

DEVELOPING THROUGH COMPLEXITY USING POLICY ALTERNATION

A. J. N. JUDGE.

Rendered searchable by OCR, but recognition errors may prevent this in some cases. See also a PHP version (diagrams, tables incomplete) <http://www.laetusinpraesens.org/docs/altdev.php>

INTRODUCTION

Many "answers" have been produced in response to the current crisis, however it is perceived. It is argued here that it is the focus on "answer production" which itself obscures both the significance of the lack of fruitful integration between existing answers and the manner in which such answers undermine each other's significance. This mind-set also fails to recognize the positive significance of the continuing disruptive emergence of new "alternative" answers.

Integrative initiatives at this time are themselves fragmented and usually hostile to a degree usefully interpreted in terms of the metaphor of a "gladatorial arena" in which the survival of any integrative answer must be bought at the price of the elimination of all other competitors. There is considerable confusion about the nature of integration and it is difficult to imagine that integrative processes favoured by one group would be considered to be of much significance by another. This phenomenon cannot be disguised by simply opting for "networking processes" or by viewing it as a healthy feature of academic or political debate.

The nature of answers is examined in this paper with a view to understanding the characteristics of "the" viable answer required at this time. Answer production is portrayed as a necessary consequence of the accumulation of significance. As such it is subject to a generalized version of the criticism of capital accumulation processes, itself therefore inadequate as the basis for a complete answer. Under such essentially paradoxical conditions, it is argued that the difficulty in facilitating human and social development lies in the exclusive nature of current approaches. These fail to internalize the discontinuity, incompatibility and disagreement which their existence engenders, in a way such as to "contain" the development process, whether conceptually or organizationally.

In this light, current efforts in search of "the" answer are misdirected. A new order (wherein the discontinuities of the development process can be contained by non-equilibrium dissipative structures with self-organizing characteristics) is thus engendered by the fluctuation in practice between the extreme policies of essentially antagonistic answers. It is just this fluctuation which the proponents of any answer at present make every effort to prevent, as a way of ensuring its dominance in the short term, but at the expense of its development over the longer term. Development is then best reinterpreted as learning (itself more broadly understood) through such discontinuous fluctuation processes. Such learning needs to be conceived as cyclic rather than as linear, with current answers being effectively "frozen" portions of the cycles, through which they are effectively integrated. The desperate search for "the" new magical alternative model of development (of necessarily temporary and limited appeal) can thus be usefully complemented by a concern for models of alternation to order the pattern and timing of cyclic transformation between many such alternatives, as and when they emerge. In such a context, "primitive" alternatives from the past may also prove to be temporarily desirable under certain conditions.

This paper serves as an introduction to the perspective on development described above. It contains points first presented to Integrative Working Group B of the UNU GPID project in a paper entitled: "Development as Discontinuous Societal Learning; Cyclic Transformations of the Global Answer Economy" (Colombo, 1982). That paper was considerably augmented with many further arguments and appeared in monograph form as "Development through Alternation", itself incorporated into a collection of papers entitled "Policy Alternation for Development". (1) Much of that material, further adapted, appears in a section on Embodying Discontinuity in the recently published Encyclopedia of World Problems and Human Potential. (2) Aspects of the argument have been further developed in a recent paper on the comprehension of

appropriateness presented to the UNU project on the Economic Aspects of Human Development. (3)

1. MONOPOLARIZATION

1.1 QUESTIONABLE ANSWERS.

Most initiatives in response to the global problematique are stimulated by a need to determine guidelines for action. The question to which an answer is sought at all levels is some variant of "*what can usefully be done?*" Current answers to this question take a multiplicity of well-known forms which include the following:

- policy recommendations to appropriate institutions,
- publication and distribution of research conclusions to academic communities and to the general public,
- proposals for further research on the subject matter and conclusions,
- elaboration and dissemination of a new set of values through which consensus can be obtained,
- elaboration of a multilateral treaty concerning action to be taken.

These, among many others, are all "classical" options to ensure an integrated response to any societal condition. They have been extensively applied, since the origin of the International Development Decades, in response to every type of problem including those concerning energy, population, food, refugees, discrimination, health, youth, drugs or environment. It is fair to conclude that these answers have been successful to the extent that the problem was either a narrow technical one involving little controversy (e.g. smallpox) or did not call for immediate concrete action (e.g. creating environmental awareness). The answers have, however, failed to encompass the problematique in its essential globality so that now even predictions by the highest authority of the cumulative consequences of inaction are met with increasing indifference and a sense of helplessness.

It is possible to take any one such answer and to show why it may merely aggravate or displace the problem to which it responds. Although this is increasingly recognized, such answers continue to be formulated in desperation to satisfy constituencies who want to believe that something effective is being done to alleviate the problem and avert disaster. Protests that such answers have failed in the past meet with stock responses such as "we must concentrate on what we can effectively handle". It is possible to move *beyond the uni-modal answer*, and towards a more effective multi-modal answer, by finding how to interrelate the various uni-modal answers so that they correct for one another's weaknesses and restrain one another's excesses. There are some efforts in this direction but they suffer from another constraint, namely whether integrated action of any type is feasible at this time, given prevailing conceptions of integration.

What then is the nature of the answer that would prove appropriate? What are its "properties"? What would be the response to the formulation of such an answer? Clarification of these questions is the purpose of this paper. Assumptions such as the following are too easily made:

- a) the appropriate answer can be made in the same conceptual framework or "language" as the question "*what can usefully be done?*";
- b) the answer will not challenge the status and self-image of the questioner or potential "doer", whether individual or institutional;

- c) the answer would not engender valid opposition and resistance, except by reactionary segments of society whose views are irrelevant;
- d) the answer, during the period of its promulgation and implementation, would not preclude initiation of alternative answers;
- e) the answer cannot be conceived as competing with other answers, which, if advanced, must necessarily be subsumed, opposed or suppressed.

Similar assumptions, and a similar intellectual approach, are employed in modern medicine. Illnesses are diagnosed and surgery and/or a course of treatment based on specific drugs or diet is recommended. It is assumed that if the world problematique could be accurately "diagnosed" and mapped, malignant growth could be excised and appropriate pills designed and prescribed. Some further treatment may be advocated in the form of various therapies or re-educational exercises, with "stimulants", "tranquilizers" and "vitamins" as necessary. This "*pill psychology*" approach takes no account of the questionable role of medicine in society, as explored by Illich (4) and Attali (5). Nor does it deal with issues analagous to the following: conflict between specialists, malpractice, iatrogenic diseases, placebo effects, commercialization and institutionalization of medicine, drug cost as a perceived indicator of remedial power, folk medicine, euthanasia, hospital vs home environment, and problems of psychosomatic origin.

The approach to providing a GPID answer must therefore be carefully examined. Advocating a particular course of action is tantamount to prescribing a particular type of pill. The question of how this might conflict with treatment advocated by other "health centres" must be raised. Equally, presenting a range of conflicting opinions by eminent specialists on possible alternative courses of treatment would be of little value to the patient, as would recommendations of remedies for an aspect of the problem (a "micro-answer"). Pointing to directions for futher research would be simply abandoning the patient to his own resources for the meantime. In each case, it is not necessarily the treatment which is wrong but rather *the framework within which the patient's relationship to the possible treatment is defined*. Can this situation be seen in a new light, can a new kind of response be made to the question "what can usefully be done?".

1.2 FORMS OF TRUTH.

Exploration of the nature of an appropriate answer must account for the fact that few groups, projects or schools of thought have trouble in discovering and promulgating an answer. The difficulty for society as a whole arises from the conflictual relationships among such answers, or their denial of one another as irrelevant, out-of-date, erroneous or unworthy of consideration. As Jacques Attali has noted, multiplicity of truth is encountered even in physics (for example the wave versus particle theory of light). Clearly, the problem lies in the way truth is to be understood. Attali distinguishes three such ways:

a) that of formal logic verified by empirical observation. When some of the consequences of this understanding of truth are contradicted by experience, the establishment adhering to it is obliged to construct a representation of the world which denies any possibility of its own negation.

b) that which provides a useful mode of communication for a group in its power struggle. Unanimity is forcefully imposed rather than emerging from agreement with a universal rational structure.

c) that which is receivable, and thus "true", the moment it produces an understanding of the world for those articulating it. Unanimity is achieved neither by pure logic nor by force but by virtue of seduction. As with beauty, and because it is intimately related to it, truth is not in itself universal: it is aesthetic. (6)

Attali compares these three forms of truth, *in physics*, with mechanics, thermodynamics and relativity theories. The equivalents he suggests *in economics* are regulatory theories, theories of value production and theories of the organization or management of violence (especially of the non-physical variety). The first two may be equated with capitalist (most general sense) and marxist (theoretical) approaches. It is the third approach, or basis for world order, which must be defined in some appropriate way in order to stabilize the relationship between the other two. As Attali stresses, we must recognize that reality is too complex to be encompassed by a single mode of discourse. The real cannot be separated from each necessarily partial view of it. Indeed only the multiplicity of views of the world, with all their differences and ambiguities, can render the world tolerable to the majority, permitting each person to develop an individual understanding and to manage the violence done to it by others.

Just as the three approaches continue to have their domains of validity in physics, so should it prove in psycho-social organization. The human being can be said to have three brains, the third being essential to mediate between the conflicting functions of the other two. The key question is then what kind of organization is implied by this third order of truth such that it could be of any significance for social development? Failure to take account of this question can only result in an answer of essentially limited value.

1.3 ACCUMULATIVE ANSWERS.

Since answers tend to emerge from ordered accumulations of information, it is useful to look at *answers as products*, or manifestations of an accumulation process. The amount of information entering any such process is limited by the human processing capacity involved. This does not mean that the information comes from a limited geographical region. On the contrary, current answers characteristically derive from interpretations of information selected from a globally distributed pool of information (e.g. data networks) which may well be physically accumulated at a particular spot (e.g. in major libraries). It is the selection process which ensures the filtration, each answer being formulated in terms of a limited information base. For example, academic answers are usually discipline-oriented but ideological, action-preference, educational-label, "priority" and other filters may be also be used, singly or in various combinations.

Once an answer has been formulated, it acquires symbolic significance over and above the rational arguments which support it. Not only does it provide a rallying point for those searching for coherence in terms of the information base from which it has been derived but particular jobs may be tied to its promulgation. Such an answer reinforces accumulation of further information in its own support. Competing answers and contradictory information are ignored, avoided or suppressed whenever possible and "the real answer" is used as a vehicle for vigorous proselytizing activity among those who subscribe, "out of ignorance", to other answers. The aim is to convert the "infidels" so that consensus can be achieved and effective action undertaken.

Over the past decade, some recognition of its obvious limitations has added a new dimension to this approach. Instead of answers emphasizing particular conceptual perspectives or content, many now focus on a particular process (e.g. community dialogue) or mode of action (e.g. networking, struggle) which permits or engenders a variety of local answers in concrete situations. The advocated process thus becomes the answer for which universal support is sought. The historical development of religions and the current (lack of) relationship among them provides an excellent model for understanding relationships among groups subscribing each to a different answer. The model is enriched by its representation of the formation of schisms and priesthoods as

well as by the process of religious disaffection, accompanied by the continual emergence of new revelations resulting in a plethora of sects, each with a well-developed answer attractive to a percentage of any new generation.

1.4 DEVELOPING A NEW META-ANSWER.

In seeking an urgently needed answer for the current global condition, great care must be taken to avoid the trap of formulating answers whose nature forces them to compete in the unending, and essentially inhumane, "*gladiatorial combat*" of the "*answer arena*". This does not imply a semi-secret answer meaningful only to initiates of a particular elite group, such as world modellers, with its own limited information base. The answer must be widely comprehensible and, rather than compete in the answer arena, should redefine the significance of that arena and of the answers which emerge temporarily victorious there.

Humanity of course already possesses a single universal "*meta-answer*", the very one which perceives the answer arena as the place where differences should be settled and legitimates the processes which occur therein. This legitimation is neither conscious nor explicit. Rather it is derived from the instinctually felt appropriateness of similar stamping ground processes from the time of early man, such as are shared with herd or pack animals. This instinctual meta-answer has been modernized and made respectable in the form of the global "marketplace" for exchange of goods and services and also in the various international assemblies for exchange of views, "marketplaces for ideas". The disguise is, however, thin and the arena remains essentially primitive: differences are "settled" and pack allegiances are redefined. Everybody participates actively or passively in these processes by which "world opinion" is formed and modified.

The challenge is to find a way of placing this prevailing meta-answer in a new light, not so much by combatting it on its own terms but rather by offering a more 'seductive' (in Attali's terms) alternative. But we must avoid the temptation to define this meta-answer as simply a new answer, and thus to end up in the current trap. If it is to be of any relevance, the new meta-answer should do more than simply provide a context for the emergence of better answers.

In attempting to understand better how individuals and social groups accumulate the significance they associate with their particular answers, it is appropriate to look at critical analyses of the well-documented capital accumulation process. (7,8) This should provide further insights and clues for the pursuit of the enquiry into the characteristics of a desirable meta-answer. The task, explored in some degree in a development of this paper, is to "decodify" such analyses, using them as a model to understand accumulation processes in general rather than as limited to economic processes in the narrow material sense. (9)

1.5 "NEW INTERNATIONAL CONCEPTUAL ORDER".

It is not solely at the level of material phenomena that an appropriate meta-answer can usefully be sought. Somehow the relationship *between* the answers at all levels must be examined more creatively. A "New International Conceptual Order" is required as a basis for any effective New International Economic Order. All the unsatisfactory material processes for which an NIEO-type response is sought constitute a rather pale reflection of *underlying conceptual processes* which continually reinforce them and undermine remedial action in any context.

Of course, a "NICO" would not be easy to achieve, the largest problem being claims for an exclusive hold on the truth. Johan Galtung, Paul Levy, Edgar Morin and Attali have, from

different viewpoints, focussed on that inherent difficulty. The subtleties of Addo's assessment of the limitations of NIEO (10) could also be generalized to cover those of the "answer economy". What would be the status of answers formulated or favoured by minority groups or weakly organized large groups? There is an exploited Third World, although not necessarily coterminous with the geopolitical Third World, to be recognized in non-material terms. Current concern with cultural domination is a step in this direction.

Each answer is effectively an attempt by a limited group (with limited sensibilities and a limited information base) to give better organized expression to "the good, the true and the beautiful". The problem is in devising a suitable meta-form to interrelate answers which can only retain their essential quality within *forms which are antagonistic to one another*. Advocating tolerance in a pluralistic, laissez-faire, context is a very superficial, impractical response to the current existential challenge whatever other functions it may usefully perform.

1.6 ACCUMULATION AND DEVELOPMENT.

There would seem to be a vital connection between human development, social development, need satisfaction, and accumulation. The difficulty of representing this connection, however, lies in the ambiguous status of "accumulation" as:

- a by-product of the process of need satisfaction, in that any effort to satisfy needs is always accompanied by an additional effort to accumulate the need satisfiers, possibly in anticipation of future needs;
- a symbol or indicator of development achieved in the domain within which the satisfiers accumulated are considered significant;
- a motivating or energizing force for the development process due to the pattern of activities to which it gives rise in the effort to achieve need satisfaction;
- a problem due to the distortions in the development process to which the consequences of that pattern of accumulation give rise;
- a necessary waste product of the development process, if the process is to be understood in systemic terms.

A further difficulty with "accumulation" viewed in the context of human development, social development and need satisfaction is that it "ties" or defines these processes in terms of that which is being accumulated. As such the accumulation process restricts evolution of these other processes, limiting them to the level of whatever is being accumulated.

1.7 DEVELOPMENT OF ACCUMULATION

The restrictive nature of a particular form of accumulation also affects the kinds of answers sought to the problems arising from that accumulation process. Answers tend to focus on changing the pattern of accumulation or eliminating it altogether. The focus of attention, however, is limited to the level of accumulation at which the problems are currently most evident. Answers tend not to be sensitive to what is accumulated, at some other other level, through promulgation and implementation of the favoured answer. It is also important to understand how a system can slip, or be displaced, into other modes of accumulation at an equivalent level.

It is assumed here, in the light of the variety of forms of accumulation and its ambiguous functions, that it is highly unlikely that this process can be eliminated whether or not this would be desirable. But can it be transformed such that the focus of attention is not on a particular level? Whilst it may not be possible to eliminate accumulation (e.g. of X at level1,

namely X1), it may be possible to give progressively greater emphasis to the accumulation of X2, X3,...Xn. This would involve changing the significance of X, in relation to its context, especially by classifying the range of X's (at different levels) more creatively.

Thus changing the significance of what is accumulated (X) discloses that it is useful to define two forms of "development": the first, development-A, in the context of need satisfaction is primarily associated with "growth" and "spread", namely "quantitative" development; the second, development-B, is primarily associated with qualitative development or transformation, such as is brought about by shifting the centre of gravity of the accumulation process to a less material level. In this sense the challenge is to find ways to "develop accumulation" so that accumulation by some does not deprive others of satisfaction of basic needs.

1.8 DOMAINS OF SIGNIFICANCE.

It is convenient to designate as a "domain" that subset of the space of psycho-social communication within which questions of a particular type maintain their credibility for sufficient time to sustain a discourse. If Attali's lead is to be taken, the nature of such domains requires clarification. Attali argues that the way to analysis of production and circulation of meaning in an organization is opened by three theories which converge to give the following: (11)

- when information having significance for its members is circulating and produces a compromise between identity and diversity (12);
- when production of the organization by itself obeys non-linear continuous laws (13);
- when the dynamic laws of a form can be elucidated from the discontinuities in its processes (14).

The form may be destroyed by aggression, noise, fluctuation, catastrophe, or by the accumulation of internal conflicts. Attali argues that under the first two forms of truth, any such crisis can be overcome only by absorbing or eliminating the disturbance.

To link the argument more closely to human and social development we can express the organization of such domains of significance in terms of the learning process. A domain of learning clearly remains fairly stable provided it can extract or "import" information (products) on which the learning process can feed. Knowledge, in the form of processed information, is then distributed out from the centre of the domain, or exported beyond its periphery, as part of the process maintaining the stability of the domain.

Before discussing the nature of this "learning" process in more detail, it is appropriate to note that it involves the accumulation of knowledge in one form or another. Other domains are based on other accumulation processes, each of which creates a coherent environment for communication or exchange. Examples which could be interrelated in an extensive schema (15), include those in which authority, style, culture, prestige, dignity, seniority, reputation and merit (including its karmic and religious sense in Eastern traditions) as well as goods are accumulated.

Clearly the world community is far from recognizing that every answer has a function, especially insofar as it imposes constraints on, or developmental challenges to, the others. In the search for a meta-answer it must be recognized that the number of people who will be unable to comprehend the emerging sophisticated insights into the world's condition is increasing at a very high rate. The "education gap" is widening and cannot be treated as on the verge of elimination. In this light, and especially given the fragmentation and limitations of expertise, the percentage of people subscribing to answers that can be termed "wrong" is likely to be very high (if not already 100%).

It is naive to expect that "wrong-thinking" can be eliminated from a developing, multi-generational world community (although such a view has a valid role to play). Somehow, the required meta-answer must accord recognition to the psycho-social structures and processes corresponding to both different information bases and to different interpretations of them. The assumption that any view, including this one, is unquestionably right is a constraint on the development process. In fact any exchange of information is part of a ceaseless effort to counteract 'wrong thinking'. It is difficult to imagine that such information exchange would cease in an ideal society.

2.2 CONSTRAINTS ON A META-ANSWER.

To avoid the appearance of merely indulging in pluralist relativism, we should identify and clarify some constraints counteracting such a position:

- a) *Single, exclusive, universal claims*: different in type from the meta-answer: these are what the meta-answer must interrelate.
- b) *Eclectic Pluralism*: the meta-answer must be open to any perspective, but is of little value if it does not achieve more than this.
- c) *Artificial Agglomerations*: Grouping answers within a framework of categories (e.g. a matrix or thesaurus) may prove to be a valuable step towards a meta-answer, but the framework is inadequate by itself.
- d) *Partial Strategies*: Reduction of the range of factors to be considered may lead to valuable insights but fails to respond to the basic challenge of interrelating the full range of answers.
- e) *Non-self-reflexive Approaches*: Any approach to a meta-answer which is not faced with the paradox of the status of a meta-answer in relation to an answer avoids an essential dimension of the challenge.

It has been argued, in an earlier paper (19) that statements about a meta-answer could best be formulated as an open-ended ordered series of mutually incompatible, transformation-oriented propositions of which 210 were outlined in 20 sets. (20) A measure of self-reflexiveness is built into them but it is most evident in the earlier sets. The statements are formulated in sets based on the number of elements by which it is hoped to 'contain' the description of the complexity of an adequate meta-answer. In effect, such sets attempt to clarify the *kinds of significance domain* perceptible under different conditions of observation whilst at the same time *challenging the nature of the formulation* and of the observation process. In a sense, the ordered sets establish the necessity of fragmentation of answers into domains, legitimating the diversity of the real world rather than depending on the achievement of consensus for which no

2. ANTAGONISTIC DUALITIES: POLARIZATION.

2.1 BEYOND METHOD.

The difficulty in taking the argument further lies in the fact that conventional notions of method are undermined beyond this point. Basically, acceptable methods are associated with particular domains or groups of domains. Attempts to apply a given method, as an "answer", to all domains rely on predefining many domains as "irrelevant" and thus are subject to the limitations noted earlier. Such a conclusion is particularly unfortunate given the enthusiasm generated by advances in general systems and other frontier topics. For example the kind of synthesis produced by Erich Jantsch (16) brings together much that appears relevant to a more adequate approach but each such initiative is basically unsatisfactory as perceived from other domains. Indeed, success of an initiative in one domain is perceived as a constraint on development of initiatives in other domains.

Being unable to internalize the nature of their relationship to opposing methods, such approaches are unable to handle disagreement explicitly, except through denigration and value-judgements of "irrelevance". Nor are the supporters in the two camps able to give creative form to the irrational processes which hold sway between them for as long as confrontation continues. It is within this shadowy area or blindspot that many of humanity's most deplorable initiatives are born---appropriately configured to exploit the weaknesses of both.

The *dialectic method*, explored in an earlier paper (17) in the light of Paul Feyerabend's treatise 'Against Method' (18) offers little for an understanding of *co-present answers* other than to predict that, through ongoing struggle, an answer will emerge triumphant sometime in the future. Struggle is therefore specifically internalized but not "the" struggle with those who oppose the dialectic method itself. It is in the present, however, with its diversity of mutually opposed answers, that people have to live. It is in the present that the future is born and there that answers compete for resources and support. It appears worthwhile therefore to look at *viable patterns of disagreement* in the present among such domains of significance.

The earlier paper attempted to order "*varieties of incommensurability*" which Feyerabend considers vital to the process of development. A related aspect of the meta-answer could be achieved by producing a comprehensive "*bibliography of answers*", if only to demonstrate the scope of the challenge. The fact that this has never been done shows how biased the individual answers must necessarily be, and how limited their information bases. Such a bibliography, if appropriately organized and annotated, would at least provide a kind of checklist of what kind of answers tend to be "invisible" from any particular domain. This should also give further understanding of the nature of the meta-answer.

There seems to be a peculiar inconsistency concerning attitudes towards answers. While the Universal Declaration of Human Rights which provides a standard influencing much of the discourse in the world community affirms equal rights as a fundamental proposition, in intellectual debate every effort is made to denigrate and suppress answers favoured by "stupid", "misguided" or "uneducated" people. In community dialogue, however, an entirely different attitude prevails whereby every answer, no matter how "stupid" by some standard is recognized as a *stage in the learning process*. Such stages, deemed to have historical parallels, are thus conveniently encoded into the past, just as the historical parallels may be perceived as being encoded into such stages in the present.

operationally viable form has yet been found.

2.3 META-ANSWER PATTERNING

In moving beyond pluralistic relativism, we require some appropriate pattern whereby answer domains can be interrelated. While the number-pattern of sets just outlined is one approach, another involves developing a suitable classification scheme for answer domains, one which goes beyond the limitations of the conventional matrix-type schemes and the kind of criticism to which classification is subject. The feasibility of this approach has been explored in earlier papers and is the basis for an ongoing experiment in the classification of the 20,000 international non-profit organizations with the world problems with which they are preoccupied. (21) The intention is to highlight patterns of integrative relationships between international activities and problems and thus to provide more coherent overviews of the world community of organizations in all its detailed variety.

What is sought is an approach beyond pluralism to, in the words of Gregory Bateson, "the pattern which connects". (22) The properties of the required meta-answer lie in the nature of what Jantsch, speaking of pluralism in physics, has called an "*ecology of models*" which cannot be fused to a unified model, not because we lack the necessary knowledge, but as a matter of principle. (23) Jantsch reminds us that 'the evolution of dissipative structures can be described only by simultaneously employing two complementary models, a macroscopic-deterministic and a microscopic-stochastic one.' He cites Ilya Prigogine : "The world is far too rich to be expressed in a single language...Music does not exhaust itself in a sequence of styles..We have to use many descriptions which are irreducible to each other but which are connected by *precise rules of translation* (technically called "transformation')." Each answer domain may prove to be part of a pattern of complementary descriptions each a necessary vehicle for certain insights uncontainable within other domains.

The challenge is to discover the pattern of such "transformations" and to avoid the traps of current satisfaction with only providing micro-answers to micro-questions. Whilst necessary, such answers are insufficient. There does seem to be a special *existential challenge* to the relationship between "the pattern which connects" and action undertaken in terms of a specific micro-answer. This challenge involves a "sacrifice" of generality of perspective in order to achieve concrete relevance and comprehensibility, a sacrifice whose nature, ironically enough, has been explored in analyses of Rig Vedic philosophy as partly encoded in music and dance. (24) These analyses are explicitly linked to investigations of the significance of quantum theory for new understanding of *changing classificatory frameworks* and the network of links between such frameworks conceived as languages. (25)

Another approach providing valuable insights in delineating a meta-answer is that of Christopher Alexander to design and planning processes. (26) Of special significance is his stress on the *democratization of the design process*, especially in a complex institutional setting. He clarifies the process of elaborating an open-ended "*pattern language*" consisting at the moment of some 250 sub-patterns. (27) These can be combined in different ways by users to form their own unique languages. His approach has been used to elaborate experimentally a set of psycho-social patterns with which users could elaborate languages to design alternative institutions, communities and lifestyles. (28)

2.4 CONTAINING DISCONTINUITY THROUGH AESTHETICS

A major strength of Alexander's pattern language is that it tries to give form to that core quality which makes life meaningful and a delight to live, the "*quality without a name*". It is only partially expressed through each of the words bandied about in social policy-making discussions and, in his view, can be captured only by use of a pattern language. By seeking, through a user-oriented language, to give form to this core quality Alexander joins Attali whose position was earlier outlined. Attali, however, introduces a vital additional element by his stress on *management of contradictions and violence*. His three forms of truth, as earlier outlined, correspond to three ways of ordering society:

- "La premiere representation (capitaliste) decrit l'economie comme une mecanique. Son objet est l'etude de la regulation..."
- "Une deuxieme representation (marxiste) regroupe les discours qui decrivent la societe comme une production du travail des hommes" This corresponds to the argument concerning material accumulation generalized here to include accumulation of non-material features of the "discours".
- With respect to his third order, Attali continues "Il faut aussi penser le monde comme organisation du sens. Et la crise comme rupture du sens dans l'organisation, qui nait les divergences dans l'ordre, des parasites de la communication, bruits du marche, voleurs de valeur, bruits de monde. L'ordre est alors gestion de la violence..." (29)

The capitalist and marxist world orders are thus, according to Attali, each incapable of avoiding aspects of the organizational problem. His argument converges on the importance of *a new understanding of language* as a way of containing and managing the violence inherent in the crisis of the development process. His main hypothesis regarding the third order is that language structures order and that people and objects are only valued in terms of their capacity to participate in the circulation of messages which give meaning to social organizations. "Meaning" for any group lies in its survival and all its efforts are directed via language to avoiding or eliminating the violence which threatens that survival.

For Attali, the reality of the languages which effectively structure societies is much more complex than that of the first two orders. The route forward then lies in an "*aesthetic*" approach to the world. Everything produced enters a process which, by circulation and by being given meaning, prevents the proliferation of violence, *transforming the production of violence into the production of meaning*. This process would give rise to a "*non-violent polyorder*" in which the struggle "ne passe plus ni par la force, ni par la raison, masque de la violence, mais par la seduction des formes, la subversion des objets" (30)

This view emerges from Attali's carefully documented study of the significance of the exchange process as the circulation of the "life of a community":

"Produire des objets, c'est produire de la vie, qui doit, tout de suite, etre nommeé, catalogueé, differencieé. Consommer un objet, c'est en recevoir les forces, c'est en assimiler la violence contenue et, en meme temps, exercer sa propre violence en tuant l'objet en lutte... Echanger des objets, c'est faire circuler de la violence potentielle et egaliser les hommes, supprimer des difference: ce qui est formidablement dangereux."
(31)

Objects always remain the magical property of the producer, concrete manifestations of his force and reality. Exchanging them suppresses this "difference" recreating violence. The *exchange is thus never equal* or else there would be no interest in the exchange. The idea of balance or equivalence in exchange, as it is accepted in the first two worlds, effectively assumes the death of objects. Any such *equivalence creates violence which "difference" averts* and directs towards the

exterior, polarized onto a suitable scapegoat.

Although the first two "worlds" with their corresponding "orders" and "networks" (production of offer, production of demand) create the third (based on the exchange process), the difficulty is that such processes are not "containable" within any particular organization which could be designed by either of the first two orders in terms of their forms of truth. Attali advocates the elaboration of a theory (in effect a meta-answer) in terms of his third form of truth to *give meaning to forms and discontinuities*. He regards such an attempt as a wager that "adequation" exists between the structure, the shape, of the human soul and that of the world.

It is interesting that, at the time of writing, Attali should have a major post in the French government, because it is not clear how such a position can be developed in practice. The same problem of determining what forms of organization would be appropriate for the future is left unresolved by the tantalizing images of Alvin Toffler's *Third Wave*. (32) Feyerabend, as a methodological anarchist, also finds it unnecessary to envisage any new appropriate organizational forms. (33) Such processes, however, are unlikely to be appropriately engendered unless they are matched by complementary structures to "contain" them.

2.5 OBSERVER ENTRAPMENT AND MICRO-MACRO COMPLEMENTARITY

The question of containers and containment calls for a better understanding of the function of the observer called upon to respond to the elements of any duality (for which he or she may also be conceptually responsible). As Ilya Prigogine notes, "There is always a temptation to try to describe the physical world as if we were not part of it" (34) This is even more true of the social world and for most researchers on human and social development. It corresponds to the classical Galilean view of science in which an attempt is made to see phenomena "from the outside as an object of analysis to which we do not belong. But we have reached the limit of this Galilean view" (35)

This breakthrough in perspective was triggered by Einstein's work on relativity and the constraints on communication between observers within different frames of reference moving with respect to one another. It is extraordinary that no equivalent to relativity theory is available to remedy the flabby weaknesses of "relativistic" perspectives in the social sciences. In this sense, particular descriptions (answers) do not become wrong, even though each may be considered fundamental: rather they correspond to idealizations which extend beyond the conceptual possibilities of observation within a particular frame of reference. But as idealizations they each lack essential elements and cannot be studied in isolation. This is equally true for the extremes of micro and macro descriptions of human and social development

The main thesis of Prigogine is associated with the constructive reality of irreversible processes which are particularly coherent on the biological level. Irreversibility emerges once the basic concepts of the extreme idealizations cease to be observables. It is inseparable from measurement. It corresponds to the embedding of the micro perspective within a vaster formalism which permits a non-reductionist transformation to coordinate various levels of description. Irreversibility is then a manifestation on a macroscopic scale of "randomness" on a microscopic scale. (36) The modern theory of bifurcations and instabilities provides *a bridge between the micro and the macro levels of description*, as well as between the geometrical world of physical descriptions and the organized, functional world characteristics of biological and social systems. It is this bridge which is Prigogine's "third" perspective.

In considering the possible nature of the "containers" mentioned earlier, the work of Prigogine on "order through fluctuations", along with related works of other writers, should be carefully examined, especially in the light of Jantsch's efforts to establish its relevance to the self-organizing sociocultural systems central to human and social development. Since such an examination, however, is beyond the scope of this article, the reader is referred to a fuller discussion undertaken in another document (37)

2.6 THIRD PERSPECTIVE CONTAINER: REVOLUTIONARY PATTERNS OF ALTERNATION.

Prigogine, Jantsch, Attali and, in effect, Feyerabend conclude that it is necessarily impossible, if not anti-developmental, to define an organized, rational structure to bridge across discontinuity, the only "solution" being to adapt more spontaneously or aesthetically to the processes in relation to discontinuity. In effect, what is being said is that, even in mathematical terms, it is impossible to discover a space whose form (a meta-answer) validates every argument ("answer"). In Bateson's terms: "the question is onto what surface shall a *theory* of aesthetics be mapped.... a map of a region where angels fear to tread." (38) But even if such a form could be discovered, it would presumably be too abstract to be of any operational value to policy-making in society.

It is difficult to handle essentially incompatible answers which cannot co-exist passively (e.g. "science" and "religion"; "industry" and "environment"). To be hospitable to the discontinuities they represent the *non-rational character of the disagreement* between them must be encompassed or "contained". This implies a distinctly non-linear, dynamic relationship which possibly corresponds to that between the *right-and left-brain modes of thinking*. The functional solution in every-day life is an *oscillation between the two modes* according to the task to be performed. Integration, namely the meta-answer, is here represented by the pattern of oscillation between the distinct modes. Aspects of this question have been explored in terms of information strategies by Orrin Klapp. (39)

There remains, however, the question of relevance to the wide range of answer domains and the modes of action/perception which they represent. Since this seems at least a fruitful area of exploration, it has been used as the basis for an experimental ordering of the range of preoccupations of international organizations in a "chequerboard" matrix classification scheme based on right- and left- hemisphere modes. (40) The latter scheme is a minimal pattern of interrelationships (namely a "container") between answer domains reflecting discontinuities between them. This suggests that the present pursuit of "*alternative models*" may not be fruitful:

The point is not simply to discover some magical alternative model of value to development but of limited appeal. It is rather to discover "models of alternation" (or oscillation) to contain the development process in relation to different alternatives which may be periodically adopted...to consider the value of an alternation policy (e.g. centralization/decentralization) rather than having it forcefully imposed...by the environment or pursuing a schizophrenic policy using departments with alternative approaches which are impossible to reconcile.

2.7 REVOLUTIONARY CYCLES OF ALTERNATION

The fact that social conditions seem to be very much subject to *cycles* (e.g. Kondratieff) and that policy breakthroughs, such as centralization and decentralization, are periodically rediscovered with enthusiasm suggests that alternation should be explored as a cyclic

phenomenon. Indeed, as any physical model will illustrate, *a pattern of oscillation is not stable unless it is accompanied by some form of revolution*, of which the observed alternation is often, in fact, a consequence. (e.g. night/day on the revolving Earth; seasons on the Earth revolving around the sun). Control of the revolutionary process is absolutely basic to the generation and use of electrical power and other forms of energy.

Cyclic processes are also characteristic of many *biological* phenomena (e.g. respiration, reproduction, metabolism). They are also evident in many *socio-cultural* phenomena, not to mention various symbolic and mythological cycles. In the non-physical cases, however, humanity has gained *little effective control of the revolutionary process*. In fact, the significance of "social revolution" is limited to the superficialities of discontinuity which are thus reinforced.

It has proved difficult to give operational content of any value to the non-disruptive dimensions of the "permanent revolution" advocated by marxists, probably because it does not involve *cyclic alternation* between incompatible modes but rather dialectical supersession of modes in linear series. Such linearity is a western cultural concept of change not invested with the valuable Eastern insight into *change as recurrence*. In metaphorical terms, the marxist emphasis is on the struggle to abandon "winter now" for "spring tomorrow", ignoring the revolutionary process whereby a new "winter", being ecologically both necessary and desirable, will be brought about. If the undoubted importance of revolution-based generators for the industrial revolution has any significance there should be some insights of relevance to the current problem of designing a meta-answer to the present socio-cultural condition. Indeed, in Attali's terms, such technological innovations may well have prefigured the socio-cultural design problem of the present.

Designs appropriate to Attali's "third world" or Toffler's "third wave" could seemingly only emerge following on recognition of the validity of a "third perspective". Integrated comprehension of the revolutionary cycle is only possible through a conceptual relationship to the axis which stabilizes perception of the cyclic processes with reference to it. Without this third perspective, the revolutionary cycle can only be confusedly comprehended as a linear process in one or two dimensions. It is in terms of this third dimension that the required meta-answer designs may well be possible.

Humanity does not function in terms of one mode alone: the difficult process of hopping, although not difficult on an unencumbered surface, is not to be recommended when both feet can be used. The "struggle" between two feet can be avoided by a third "walking" perspective. History may well characterize the present period in terms of unimodal "hopping" policies.

REFERENCES

1. A. J. N. Judge, *Policy Alternation for Development* (Papers arising from work in connection with the Goals, Processes and Indicators of Development project of the United Nations University). Brussels, Union of International Associations, 1984.
2. *Union of International Associations. Encyclopedia of World Problems and Human Potential.* Munchen: K.G. Suar Verlag, 1986.
3. A. J. N. Judge, *Comprehension of Appropriateness* (Paper for the project on Economic Aspects of Human Development for the United Nations University, Rome, 1986).
4. Ivan Illich, *Medical Nemesis: the expropriation of health.* Pantheon, 1976.
5. Jacques Attali, *L'Ordre cannibale.* Paris: Grasset, 1979.
6. Jacques Attali, *Les Trois Mondes: pour une théorie de l'après-crise.* Paris: Fayard, 1981.
7. Herb Addo (Ed.), *Transforming the World Economy.* London: Hodder and Stoughton, in association with the United Nations University., 1984.
8. Herb Addo et al., *Development as Social Transformation: reflections on the global problematique.* London, Hodder and Stoughton, 1985.
9. Judge, *Policy Alternation for Development*, *ibid.*
10. Addo, *Transforming the World Economy*, *ibid.*
11. Attali, *Les Trois Mondes*, *ibid.*
12. Henri Atlan. *Le Cristal et la fumée.* Paris: Seuil, 1979.
13. I. Prigogine and J. Stengers, *La Nouvelle Alliance.* Paris: Gallimard, 1979.
14. René Thom, *Modeles Mathématiques de la Morphogenese.* Paris: Christian Bourgois, 1980.
15. Judge, *ibid.*
16. Erich Jantsch, *The Self-Organizing Universe: scientific and human implications of the emerging paradigm of evolution.* Permagon, 1980.
17. A. J. N. Judge, *Beyond method: engaging opposition in psycho-social organization* (Paper for the methodology meeting of the UNU GPID project , Bucharest, 1981). Abridged version reproduced as Section XCP3 of Ref. 2.
18. Paul Feyerband, *Against Method: outline of an anarchist theory of knowledge.* London, Verso, 1978.
19. Judge, *Beyond Method*, *ibid.*

20. *Union of International Associations, Patterns of Concepts*, ibid.
21. A. J. N. Judge, "Functional Classification: a review of possibilities" in *Union of international Associations. Global Action Networks*. Munchen: Saur Verlag, 1986 (Vol. 3 of the Yearbook of International Organizations), incorporates information from Ref. 3.
22. Gregory Bateson, *Mind and Nature: a necessary unity*. New York: Dutton, 1979.
23. *Jantsch*, ibid.
24. Antonio de Nicholas, *Meditations through the Rg Veda*. Boulder, Colorado: Shambhala, 1978.
25. P.A. Heelan, "The logic of changing classificatory frameworks" in J. A. Wojciechowski (Ed.) *Conceptual Basis for the Classification of Knowledge*. Munchen: Saur Verlag, 1974, pp.260-274.
26. Christopher Alexander, *The Timeless Way of Building*. New York: Oxford University Press, 1979.
27. Christopher Alexander, *A Pattern Language*. New York: Oxford University press, 1977.
28. *Union of International Associations*, ibid.
29. Attali, *Les Trois Mondes*, ibid.
30. Ibid.
31. Ibid.
32. Alvin Toffler, *The Third Wave*. New York: William Morrow, 1980.
33. *Feyerabend*, ibid.
34. Ilya Prigogine, *From Being to Becoming: time and complexity in the physical sciences*. San Francisco: Freeman, 1980.
35. Ibid.
36. Ibid.
37. *Union of International Associations, Embodying Discontinuity*, ibid.
38. *Bateson*, ibid.
39. Orrin E. Klapp, *Opening and Closing: strategies and information adaptation in society*. Cambridge University Press, 1978.
40. Judge, *Functional Classification*, ibid.