

2nd draft for
comments, not quotes

TOWARDS A GPID WORLD MODEL :

Some Basic Considerations

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1. Introduction: Why do we want a World Model?

World models have fallen into disrepute, or so people say.⁽¹⁾ Thus, one common criticism of many of the "world models" produced during the last decade is that they struck the wrong trade-off between being comprehensive in the sense of encompassing a vast number of phenomena and being operational - in favour of the latter. But if that is a valid comment there is a simple answer: try to strike a better bargain, more in favour of encompassing as many aspects as possible, less in favour of operationalization. In a sense this is the shortest possible expression of what the present effort towards a GPID world model is about. Thus, at this stage there is no effort towards mathematization or even operationalization, but there is certainly an effort towards including many aspects.

Let us start from scratch. The whole purpose of a world model is to facilitate a holistic conceptualization of the world in general and the development problematique in particular.⁽²⁾ It is not here seen as a planning tool. It is seen as a tool for coming to grips with the world as a whole, with the globe and its inhabitants, we human beings, with the nature surrounding us, the economic and social aspects, with politics and power, with culture, with history. But that is not enough. We would also like to be able to stipulate goals, in other words a set of desirable world models.⁽³⁾ And we would like to say something about processes, both about the dominant processes⁽⁴⁾ and the counter-acting processes⁽⁵⁾ for we assume that to make sense ~~one has~~ to talk in terms of both. And we would like to be able to think of indicators of the key aspects of the model⁽⁶⁾ so that through some kind of operationalization, however rudimentary, it would be possible to know from data in what direction we are moving. And finally we would like to be able to locate strategies⁽⁷⁾ in this, planned action aimed at steering processes towards developmental goals.

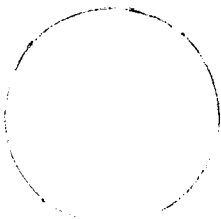
The present paper is not going to develop all of this but will focus on only one very basic point: the foundations of such

exercises, the conceptual framework and some of the basic assumptions seen to govern the relations between the fundamental components. That will then have to be tested against the normative model (the goal state), the two descriptive models of the processes (the dominant process and the counter-acting processes), the operationalization of the model (indicators) and the strategic or pragmatic aspect of the model. Needless to say, such confrontations will invariably lead to reformulations of the basic paradigm : when a paradigm is tried out in all five directions mentioned there will be changes to make.⁽⁸⁾

We shall offer no apologies for this effort to trying to arrive at relatively simple but nonetheless holistic conceptualizations. There is never any danger that one is able to cover everything, if not because of human limitations, because the creation of a model itself changes, however imperceptibly, social reality. Any effort to take this into account is itself conducive to such changes.

So, let us start, slowly. We want something holistic, something that permits us to come to grips with the totality referred to as the "development problematique".⁽⁹⁾ For a holistic image one might contemplate this circle:

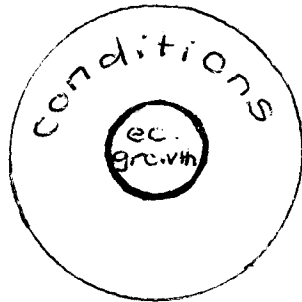
Figure 4 A holistic image - somewhat blank



As stated in the heading: it is somewhat blank. The problem is that the moment we try to subdivide it or put any labels into it we have already made choices, we have steered perception and imagination in certain directions rather than others. However, such choices have to be made. There is an element of explicitness in research, not better or worse than other forms of human understanding such as meditation. **There** are certain rules of the game, such as explicitness in order to communicate . Research has at least to a large extent to be intersubjectively communicable and reproducible . Research is public, what is public has to be explicit.⁽¹⁰⁾

So let us make the first choice, a negative one, rejecting an image of the development problématique with economic growth in the centre, surrounded by conditions:

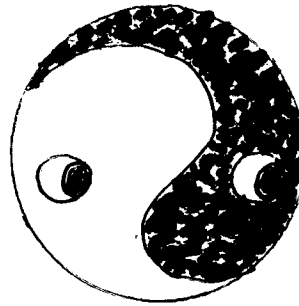
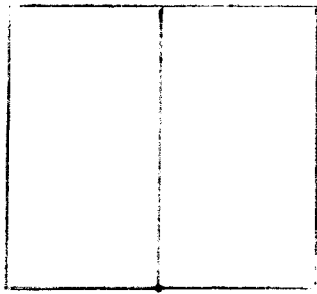
Figure 2: The rejected image -
economic growth in the center



Much can be said about this image, and much has indeed been said.⁽¹¹⁾ The a-human, even anti-human consequences of placing economic growth in the center of the universe leads to one critical perspective. Another critical perspective derives from the dichotomous cut between conditions and consequences, seeing conditions as causes and the consequence - economic growth - as an effect. What is neglected in this one-way, linear way of thinking is the way in which economic growth works on the conditions, transforming them into something different from what they were originally - the impact on nature of being used as a raw material resource (including energy) for economic growth, on human beings of being used as labour resource for economic growth, on institutions of being used as the social setting for production, and so on. At a deeper level there is also, at stake, the mechanistic perception of the universe as a machine with causal levers (the conditions) and the effects of pushing levers.

going to make use of quite a lot of dichotomies (and trichotomies) it should be pointed out from the beginning that the parts are to be seen as dialectically (or trialectically!) related, with what appears as a one-way causal relationship possibly as a manifestation of that dialectic, for a shorter time period.⁽¹²⁾ In other words, our basic imagery would be to the right, not to the left in the figure below:

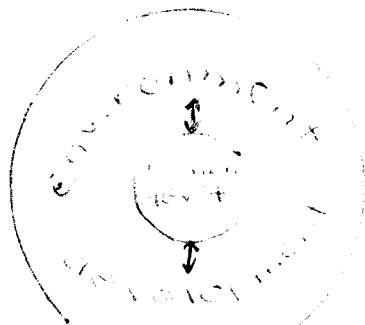
Figure 3. Dichotomies, mechanistically and dialectically considered.



To the left occidental (aristotelian/cartesian) divisions, such as true-false, good-bad, right-wrong, beautiful-ugly, sacred-profane; to the right the ancient yin - yang figure, the I Cheng tradition where the whole is seen as having parts working on each other (the non-straight dividing line may symbolize this); within each part is "that of the other", but within those parts are "that of the other" again, and so on, ad inf.⁽¹³⁾ One may see the mechanistic dichotomy as a very special case of the dialectic dichotomy, cutting into the very complex imagery with brutal simplifications. To the extent that this is the case the dialectic perspective should be retained as the richest one, the only problem being that the drawings become so much more complicated that we shall continue to draw as if we were in the mechanistic tradition (unfortunately). It should be noted, incidentally, that the dialectic imagery as presented in figure 3 above as such is about as general as figure 1, : it is by putting labels that it becomes interesting, interpretable, full of concrete implications.⁽¹⁴⁾

With all this in mind let us then go one step further, and introduce the basic image, that of human-centered development:⁽¹⁵⁾

Figure 4. The basic image - human-centered development (personality growth) in the context



Some comments. First, it should be noted that the word "man" has not been used. This is partly for the very good reasons put forward by women recently,⁽¹⁶⁾ the male chauvinism implied when the word "man" is used for humanity as a whole (also an indictment of Latin and Latin origin languages as opposed to Germanic and many other language groups). Thus, "humankind" will be used instead of "mankind". But there is also another reason which is more clearly expressed when the word "person" is used: something with personality, with a nucleus, not merely a thing among many other things. Hence, in the center of Figure 4 we could just as well have written personal development, personal growth.

Second, the dialectic perspective informs us of contradictions, two-way processes, that there is "that of the other" in either part, that there is a whole that has been subdivided, etc.. That the environment, however conceived of, is built into human beings is easily accepted, but what would it mean that there is "that of human beings" in the environment? That there is, for instance, nature in us humans is rather clear when we watch our body; suggesting that there could be mind and spirit in nature - a suggestion so obvious that it seems to have been clear to most of humankind with the exception of Occidental civilizations during the last centuries. Since we are trying not to give any excessive weight to that slice of human history we shall be using the dialectic heuristic as far as it carries us, as a pointer to richer ways of conceiving of reality.

Thus, a first major conclusion is arrived at. When we talk here about human-centered development it does not necessarily imply anthropocentrism. It does not mean that "man is the measure of all things",⁽¹⁷⁾ in the sense that human development is the end that justifies the use, including abuse, of any kind of means, conditions, "environment". Figure 4 above should be seen as a negation of Figure 2, abusive of everything except economic growth, including human beings. In Figure 4 human beings are put in the center in order not to be forgotten, not to invoke and justify a developmental process where the growth of persons, the development of human beings

can take place at the expense of anything else in the universe. What is advocated is not human-ism as a substitute for economism. What is advocated is holism, not in the shallow sense of taking many variables into account through multifactorial approaches supposed to overcome the simplicity implicit in Figure 2 , but holism in a sense of seeing everything as a part of the developmental problematique⁽¹⁸⁾. In Figure 4 this is indicated in two ways: through a two-way arrow instead of the one-way arrow of Figure 2 , and by attaching the word "development" to "environment", not only to "human".

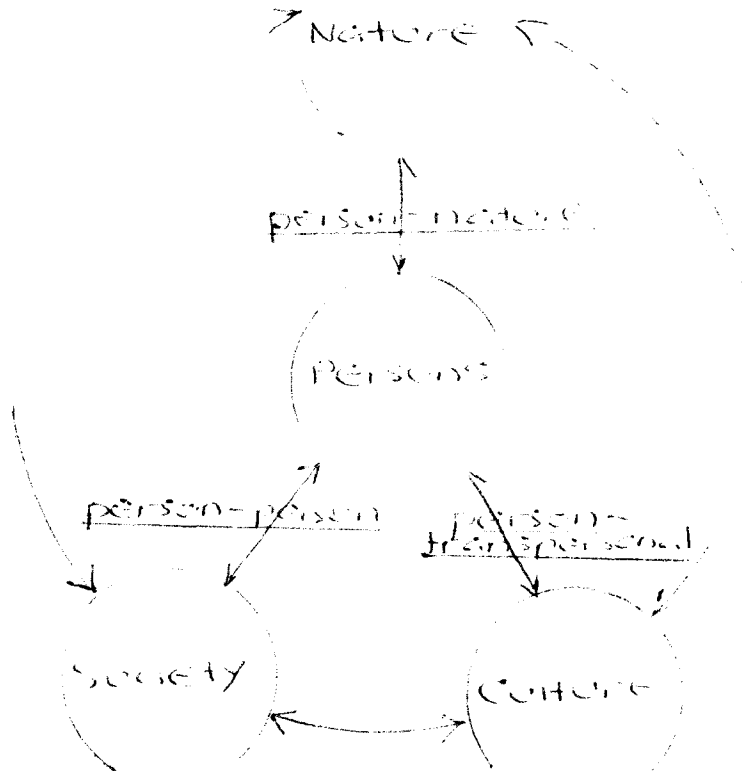
Let us then proceed further, obviously by giving some structure to humans and to the environment. And at this point again, the time ordering of a sequence of presentations, be that oral or in writing, and the space ordering of the printed page should not lead us astray. Many people, perhaps particularly those very accustomed to (but perhaps not conscious of) linear ordering⁽¹⁹⁾ in their reasoning, from cause to effect, from the primary (axiomatic) to the secondary and tertiary (implications) will interpret order of presentation, meaning that what is mentioned first must be more important to the person who presents it⁽²⁰⁾, that what is on top of a figure must be more important than what is at the bottom, and sometimes also that what is to the left is more important than what is to the right, and what is in the centre more important than what is found in the periphery. So let it only be said that no such connotations (incidentally, heavily related to the way in which printing and reading order are organized in the West) is implied, at least at this stage of presentation. When we now choose to start with the environment it is simply because there is more environment than humans around, and also for some pedagogical reasons.

No doubt there is an anthropocentric bias in the usual division of the environment in two parts: "not person-made" and "person-made". The not person-made is what is untouched by us, it can be conceived of as that which would have been had we not existed at all. It is not identical with nature because that would presuppose that the universe consists only of nature and us, not, for instance, of spiritual forces. And the person-made is all that we have brought about, such concrete things as our material construc-

tions and patterns of actions and activity (structures), and the more abstract things, ideas, etc.. For all of this there are many types of typologies, most of them hierarchical - let us try to cut into it with something very simple. Let us simply use nature, society and culture, seeing the former as not person-made and the other two as person-made. We have to start with these common sense terms, "nature", "society", "culture" and in the course of using them try to deepen the meaning. At the outset let it only be said that they are certainly not empirical categories, but quite abstract ones. Thus, take such an empirical phenomenon as a house: there is nature in the building blocks: there is society in the work that went into it, the way it is structured, the way it is used, there is culture in the meaning attributed to all of this. Thus, it may well be that we start wrongly by means of these common sensical expressions, but they have at least the advantage that people relate to them, they are parts of everyday speech enabling us to communicate more directly, with natural languages.

With this sub-division Figure 5 would become something like this:

Figure 5. Interrelationships of nature, society and culture.

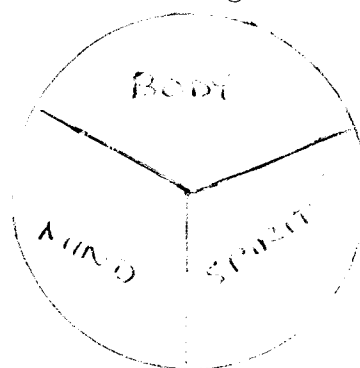


We now have four elements and consequently six relations, all of them two-way relations. Three of them have been named in order to keep the focus on human-centered development: the person-nature relation, the person-person relation which is the simplified term for how people relate to society, and the person-transpersonal relation which is the term for the relationship between people and culture. The three terms used for the relationships give slightly more precise indications as to how "society" and "culture" are seen as different: culture is seen as a transpersonal medium, leaving open the possibility of the not man-made, that which would not disappear with the elimination of human beings on the earth. Society is seen as less "ethereal", as the sum total of myriads of interactive relationships, past, present and future.

Back to persons again, keeping the dialectical perspective in mind. Again a simple minded trichotomy may or may not be useful. Let us at least experiment with it: persons subdivided into body, mind and spirit.⁽²¹⁾ The body is "that of nature" in us, and it may also be useful to see the mind as "that of society" in us, developing out of interaction between persons, and the spirit as "that of culture" in us - relating to the transpersonal. That makes mind and spirit relatively similar if we see the transpersonal as emerging from interaction between persons alone, but we shall nevertheless keep the distinction as it permits us to see some phenomena otherwise easily lost hold of.

In short, body, mind and spirit are seen as the footholds, the bridgeheads of nature, society and culture respectively in individual persons; or vice versa: as that within persons that makes it possible for us to be part of nature, part of society and part of culture, even at the same time. This "even at the same time" is important for there is no suggestion here that reality is divided into three: nature-body, society-mind and culture-spirit. All three relate to all three constituting a whole only with analytical subdivisions that may or may not be useful (we think they are useful). Thus, it makes it possible to distinguish between the

Figure 1: Person
Spirit



diseases of the body (somatic diseases), of the mind (mental diseases) and of the spirit (a sense of meaninglessness) and between somatic, mental and spiritual health - very well knowing how inter-related all of these, of course, are.⁽²²⁾ One may also start talking about different ways of activating persons: behaviour (activity of the body alone), cognition/emotion (activity of the mind alone), meditation (activity of the spirit alone) and all kinds of combinations of these to the level of action which may be seen as activities of body, mind and spirit together. There are very many ways of using these terms and one may be as good or as bad as the other. They have to be tried out.

However, there is another subdivision of persons, at least as important since it relates more directly to the concern of Figure 4 : human development/personal growth. We shall try to see that in terms of two levels. There is a rock-bottom, lower level of necessary conditions, of certain things that have to be satisfied in order for personal growth/human development to take place at all. If they are not satisfied then some type of pathology of the body, mind and/or spirit will take place - exactly where it shows up is difficult to tell as these are complicated relations indeed. We shall refer to this as the level of needs, necessities, necessary conditions; and to that which satisfies needs as need-satisfiers or simply satisfiers.⁽²³⁾ On top of this, then, there is a second level on which people are building, growing, developing further; a level which in turn also may attain need-character as a necessary condition - or at least so people may believe; they may believe they cannot do without it. We shall see that second level as so individual, so dependent on the person, so idiosyncratic or specific to groups and sub-groups that it makes little sense to spell it out or try to characterize it in this context where we are painting with a very broad brush indeed. But as to the first level some broad classifications are attempted in four groups of needs, all of them equally important since they are all necessary conditions.⁽²⁴⁾ They are given in Figure 7 with the antonyms in parenthesis in order to make the meaning more clear:

Figure 7: Personal growth/human development spectrum (Needs)

	(Actor dependent)	(Structure dependent)
(Body/Mind)	Survival needs (violence)	Welfare needs (misery)
(Mind/Spirit)	Freedom needs (repression)	Identity needs (alienation)

The four antonyms are in fact the four crimes that can be made to human beings: violence, misery, repression and alienation. We have indicated, also in parenthesis, that these crimes are of different kinds: the first two are more against the body, the last two more directed against the spirit - for that reason they are often referred to as material and non-material respectively. There is also that second division: violence and repression are often seen as actions, in other words as dependent on actors who will these consequences; misery and alienation more as the results of behaviour, unwilled actions, frozen into structures. It goes without saying that all these dichotomies should be seen in a dialectic, not in a mechanistic sense.

In this dialectic person/environment process we are now led back to the environment again. Just as figure 6 is complementing figure 5, what would complement figure 7? Is there a part of society particularly responsible for violence, for misery, for repression, for alienation respectively? Or more positively formulated, for survival, welfare, freedom, identity? The answer seems to be that society is not subdivided that way, that these four classes of needs relate to many aspects of society. And we shall follow the tradition adhered to so far of using commonsense terms without doing too much violence to them, so we

shall not try to reconceptualize society in a way that fits the chart of needs given in figure 7. But we can follow the lead given by figure 7, seeing needs and hence satisfiers as basic. But this means that the production of satisfiers is basic, and also the distribution of their consumption, ie. of the satisfaction. Economists would focus on precisely this, on the production/distribution/consumption cycles, sometimes also bringing in nature to complete the economic cycle with the ecological aspect. But economists will have a tendency to focus only on a certain type of satisfiers referred to as "goods and services", particularly those in the formal sector of economy, not considering sufficiently the informal sector, nor the extent to which there is overproduction of goods and services (they do focus on underproduction, though), nor on the extent to which what is produced is bads rather than goods and disservices rather than services. Here the word "production" will be used in a much broader sense than what is usually attributed to it by economists, and distribution will follow suit: it is a question of distributing the products.

But that is only building on the perspective used by economists. This perspective is heavily action-oriented or actor-oriented: production is action, it is in principle a conscious, willed activity. It is not strange that economists should have this perspective as traditionally that particular social science grew out of concern with activities in society generated by people who had the privilege of being actors, not so constrained by society that their actions became few and very limited. Sociologists/politologists have focussed more on the latter, on precisely these constraints: the institutions, the structures. Again the distinction is certainly not a sharp one: production may become a structure that just goes on and on with nobody exactly wanting it that way, and institutions and structures may at some stage be the outcomes of purposive, willed actions. But by and large the distinction between actor-oriented and structure-oriented aspects of society is a meaningful one, the former focussing more on events, the latter more on permanents, the continuously lasting.

This is captured below, where another distinction is also made use of:

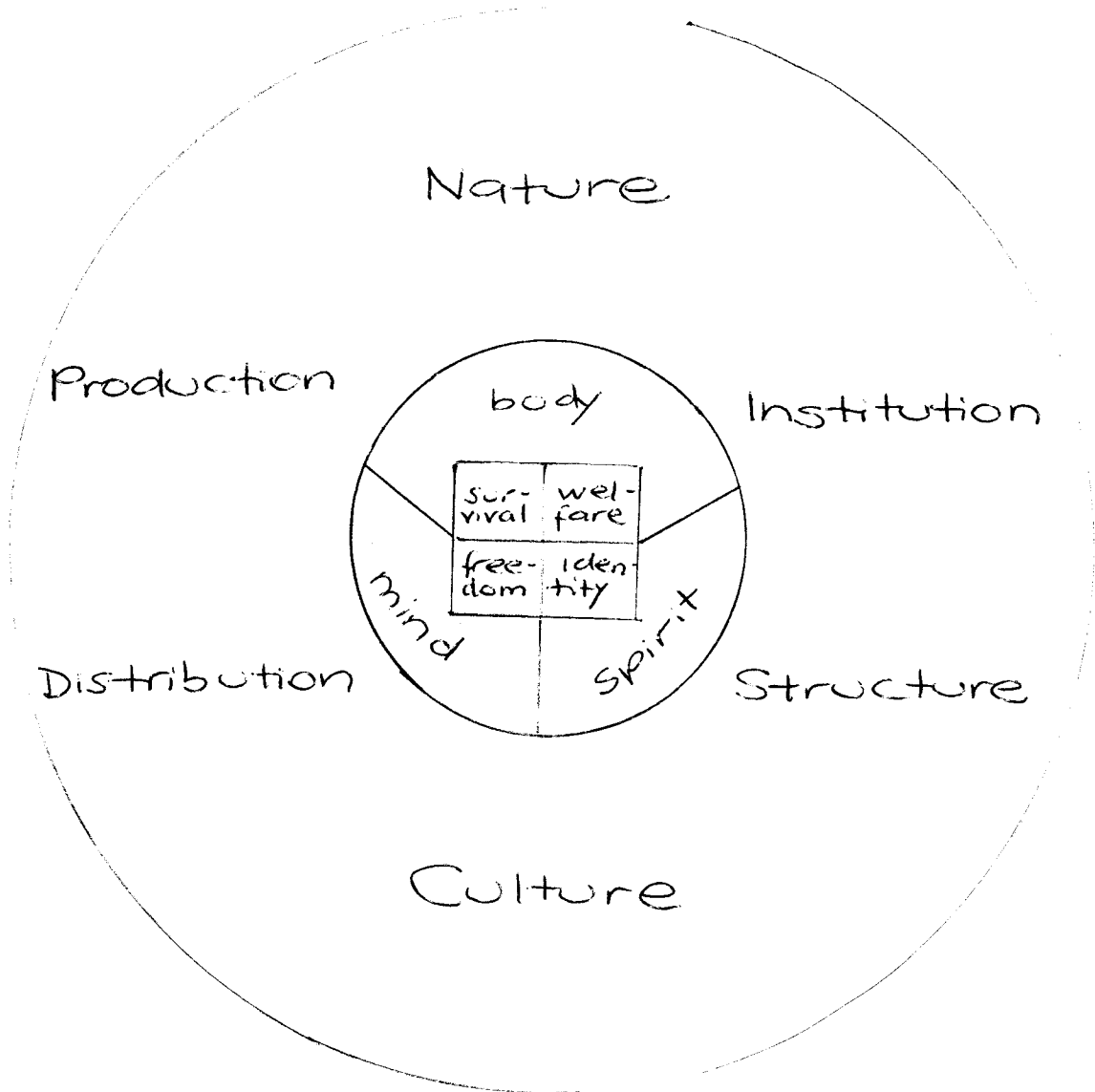
Figure 3 - Society split out

	Action-oriented, events, economics perspective	Structure oriented, permanent, sociology/politology perspective
Horizontal aspect emphasized	Production	Institution
Vertical aspect emphasized	Distribution	Structure

That other distinction is, of course, indispensable. In Western thought it is crucial to the whole distinction between liberal, social-democratic and marxist analysis: the former focussing on sectors of production in economics and the various lists of institutions in sociology/politology (family, church, art, science, education, governments and so on), the second adding to this distributional aspects, and the marxist analysis focussing much more on the structures of production, of institutions, of distribution. In positive (and often also positivistic) self-presentations of society the horizontal dominates at the expense of the vertical aspects, in negative, critical presentations the vertical aspects will be emphasized, also often at the expense of the horizontal aspects. The attempt here is to give equal prominence to both.

There is no limit to how much one could now continue spelling out, and some of that will have to be done later on when we leave the stage of preparatory, taxonomic work and enter that of suggesting more specific propositions, theses, or at least hypotheses. The time has now come to try to put this together, and that will be done in two ways. First, let us combine Figures 4, 5, 6, 7 and 8 into something which is not yet a model, but a paradigm, a map of the intellectual framework within which we are going to operate:

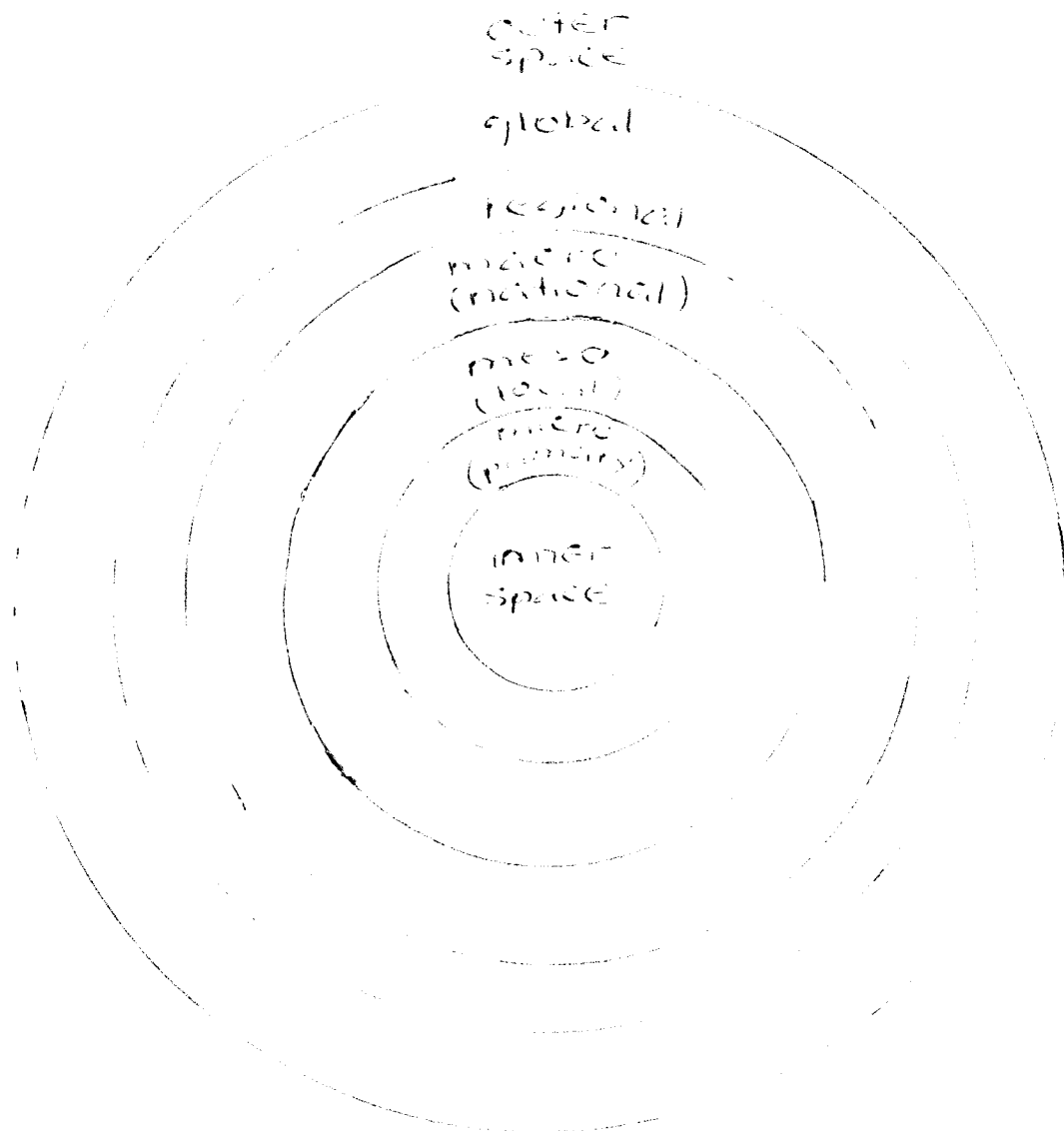
Figure 9: The paradigm spelt out



It is all there, we have only not put in all kinds of arrows signifying all kinds of relations, everything working on everything, in contradiction and conflict, in harmony and compatibility.

Then, there is another way of combining them, in terms of concentric spaces as in the figure below:

Figure 10: The space paradigm, in spatial order



It should be noticed that inner space is inside persons, outer space is outside everything we have mentioned so far, and the other 5 are "environment", with the subdivisions of Figure 5. These 5 subdivisions are rather important as this is where politics as we know it unfolds itself. To have freedom is to have space; politics consists in creating space. And since what we are going to do with these concepts essentially deals with politics, the interface between the desirable and the possible, it relates to the spaces, one of them, some of them or all of them.

At this level of generality we still have to say some things slightly more specific about nature and culture. How are these two rather gross entities to be conceived of? Which are the key aspects, the key conceptualizations that will permit us to formulate what we want to formulate, goal models (normative models, developmental goals); process models (both dominant processes and counteracting tendencies), models with indicators (operationalization) and models for action (strategies)?

As to nature: the perspective will, of course, be ecological rather than economistic, the latter being interpreted as capitalistic - nature seen as a reservoir of raw materials, including energy sources. A key concept in ecological reasoning is that of maturity; a key problem is that of strengthening, enhancing the maturity of ecological systems. Maturity seems to depend on diversity and on the presence of homeostatic mechanisms; the latter does not mean a predilection for static equilibria, it could also point to dynamic equilibria. Symbiosis is essential.

As to culture: the key perspective will be culture as that which gives meaning, and more particularly, as that which defines something as normal, natural. The basic concept here would be that of cosmology which will be defined both as deep ideology and as deep structure. It is to a "civilization", in other words a concept at the macro or regional space levels, the same as "personality" is to the person (inner space level); something relatively invariant that changes but rarely and with difficulty. In the cosmology basic assumptions about person-nature, person-person and person-transpersonal relations are defined, adding to this at least basic assumptions about such key categories as space, time and knowledge. After all, space and time are the major dimensions in which

our actions unfold, knowledge is an organizing principle, defining what is and what may be and why; basic assumptions about space, time and knowledge are therefore crucial for any understanding of how and why people act the way they do, and what are the culturally imposed constraints on action.

As to society: We have spelt it out above in terms of 4 sub-categories: production and distribution, institutions and structures. As for nature and culture there is no limit to what can be said; suffice it here with some key strategic perspectives on how to make use of these concepts.

Thus, it is important to see production as action, as activity, producing anything, material and non-material. Since the term is more used by economists than by other social scientists it is inevitable that an economic vocabulary comes to one's mind. The approach taken here will not be to reject that vocabulary, but to extend and deepen its connotations. Thus, we shall talk about production of goods and services, but also of bads and disservices, and there will be no implicit assumption that this is only for the formal (market or centrally planned) sectors of the economy, but also in the informal sector of the economy (production for own use or consumption, production for non-market exchange, production for market exchange but in a very limited cycle). Nor is there any assumption that what is produced is material: it may also be togetherness, friendship, even love. And the same applies to the category of distribution: the question is whom all of this productive activity reaches, whom it touches one way or the other and how, whether some categories are systematically favoured and others disfavoured, and so on.

The approach taken to institutions will be equally conventional but with a view to openness: from sociology and politology long lists of sectors or segments into which society is divided are inherited (family, work, religion, leisure, education, science and technology, arts, and so on). One goal may be critically to examine such lists with a view to their cultural and structural bias. Another point is to look at a phenomenon closely associated with institutionalization: professionalization, for each institution a profession grows up and vice versa.

This is important since one perspective on development is institutionalization/professionalization and another perspective on development in those countries that have had much of this is precisely the opposite: deinstitutionalization/deprofessionalization. In short, it is a question of how horizontal divisions of society crystallize and harden, and how they can decrystallize and soften again.

The approach taken to structures would be precisely the vertical aspect of what has just been said. This vertical aspect actually splits into two that usually come together as one is used to support the other: exploitation and dependency. Both of them are structural arrangements, the former might perhaps conveniently be said to be within a structure, the latter between the structures. Exploitation is then conceived of as a web of interrelated processes all of them vertical: vertical division of labour (or exploitation proper, inequity, and interaction patterns so structured that those on top get much more out of it than those at the bottom); penetration or conditioning of those at the bottom by those at the top; marginalization (the exclusion of those at the bottom from the inner circle, a division in first-class and second-class members); fragmentation (those at the bottom are kept more away from each other than those at the top) and segmentation (those at the bottom have a less integrated participation or view of the totality than those at the top). When all this is fully enacted the structure is referred to as a fully-fledged alpha-structure, when all of it is negated (there is horizontal division of labour, there is mutual conditioning, participation instead of marginalization, togetherness instead of fragmentation, integration instead of segmentation) the structure is a fully-fledged beta-structure. One important point in this connection is that an alpha-structure can take on unlimited size as all it has to do is add one more layer underneath; the beta-structure has to be limited in size because of the limited interaction potential of its participants: we human beings. All of this can then come into play in the various spaces in which human beings build structures: the micro-space of family, friends, peers, communes, the meso-space (the local level), the macro-space (the national level),

regional space, global space (the world level). Whether it also makes sense in the inner space inside human beings or the outer space of the universe remains to be seen - a working hypothesis would be that it does.

Dependency differs from all of ^{this} insofar as it at least may appear as horizontal. There is an exchange pattern, A and B not only agree on the terms of exchange (called "terms of trade" in trade theory), "objective" outsiders may also agree that there is no inequity in the relationship. But there is something lurking underneath: what B gets she cannot do without, it is a necessary condition for continuation; what A gets he can do without, it is not indispensable. If we now think of A and B as societies in any one of the spaces just designed (they do not have to be in the same space, the local level may depend on the national level, and so on), then this "something one cannot do without" is often referred to as an interest, as the society level counterpart of the need at the personal level. Thus, a dependency relation is potentially threatening because interests are, by definition, at stake. It would now be tempting to build a theory of interests on a theory of needs, stipulating that this "something one cannot do without" at the social level is precisely what the human members of that society cannot do without at their level: food imports, medical supplies, what is needed for cultural identity, for options in some fields, for security - but that would be too idealistic. The interests are usually stipulated by the rulers of a society and reflect the elite interests rather than basic human needs. Thus, to have social interests coincide more with basic human needs is a major guiding line for political activity, a major program of development.

That exploitation and dependency are not only logically but also empirically independent of each other can be easily seen from the circumstance that even the most horizontally structured community can depend on something from the outside, and even the most self-sufficient, autarchic society can be ruthlessly exploitative. Hence, there are two types of structural transformations that enter the picture: the fight against exploitation and the fight against

dependency; often referred to as "revolution" and "self-reliance" respectively. Nothing is gained by assuming that one automatically leads to the other. The world is not structured that way - one is not a free of charge bonus from the other, one may even counteract the other. Thus, increased self-reliance may have either as a condition or as a consequence a ruthless elite capable of carrying out this major program but in so doing exploiting the rest of the society. Usually, however, inter-societal dependency relations are woven together with intra-societal exploitative relations into the web of relationships known, precisely, as imperialism - capitalist imperialism, social imperialism, any kind of imperialism.

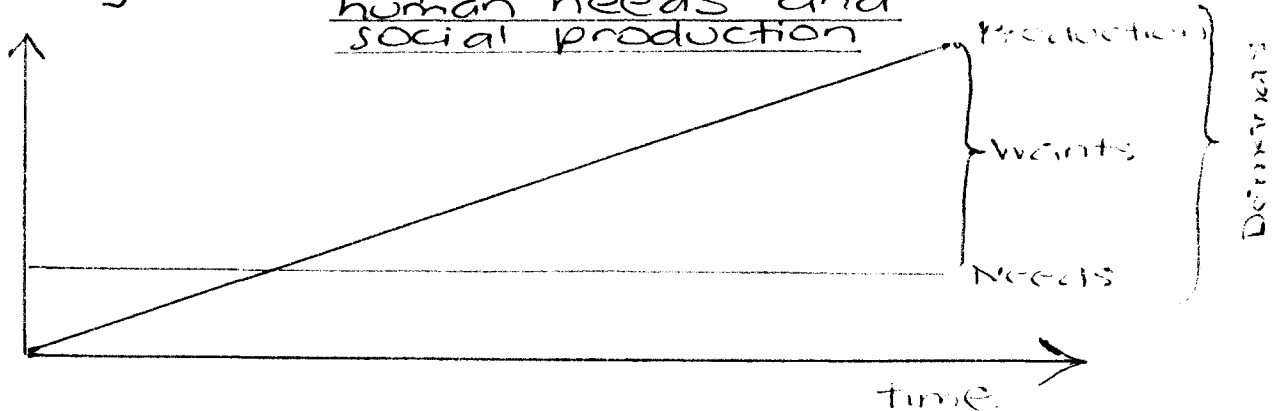
2. From Taxonomy to Dynamic Model : the problem of process

What has been presented above is nothing but a list of terms and some rules, even not very precise ones, as to their usage. In addition to that something has been said about how these phenomena referred to by the terms relate to each other, in a very broad way. The image given is one of interconnectedness, but at the same time static because taxonomies, left alone, tend to give a static image. This, of course, would be totally contrary to the simple dialectical position taken at the outset : if there is anything that dialectics stands for then it is precisely movement, sometimes struggle between opposites, changes, even transformations, and so on. The problem is how to bring this into what has been presented so far.

More precisely, it is a question of not losing at the dynamic level what to some extent has been gained at the static level: an overview, something moving towards a holistic conception. Thus, we shall certainly assume that all the aspects mentioned above have a certain dynamism: there are changes in people's needs, there are changes in nature, production, distribution, institution, structure, culture. But the basic perspective that will be used here would be to compare changes, more particularly to compare the rates of change, over time.

As an example, take the relationship between human needs and social production, in a simple field such as housing. In the figure below it is assumed that human needs are constant, but that production is growing:

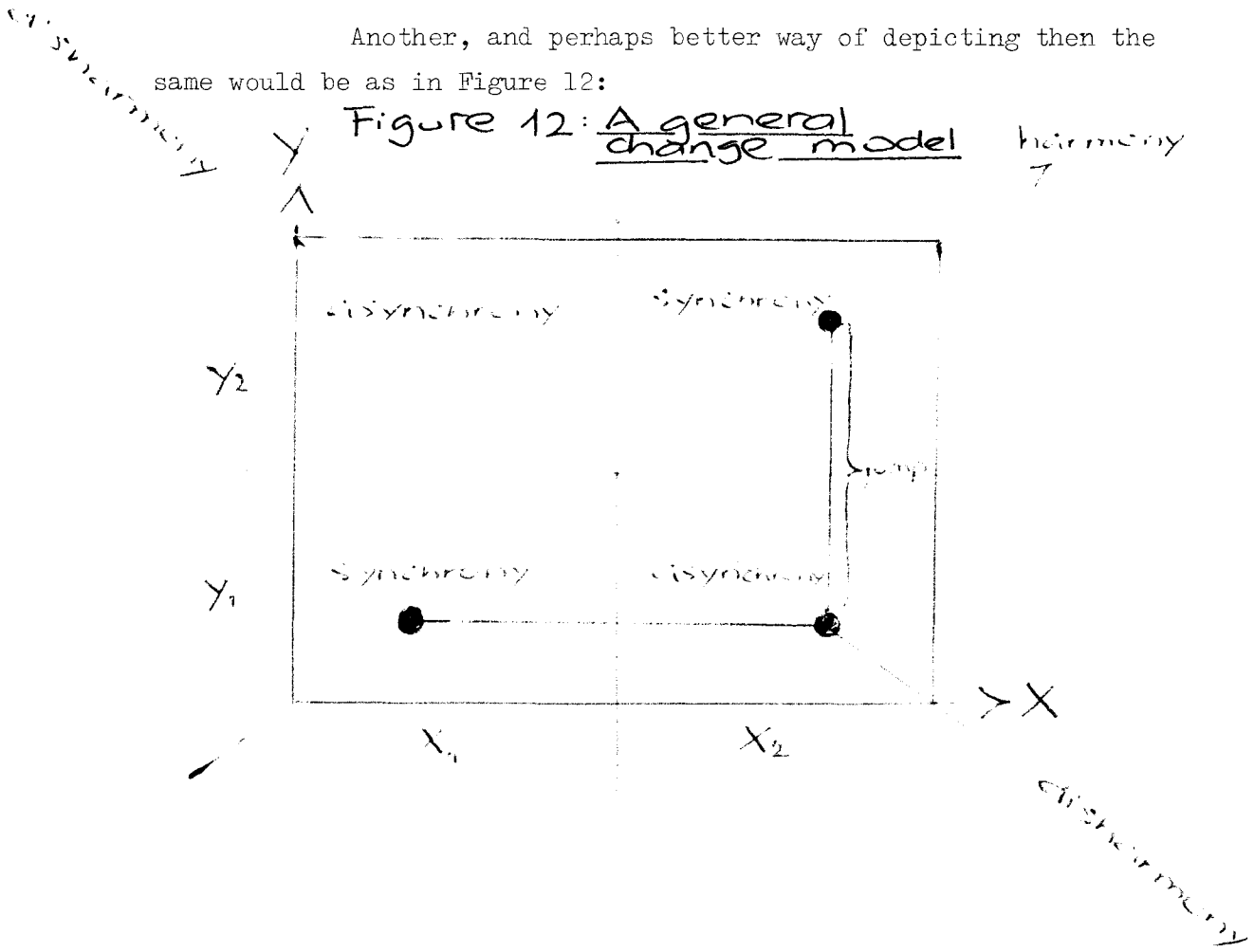
Figure 11: A possible relation between human needs and social production



At some stage the production was much below what was needed, then there was a balance, then production went on and there was or is an increasing gap between production and needs. In order for supply to equal demand something has to be added to the needs: this something is referred to as "wants". Gandhi might have referred to it as "greed", and he would have added: "there is enough in the world for everybody's need, but not for everybody's greed". One might agree, but then Gandhi was slightly puritan!

Thus, there is dynamism at two levels: at the level of the single aspect, and at the level of the relation between two or three moving aspects. A want category has been introduced in order to make production meaningful, a market of one type or another has to be established in order to articulate demands. Something qualitatively new is introduced and the basic assumption would be that qualitative change comes about precisely as the gap between quantitative changes becomes intolerable so that a rupture is produced. The qualitatively new aspect closes the gap, makes sense of the rupture, at least for some time, for some people, at some places.

Another, and perhaps better way of depicting then the same would be as in Figure 12:

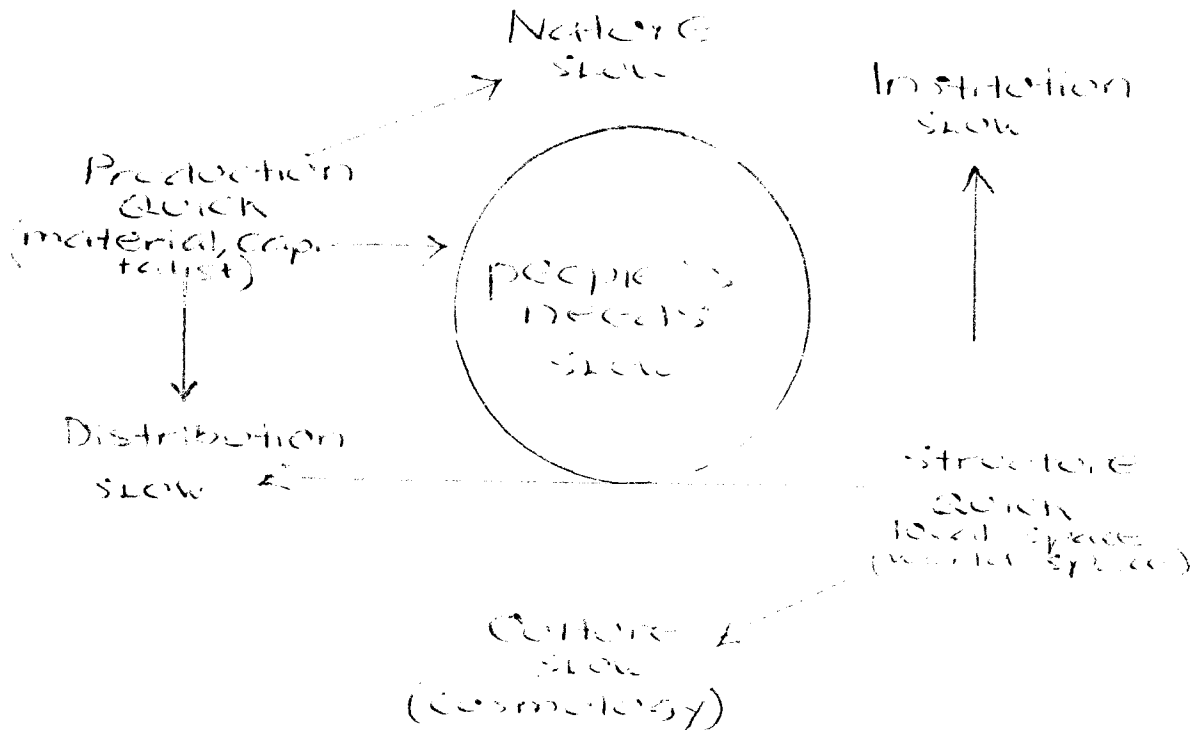


Here there are simply two variables, X and Y, they are both dichotomies. Time enters as a parameter. In the beginning X moves from X_1 to X_2 but there is no change in Y, it stays at Y_1 , then the asynchrony or disharmony produced is at such a level that Y undergoes a qualitative jump from Y_1 to Y_2 . Synchrony, harmony is restored, at least for the time being. In the example of capitalist production referred to above one might perhaps say that what happened was that Y underwent a transformation from consumption for need satisfaction to overconsumption, even unlimited consumption relative to the needs : the transformation of needs into demands. Obviously, there would have been another way of obtaining harmony or synchrony: by trimming down production to a more need-oriented level. For various reasons that did not happen. Many of the contemporary trends in "advanced, industrial societies" are in this direction, for some people, at some places - that is what overdevelopment is about.

Let us now look at the total scheme from the preceding section, trying to apply this idea more systematically. First, it should be noted that the terms "synchrony"/"asynchrony" do not refer so much to chronological time or physical time as to social time. It is a question of something being in a different phase, at a different stage, than something else. On purpose we shall not use the words "lead"/"lag" since implicit in this pair of terms is an idea of progress: something is leading, something is lagging. But that "something is out of phase with something else" or "at a different stage" will certainly be referred to, and the terms used will be asynchrony/disharmony - as the opposites of synchrony/harmony. This, then, points to two ways of obtaining synchrony/harmony: by standing still, in phase, or by moving at the same social speed - the latter not at all being impossible, but probably being the result of a more general transformation at what is here referred to as the cosmological level. It also points to two ways of getting from asynchrony into synchrony again: the aspect that changed could change back again, or the aspect that did not change could change so as to get into phase. As general heuristic it might be useful to keep all these possibilities in mind.

As everything changes to some extent the distinction made in the Figure below is not between change and stand-still, but between quick and slow change:

Figure 13: Hypotheses of differential speed.



We have assumed, for the argument, that there are two particularly dynamic aspects of the present world situation (and this is a global model, not a model for any particular country or for any particular sector): production, but in the sense of material production, and with a capitalist mode of production; and structure, at the world space level. This creates certain ruptures. Thus, the tremendous change in the level of material production, approximately expressed through the rates of economic growth, has impacts on an otherwise sluggish nature, on the need-structures of people, and on the distribution - three aspects that we generally would assume to change very slowly by themselves, but to be torn and twisted through the impact of the rates of production change. More precisely, the three

arrows emanating from production in the figure, all of them standing for ruptures, could be labelled ecological breakdown, needs-transformation also known as alienation, and rising entitlements.

Similarly, there are changes taking place very quickly in structures, but particularly, it seems, in the local and world spaces. Not much seems to be happening at the state or inter-state levels. But the NIEO and all its associated phenomena for the world space, and the various types of alternative movements for the local space -- and not only in First world countries, are bringing about very real structural changes. This, in turn, also leads to ruptures and three of them are indicated. One, relative to extremely sluggish institutions both at the national and international levels, not catching up with the changes at the more basic structural levels. Then, to the distributions of goods and services as structures are now opening up in a way totally incompatible with the old patterns of distribution. And, relative to the deeper aspects of the culture for particularly one part of the world: the ruling elites in the formerly dominant colonial powers - challenged in their basic Weltanschauung, cosmology, both from the Third world revolution for equity and the local level revolution for autonomy. Labels: institutional sluggishness, rising gaps within and between countries, crisis of the Occident!

Thus, the way ruptures are looked at here they are relational. There is no such thing as a crisis in nature: the crisis is between the production pattern and nature. There is no isolated civilization crisis: the crisis is between a particular way of viewing the world embedded in Western civilizations and what now happens to world structures. Nor is there any crisis in institutions: the point is that the institutions are out of phase with what is happening at the structural level, and so on, and so forth.

But this only brings out an obvious further consequence: what can be done between two aspects can also be done for three : there may be complex ways in which three or more are out of phase with each other that are not captured in bilateral relations. And, more significantly: what about the higher order time relations ?

We have pointed to the significance of asynchronies, but what about the relationship between asynchronies? One asynchrony does not come alone, it comes together with the others, in a context. One asynchrony may look normal when it comes together with other asynchronies; disharmonies when put together become harmonious relative to each other. Maybe the system can tolerate many asynchronies or disharmonies, but not only just one? What defines this tolerance level? The elites? The people? Shared cosmologies? Dominant cosmologies and the cosmologies of the dominant classes? All this will have to be explored.

What now emanates from what has been said is that it starts becoming complicated. In figure 13 there are only 7 aspects, but as is known from the preceding section all of them can be subdivided. Imagine now that we enter with assumptions about speed of change for all subdivisions. If we then want to compare them in a search for possible ruptures that might lead us to insights into what has happened, is happening and may happen, it quickly gets beyond what the human mind can comprehend at the level of the detail even if it is perfectly understood at a more holistic level. The logical conclusion of that would be to put a computer to work at the level of the detail, yet keeping the general perspective. The computer could then be given some more detailed information, perhaps information more specific to special regions or parts of the world, to special spaces. The computer could be given in assumptions as to what level of disharmony is tolerable and what is not. And most importantly: the computer could ultimately be given a normative model and try to relate to it.

In short, there is more than enough work to do. What is now needed is a discussion of these basic assumptions about aspects and processes, also with a view to how it relates to other approaches.

NOTES

- * A first version of this paper was given as an oral presentation at the 1st GPID Integrative Workshop, Alfaz del Pi, 5-12 April 1980; I am most grateful for a highly stimulating discussion that resulted. The present version is presented for discussion and the Concepts/Theories of Development workshop, Geneva, 3-5 June 1980, and also for the GPID V Network Meeting, Montreal, 27 July-4 August 1980.
1. In addition to the Club of Rome models and the Bariloche model of the 1970s there are now also the models more or less explicit in the OECD report (Facing the Future), the Brandt Commission report (Das Ueberleben Sichern), the IFDA report, not to mention the extremely important novel by Doris Lessing, Shikasta. Efforts will be made by GPID to relate GPID approaches to all these approaches.
 2. The world model will probably be the GPID effort to be holistic, integrative - as spelt out in the Steering documents of the GPID project, and in my paper "Towards Synergy in Networks of People with Networks of Problems: A Note on GPID Methodology".
 3. A first attempt in this direction is in Johan Galtung, "Goals, Processes and Indicators of Food, Health and Energy Development" - also a background paper for the Alfaz del Pi meeting. Implicit in a normative model is also an anti-normative model, not of goals, but of anti-goals, of pathologies.
 4. A first attempt by the present author is in the paper "Global goals, Global Processes and the Prospects for Human and Social Development" - this paper focuses on the dominant processes.
 5. This can only be done with a knowledge of what to act against, and for that particular purpose the pairing of the expansion/exploitation processes and the liberation/autonomy processes sub-projects in the GPID project should be very fruitful.
 6. So far only very preliminary work has been done on Indicators within the GPID project, particularly by the African (CODESRIA, Dakar), Mexican, Polish, British and Norwegian teams.