. 321) has argued that, "The role and attitude of planning as we have known it is anachronistic and fatally discouraging to our future."

More fruitful insights into the nature of the crisis facing the planning system may therefore be gained by reference to wider environmental influences.

One of the most significant environmental changes in recent years has been the restriction of public expenditure brought about by the sudden impact of the 1973 oil crisis. Some critics therefore argued that the planning system's central problem was learning the art of "Planning without growth" (Eversly 1975; also *The Planner*, 1976). Sociological or political analyses of the role of the planning system form the basis of a further critical platform. Writers such as Ward (1974), Harvey (1973) and Simmie (1976) have shown that the planning system can by no means be considered as a politically neutral agent in society. They stress the importance of local political and social initiatives and point out how the planning system (as well as other branches of government) often inhibit and even prevent the development of such action.

Still other writers have argued that the failure of the planning system to appreciate the significance of changing values often results in a potentially positive trend in society being construed as a problem. Speaking of the importance of the informal sector of "household economy" in inner city areas Pahl has stated that;

"The household economy does not need planners except perhaps as helpers with certain practical tasks. The inner city problem

will never go away but without the planners we might be able to accommodate it in a different style of thinking. The very problem will turn into its own solution." (Pahl 1978, p. 11)

A similar perspective on the energy issue is presented by Chapman 1978. He states that the many attempts (including his own) to portray scenarios of the future in terms of the quantity of energy that will be available ignore the attitudinal component in current habits of energy consumption. It is equally possible he believes, that conservationist attitudes to energy could emerge under conditions of plentiful supplies and that in fact the current preoccupation with limits to these supplies tends to stimulate consumption.

Resistance to alternative ways of looking at problems results from the habit of perceiving the problem within a limited reference framework. It is usually only when a problem defeats the capacity of traditional avenues of response that it is perceived in a wider context, and often that wider context may offer new forms of response. This approach is consistent with the concept of "lateral thinking" elaborated by de Bono (1970). The persistence of traditional, accepted ways of construing the scope of environmental problems is a weakness not only in the planning system, but also in most of the institutionalized services. The major political parties in this country (and other countries) tend to gain their support by offering to make greater or smaller contributions to these services and ignore the fact that the most serious problems that the country experiences are of an international or global nature. (e.g. the energy crisis, economic "stagflation" and consequent high unemployment) (Thomas 1979 b)

That the global significance of such problems is apparent to some, is witnessed by the activities of various international fora and conferences such as those on the environment; Stockholm 1972; on human settlements, Vancouver 1974 and on population Bucharest 1975. However, until the wider significance of the environmental problems being experienced in this country becomes part of the political agenda, it is unlikely that alternatives to the responses adopted by the planning system will be accorded much recognition. The need to establish an awareness of this wider context is therefore crucial in order to stimulate the insights that could lead to the development of a more appropriate paradigm of environmental planning.

In France, the word "problematique" has been used to express the perception that environmental problems tend to be interlinked at various levels, and are often mutually reinforcing - in contrast to the way in which they are given institutional limits by government departments, or international agencies. The term was adopted by the authors of the Club of Rome's first report on the "Limits to Growth" (Meadows, et.al. 1972), in calling attention to the global scale of problems in the physical environment. They spoke of a "World Problematique", and it is to that which we now turn in an attempt to establish the broader perspective discussed above.

3. THE "WORLD PROBLEMATIQUE".

The concept of a "World Problematique" as used by the authors of the Club of Rome's first report, "Limits to Growth" (Meadows et al, 1972) refers to a condition of the global environment in which it is no longer meaningful to consider the resolution of particular problems such as population growth, pollution, natural resource depletion in isolation from all other problems. Aurelio Peccei (1976, p.152) describes this problematique as;

"... a monstrous tangle of problems ... in which the population explosion, economic and social disorders, maldistribution of income, unemployment, ignorance and prejudice impinge on each other at a scale heretofore unimaginable."

Essentially the problematique has arisen because the various nations of the world lead by the Western industrial nations have pursued the goal of economic growth without due concern for the impact of this pursuit on the quality of the physical environment; on social and political relationships and on the personalities of individual human beings (Vickers, 1970, p. 194). "Growth - industrial growth - has become the ultimate political value of all societies industrial and developing alike." (Burns 1969, p.1)

Whilst individual nations had the power and resources to insulate themselves from the wider effects of this pursuit of growth no serious problems were contemplated and it was imagined by those in the developed countries that it would only be a matter of time before the process of economic growth "trickled down" to the poorer countries of the world, bringing about their economic "take-off". The work of the Cam-

bridge economist, W. W. Rostow did much to support this view during the 1960's (Rostow 1960).

During the late 1960's and during the present decade, however, a number of events have occurred that have given rise to a fundamental questioning of the concept of economic growth as an indicator of progress. The fact that doubts concerning the ultimate priority of economic growth have been expressed in Third World countries as well as in the developed nations suggests that the reaction is not so much against the necessity of economic growth, which in the poorer countries is indubitable, but rather to the environmental, social and human consequences with which it has become associated.

Our discussion of the nature of the World Problematique will, for the purpose of clarity, be divided into the three categories of consequences suggested above. The first subsection will investigate the alleged limits to growth imposed by the physical capacity of the environment to support a continuously growing population under conditions of finite resources. It will attempt to assess briefly the world systems models promoted by the first two reports of the Club of Rome (Meadows et al, op.cit., Mesarovic and Pestel 1974). Secondly socio-political conflicts engendered in both developed and underdeveloped countries by the commitment to economic growth will be considered. Finally the human or attitudinal component of the World Problematique is contemplated, especially in view of the attitude changes which it has been suggested will be required if we are to successfully cope with the global predicament. (Peccei, op.cit. p.149)

3.1 The Physical Environmental Component.

The notion that there exist absolute limits to the process of economic growth was given great impetus by the publication in 1972 of the 1st report to the Club of Rome, "Limits to Growth" (Meadows et al, op.cit.). The immediate popularity of a publication that was somewhat pessimistic about the future prospects of the global economy suggested the existence of a large receptive audience. This public audience had grown as a result of an emerging belief during the 1960's, especially in the U.S.A. and later in Western Europe, that various parts of the world were suffering an "environmental crisis" (Simmons 1973, p. 203). Concern at the impact of man's activities on the physical environment had led to an earlier environmentalist movement in the United States from about 1890 to 1920. The difference between that movement and the growing concern of the 1960's was that in the latter case, clear attempts have been made to link the process of industrial growth to environmental degradation through pollution and natural resource exploitation. (Sinclair 1973, pp. 175-191).

Arvill (1967, p.15) writing in Britain noted that concern for the state of the environment was also linked with fears that the era of rising living standards was being threatened;

"... we are faced with the dismal prospect that there may be within our lifetime a substantial debasement of living standards and of the environment."

A further factor which perhaps contributed to the successful impact of "Limits to Growth" was the population question. Books such as Rattray Taylor's "Biological Time Bomb" (1968) served to popularise the idea that a "population" explosion was taking place, predominantly in the nations of the Third

World, which threatened to outstrip the world capacity to support all its inhabitants. The growth of World population is certainly a very real constraint to economic growth but the fact that the issue has appeared to arouse greater public concern in the Western developed nations suggests that it is the continued growth of Western economies that is the particular subject of this concern.

"The Limits to Growth" was therefore launched into a public context already experiencing doubts about issues that a few years previously would not have raised the eyebrows of any but a few concerned individuals or groups. Following on the work of Forrester (1971), "The Limits to Growth" attempted to plot the interaction of the major trends of global concern; accelerating industrialization, rapid population growth, widespread malnutrition, depletion of non-renewable resources and the degradation of the physical environment; in a computer model. The result was a scenario which warned that exponential economic growth could not continue indefinitely and that on the basis of existing trends ultimate "limits" would be reached within approximately one hundred years.

Although the immediate impact of the report was considerable it very soon attracted serious comment and criticism. The first target for critics was the structure of the global model used in the report. Freeman (1973) has pointed out the limited data base of most elements of the model and considers the report as a valuable, "attempt to develop satisfactory mathematical models" (p.13), but he views with scepticism any attempt to represent future tendencies in the world on such a limited basis.

Page (1973) has further argued that one of the key sources of "global collapse" envisaged by the Report's model, resource depletion, is not adequately linked to market conditions. Although natural resources are finite in quantity their supply is essentially determined by economic exploitability rather than geographic availability. Page suggests that if resource availability were linked to a market index, it would be possible to envisage a model that would be far less sensitive to this parameter. Other parameters of the model have also been subject to close scrutiny often resulting in the possibility of very different scenarios to that expressed in "Limits to Growth" (cf Marstrand and Page, 1973, Julien and Freeman 1973, Marstrand and Sinclair 1973).

A second line of criticism which applies equally well to the Club of Rome's second report, "Mankind at the Turning Point" (Mesarovic and Pestel 1974) focuses on the ideological sources of the concern expressed in both reports. Cole and Curnow (1973, p. 134) conclude their evaluation of the world models of both Forrester and Meadows (op.cit.) by warning that;

"... the work of modellers (and their critics) should not be viewed as a totally objective or apolitical statement of real world situations."

Various writers have suggested that the modelling approach used by the authors of the Club of Rome reports represents a technocratic approach to problems that in reality have very diverse political meanings. (Pavitt 1973), Simmons 1973). In both reports growth is seen to be limited due to physical constraints rather than social breakdown as suggested for

example by Marx whose analysis was based on quite similar parameters. Contrary to that surface appearance of scientific neutrality these reports cannot be understood without reference to the social and political values of their authors. Neither of the two reports considers the implications of their scenarios in terms of the social and political changes required to avoid global or regional catastrophe.

Nevertheless the two Club of Rome reports have served to focus public, political and academic attention on issues that are unquestionably relevant. In addition they have drawn attention to the global scale of many problems formerly appreciated at regional or national level only. Whether or not the predictions of future breakdown in the global economy are sound, it is in the social and political arena, that whatever choice exists will be exercised! It is therefore to that arena that we must turn in order to examine how the notion of limits to growth is experienced by various political entities.

3.2 Social and Political Factors.

Perhaps the most striking divergence of views concerning what we have termed the "World Problematique" is that which exists among commentators from Western nations, the Eastern bloc and the Third World. According to Freeman and Jahoda (1978,) western nations are most likely to be disturbed by the implications of scenarios such as those contained in the Club of Rome reports. The Eastern bloc, especially the Soviet Union, appears to be very unconcerned and few of their writers believe that economic and industrial expansion should be ques-

tioned. Commentators from the Third World on the other hand have often expressed dismay at the notion of limiting economic growth on a global scale, realising that the poorer countries would suffer most harshly, if this were to occur.²

Leaving out the case of the Eastern bloc because of its apparent disinterest in the issue³ we shall consider various interpretations of the so-called World Problematique from the point of view of firstly the Third World nations and then the Western developed countries.

3.2.1. Third World⁴ experience of the "World Problematique".

The crucial difference between the experience of Third World nations and the developed countries with respect to the various aspects of the World Problematique is that they have less power and economic resources with which to cope with any economic catastrophe that might occur on world scale. Moreover, problems such as population growth and food supplies are literally matters of immediate life and death in many cases. To talk of limiting economic growth is therefore out of the question as a policy option in most cases. On the contrary, promotion of economic growth is usually accorded highest priority in most Third World countries.

In recent years however a growing sense of frustration has emerged amongst policy makers in the Third World. This is because in spite of remarkably high rates of growth in many countries during the 1950's and 1960's the gap between developed and less developed countries measured in terms of per capita income has increased (Brookfield 1976, Ch.2).

More serious though have been the apparent effects of national

economic growth on international distributional imbalances. In fact in many Third World countries absolute levels of poverty among the majority of the inhabitants have worsened over the same period and are continuing to do so. (Brookfield op.cit., Berger, 1974, Ch.2).

Attempts to explain this process fall into two major categories. The first is the modernisation theory. According to this theory the wealthy Western nations are characterized as the "advanced industrial societies" with the Third World nations viewed as occupying different stages along a continuum of progress towards Western style development. In terms of this theory the poverty and underdevelopment of the Third World is a necessary stage on the path to economic progress. Not surprisingly, it has been largely discredited in the eyes of most commentators from the Third World although many countries are still controlled by governments sympathetic to this approach (e.g. Brazil, Kenya).

The other major explanation of the ill-effects of economic growth on Third World countries ascribes the growing relative and absolute poverty of the poorer countries to the imperialism and later the neo-colonialism practised by developed nations in their relationships with the Third World. Drawing on the Marxist tradition, this approach argues that the developed countries, together with the multi-national corporations use their greater economic strength to impose crippling terms of trade onto the poorer countries thus forcing them into a pattern of economic development that perpetuates their dependence on foreign assistance (Baran 1957). The Latin

American dependency school has further developed this line of explanation but without offering really viable alternative strategies (Booth 1975, O'Brien 1975).

For the past ten to fifteen years, the latter of these two explanatory paradigms has enjoyed precedence among Third World academics but during the early 1970's it was becoming increasingly clear to some writers that the socialist alternative suggested by the Marxist paradigm had little effect on rectifying distributional imbalances.⁵ Amin (1974) has shown that as far as the consequences for maldistribution of income within a country and dependence on foreign investment are concerned, it makes little difference whether a country pursues a policy of growth lead by the private sector or by the state. The concentration of economic resources that is required to bring about rapid economic growth poses the problem of distributive justice whether under a capitalist or Marxist economy.

The dilemma facing Third World nations, and which is essentially their perspective on the "World Problematique", is how to achieve much needed economic growth without the adverse consequences which they have experienced for so long. In face of this dilemma there appear to be two broad policy options facing the Third World. The first is one which has occupied the efforts of Third World delegates to international fora for many years, namely a significant improvement in terms of trade between developed countries and the Third World. This claim has been made repeatedly at the various United Nations Conferences on Trade and Development. It often includes the

more radical demand for resource transfers from the former colonial powers to newly independent states in lieu of colonial exploitation.

A more recent report to the Club of Rome, "Reshaping the International Order" (Tinbergen et al 1976) sets forth proposals to guide attempts to bring about a more equitable global economic order. This is a very useful document but one which is also very conscious about its idealism and limitations (p.57, p.187). Although the need for both developed and Third World countries to press for reforms is stressed, it is also noted that, "... reforms in the international order will be meaningless, and often impossible to attain, without corresponding reforms in the national orders." (p.56).

A second, but complementary policy option is thus suggested. However as we have seen above any internal reform must face the "growth vs equity" issue. Griffin (1977) has attempted to face this issue squarely. Recognising that in terms of both Marxist and capitalist development paradigms, the goals of growth and reasonable distributive equity appear to be mutually exclusive, he turns to the strategies adopted by Maoist China and Tanzania. In the case of China especially he argues that an adequate rate of economic growth has been achieved without creating serious disparities of income distribution. Their strategy essentially involves devolved control of production units in a system of communes, with the exception of electricity, fertiliser and the military which are centrally controlled. In addition, China has avoided excessive dependence on foreign capital for her develop-

ment strategy. Whilst both China and Tanzania have been strongly influenced by radical, influential leadership, Griffin concludes from their experience that the seemingly impossible dilemma facing Third World nations is at least illuminated by precedents which suggest a possible road ahead.

From the point of view of the Third World nations, therefore, the World Problematique does not demand a cessation of economic growth but rather a reduction in their reliance on development strategies that are based on the experience of Western and Eastern bloc developed countries. Strategies of economic growth and national development that reflect the unique experience of each country will have to be sought.

3.2.2 The "World Problematique" as experienced by Western nations.

As Freeman and Jahoda (op.cit.) have noted, interpretations of the issues comprising the "World Problematique" tend to reflect the different experience of various groups of nations. Generally, speaking, concern for the global implications of such problems as the population explosion or pollution of the physical environment and their relationship to the possibility of continued national economic growth is not reflected on the political agenda of most Western nations. It is only in recent years that political pressure groups such as the Ecologists in France and the Green Party in Germany have begun to articulate a serious reaction to policies which attempt to maintain the economic growth process as a national priority. In Britain, the current (1979) election campaign is the first to witness a determined effort (by the Ecology Party) to bring to the national political arena al-

ternative strategies for coping with this country's experience of problems that are essentially of global concern.⁶

In order to understand the meaning and significance of a concept such as the "World Problematique" to the Western nations we shall first identify those particular problems which most of them experience - as well as conventional responses to these problems. The work of a number of more critical writers will then be examined in an attempt to evaluate those alternative perspectives which have given rise to the various pressure groups opposed to the primary importance of economic growth.

Of all aspects of the "World Problematique", the limitations to the supply of non-renewable natural resources have probably made the greatest impact upon the political systems of the Western nations. The 1973 "oil crisis", although politically motivated, emphasised that natural energy sources may indeed pose a threshold if not a barrier to the economic expansion of both the developed nations and those Third World countries that had chosen the path of rapid industrialisation as their development strategy. The characteristic response of virtually all the Western nations has been to devise strategies that will enable them to maintain growth.⁷ Such attempts are being hampered by two other issues which the energy crisis has both highlighted and exacerbated.

Firstly inflation. Because public expectations of continued rises in spending power are difficult to contain in democratic countries, expenditure, both public and private continued to grow long after industrial production was curtailed

by rising energy costs.²

Secondly, the problem of unacceptably high and often rising levels of unemployment is experienced by all Western economies. Rather than easing, this problem is likely to grow worse. In order to maintain production levels in the increasingly competitive world markets industry has to become more efficient. Ever greater reliance on modern micro-processing technology points to the possibility of massive redundancies in the future in those industries which stand to benefit from automation (e.g. the motor industry, the food industry - both major employers of labour).

Common to the basic strategies of most large political parties or alliances in the Western countries, whether of the Left or the Right is the belief that national economic growth can and should remain a fundamental goal. Policies designed to promote this goal imply a continued willingness - on the part of national governments - to absorb or tolerate the undesirable consequences of economic growth. In Britain for example, Labour governments have spent vast amounts of money promoting industrial expansion in declining regions, encouraging industrial retraining and relocation for workers from such areas, and investing public funds in industry via the National Enterprise Board, not to mention the industries which have been completely taken over. Conservatives, on the other hand, believe that some of the personal hardship that would result from curtailing such expenditures could be offset by financial incentives intended to stimulate enterprise and create economic growth. Variation on such themes may be

found in the policies offered by political parties throughout the Western nations.

The actual feasibility of maintaining a growing economy in face of the international aspects of issues such as the "energy crisis", inflation and unemployment may often be determined by factors beyond the control of local policy makers - such as a nation's standing vis-a-vis suppliers of oil or other raw materials, access to cheap labour, markets in other parts of the World and access to product markets beyond the nations borders. Attempts to manage such factors have lead to a proliferation of international commercial arrangements, not the least of which are the trans-national corporations which exercise an increasingly dominant influence on world trade patterns. (Brookfield 1976)

The use of both local and international strategies therefore characterize the attempts of Western nations to resist global pressures for a reduction in their rates of economic growth and resource consumption. In addition to demands by the Third World for a new economic order and the warnings of groups such as the Club of Rome there have emerged in recent years several indications of a reaction against economic policies from within many of these countries. The key argument linking these critics is that it is no longer necessary for economic growth to be accorded such priority and that efforts to maintain it have undesirable consequences. This implication is that the Western nations are entering a "Post Industrial" era. (Kuhns 1971)

One of the earlier critics, Galbraith (1967), has argued that the Western industrial nations have in the past thirty years become increasingly geared to providing a favourable "economic climate" for industrial expansion. This has required greater control by industry over its markets in order to minimise the impact of fluctuations. Galbraith believes that the strategies used to bring about this control, whether by increased government or corporate power, pose threats to political liberty. This is in the sense that the breadth of political options is curtailed by the belief that industrial expansion is the only path to liberty (Galbraith, op.cit. p. 398). Dahrendorf (1975) echoed this argument in his Reith Lectures, entitled "The New Liberty". To Dahrendorf, liberty implies having the option to freely adopt one's own values and responses to problems in a given socio-economic setting (p. 4). In the context of problems facing Western nations in the 1970's he suggests that a liberal response will involve a shift from expansion and material growth as indicators of liberty to the notion of improvement - especially in the quality of social institutions. Such improvements will respond to demands for more direct participation by citizens in their affairs as well as, "recognising the order of magnitude of some of the great issues facing us" (p.5).

In France, the social turmoil of the late 1960's has been interpreted as a reaction against the stiflingly narrow view of progress imposed by government. Touraine (1971) has argued that the democratic parliamentary system in France prevents the articulation of significant opposition to the state's

growing influence over all facets of life. He clearly distinguishes between the idea of growth per se and the social and political consequences in which its pursuit has resulted.

To quote him at some length;

"The new conflict is between the structures of economic and political decision-making and those who are reduced to dependent participation. Long enervated by satisfaction with its material success, society is rejecting, not technical progress and economic growth, but its own subjection to a power which boasts of being impersonal and rational, a power which encourages the idea that it is merely the conglomerate of all the demands made by change or progress. Against this kind of social dominance, which identifies beneficial growth with itself, which considers the whole spectrum of life styles in society merely as tools to be fitted to the needs of this growth - which it conceives as a natural rather than a social process - savage rebellion is bound to break out." (Touraine, op.cit. pp. 9,11).

Touraine proceeds to reject the idea of an open confrontation in society, suggesting rather that independent initiatives should be undertaken in various situations by those wishing to promote alternative societal goals to those embodied in national policies.

This approach is supported by Garaudy (1975). In the same vein as Galbraith and Dahrendorf (op.cit.) Garaudy argues that the political institutions in the Western nations have tended to be transformed or eroded in such a way that activities not conforming to the broad guidelines of central governments (or corporate power) struggle to gain political articulation. He proposes a form of economic and social "self-management" aimed at countering the absorption by official

institutions of all local initiatives.⁹

Similar views have been expressed in Britain. A very recent example is Thomas (1979a). He comments on the difficulty experienced by government over incomes policy in spite of the fact that opinion polls revealed a large majority in favour of mandatory wage restraint:

"No one notices that the secret conclaves of the tripartite (government, unions, management) corporate state should leave out the consumers - otherwise the people to use the old fashioned word. ... What is fundamentally wrong is that the majority is disfranchised."

In a sense the Western nations may be considered to be facing an impasse or watershed. The development of democratic political institutions over the past two hundred years has facilitated their rapid economic expansion. But in so doing these institutions appear, in varying degrees, to have become subservient to this end. This problem was predicted by de Toqueville in the early nineteenth century. He argued then that democratisation would lead to the centralisation of power as a result of "the erosion of intermediate social authorities standing between the individual and the emerging bureaucracy in which power in democratic societies is vested" (quoted in Rapoport 1974, p. 92)

The actual experience of the "World Problematique" in Western nations is perhaps linked to this disintegration of various forms of local autonomy and, "is at the root of the most important endogenous conflicts within them". (Rapoport op.cit. p.96) Rapoport further suggests a similarity between the experience of Western and Eastern bloc industrial societies,

in this respect:

"In the United States, (and other democratic industrial nations) internalisation of competitive conflict had an atomizing effect on society In the Soviet Union, internalisation of ideological conflict created, at first, a semblance of a society united by an orthodox faith. What we may be witnessing now is the beginning of endogenous, structure oriented conflicts within both societies, nurtured by a revulsion against both the Hobbesian and the Orwellian visions." (Rapoport, op.cit. p.210).

These emerging conflicts reflect the spread of alternative attitudes to the importance and value of economic expansion as a social goal. Therefore to further understand the nature of the "World Problematique" we must shift our focus from the political arena to that of the attitudinal or personal level, for as Marwick has said of British society in the 1970's, "... political and administrative changes lag far behind changes in attitudes, customs, social behaviour, and social environment." (Marwick, 1971, p. 185).

3.3 Human Attitudinal Factors of the "World Problematique".

The need to focus on the human level of the conflicts which collectively comprise the "World Problematique" does not imply the adoption of a particular political interpretation thereof, (although the writer clearly shares the position outlined above). It reflects, rather, the perception that in any impasse experience, "The nature of the trap is a function of the nature of the trapped" (Vickers 1970, p.15). In other words the nature of the problematique, which we have examined from various points of view, may be more clearly understood

in terms of the ways in which people have become accustomed to interpreting their environment.

The role of economic expansion which for years has been considered central to the perception of human progress by both capitalist and socialist societies, in both developed and Third World nations, is being fundamentally challenged. Indeed, there exists today a considerable and growing body of opinion that, underlying all aspects of the "World Problematique" is the mistaken and, in human terms, harmful belief that economic progress is the panacea for the problems of human existence. The work of some key contributors to this literature will therefore be examined.

The emphasis on the human factor in discussions of the World Problematique constitutes both a "rediscovery"¹⁰ of broader aspects of human potential as well as a reaction to frustrated efforts to bring about changes in the global economic and political spheres. The work of Chermayeff and Tzonis (1971) illustrates the former position. The latter position has been strongly supported by Peccei (1977), the president of the Club of Rome, the work of which has been associated primarily with physical limits to economic growth. After reviewing the growing concern in the world during the 1960's and 1970's with environmental quality and the need to control certain harmful industrial practices and technological advances he states that;

"Now, it is dawning on many people that even all this (above concern) is no longer sufficient, because a monstrous tangle of problems is emerging in which the population explosion, economic and social disorders, maldistribution of income, unemployment, ignorance and prejudice impinge

on each other at a scale heretofore unimaginable. The feeling is that something more fundamental must be changed in the human system." (Peccei op.cit. p.152)

More than twenty years ago the consequences of restricting the concept of human progress to either physical or political development were outlined by Erich Fromm. In his "Sane Society" (1956) he attempted to relate indices of human failures such as alcoholism, crime and suicides to the narrow demands made upon individuals in Western societies in which concern for individual personal development was allegedly subservient to economic issues. His thesis was that the confinement of progress to one sector of human reality whether material, spiritual or social tended to result in the destruction of overall human development. In a book published twenty years later, Fromm specifically relates the notion of human development to the experience of the "World Problematique" as contained in the Club of Rome's first two reports. In "To have or to be" (1976) he argues that in order to cope with the sort of issues we have been discussing here the attitude of "being" must supercede that of "having":

"If the economic and political spheres of society are to be subordinated to Human development, the model of the new society must be determined by the requirements of the unalienated being oriented individual."
(Fromm 1976, p. 176) (his emphasis)

Various writers share Fromm's perspective that a "human revolution"; a fundamental change in values or attitudes is a prerequisite in any response to situations related to aspects of the "World Problematique". (Rattray Taylor, 1972, p.345; Vickers op.cit., Ch.14; Illich 1970, 1971, 1973;

Berger 1974, p.258; and Schumacher 1977 are among the most influential). Peccei (op.cit. p. 161) presents this view most forcefully when he argues that we must learn that;

"... it is wrong and misleading to consider human (material) requirements as the starting point of a new phase of human evolution. Development of human quality and capacity alone can be the foundation of any further achievement," (his emphasis)

The major justification of such arguments lies in the belief that men do have the potential to break out of the apparent impasse presented by the "World Problematique". Dahrendorf (op.cit. p.23) suggests that human societies have become structured by the need to promote narrow economic goals (cf. also Galbraith op.cit.) and that our existing habits and institutional structures make it difficult for us to use our various potentials to the full. Often the inability to respond appropriately to novel problem situations results from relying too heavily and for too long on an unquestioned pattern or paradigm which under conditions of growing uncertainty proves to be an inadequate guide to action (as was suggested with regard to the planning system in Britain in chapter 2 above). The need to continually learn from our experience with the environment is emphasised by Peccei (op.cit.) as the key to unlock wider human potentials. In this context he argues that the notion of "self-reliance" being adopted by various Third World countries in their development strategies constitutes a step in the right direction:

"The principle that people who struggle to reach a higher standard of life should rely primarily on themselves can have a profound educational value ... and at the same time

it inserts the political and ethic themes of self-respect and self betterment into the previously essentially materialistic and quantitative conception of growth." (Peccei, op.cit. p.158).

To understand that the educational impact of social and economic circumstances on an individual human beings is equally as important as the material content thereof, is the breakthrough necessary to justify the argument for attitudinal change. Perhaps more than many other writers, the work of the Brazilian, Paulo Freire has encouraged this understanding. Freire (1972) argues that people must discover for themselves the factors which determine their economic and social status if any development in those spheres is to contribute to personal development. When people are subjected to development strategies devised without their participation they will fail to gain those insights into economic and social problems which would otherwise have made them more adaptable and responsive to future problems.

A similar concern for the significance of personal development in human affairs is expressed by the American psychologist, Rogers. He relates his work on the "person-centred" approach to psychotherapy, to problems in politics and economic development. (Rogers 1978). Rogers stresses the importance of having more effective, balanced, people, people with the openness to inner and outer experience, people with the security required to face the social and psychological crises of the world with a new sense of hope, relying on their own personal values and integrity to cope with their lives.

Rogers suggests that the Western world is experiencing the emergence of many individuals with this new self-reliant stability. They are emerging in many spheres of life and are linked only by a trust in their own experience, and a profound distrust of all panaceas. Rogers draws on a large U.S. literature which reflects, from different perspectives the belief that their culture is, "undergoing some sort of drastic change and producing a type of individual, a type of consciousness; a way of being and behaviour that will reshape our world", (Rogers op.cit. p. 263).

Like Peccei, Fromm and Freire, Rogers is not advocating that we turn inwards and away from facing the crises of the world but instead believes that our failure to respond adequately to the "World Problematique" - especially when we do have the means available - constitutes an essentially human problem. The ability to resist being drawn into reliance on limited panaceas such as economic progress or political ideologies requires great personal stability and acceptance of the responsibility for personal judgements.

The notion of personal development itself should also not be viewed as a sufficient condition for human progress, but as has been seen from the arguments of other writers, it may provide the necessary momentum throughout the world to create a demand for the changes needed to cope with the so-called "World Problematique".

The significance of the "World Problematique" as it has been presented here lies not so much in the global scale of some of the issues which it encompasses but rather in the perception of the relationship that exists between the various

levels at which it is experienced. Problems may be appreciated in terms of their physical impact, their political significance or their meaning to individual human beings. Each of these levels interacts with the others producing an environmental web that becomes less and less susceptible to institutional compartmentalisation the more that such interaction is facilitated by high-speed communication and global economic interdependence.

In reality men must organise their activities in order to maintain some form of stability in the environments in which they live. But to do this without further jeopardising the stability of the global environment they must be aware of the pattern of inter-relationships on which that stability depends. This requires that the model or paradigm of the environment upon which their actions are based must reflect this awareness. The following chapter therefore considers the significance of paradigms in environmental planning.

4. A NEW PARADIGM FOR PLANNING.

4.1. Paradigms in Planning.

Planning in Britain has from its inception been concerned with order in the physical environment. Initially this was narrowly conceived in terms of land-use control but the scope of planning has gradually broadened to take account of the many factors which influence the process of land development. As was shown in Chapter **T**wo, however, most efforts to adapt and improve the planning system during the 1960's and 1970's were of a procedural or organisational nature and have not essentially altered the focus on a physical conception of order. The reasons that such efforts have done little to appease the many critics of the system are perhaps indicated by the above consideration of the "World Problematique". For the purposes of planning, the most pertinent conclusion to be drawn from that discussion is that attempts to implement a material concept of order, measured in terms of economic growth, tend to produce highly undesirable consequences in human, socio-political and physical-environmental terms.

Although the competence of planning in Britain is clearly not judged in terms of its contribution to national economic growth, the trend towards corporate planning in the management of local government strategy indicates the extent to which the budgetary control exerted by central government constrains the scope of county and local planning. The financial strictures thus imposed appear to reinforce the view held by many prominent planners that the planning system simply lacks the resources to adequately control the physical environment.

Lichfield (1979) has argued recently that if environmental planning were accorded high priority in the national budget it would be able to bring about acceptable physical environmental conditions in the country's cities. The frustration with the current criticism of the planning system experienced by those subscribing to this view is understandable, believing, as they do, that the achievement of a totally satisfactory state of the physical environment is both possible and desirable. This perspective is based on the fundamental belief in British planning, "that environment and the right use of land contribute to community well being" (Cherry 1979; my emphasis). This may well be true but it does not automatically follow that this particular approach to the promotion of community well being will always be sufficiently significant to warrant the attention of a whole branch of government.

"Community well-being" as a goal is surely a function of a variety of factors; social, political and psychological as well as physical. Planning, however, appears to be justified by the notion that a contribution to greater order in one sphere of this function will constitute an improvement in the total function. This fragmented conception of the structure of "community well-being" and indeed of society as a whole reflects the limited paradigm within which the role of planning in this country is officially conceived.

A paradigm represents a pattern or conception of reality which, to its adherents, defines the agenda for all the ongoing activities of routine practitioners in the field covered by the paradigm. (Robertson 1978a, p.79) Problems that, to

planners operating within the paradigm, indicate the need for more and better planning, may alternatively be interpreted as demands for a broadening of the paradigm.

A considerable body of criticism of the planning system (chapter two, above) points to the need for a new paradigm in which the broader concept of environmental stability will replace that of order in the physical environment. Widespread disillusionment with ~~the~~ planning is acknowledged, even by those who would prefer to see a continuation and development of planning, within its existing paradigm (Lichfield op. cit., p.5) but others are more adamant that, "If planning does not change its ways it may experience decreasing influence and even fade away" (Hancock 1978, Ch.1 above). A working paper sponsored by the Royal Town Planning Institute has reviewed the problems facing the planning system in the following words;

"We have concluded from our analysis of planning in relation to the changes taking place in society, that existing forms of planning are only partially successful in meeting society's needs. There are many reasons for this: in part because those needs are inadequately expressed and understood; also because the several types of public planning, by being poorly coordinated, do not reflect accurately the inter-relationships of a complex society." (R.T.P.I. 1976, p.21) (my emphasis)

Recent work on the structure of environmental systems, (Bennett and Chorley 1978; Trist 1978) has emphasised the futility of attempts to implement a concept of order ^{which} ~~that~~ ignores such inter-relationships. In their book, "Environmental systems", Bennett and Chorley have undertaken an extensive review of the application of systems theory to all aspects

of the global environment. They examine systems approaches in both substantial spheres (e.g. geographical and economic models) and conceptual spheres (e.g. social theories, political theories and psychological theories). Essentially, their conclusions point to the importance of mutual influences among all types of system. They argue that the notion of ecological balance, based on the perception of interdependence among sub-systems of, for example, a particular geographical area, should be accorded greater significance with respect to interactions among physical, socio-political and psychological systems. Such systems should be treated as open with respect to each other as well as within themselves. Consequently, any attempt to control and impose order in a given system will influence, and will be influenced by, activities in all other systems. From this broader environmental perspective therefore, it becomes clear that the pursuit of order, however defined, in one particular sphere such as the physical environment is not only an unnecessarily narrow approach but may be positively harmful viewed from the perspective of other spheres.

The contribution of systems theory to this insight ought perhaps to be viewed not so much as an independent discovery of fact but rather as a sophisticated interpretation of actual environmental conditions. Vickers (op.cit., p.210) has warned that, "The systems we carve out for study are mental artifacts". The reality of environmental conditions is, however, not an artifact. This is clear both from the efforts of the planning system to cope with complexity and uncertainty and from the evidence of the "World Problematique".

Trist (op.cit.) has combined the insights of systems theory with an awareness of the many facets of the "World Problematique" in an attempt to define a planning paradigm more appropriate to current global environmental conditions.

Trist suggests that "Four generalized environmental types with different kinds of what we call "causal texture" may be distinguished". (op.cit. p.6). These, he ranks in order of complexity; the most complex exhibiting the highest level of "mutual causality". In his Type 1 environment, sources of disturbance are randomly located - none having the power to predominate in the environment. The organisational analogue of perfect competition is suggested. Under Type 2 conditions, disturbances are clustered, requiring the use of strategies to prevent the domination of the environment by any particular cluster of forces. Trist likens this to the economic model of imperfect competition. Type 3 environments represent a situation in which various clusters of forces or organisations within the environment have devised means of acquiring sufficient power to exert a significant influence on the nature of the environments. To many smaller participants, the environment is defined in terms of these powerful clusters of influence rather than by the wider environmental field. Trist calls this the "Disturbed-Reactive" environment in which the survival mode is the amassing of power in order to gain or maintain a particular position of control within the wider field. Type 3 conditions began to emerge with the advent of the Industrial revolution when new financial techniques and new technologies made possible the accumu-

lation of greater centres of power than was previously possible. It is the world of, "big industrial organisations, of conglomerates, and equally of outsize government departments the world which J. K. Galbraith has called the New Industrial State ... " (Trist op.cit., p.7).

According to Trist, the organisation of modern societies tends to reflect this model. In recent years however the very success of this mode of operation has brought it to its own limit. This is because the scale of interaction among the organisational actors is such that unanticipated and dissonant consequences occur in the overall environment which they share. This results in "contextual commotion" in which the environmental field appears to be moving as well as the actors. This is Trist's Type 4 environment - the "Turbulent environment" - in which there is no precedent for a survival mode.

In an attempt to evolve an appropriate mode of planning under Type 4 conditions, Trist notes that the ability to plan is greatly affected by an organisation's attitude to the future (op.cit., p.9). Type 3 conditions suggest a preactive mode of planning in which the future offers opportunities for implementing organisational goals. It is based on the belief that organisational effectiveness is the chief limit to achievement of goals. In Type 4 conditions the attitude to the future is modified by the knowledge that there no longer exists a neutral environmental field in which to implement one's plans. Planning under such conditions requires mutual interaction, not only among organisations and individuals but also between them and the physical environment - as a co-pro-

ducer of any future state. An interactive mode of planning is thus suggested.

Preactive planning under Type 3 conditions usually adopts the bureaucratic organisational form which in modern societies has become technocratic, competitive and singular (op.cit.p.13). Technocratic in the sense that this reflects the belief that operations are limited predominantly by organisational competence; competitive in the sense that even in the public sector competition for, and budgeting of financial resources is practised, and singular in that a bureaucratic organisation tends to separate its own objectives from those of competing organisations. (op.cit. p.13) Trist argues that this approach to planning represents an organisational paradigm that is becoming progressively more disfunctional as Type 4 conditions are supervening in the global environment.

As to a new organisational form within which interactive planning might be conducted, Trist can find no indicative model. Adaptations and innovations within existing organisations should be encouraged and facilitated recognising;

"..... on the one hand the fragility and vulnerability in face of the turbulent environment of most of the systems in which we are embedded; and, on the other..
..... the resilience of the individual, and his capacity to change these systems or invent alternatives at present not really discernible". (Trist, op.cit., p.20)

The significance of the arguments of Bennet and Chorley, and Trist arises not from the internal consistency or inherent value of their systems methodology but their recognition of the limitations and dangers involved when human action is guided by a fragmentary environmental paradigm. In a recent

television documentary Booker (1979) argued that many of the problems faced by (and caused by) the British planning system have resulted from its adherence to a limited physical paradigm of order. More interestingly, he pointed to the analogy between this situation and the political concepts of order predominating in the Eastembloc nations. In both cases, Booker argued, the fault lay not in the physical or political paradigms themselves but in the separation of one concept of order from its wider environmental context. The consequences of this failure to grasp, or perhaps more fairly, to respond to, the inherent unity of physical, social and psychological systems are spelt out in an appropriate comment made by Vickers (op.cit., p.201):

"If in trying to understand some systematic relation, we overlook one of the major interacting variables, we shall learn nothing from our inquiry, perhaps our mistake."

If in the future the planning system is to avoid the kind of mistakes of which Booker and others accuse it the essential requirement is for a new paradigm in which the unity of developments in all spheres of the environment is acknowledged.

4.2. Unified Development: Towards a new paradigm for Planning.

The understandable response to criticism of the planning system, or for that matter, of any branch of human activity is the challenge to offer a better alternative. This sort of response tends to produce reactions to the particular aspect of the system to which the critics most object, rather

than clearer understanding of the nature of the system's (or the critic's) problem.

The concept of a new paradigm on the other hand, does not seek directly to answer this challenge. Instead it is based on the perception that the problem faced by the planning system, and indeed many other institutions in the country, is its failure to recognise the limits to its ability to achieve its objectives. But at the same time as it highlights the nature of this problem, the idea of a new paradigm of "unified" development" suggests the direction in which further opportunities for the planning system to make a contribution exist, namely, in the areas of personal and social development.

Robertson (op.cit.) has made a strong case in favour of this perspective. Assessing various alternative future scenarios he argues that in view of prevailing global environmental conditions the most likely scenario to emerge (and the one of which he is in favour) is what he calls the "Sane, humane, ecological (SHE)" future. The key to the future according to Robertson;

"... is not continuing expansion but balance - balance within ourselves, balance between ourselves and other people, balance between people and nature. Future expansion will be psychological and social; the important limits now are social and psychological, not technical and economic." (op.cit. p.18)

A problem that this future scenario shares with all others is its liability to extreme interpretations. It could easily become the vehicle for propagandists who choose to ignore Robertson's plea for balance within each of the three spheres.

The concept of an "ecological" future could give great scope to "back to nature" advocates and "eco-nuts". Likewise the interpretation of "humane" might vary from the ultimate in welfare states to anti-organisational anarchy. "Sane" might be interpreted as indicating a naive psychologistic concept of order. Partly to guard against such extreme interpretations of his future scenario, Robertson points out that the changes implied by his approach will not necessarily be of an organisational nature but should rather be conceived of as a change of direction or a transformation in the standards by which society measures progress.

Chapman (1978) has also argued that it is misleading to construct organisational or technological models of possible future states because the interdependence between peoples' attitudes and their institutions is such that conceptual models of the future lack the very component required to give them meaning, namely the attitudes of people experiencing them.

The idea of a "paradigm shift" is an attempt to explain or guide changes that take place in a society, or a sub-system of society. It is based on the insight that the transformation of a society and the transformation of its dominant ideas are interdependent processes. Robertson (op.cit.) stresses that paradigm shifts are an essential part of the change of direction that will be necessary in all our institutions if society is to adapt successfully to present conditions:

"A paradigm shift is the change that takes place from time to time in a basic belief or assumption ... underlying our perceptions and actions" (Robertson, op.cit., p.78)

The transition of society to a sane, humane, ecological future will in Robertson's view be characterised by a shift away from a paradigm of expansion and competition towards one of co-operation and balance.

Whilst not adopting Robertson's perspective on the future, the proposals put forward for an integrated system of planning by the Royal Town Planning Institute's working party on "Planning and the Future" (R.T.P.I. op.cit.), are broadly consistent with the new paradigm that Robertson suggests is emerging. The document suggests that, in principle, planning should be an integrated process in which economic, social and environmental planning should be based more directly on local area resources and operate in partnership with community agencies. Others such as Hancock, Chapman, and Trist (op.cit.) are more clearly in favour of an approach to planning in which social and psychological growth will play an increasingly significant role.

Whatever one's standpoint is in the debate concerning the future, the three enemies of the human state "Chill penury", human tyranny and false gods will remain. (Vickers op.cit. p.183) The ways in which men have tried to free themselves from these enemies has determined the conditions that we experience in the environment today. There are those who still believe that the systems which we have devised for freeing ourselves from the first of these enemies can continue rapidly expanding and that individuals and societies will, for better or worse, cope. Others believe that we are heading for disaster unless strong totalitarian regimes emerge in the

Western nations to impose limits. Prognoses are inconclusive. *Diagnosis* however would seem to indicate that attempts to analyse and operate within one sector of the environment to the exclusion of others is unbalanced, and harmful to the total environment when such operations reach a sufficiently large scale.

Irrespective of optimistic or pessimistic scenarios of the future therefore, the present author shares with Fromm the belief that;

".... one step of integrated progress in all spheres of life will have more far reaching and more lasting results for the progress of the human race than a hundred steps preached - and even for a short while lived - is only one isolated sphere." (Fromm 1956, p. 272). (his emphasis)

The paradigm of planning that the author would advocate is therefore one of unified development.

The traditional way in which futurologists and planners communicate their ideas about the future is in terms of a scenario in which estimates of key social and economic indicators are given, together with suggestions for new political and institutional structures. Bearing in mind the reservations expressed by Chapman (op.cit.) this approach must be considered inadequate, especially for conveying a concept such as a new paradigm.

The meaning of unified development in this context would be best conveyed if its vital relevance in practice could be illustrated. In other disciplines such as literature, music or architecture the relevance of concepts is often illustrated by reference to acknowledged works of art in the respective

fields. Unlike disembodied concepts, however sophisticated, works of art have the added dimension of being human accomplishments. Their value lies in their ability to motivate men to emulate and even surpass the achievement that they represent. By referring to a concept in the context of its embodiment in a work of art the concept may itself acquire some of the inspirational value of the work.

It is with this intention and hope that the following chapter will discuss the significance of the Tennessee Valley Authority for the concept of unified development. The T.V.A. is still considered to be one of man's great successes in resource development (Arvill 1967, p.24) and as such may be considered as a work of art in the field of environmental planning. However, as will become clear in the discussion, the T.V.A.'s contribution has been far wider than the sphere of natural resource development. The concept of "unified development" used in this thesis has emerged from the more limited sense in which it was used by the U.S. Congress to define the brief of the T.V.A. in the 1933 T.V.A. Act (Clapp 1955). The term gained its wider significance to the present author as a result of the profound vision with which the T.V.A.'s director, and later chairman, David Lilienthal, interpreted this brief.

5. UNIFIED DEVELOPMENT IN PRACTICE: THE TENNESSEE VALLEY AUTHORITY.

5.1. Why the T.V.A?

What has been argued so far in this thesis is that the socio-political and psychological impacts of physical planning must be considered in order to understand the continuing criticism experienced by the planning system in Britain. The reference to the "World Problematique" was intended to support this argument. The purpose of this chapter is to illustrate more clearly what the author implies by the term, "unified development". It has been presented as a new "paradigm" because, it is argued, fundamental changes in the ways in which physical environmental problems are conceived may offer more scope for appropriate responses than further modifications to existing organisation and procedures within the planning system. The work of Pahl (op.cit.) on the inner city question and Chapman (op.cit.) on energy forecasting both point to this need for new ways of thinking about existing problems.

To simply leave the argument for a new paradigm of planning at the conceptual level would, perhaps, invite misinterpretation. The importance of personal growth and stability that has been emphasised does not, for example, imply that this can be achieved by neglecting the physical environment and political issues. Equally, social reforms cannot of themselves be expected to remove physical planning problems created by apparent neglect of social factors, - social work is not an adequate response to the problems created by high rise developments. All dimensions of such problems are mu-

tually reinforcing. A more appropriate conceptual framework or paradigm to structure thinking on these problems must therefore be viewed as a first step towards more appropriate action.

In a context in which problems are fragmented by institutional divisions it is understandably difficult to conceive of "unified development" in which physical, social, political and psychological development is treated as an integral whole. The questions immediately raised are; What institutional form will this approach adopt? How will it be implemented? For reasons mentioned earlier, the concept of a paradigm shift does not address itself directly to these questions. Nevertheless, as was noted at the end of the last chapter, a concept may be more clearly understood in the context of a widely acclaimed human accomplishment. It is thus in an attempt to indicate that the concept of unified development can be practically interpreted that the contribution of the Tennessee Valley Authority (T.V.A.) is being examined.

The description of the T.V.A. as a work of art in its field is deliberate. This is because, in the view of the author, a work of art combines the best of human skills in a particular field with a message which has a significance stretching beyond that field. The significance of the work of the T.V.A. in this perspective is being assumed for the purposes of this thesis. The many case studies that have been conducted are virtually united in their acclaim not only of its tremendous achievement in physical terms but of its value as a symbol of human potential. What is being undertaken

here is not a case study, for the objective is not to assess the T.V.A. but to use it to illustrate the relevance of unified development as an appropriate planning paradigm.

Although the T.V.A. was established in 1933 and its image based largely on the first twenty years of its operation, its relevance to conditions prevailing in the world today is justified because of the scope with which its first board of directors and particularly David Lilienthal,² viewed the Authority's task. The T.V.A. made unique and original contributions in the areas of physical resource development, institutional innovations and in the personal development of individual human beings. Each of these contributions was vital to the overall success of the project. After briefly outlining the background to the T.V.A., each of these areas will be considered as parts of the unified development process.

The T.V.A. was constituted in 1933 by an Act of the United States Congress after fifteen years of political wrangling over the use of two huge government nitrate plants at Muscle Shoals, Alabama, on the Tennessee river. Its establishment was to a large extent due to the efforts of a Senator George Norris who campaigned for many years for the idea of a public authority that would make use of the nitrate works as part of a wider plan to redevelop the whole of the Tennessee river basin in accordance with the ideas of the earlier conservation movement.³ Attempts by private interests to counter the proposals for such an authority were finally

defeated when President Roosevelt passed the T.V.A. Act on May 18th, 1933. The Act set up the Authority;

"... for the especial purpose of bringing about in said Tennessee drainage basin and adjoining territory (1) the maximum amount of flood control; (2) the maximum development ... for navigation purposes; (3) the maximum generation of electric power consistent with flood control and navigation; (4) the proper use of marginal lands; (5) the proper method of reforestation ... and (6) the economic and social well-being of the people living in said river basin' " (Section 23 of T.V.A. Act,⁴ in Clapp 1955)

5.2. Unified Resource Development.

There can be no doubt that the scale of enterprise to which the T.V.A. was committed by its enabling Act had much to do with the overall strategy which it evolved. To control and develop the river system which covered a distance of six hundred and fifty miles from source to mouth, the Authority had to cope with a great variety of topographical, economic and institutional situations. Parts of seven states were included in the T.V.A.'s geographical boundaries. Yet no new powers not already used by government departments were vested in the T.V.A. Faced with such broad responsibilities in unique institutional circumstances, the T.V.A. was forced to develop effective but publicly acceptable methods of approaching its task.

It was held legally and financially accountable to Congress, (from which it received annual appropriations) for all actions which it undertook or initiated. In addition, and of great significance, was that the Authority had to accept direct res-

possibility for the social consequences of all such actions. Whereas the only specific powers delegated to the T.V.A. dealt with the primary problems of flood control, navigation, production of fertilizer and electricity generation, it was given a great deal of discretion concerning its interpretation of its social responsibility. The way in which the Authority managed this responsibility was in large measure what transformed its function from that of an engineering and predominantly physical development agency into a vital catalyst to the region's social and economic regeneration.

The Tennessee Valley in 1933 represented a combination of economic depression and resource wastage on the one hand and spectacular opportunity on the other. Poor farming methods as well as regular flooding had lead to severe soil erosion in the valley. Depressed agriculture in a region with few other economic activities had resulted in a declining population. In 1929 per capita income in the valley was only 44% of the national average. To counter this picture there was the potential for fertilizer production at the idle Muscle Shoals nitrate plants, and possibility of constructing many dams for the generation of hydro-electric power, both of which resources the government realised would be of strategic value in the event of a future war.⁵ The T.V.A.'s task was therefore not conceived purely as aid to a declining region but also the realisation of a potential that could benefit the nation as a whole.

The physical task itself demanded that the natural resources of the whole region should be considered as an inte-

gral unit. Building a series of dams not only required resettlement of those displaced by advancing lakes but also consideration for existing users of the river - some factories and electricity generators. Developing navigation channels had positive results in terms of trade but created conflicting demands for riverside facilities. Power production offered the opportunity for large revenues which could be used to repay federal finance more rapidly, but it could also prove a powerful agent of economic development and material improvement in the region if efficiency in production were passed on in lower prices to users. Control of fertilizer production offered similar opportunities with regard to the valley's depressed agriculture. The fact that the T.V.A. took up the challenge of all these opportunities and conflicts which presented themselves resulted in a more comprehensive appreciation of the physical resources of the region than was contained in their initial brief for the unified development of the functions of the river.

A number of brief examples may serve to illustrate how the T.V.A.'s innovative interpretation of its responsibility reflected its wider application of the principle of unified resource development. The first of these concern the T.V.A.'s role as a supplier of electricity to the region.

One of the original aims of the T.V.A. was to prove that a much higher rate of electricity consumption in the region was not inconsistent with much lower rates than those charged by the existing private utilities. The Authority accordingly announced rates of as little as 30% of those charged by pri-

vate firms, arguing that it had taken into account all pricing factors facing private companies, in order to reach a "commercial" equivalent. Although this was a highly controversial practice, by the year 1940 the T.V.A. had clearly shown that it was possible to produce electricity profitably at much lower rates. Private firms had been forced to cut their rates by up to 40%, but their average usage per customer had increased by 80%. In addition to its commercial enterprise, the T.V.A. promoted the wider use of electricity by encouraging urban communities and groups of farmers to establish their own cooperatives to organise the distribution of power. At the wholesale supply prices which the T.V.A. had shown to be feasible, nearly all these cooperatives were able to distribute electricity to consumers at rates below the old utility rates, yet be sure of a reasonable return. The impact that these innovations had on improving living standards on even the remotest farms, and on the stimulation of electrical appliance industries in the region, confirmed what had become part of T.V.A.'s philosophy, viz:

"an ample supply of electrical energy at the lowest attainable cost is a basic force that stimulates the expansion of economic activity in a competitive enterprise society." (Clapp op.cit. pp. 93-95⁶ quoted in Kerr 1978, p.17.)⁶

A second important area in which the T.V.A. integrated its statutory requirements with a more widespread initiative was that of fertilizer production and distribution. Instead of only selling the fertilizers from its Muscle Shoals Plants on the commercial market, the T.V.A. made arrangements with

existing Agricultural Extension services in the valley to conduct demonstrations of the uses of fertilizer. On 20,000 individual farms "actual farmers selected by their neighbours" and sponsored by T.V.A. conducted demonstrations of modern farming in which the combined benefits of improved crop management, fertilizer usage, and electric power, were exhibited,⁷ (Lilienthal, 1944, p.33). In this way, literally millions of acres of land, previously classified as marginal or submarginal were rehabilitated. Improvements in agricultural productivity spread from the demonstration farms to the farms of others who witnessed these benefits.

These examples, which have been recorded in detail by many other writers (Clapp, op.cit.; Huxley, 1943; Finer, 1944) show most clearly how the innovative use of two key resources could act as a stimulant to the economy of the region.

The success that was achieved in integrating the development of the key physical resources of the valley into the existing economic structure, cannot be adequately conveyed however, without reference to the organization strategy of the T.V.A.

5.3. "Democracy at the Grass-Roots"⁸

As an organization employing at times over 40,000 people in a great diversity of jobs, and covering an area the size of England and Scotland, the T.V.A. was, in the words of David Lilienthal, "one of the most extensive problems in organizational and administration I know anything about." (Lilien-

thal, 1944, p.50). The establishment of such a large federal body as the T.V.A. inevitably attracted much criticism in a country not accustomed to government intervention. Lilienthal, who was responsible for the administration of the T.V.A. recognized that most federal government departments suffered from top-heavy cumbersome administration, but he argued strongly against the view that this failing was a necessary concomitant of public organization or of an organization's scale. He attributed the traditional slowness and ineffectiveness of government departments to the false assumption that the need for centralised authority to cope with issues of public concern, implied also the need for the centralised administration of that authority. The problem of a large organization was rather to "divorce the two ideas of authority and administration of authority". (Lilienthal, op.cit., p. 125)

A similar distinction has been referred to more recently in the context of current global environmental conflicts. Rapoport (op.cit. Ch. 21) has argued that Man's attempts to establish his autonomy and control in various spheres of the environment tend to lead to a pre-occupation with the means of control; and to the proliferation of power without regard for the wider economic, social and personal consequences thereof. According to Rapoport, the crucial question in coping with the large scale technology and organization that is available in the world today is;

"... whether the need for autonomy and the appetite for power can be separated, so that the former can be nurtured while the latter can be curbed." (Rapoport, p.249, his emphasis)

The success of the T.V.A. as a regional development agency indicated that this could be done. Two features of the T.V.A.'s use of its authority suggest how this success was achieved. Firstly, it is clear that on several occasions, the Authority's legal power to defend its autonomy as a regional development agency prevented it from being absorbed into the federal Department of the Interior, or even being disbanded completely. (Lilienthal, 1964, p.125). To be able to successfully address itself to regional issues, the Authority had to have jurisdiction over resources that occupied parts of seven states. Yet to avoid conflict with those states, the T.V.A. had to be clearly vested with Federal authority. The authority delegated to the T.V.A. which enabled it to survive many legal confrontations was therefore qualified by;

"... a policy, fixed by law, that the federal regional agency work cooperatively with and through local and state agencies".
(Lilienthal, 1944, p.133)

The T.V.A.'s success in fulfilling this requirement constitutes perhaps its most significant contribution as a planning agency. Instead of cooperating merely to minimize conflicts with the states and other institutions in the region, Lilienthal and the other directors interpreted the T.V.A.'s function as that of "leadership, stimulus, guidance: planning in the broadest sense." (Lilienthal, 1944, p.113). The strategy of "democracy at the grass-roots" was promoted by Lilienthal to encourage the initiatives of groups of farmers, of small communities, and large towns to devise their own contracts for partnership in the resource development process. The strategy also involved cooperation with private industry and state and local govern-

ment; but in all its work, the T.V.A. strove to encourage local autonomy rather than co-ordinate the development process.

Critics of the T.V.A. have pointed out that this facilitative, cooperative planning role was possibly carried "too far" at times, resulting in delays in utilization of resources already provided by the Authority. Selznick (1953) has also noted that the strategy of "democratic planning" often resulted in conflict with the "official" democratic system. This was because other government departments such as the Agriculture Department, were sensitive to the pressure of local politicians who did not always represent the same interests as the farmers undertaking cooperative agreements with the T.V.A. In spite of such delays and conflicts which resulted from this planning strategy, Lilienthal was convinced that the use even of the T.V.A.'s limited legitimate prerogative to implement its plans would have harmful consequences in the longer term:

"I feel strongly that the admitted limitations of voluntary methods, distressing and tragic as their consequences sometimes are, do not invalidate the wisdom of a minimum of coercion in carrying out plans for resource development. In whatever guise, once coercion becomes the accepted reliance for making planning effective, more and more coercion is needed. I am deeply persuaded that high as the price of voluntary methods may be, in delays and errors, in the end the price of arbitrary enforcement of planning is nothing less than our freedom." (Lilienthal, 1944, p.173 his emphasis).

The planning strategy adopted by the T.V.A. guided as it was by a commitment to democratic methods, appears in principle at least to be consistent with the idea of "interactive" and integrated planning suggested by Trist and the R.T.P.I. in chapter 4. Its adoption of a facilitative as opposed to a

coordinating or dominating role in the development process gave the T.V.A. the flexibility required to devise policies to suit the separate needs of every community or institution with which it had contact.⁹ With regard to this style of planning Huxley has stated;

"So far as I can judge, this capacity to provide high-grade human catalysts, so to speak, whenever they are wanted, for the solution of problems on the spot, is one of the main secrets of the success of the T.V.A." (Huxley, op.cit., p.133).

Lilienthal's own comment on the T.V.A.'s strategy indicates that the value of the authority's methods lay not only in its development of the valley's physical resources, nor in its commitment to achieve this by cooperative means, but perhaps most importantly in the contribution those factors made to the development of individual people in the valley:

".... grass-roots democracy is throughout a story of the self-education of citizens. Men and women and children see their valley remade; they take part in that work. From this undertaking they have an opportunity to learn for themselves more of the basic lessons of nature and of human relations." (Lilienthal, 1944, p.121).

5.4. "The Common Purpose".

To understand the significance of the T.V.A. as a planning project is not easy. Lilienthal's appreciation of the self-education of the people involved in the project is not a sufficient explanation of its scope and influence. Nevertheless, from whatever angle the T.V.A. has been assessed, writers seem to share, in varying degrees, a conviction that the T.V.A.'s influence goes beyond its physical task and its organisational

strategy. This view is expressed most clearly by Gunther. Recognising that, "T.V.A. has a meaning in several spheres", he goes on to conclude that, "The greatest thing about T.V.A. is the factor of morale" (Gunther, c.1947, pp. 733, 747) Morale may be an elusive term to define, but its existence in situations in which people are cooperating in a task with which they can identify their own interest, is undeniable.

Rene Dumont, a French agriculturalist, spent two years examining agricultural development strategies in countries throughout the world as part of a United Nations project. (Dumont 1965). He could draw no generally applicable conclusions concerning agricultural practices and techniques, but noted that the factor common to two highly successful cases - a kibbutz in Israel and a Chinese commune - was the commitment and morale of the people involved.

Although recognising this element of the T.V.A's influence, few writers seriously attempt to explain it. The immense scale on which the task of rebuilding a river and developing a region's resources was undertaken justifiably absorbs the attention of some writers. Finer and Clapp (op.cit.) tend to concentrate on the T.V.A.'s role in realising the physical potential of the region - electricity and fertilizer production and the effect that these have had on the peoples' living standards. Pritchett on the other hand focuses on the planning and organizational innovations of the T.V.A. He concludes that;

"Credit for the Authority's excellent administrative accomplishment is in part due to its organisational forms, that of a public corporation which constitutes a bridge between private and public enterprise.... " (Pritchett 1943, p.322).

Huxley, as we have noted, was most impressed by the ability of such a large organization to respond appropriately to the most local of problems.

But it was Lilienthal, who more than any other person was responsible for the development and pursuit of the T.V.A.'s strategy (Gunther op.cit., p.737). His judgement of the achievement of the T.V.A. may therefore help to explain how the commitment and morale of the people in the valley came about:

"The technical results in the Tennessee Valley, the achievements of many kinds of experts, are of course matters of no little importance. But, speaking as an administrator and citizen, unless these technical products strengthen the conviction that machines and science can be used by men for their greater individual and personal growth, then so far as I am concerned the physical accomplishments and the material benefits would be of dubious value indeed."
(Lilienthal 1944, p.189).

This judgement reflects Lilienthal's own personal philosophy but, through his influence, it became the implicit philosophy of the whole Authority. It was this philosophy that provided the link between the physical and social impact of the T.V.A. on the one hand and the way in which people experienced the developments in those spheres, on the other. It is the existence of this link between the various dimensions of the T.V.A.'s achievement that perhaps justifies its classification as a "work of art", as discussed earlier. Its widespread influence is probably most clearly understood within this perspective.

The question of whether or not the T.V.A. was planned with this wider goal in mind is one which would naturally occur to those hoping to draw on its experience for planning projects elsewhere in the world. The concept of planning as it was practised in the Tennessee Valley however, can give no specific

guidelines that would be readily applicable in similar situations. The T.V.A. never had a plan as such. No document containing the Authority's strategies and goals was ever published. (Lilienthal 1944, p. 164). Nor did the T.V.A. have a separate planning department within its organization. It was guided, not by a plan, but by a principle. "Unified development" was the T.V.A.'s synonym for "planning". In practice this implied more than was required by the use of the term in the T.V.A. Act, namely, to promote the development of the Valley as a physical unit. Unified development as practised by the T.V.A. was conceived as part of a larger plan:

"In the unified development of resources there is a Great Plan: the Unity of Nature and Mankind. Under such a Plan in our valley we move forward. True, it is but a step at a time. But we assume responsibility not simply for the little advance we make each day, but for the vast and all-pervasive end and purpose of all our labours, the material well-being of all men and the opportunity for them to build for themselves spiritual strength." (Lilienthal, 1944 p. 164)

6. CONCLUSION.

In his "Structure of Scientific Revolutions" Kuhn (op.cit.) has argued that major advances in science take place when new insights or discoveries occur which widen the context within which questions may legitimately be posed. This process, which he refers to as a paradigm shift, sometimes relies on the ability of the new insight to solve problems which have led the old paradigm to a crisis; such as when Copernicus claimed, on the basis of his new theory, to have solved the problem of the length of the calendar year. (Kuhn, op.cit., p.152). More commonly though, a paradigm shift occurs because a particular insight may provide a link between developments in previously discrete fields of enquiry and lead to a broader common framework of reference. (Kuhn, p.153). An example is the link that Einstein's theory of relativity provided between chemistry and physics.

In a similar fashion, paradigm shifts may occur in the more general spheres of social science and public policy as a result of applying insights from one discipline or institution to the problems of another. Thus it has been suggested in this thesis that the crisis of planning in Britain is more clearly understood in the light of certain sociological and psychological perspectives on environmental problems. A new paradigm of planning would acknowledge, as the context within which all problems should be defined, the fundamental unity or "mutual causality" (Trist op.cit.), of developments in all spheres of the environment.

However, as Kuhn has made clear, it is unlikely that the practitioners of a particular discipline will be persuaded to acknowledge a new paradigm unless two conditions are met. Firstly, that the new paradigm must at least appear to offer a resolution of some generally recognised problem with which the old paradigm has been unable to cope. Secondly;

"... the new paradigm must promise to preserve a relatively large part of the concrete problem-solving ability that has accrued to.... (the disciplines)... through its predecessors." (Kuhn op.cit., p.168).

Although it would be the subject of further more empirical work to identify the potential application of the new paradigm to existing planning problems, there are some rather obvious areas in which new insights from a broader perspective could be of value.

Take the inner city problem for example. Until very recently the role of planning has been to advise on the use of large injections of public money into these areas in an attempt to arrest their decline. In an alternative approach, Pahl has questioned whether the inner city problem will ever go away. The answer according to him;

"... depends upon the way we are prepared to perceive or define 'the inner city problem'." (Pahl, op.cit. p.8).

Adopting a sociological perspective on the issue he argues that studies of the inner city problem show that people living there have a very different view of their problems to that held by planners. Factors such as work-sharing, home sharing and the informal or "household" economy play a greater role in those areas than elsewhere. Pahl suggests that by facilitating such

activity, planners could help to make inner city areas;

"... jolly, relaxed places where the style of life would attract others, so that instead of places from which the strong escaped, they would be seen as one of the benefits of living in a free rich and open society." (Pahl, p.11).

Another problem to which the informal sector of the economy offers an alternative approach is that of unemployment. By broadening the perspective of public policy on this issue, the problem could be viewed as containing the elements of its own resolution.

Turning to the second condition to which Kuhn has referred, it must be made clear that the need for a new paradigm of planning by no means implies that planning as it is currently practised should be rejected out of hand. Indeed if a more flexible approach were adopted in critical problem areas, the positive influence that this could have on the public reputation of the institution may spread by means of a "halo" effect to those less controversial contributions of planning that are all too easily forgotten. The prevention of urban sprawl and preservation of the quality of the country-side, especially, are positive achievements which, to a visitor to this country, are immediately recognisable.

Perhaps the most significant aspects of a paradigm shift are the human problems that are involved. Essentially a paradigm shift in any institution requires that its individual members come to terms with the question of reconciling a new and broader vision with the task of responding to ongoing circumstances. This question does not face people practising

in institutions in which the terms of reference are clearly established and the rules of operation defined, for example, the medical profession. Nevertheless, in light of the scope of the problems discussed in terms of the "World Problematique" above, it may be that more and more people in all kinds of institutional and national contexts are having to face a similar question. Fundamentally, the question is whether their current practices are consistent with growing awareness of the interdependence of developments in the physical, the socio-political and personal dimensions of the environment.

The answer to this question can be, and generally is, evaded by relying on, or imposing a panacea, such as continued economic growth, ideological purity, or some form of nationalism. In this way the majority of the people may not have to face the critical questions. But as problems become more pressing the need to come to terms with this issue acquires the nature of an imperative. The growing literature on futurology perhaps testifies to the fact that global problems are indeed posing fundamental questions to a large number of people.

Various writers have considered how the tendency of societies to rely on panaceas rather than critical analysis of their major problems can be overcome without too great a curtailment of individual liberty. Vickers, for example has stated that,

"Instabilities, economic, political, ecological and psychological are mounting in Britain and even more in many countries, developed and undeveloped, with which our future is closely linked." (Vickers, op.cit. p.193).

He argues that increasingly dramatic disasters may occur in the world which could engender a sense of emergency among large groups of people similar to that experienced in war time. But the central question in Vickers view is;

"... whether the innovations enforced by such emergencies are seen as the defence of an existing order or the creation of a new one. (if) they come to be viewed as innovative change (they) may induce the collective confidence of a new age of greatness." (Vickers, p.144).

As Vickers has implied, an important skill that is required during times of crisis (or paradigm shift as we have characterized the experience of crisis), is the ability to determine which changes constitute progress. Berger (1974) has argued that the personal qualities required to cope with crisis situations in which the lives of many people may be critically effected by decision makers, are twofold. Firstly, the vision or imagination required to discover new and acceptable solutions, and secondly the self-discipline and scientific approach required to assess them. In the task of finding alternatives that will not only be morally acceptable but which will also work, Berger suggests that we require more "pedantic utopians" - individuals who can absorb the tension of entertaining visions of a better society, while at the same time discovering ways of moving towards them from the status quo. In this way, Berger believes a much needed balance may be found between unrealistic Utopian dreaming on the one hand and equally unrealistic technological "fixes" on the other.

Other writers quoted earlier, such as Fromm, Peccei, Rogers; have also stressed the importance of the development of individual human stability as an important element in a

attempts to cope with social, political and ecological instabilities. The most critical aspect of crisis situations is the ease with which they can become polarised. This "ease" derives essentially from the desire of individuals and their representatives to have problems defined in such a way that solutions can be readily envisaged. This in fact constitutes a retreat from the potential capacity of human beings to rely on their own judgement to resolve problems. All the above mentioned writers have argued - all clearly aware of the dimensions of the issues we are discussing - that the development of this particular human quality is a fundamental first step towards stability in other dimensions of the environment.

Schumacher (1977) has analysed this question of human qualities by distinguishing between "convergent" and "divergent" problems. In the former case, solutions can be found by following accepted rules of logical inquiry. But, he argues, the success of this method of inquiry tends to result in its inappropriate application to problems which, by their very nature are not "soluble", but which require compromise and human judgement. The tendency to cast all problems in the former category causes the atrophy of those very qualities required for coping with situations of apparent impasse. In this kind of situation the exercises of ingenuity outside of the accepted rules of inquiry is called for. In fact as Schumacher stresses, it is only when people are confronted with such situations and have to exercise their freedom to make a judgement, that the true potential of human nature is realised. (Schumacher 1977, p.155).

It is in this sense that a paradigm shift may be viewed as a human problem because it is in such circumstances that the accepted rules and standards by which progress is judged, whether of a public institution like the planning system or of states interacting in the world, are called into question. The responsibility for devising alternative rules and standards then devolves onto the individual people involved.

It is in this sense also that the Tennessee Valley Authority is so appropriate an illustration of a new paradigm in planning. The success of the T.V.A., as was suggested above, relied considerably on its ability to give to people (or rather not to take away from them) the means of making decisions about their own lives. It has shown that the problem of uniting Man with Nature and man with man depends ultimately on individuals having the opportunity to influence their future. The T.V.A. embodied an ambitious vision of how development could take place in a unified way. The vision was justified by the development of methods that made its realisation possible. As Lilienthal has stated, unified development cannot be accomplished by mere "expansiveness of spirit". It requires rather, "... dreamers with shovels in their hands." (Lilienthal, 1944, pp.180, 190).

The concept of unified development suggests alternative approaches to resolving crises by acknowledging the potential of improvements in political and social institutions as well as stressing the importance of personal growth as a dimension in which a society may judge its development. Dahrendorf, in the Reith lectures (1975) has expressed his belief that, in this country anyway, there exists the potential for develop-

ments that may transcend problems as they are currently conceived. His views clearly express the basis of the present writers conviction that a new paradigm for planning offers the greatest opportunity for the resolution of its current crisis:

".... if we go about the solution of our problems of survival and of justice in the right manner, we can succeed without paying the price of liberty, indeed we can have a new liberty. There is a potential of solutions which has barely been tapped and there are many people who would support such new ways. The break required with engrained habits is radical. It is neither a return to the alleged virtues of the past nor a simple revival of the approaches of the present, neither a conservative nor a socialist approach, nor one of liberalism in any familiar sense. It involves a change in perspective, in the frame of mind with which we approach things, in the theme or subject of history. I have called this change a transition from a society determined by expansion to one bent on improvement." (Dahrendorf 1975, pp. 69-70).

NOTES.Chapter 3.

1. The 1973 "energy crisis" was an example of a politically motivated "limit".
2. Third World nations were hit hardest, in absolute terms, by the energy crisis because, in so many cases their economies exist in a balance between development and starvation. Although many developed nations may have been more dependent on oil supplies, for maintaining their accustomed level of output, they certainly did not face such severe hardships.
3. Of course if the scenarios for global catastrophe as portrayed in "Limits to Growth" are correct the Eastern bloc nations will not be excluded from the consequences; although perhaps their interpretation of such an occurrence may ensure that it is not perceived as a catastrophe.
4. The distinction between Third World nations and Western developed nations serves a functional, rather than definitive, role, reflecting differences in such features as per capita income, degree of industrialization, and whether or not a country is a net receiver of foreign aid.
5. Various Third World nations such as Guyana, Egypt, Zambia and the Congo Republic have experimented with different development strategies which they have called socialist. Their problems of income distribution however are generally no less than those in capitalist Third World countries. (Brookfield 1976). A change from private to state control has no inherent effect on how the economic product is distributed.
6. The Ecology Party is contesting 50 seats, in the current (1979) elections in Britain.

7. A recent referendum in Norway indicated that a large proportion of the population was satisfied with their level of material affluence and did not feel economic growth to be a national priority.
8. The initial price rises were not strictly "inflationary", but further rises due to government's political inability to maintain a balance between its expenditure and economic output were inflationary.
9. An irony, in this respect, is that institutional responses to the perceived disintegration of local autonomies, tend often to create further institutional control of human affairs, in the form of more government, examples are, The Scotland Act, Local Government Reform, public participation exercises.
10. This is essentially a modern "rediscovery" of the relevance of concepts such as "alienation" and "anomie", referred to by Marx and Durkheim respectively (cf. Fromm, 1956)

Chapter 5.

1. Studies include those of Clapp (1955), Finer (1944), Gunther (c. 1947), Huxley (1943), Pritchett (1943), Lilienthal (1944). The study made by Selznick (1953) is a more critical sociological analysis, which nevertheless acknowledges the T.V.A.'s success. I have also drawn on a recent dissertation by Kerr (1978).
2. David Lilienthal, H.A. Morgan, and A.E. Morgan (Chairman), were the first directors of the T.V.A. Lilienthal took over the chairmanship from 1941-46.
3. The Conservation Movement, initiated in the first decade of this century, by Theodore Roosevelt and others, proposed the idea that, "a river is a unit from its source to the sea" and ought to be developed for "all of the uses of the waters and benefits to be derived from their

control." (Report of the U.S. National Conservation Commission, 1909, in Clapp (1955, pp 7 and 8).

4. The term "unified development" was contained in the Act as follows: "The directors of the Authority are hereby directed to report to Congress their recommendations not later than April 1, 1936, for the unified development of the Tennessee River system." (Section 4 of the T.V.A. Act, quoted in Clapp, op.cit.).
5. The nitrate plants were built as munitions factories during the First World War. Subsequently, they were partially returned to that purpose in the Second World War.
6. In later years the T.V.A.'s encouragement of energy consumption was to have significant repercussions. Strip mining in the region, for coal, to fuel conventional power stations led to criticism that the damage to the physical environment thus caused was not consistent with the T.V.A.'s original philosophy. The T.V.A. therefore committed itself to nuclear power. In 1973 with the onset of the energy crises, the T.V.A. initiated a home insulation programme and promoted the installation of heat pumps in private dwellings. (Kerr, 1978)
7. This figure amounted to approximately one tenth of all farmers in the valley. The programme embraced a total area of nearly 3 million acres.
8. The headings of sub-sections 5.3 and 5.4 are Chapter titles 9 and 8 respectively in Lilienthal's book "T.V.A.: Democracy on the March", (1944).
9. For example, Pahl (1978) has argued that in the context of inner-city problems in Britain an alternative planning strategy would be to facilitate the development of existing activities in the "informal sector". The role of planners would then be to make what expertise they do have available to local communities.

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