

The Global Problematique

(SYSTEM & METHOD FOR PROBLEM-ANALYSIS)

by

PARIS ARNOPOULOS

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INTRODUCTION: A World of Problems

It is by now rather banal to affirm that the world is undergoing a critical period of transition in which a multiplicity of problems is accumulating. All around us, one can see that human affairs are not evolving as they should. Of course, such perceptions and sentiments have been expressed many times throughout history. The world has always been changing and this change has not frequently been to the satisfaction of many people. Crises and problems, therefore, are not something new in the lives of men and nations.

Yet, there is something new both in the quantity and quality of contemporary problems in the world. For the first time in history, the world is a single mega-system; with interacting and interdependent units. We, therefore, live in a global system as we have never done before. Because of that, the number and kind of problems we face are also interacting and interdependent. The increased magnitude and complexity of our systems have produced more and greater problems than ever. So, not only has the number of our problems grown beyond anything that we have known before, but their novelty and complications are taxing our ability to understand and deal with them.

It would seem that current events are becoming too large and are moving too fast for us to grasp and control. Human actors and institutions appear increasingly demunitive in relation to the flow of things. Undoubtedly, humanity has always been at the mercy of nature. The laws and forces of the universe have inexorably dominated the lives

of men. But again, this is the first time that man's own works have reached such magnitude as to overshadow the problems posed by nature. Science and technology have advanced to the point where they seem to have taken a life of their own and are moving by their own momentum. What is worse, their effects upon their creators, both individually and collectively, have not been foreseen; hence, their repercussions upon our personal and social lives have been both dramatic and traumatic.

The uniqueness of our age consists of the dawning dominance of artificial over natural problems. Man's accumulation of power means that he is now capable of creating and destroying more things, including himself. Apparently, however, his destructive capacity is outpacing his creative one; so the threats to humanity become more awesome than the promises. It is thusly, that problems multiply faster than we are able to solve them and the lead-time for making decisions shrinks into nothingness.

On the basis of this rather pessimistic overview, it behooves us to take things seriously and see what we can do to understand the problems of this world so that we can improve our capacity to solve them. Even if problems are intrinsic to any open and dynamic system; controlling, rather than eliminating problems, can make the difference between life and death. Anyone who can contain problems within a functional range can turn them to advantage in developing a better system. Thus, before we can think of international development, we must conceptualize the global problematique.

With that as an incentive, we have began this study of a conceptual framework for world problems. In the presentation which follows, we can only scratch the surface of this large area and leave for another time an in-depth study of the subject. This beginning, nevertheless, is a prerequisite to any systematic treatment of problems, because it lays down the foundations for further work. In this report, then, we shall outline the concept, structure, and process of problems and by doing that answer the questions related to the nature, meaning, type, location, time, and solution of problems.

Accordingly, the report is divided into three parts of two chapters each. The parts cover successively the conceptual, static and dynamic aspects of problems. The chapters, in turn, deal with the form, function, context, area, period and method of this subject. Thus, although the study does not go into any depth; it does cover the field of problem-analysis exhaustively and sets the basis for more detailed and specialized research.

I. CONCEPT

At the beginning of any systematic study of a subject, there must be formulated some basic concepts which define the nature and scope of the topic in question. This conceptualization of the subject-matter explicates what exactly is to be studied and why. The answer to these two questions should provide the essence and meaning of the study; thus placing the research which will follow in the proper perspective.

In this particular case the topic of our investigation is "problems," so we first have to define this term in quotation marks and then explain what it means. This undertaking will give us the form and function of the term and therefore develop its conceptualization. The following two sections of this chapter will treat these two aspects of the concept under consideration.

1. FORM: The nature of the problem.

The first question which we must answer before we go any further is: what is a "problem"? Obviously, to begin with, this is a matter of definition, and as such it is both easy and difficult to do. It is easy because definitions are arbitrary and a priori conceptual divisions, so anything can be defined in any way. However, in order to facilitate communication, one must respect popular and traditional meanings of common terms, so we have to fit-in our definition to generally acceptable standards.

Because "problem" is such a widely used term, it means many different things depending on who is using it and under what circumstances. For this reason, there are several definitions of "problem" at various degrees of conceptual formality. We have chosen to formulate the following definition because it combines simplicity and suitability for our purposes:

A "problem" is a disturbing situation.

Although this definition could apply to any and all problems, it is best suited to our context because it emphasizes the "situational" nature of the problems with which we are particularly concerned. By

"situation" we mean a specific condition or "state of affairs" which draws attention to itself. Situations, therefore, are salient points upon which interest is focused, and as such describe the essence of problems in reality. In this sense, the problems of this world are disturbances in the various configurations of matter-energy within space-time.

Since we are not interested here in symbolic or semantic problems, the above meaning will do very well to concentrate our study to empirical problems of human concern. We are, therefore, excluding from our purview mathematical questions or intellectual puzzles, although they are problems of a sort, and center our attention to actual events which disturb us. It is in this sense that we propose to study "worldly" problems of current affairs.

Undoubtedly, there are many such problems in the contemporary world. So much so that to many people they seem to be an infinite number. Yet, one international survey in 1976 was able to discover only 2,650 world problems; which (cross-referenced) total about 7,450. This same survey found 5,000 problems to be part of greater problems in some hierarchical relationship. When classified, the US Library of Congress identified 1,200 problem headings; but on the other hand, another research institution presented only 48 main problems for the world.

Playing with numbers, of course, one can come up with any figure; since it all depends what categories and levels of abstraction one uses for his list of problems. Whether they are counted in tens or in thousands, what is important is that the disturbing situations in

the world are recognized and dealt with. But in order for this to happen, we must find out as much as possible about them from all points of view. It is this process of problem-analysis that we are doing here in broad terms.

Basing our problem-analysis on the above definition and the elucidations we have given so far, we shall now outline six fundamental variables which are common to the problems we are dealing with:

- a) Situational reality describes the form of the problem in question and determines its concreteness or abstractness in operational terms.
- b) Functional system as the only objective possessor of problems in the sense that a disturbance can only be normatively measured.
- c) Relative context in which a problem can be defined in scope, thus qualifying its extent and relationship with other situations.
- d) Subjective reflection of the problem depending on who becomes aware of it or who is affected by it in some significant way.
- e) Dynamic process of change through time then problems rise and fall, have antecedents and consequents in chronological order.
- f) Solvable potential by some method according to which an intelligent system can deal with the problems presented to it.

A properly defined problem must contain information on all of the above parameters. On that basis one can distinguish between true and pseudo-problems. As an example, for "poverty" to be defined as a problem, it must: first, be operationally defined; second, be explained why it is disturbing; third, be placed within its social context; fourth, be specified as to whom it concerns; fifth, be followed in its evolution; and

sixth, be given some possibility of solution. Only then should it be considered as a rigorous problem to be dealt with in a systematic manner.

Very few empirical problems, of course, can be so rigorously described in all their aspects so as to be scientifically impeccable. For this reason, most of these problems are the subject of public debate. In this case, when the parameters of problems are controversial, we speak of "issues". A public issue, then, is joined in order to clarify the above dimensions and thus determine the quality and quantity of a given problem. As in this section we have presented the situational aspects of problems, each of the following sections will deal with the remaining five aspects in greater length.

2. FUNCTION: The Meaning of Problems.

According to our definition, a problem is a "disturbing situation". So far, we have explained the "situational" aspect of the definition; now, we shall do so for the "disturbing" aspect. To begin with, a "disturbance" is an extraordinary or abnormal stimulus which could upset the "steady-state" of a system. It is thus an incident creating some dissonance, contradiction, discrepancy or imbalance in a given system. So qualified, a problematic situation becomes an abnormal condition which presents a "danger" to its subject.

This description of a problem requires some explanation and the best way to do that is by systems-analysis. As we used the term "system" above, we meant a set of interrelated-interacting units. This implies

the existence of an ordered group of elements undergoing a dynamic process in space and time. This systemic process is evident throughout the universe and manifests itself similarly in all atomic, molecular, biological, human, or social activity. In whatever level one care to look, "reality" is a conglomeration of such dynamic and open systems.

The essence of a system is some underlying "order" in its existence. It is this order which distinguishes a system from "chaos" i.e. a random agglomeration of things in haphazard movement. Accordingly, we can postulate that problems cannot exist in chaos; they can only be found in systems. This is because a problem relates to a change in the order of things; without some such order, it would be nonsense to speak of problems.

The next step of this reasoning is that: an order implies a "norm." A norm is some standard or principle according to which a system usually operates. In this sense, there is a "normal" condition of the system which a problem "threatens" to disturb by introducing an "abnormal" element into it. The threat to the system is that in extreme cases the disturbance may escalate to the point of breaking down the system altogether. For the sake of self-preservation, therefore, a system must be able to contain its problems and maintain its normal "steady-state" operation.

For example, "starvation" is a problem for a "healthy" system because, in the first instance, it lowers the organism's normal

performance and ultimately may hasten its death. However "starvation" would not be a problem to an obese or abnormal organism, on the contrary it may prove to be the solution. From these examples we can see that a problem is whatever interferes with the "proper" functioning of a system by impeding its "optimal" performance. Clearly, "proper" and "optimal" are normative criteria of systemic function, against which a problem can be measured: the more it disturbs this function, the greater the problem.

In this sense, a problem may be described as a "mal-function" of a system: i.e. a discrepancy between the actual condition of the system and its normal or "ideal" one. If a system is not working as it should be, there is a problem. Thus, another way of perceiving a problem is to look upon it as a gap between facts and values; a difference between what is and what ought to be: the wider the gap, the bigger the problem.

This way of measuring the magnitude of a problem implies that we know both the real and ideal conditions of a system, something which is not always so easy. Very often we may be sure that there is something wrong with a particular situation but cannot say exactly why, because we are unable to formulate the norm upon which we judge it. The condition of "general malaise" is an example of such incapacity to specify our desiderata.

By knowing at least the approximate position of normality, one can then diagnose the situations beyond it. What lies outside the normal may

be described either qualitatively or quantitatively. A quantitative problem is simply a situation of insufficiency (i.e. deprivation; underdevelopment) or excess (i.e. obesity; overdevelopment); whereas a qualitative problem is a more complex one of the wrong kind of make-up (i.e. malnutrition; maldevelopment). Having too much, too little or the improper combination, thus, causes problems in any system (organic or social). A problem, therefore, may be seen as an imbalance between what a system has and what it needs to function properly. That is why, problems of human needs arise when there is hunger or disease.

If norms are well known, they become ideals, i.e. the goals which the system tries to achieve or maintain. In that case, when the goal of a system is set; the only problems that may arise are those of means or strategy. These are the problems of science and technology, where gaps between knowledge and ignorance are relatively well defined. "Cancer" or "metal fatigue" are such problems in which scientists and engineers are working on.

On the other hand, there are the philosophical or psychological problems where norms or ends are either unknown or conflicting. If goals are nonexistent or contradictory, problems become much more complex and difficult. For that reason, problems of "exploitation" or "disorientation" are so insidious. Most of these type of problems may be endemic to the "human condition" so they stay with us perennially.

Because they are disturbing situations, problems tend to acquire some negative connotations. Since they are a threat to the function of a system, problems are to be avoided. It is as if "nature abhors problems!" And yet, problems can be quite functional in the development of systems. As gaps or imbalances, they present a challenge and thus an opportunity for action. Without problems, a system would have little incentive to change and adapt to new conditions. Problems can thus serve as stimuli to improve the performance of systems and develop new ones.

In that sense, problems are both necessary and desirable in the imperfect world of dynamic systems. By acting as "sinks or black holes", they absorb any excess energy which may be generated by systemic processes. For this reason, it has been suggested that problems be institutionalized or built-into systems as part of their cybernetic mechanism. Be that as it may, the unavoidability of problems forces us to try and understand them so that we may utilize them for our purposes. We shall, therefore, continue our search on the different aspects of problems on to the next chapter.

II. STRUCTURE

On the basis of the problem-conceptualization which we have just completed, we shall now outline the fundamental structure of problems. Structuring a problem, in this sense, means locating it in space and context. Problems do not exist in vacuum. They are to be found within

a certain place and relate to particular things. Therefore, the analysis of a problem must be able to answer the questions of who and where. This is what we shall do in this chapter. The following two sections will deal with the aspects of scope and context within which a problem must find its perspective.

1. SCOPE: The location of the problem.

Real problems "take place" somewhere in this world. A situation occurs some place: far or near; large or small. A problem can, therefore, be located by distance and size; two characteristics that would constitute its scope. These two measures may be ranged within a continuum whose extremes are micro and macro problems. Towards the micro end would be found the individual and local problems, whereas towards the macro end would be the global and universal ones.

According to this scheme, we shall classify problems within three main areas: local; regional; and global. Local problems take place in relatively restricted areas or spaces, occupied all the way from an individual to a nation. Within this range will be found problems involving a family, a group, a community, a nation, or a combination of these entities. At the next level of magnitude, we locate regional problems involving groups of nations, continents or blocs. The problems of the first, second and third world nations respectively would be located within these areas. Finally, at the highest level of generality would be the global problems involving mankind. These problems could be trans-national, inter-regional or terrestrial (including extra-terrestrial). The table in the next page outlines this scheme.

i	LEVEL	ii	AREA	iii	SECTOR
1	L O C A L I N T E R F E R E N C E	11	COMMUNITY BREAKDOWN	111	DEHUMANIZATION
				112	URBANIZATION
				113	CRIME
		12	NATIONAL STATISM	121	NATIONALISM
				122	CORRUPTION
				123	COERCION
		13	INTERNATIONAL DISPUTES	131	MILITARISM
				132	MISTRUST
				133	WAR
2	R E G I O N A L D I S P A R I T I E S	21	WESTERN DECADENCE	211	COMMERICALISM
				212	OVERDEVELOPMENT
				213	POST INDUSTRIALISM
		22	SOCIALIST CENTRALISM	221	DEVIATIONISM
				222	INEFFICIENCY
				223	EMIGRATION
		23	SOUTHERN DEPRIVATION	231	UNDERDEVELOPMENT
				232	OVER POPULATION
				233	DEPENDENCE
3	G L O B A L I N T E R D E P E N D E N C E	31	TRANS-NATIONAL EXPLOITATION	311	NEOCOLONIALISM
				312	MONOPOLIES
				313	IRRESPONSIBILITY
		32	INTER-CONTINENTAL CONFRONTATIONS	321	ARMS-RACE
				322	ECONOMIC-GAP
				323	COLD-WAR
		33	WORLD DISORDER	331	ANARCHISM
				332	INSTABILITY
				333	SCARCITY

The above table contains the type of problems which could be placed in the various categories we have created, based on the criterion of increasing geographical extent. Reading from top to bottom, the table begins with the micro-problems of local communities and ends with the macro-problems of the world as a whole. Examples of what we consider significant problems in each area have been given at every level.

The representative problem we have chosen for each level shows the nature of worldly problems as imbalances of some sort. The problem of "interference", for example, be it that of the individual versus the state or local autonomy, involves the question of how entities can coexist and co-operate without getting in each other's way. The breakdown of local communities, the rise of the national, state and international conflicts, are all different aspects of the frictions and contradictions among various geographical units.

At a larger area, there are the problems concerning an entire culture at a certain point of development. These problems differ for each cultural area; the major problems of one are not likely to be those of another. Thus the problems of post-industrial, industrial and pre-industrial societies are not the same. The western world has problems of overdevelopment, whereas the third world has problems of underdevelopment; with the socialist world having those problems peculiar to planned economies.

Finally, at the world level, problems cross-cut national and cultural boundaries to extend throughout the globe. Problems involving trans-national activities, east-west arms race and north-south income gap, are such examples. At the extreme, the issues of outer space

and the high seas, as well as the general problem of world government and resource depletion encompass the whole earth as a unit. The increasing interdependence of the world makes all these problems more and more interrelated, both horizontally and vertically: local problems may eventually become global and western ones may become eastern. In spite of this overlapping, a geographical delimitation of problems is useful for analytic purposes.

2. CONTEXT: The Themes of Problems.

We have already stated that the real problem can only exist in relation to a system. It must "belong" to somebody or something; thus it has to have a context. This means that in addition to its location, a problem requires a subject or a theme of activity to which it has a functional relationship. In this sense, we speak of a machine, an organism, a society, or the world having problems because there is a mal-function somewhere in their operation; and for this to happen, we assume that these systems have objectives or purposes which the problem hinders them from achieving.

Although systems may have intrinsic purposes, in which case they may have objective problems; very often it is we, human beings, who assign to them goals which if they cannot easily attain, we consider as problems. In this sense, problems belong in the eyes of the beholder as much as in the object viewed. This juxtaposition of objective and subjective conditions means that a problem is not only a "state of affairs" but also a "state of mind."

Without taking such a solipsistic position, we can admit that there is some truth to the subjectivity of problems, especially in human affairs. Since we are particularly concerned with the problems of this world, we may easily make "man the measure of all things" and look at problems from his point of view. On the assumption that "man" is our system, everything else becomes the environment. Thus problems can either be internal to the system or external between the system and its environment. In the former case, they are personal problems whereas in the latter, they are either social or natural. The table in the following page elaborates on this distinction.

Evidently, the above table uses the same conceptual framework as the previous one on the spatial classification of problems. We have retained this uniform trinary classification scheme to facilitate comparison and symmetry. Accordingly, our contextual classification begins by dividing human reality into three broad areas: personal, social and natural. By extension, problems fall into one or another of these categories, depending on whether they involve the internal or external worlds of mankind.

Personal problems are inner disturbances or imbalances of human beings. These produce a feeling of discontent or dissatisfaction accompanied by a state of tension and instability. They are incongruities between man and himself, between ego and id, mind and soul. More specifically, personal problems may be grouped under spiritual, intellectual or psychological headings, with the examples that we have given for each one. It should be noted that in all cases we assume a certain functional norm the denial of which creates a problem (for that reason, "superstition"

i	SYSTEM	ii	REALM	iii	FIELD
1	PERSONAL DISCONTENT	11	MIS-BELIEF	111	SUPERSTITION
				112	FEAR
				113	DISILLUSION
		12	MIND-LESSNESS	121	IGNORANCE
				122	STUPIDITY
				123	IRRATIONALITY
		13	MENTAL STRESS	131	ALIENATION
				132	FRUSTRATION
				133	INSANITY
2	SOCIAL DISORDER	21	CULTURAL ANOMIE	211	INTOLERANCE
				212	DISCRIMINATION
				213	IMMORALITY
		22	POLITICAL INSECURITY	221	INJUSTICE
				222	VIOLENCE
				223	OPPRESSION
		23	ECONOMIC INEQUALITY	231	POVERTY
				232	EXPLOITATION
				233	STAGNATION
3	NATURAL DEGRADATION	31	UNHEALTHY LIFE	311	DISEASE
				312	MALNUTRITION
				313	DEATH
		32	RESOURCE DEPLETION	321	POLLUTION
				322	SCARCITY
				323	EROSION
		33	COSMIC DISASTER	331	ENTROPY
				332	CATASTROPHY
				333	EXTINCTION

rather than "truth" is the problem in general).

The next large area of problems falls under the "social" label. Social problems are disturbing situations among men, rather than within them. They are the problems of "man's inhumanity to man," the disorder in human relations. These problems are manifested in the cultural, political and economic spheres of action, as in the cases of social anomie, power insecurity or wealth inequalities. As the examples of the table show, social problems are in the heart of world affairs and relate to both personal and natural problems.

These latter ones reflect the imbalances between man and nature. Man, of course, is part of nature and as such cannot escape its laws with impunity; if he does not live according to certain standards, he will have problems of "health." Naturally, no matter what he does, he will die eventually. Death is part of the general law of entropy which all things seem to follow in the long run. Meanwhile, life and order try to prolong themselves and postpone the inevitable natural degradation. The proper use of science and technology can make all the difference in this domain.

Having given the locational and contextual aspects of human problems, we can now conclude this chapter by combining these two dimensions into a single framework. The matrix in the following page has been constructed by using the spatial classification in the vertical and the thematic in the horizontal position. In this manner, the two schemes cross-cut each other and the nine categories of each one produce eighty-one composite groups of problems.

TWO-DIMENSIONAL PROBLEM CLASSIFICATION

S	C	P E R S O N A L			S O C I A L			N A T U R A L		
		PSYCHIC	MENTAL	SPIRITUAL	CULTURAL	POLITICAL	ECONOMIC	ORGANIC	INORGANIC	COSMIC
L O C A L	COMMUNITY			DEHUMANIZATION	URBANIZATION	CRIME	VIABILITY	LOW Q of L		EXTINCTION
	NATIONAL		IN-SECURITY		ANOMIE	NATIONALISM	GROWTH		RESOURCE DEPENDENCE	DISASTER
	INTERNATIONAL	AGGRESSIVENESS			DISCRIMINATION	WAR	TRADE IMBALANCE		EROSION	
R E G I O N A L	FIRST	DISILLUSION	STRESS	ALIENATION	DECADENCE	UNGOVERNABILITY	STAGFLATION	OVERNOURISHMENT	POLLUTION	
	SECOND	APATHY		DEVIATIONISM	EMIGRATION	COERCION	CENTRALISM			
	THIRD	SUPERSTITION	IGNORANCE	FRUSTRATION	OVERPOPULATION	OPPRESSION	UNDERDEVELOPMENT	UNDER-NOURISHMENT	SCARCITY	
G L O B A L	TRANSNATIONAL		BRAIN DRAIN	DERATINATION	INTOLERANCE	TERRORISM	EXPLOITATION			
	INTERREGIONAL	FEAR			INCOMPATIBILITY	ARMS RACE	INCOME GAP		INTERDEPENDENCE	CATASTROPHY
	WORLD	MISBELIEF	IRRATIONALITY	INSANITY	IMMORALITY	INJUSTICE	INEQUALITY	DEATH	DEPLETION	ENTROPY



This two-dimensional classification gives a more precise location of problems than either of the previous one-dimensional schemes. Some of the examples given before have now been reproduced in this matrix to show their position in relation to the two criteria. Thus, "underdevelopment" is an economic problem to be found mainly in the third world; whereas the uneven distribution of natural resources creates problems of inter-regional inter-dependence. Apart from the relative arbitrariness of any classification scheme; it is to be noted that the reason for the absence of examples in some of the boxes may be either objective (there are no problems therein) or subjective (we cannot find any in that group).

Be that as it may, our structuring of problems shows their relativity: what are problems in one area or for some people may be quite normal conditions in another place and for others. Therefore, the analysis of a problem must specify as much as possible whose and where is the problem. The problem of "oppression", for example, affects the oppressed differently from the oppressor, although it may be a problem for both. The problem of undernourishment, of course, is to be found only in certain areas and to affect certain people; whereas in other areas and for other people the opposite problem of overnourishment may be more common. It is on the basis of this knowledge that we can determine the extent of the problem and thus define its structure both in terms of space and subject.

III. PROCESS

This last chapter of problem-analysis deals with the process by which problems evolve or change. This stage of the study follows logically that of structure, because we now move from the static to the dynamic aspects of problems. Given the way we have conceptualized problems and the compartmentalization in which we have placed them, we shall presently try to find some temporal and causal relationships among them. We are, thus, introducing the element of time and variation into our subject-matter, in order to answer the when and how of problems. The following two sections will, therefore, treat the chronological and methodological aspects of this topic.

1. PERIOD: The Temporality of Problems.

Our reality exists within space and time, so real problems are to be found within this framework. As problems take place in a certain location, so do they happen in a certain period. Time may be conceived as a measurement of change, and change is related to the constant movement of matter and energy. In the open and dynamic systems of reality, problems arise when particular movements tend to deteriorate the structure and functions of the system.

From this dynamic point of view, problems are directly associated with change. More precisely, we might say that a problem occurs whenever a situation calls for change. Problems arise whenever something needs to be done; if there is nothing to be done, there are no problems. A status quo which suits the system, presents no problems and does not require any changes. A situation of optimal homeostasis is not disturbing and thus is no problem. (In this respect, it should be noted that although a disturbance means some change; all changes are not necessarily disturbing). Acceptable changes or events present no problems; it is only when the flow of things or the current situation becomes unacceptable that a problem develops, because it is then that something must be done to change it.

Since problems "take time" and involve change, we can classify them on two criteria: timing and duration. The former tells us when a problem happens and the latter how long it lasts. Obviously problems vary in both these dimensions; so we can construct two continua to measure their occurrence. The first one would divide problems in three major periods :

- a) Past: problems of historical interest (ancient or modern);
- b) Present: Problems of current events (contemporary or pending);
- c) Future: problems foreseeable ahead (prospective or probable).

Problems change in time. The problems of yesterday are not the same as those of today and most likely will not be the same as the problems of

tomorrow. Many historical problems which were very crucial at a time have later become obsolete and forgotten; while new ones have taken their place.

Nevertheless, not all problems come and go; some remain with us for a long time, even forever. The life of problems, therefore, varies from the very short to the very long. On this criterion, we can divide problems into three main kinds:

- a) Ephemeral: temporary problems (momentary or incidental);
- b) Periodic: recurring problems (cyclic or repetitive);
- c) Eternal: perennial problems (endemic or inherent).

Real problems, of course, may straddle these categories in various ways. Some problems which were thought of as obsolete may rise again to haunt us. Others which are considered eternal may disappear with changing circumstances. It is not easy to say which problems are part of the human condition and which are only part of human fashions.

In any case, we will not here go into further details or more elaborate classification of problems and their examples, (the reader can provide these from his own experience). What we will do is show how the temporal aspect of problems can be combined with the spatial and contextual dimensions to produce a new relationship among them. The matrix presented in the following page illustrates this space-time-context relationship.

PROBLEM RELATIONSHIPS

3 x 3 MATRIX

<p>SUBJECT OF PRIORITY LEVEL OF SIGNIFICANCE</p>	<p>IMMEDIATE ECONOMIC MOST</p>	<p>INTERMEDIATE SOCIAL MEDIUM</p>	<p>ULTIMATE POLITICAL LEAST</p>
<p>PRIMARY NATIONAL MOST</p>	<p>DEVELOPMENT TECHNOLOGY (NIEO)</p>	<p>HUMAN RIGHTS (UNHRC)</p>	<p>STABILITY GOVERNMENT (REVOLUTION)</p>
<p>SECONDARY INTERNATIONAL MEDIUM</p>	<p>TRADE EXCHANGE (UNCTAD)</p>	<p>LAW & ORDER SYSTEM (UNCLOS)</p>	<p>DEFENCE ARMS (MBFR)</p>
<p>TERTIARY GLOBAL LEAST</p>	<p>ECOLOGY ENVIRONMENT (UNEP)</p>	<p>POPULATION HABITAT (UNFPA)</p>	<p>SECURITY PEACE (SALT)</p>

U R G E N C Y

I M P O R T A N C E



The fundamental structure of the above matrix is the same as that of the previous chapter. The horizontal dimension representing the context and the vertical and space levels. The visible difference here is that this is a 3 x 3 matrix, whereas the other was a 9 x 9 one. This means that we have simplified our categories down to those mentioned and omitted the other ones, because we wanted to focus on those areas of particular interest to world affairs.

On that basic framework, we have superimposed two other criteria. The horizontal is that of "urgency". This means that a problem must be treated in priority. Urgency, then, is directly proportional to immediacy; the more urgent, the more prior the problem is. It seems that in our world, the most urgent problems are economic ones and the least urgent political. According to diplomatic activity, the north-south economic problem has replaced the east-west political problem as the most immediate issue of world affairs.

The vertical dimension measures "importance" of the problem; which is to say the depth to which it affects people. The most important problems are those closer at hand and the least important are those far away. According to survey polls, local or national problems come first; whereas, international or global ones trail last. Combining all these measures, we have the typology shown in the matrix. The nine examples correspond to the different possible permutations among these variables.

On the other hand it may be said that from the point of view of the world system and the long-run, the significance or importance of problems is the reverse of that shown in the matrix. From the broad and ultimate perspective, it is our treatment of the global-political problems that will determine the existence and shape of our world. This is particularly so as historical evolution is accelerating. To the extent that change becomes more rapid and more radical (i.e. revolutionary), our reactions become more urgent (i.e. critical). Thus, as our lead-time is shortened, we have to look further and wider in time and space in order to survive the rising and spreading problems.

2. METHOD: The Solution of Problems.

Closely associate to the chronology of problems is the process through which problems evolve. From this point of view, a problem goes through various stages of development, the most important of which may be said to be:

- a) Formative: The confluence of the proper ingredients or factors which combine to "cause" the problem;
- b) Critical: the juncture at which the problem is at its most acute, when it requires the taking of some action;
- c) Anticlimatic: The postphase in which the problem either becomes chronic or moves towards some kind of solution.

The formative stage of a problem, of course, is very significant because it contains the seed of the disturbance. If we want to prevent problems, it is at this stage that we must prepare to act. This presupposes that one must become aware of the developing problem before it reaches the critical stage. Very often the factors which cause a problem are beyond our control; therefore, the only thing one can do is prepare to face the problem when it comes. It may be however, that by the proper intervention, the course of events may be changed and the problem avoided. If that is so, a bit of timely action at this stage may save much greater effort later on.

If a problem is inevitable, then it reaches a stage when the need for action is at its highest. Since, per definition, problems are disturbing situations, they act as stimuli which draw attention to themselves. This stimulus breaks our complacency and forces us to do something to re-establish the equilibrium. Problems give us the feeling that there is something "wrong" somewhere. This is an unsatisfactory and hence unacceptable condition which man tries to "correct". This seems to be the way in which the need to "solve" will satisfy us and fulfill the demand for harmony within or outside ourselves. Problems are things which bother us; therefore, they move us to act. If something can be left alone, it is not much of a problem.

From what we have said, it would appear that problems call for solutions. Although, not all problems are necessarily solvable, one

at least tries to solve them by searching for a way out. It is indeed unusual if one is disturbed by something and does not attempt to change that situation. Thus, we may say that a "solution" is the change which is required to correct a disturbing condition. Accordingly, "problem-solving" is a process which attempts to transform an unacceptable situation into a satisfactory one.

A systematic sequence of such problem-solving process would go as follows:

- a) Science: the prerequisite information and knowledge about the problem and its parameters (problem-analysis);
- b) Policy: the sufficient intention to do something about the problem and find a way out of it (solution-strategy);
- c) Action: the necessary operation to implement the problem-solving policy and satisfy the need (treatment-execution).

These three areas of activity are indispensable in any rational problem-solving exercise. To begin with, a problem must be perceived by someone, it must be defined and then studied as to its causes and effects. Only by knowing as much as possible about a problem can one hope to solve it correctly. Once this is done, one can evaluate the gravity of the problem and then prescribe a solution. This may be a plan of action or program of cure to be followed. With such intended plan at hand, all that is left is the actual carrying it out. For complex problems, of course, this means organizing and availing the necessary resources to do the job, as well as undertaking the operation to overcome the obstacles and reach the goals set for the solution.

Problem-solving, therefore, requires a capacity to perform semiosis, aetiology, analysis, diagnosis, prognosis, therapy, logistics, cybernetics and praxis. Evidently, we do not go through all these steps for everyday problems which we often handle instinctively or traditionally. But, as systems become more complicated, the problem-solving process does also. Simplistic solutions to complex problems not only are ineffective but tend to aggravate the already disturbed situation.

In this connexion we could say that problems themselves form systems. Complex systems tend to produce a chain of problems which are interrelated in the same way as the system to which they belong. This epi-system of problems, which is called a "problematique", is therefore characterized by the following traits:

- a) Multiplicity: great number or mass of problems;
- b) Gravity: very seriousness or weight of problems;
- c) Complexity: great intricacy or difficulty of problems;
- d) Universality: wide spread or omnipresence of problems;
- e) Rapidity: accelerating sequence or evolution of problems;
- f) Interactivity: manifold interdependence or causality among problems.

Given this problematic situation of complex systems, problem-solving becomes a difficult enterprise which requires increasing time and effort to be done properly. It is for this reason that the science of problems, or "problematology", should be developed at this time. So far, in the relatively simple world of the past, problems could either be left alone to solve themselves or were tackled haphazardly and in isolation. Presently, however, such laissez-faire attitudes are no longer adequate to maintain our systems in operation. Unresolved problems create positive

feedbacks which worsen the situation and eventually get out of control.

Hence, a systemic problem-solving methodology must be based in an integrated systems-theory, so as to avoid solving one problem here and now by creating more problems elsewhere later on. The cross-cutting cause-effect repercussions among problems should make us very careful as to what constitutes a real solution and not simply another problem. The survey which we mentioned in the first chapter, identified 6,000 problems which aggravated each other, while only 300 which alleviated each other. With such dangerous relationships, problem-solving becomes a delicate and elusive undertaking. Yet, it is for precisely these reasons that it must be seriously engaged-in and methodically carried out.

CONCLUSION: The Global Problematique

Since the presentation of this study on problems has been very succinct, we shall not summarize it any further at this point. The six parameters of problem-analysis which we have grouped into three dyads (concept; structure; process) should be clear enough not to require prolonged elaboration. Of course, each and every aspect could be studied in depth and practically applied to actual problem-cases for exhaustive research. Hopefully, this will be done by others; but it is not the purpose of this report.

What we will do here in the conclusion is to take synoptic view of the problem-system in the world scale and see how our categories apply to it. As we have mentioned, this problem-system has been labeled the "global problematique" and denotes the contemporary situation confronting

humanity. This condition is characterized by an intricate and dynamic complex of dysfunctions which makes up the problem-system. Following our typology, we can classify these dysfunctions into six areas:

- a) Formal. The web or network of disturbances produce a mega-problem of global dimensions, thus increasing the system vulnerability.
- b) Functional. The lack or clash of values and goals for individuals and collectives increases the disorientation of the system.
- c) Thematic. The complexity or interdependence of many system variables increases risks of feedback and difficulties of solutions.
- d) Spatial. The great asymmetries of wealth and power among world actors increases dissatisfactions, frictions and conflicts.
- e) Temporal. The rapidity of historical change and technological innovations bring about a storm of crises and revolutions.
- f) Procedural. The magnitude and novelty of the problems have outpaced and outmoded methods and institutions of problem-solving.

In other words, the world-system has become more vulnerable, disoriented, unstable, asymmetrical and revolutionary, at the same time as its concepts, structures and processes for handling these problems have become outdated or obsolete. The different rates of change have created a widening gap between values, regions, disciplines and institutions, thus increasing the instability of the system. This means that the discrepancies between problems and solutions have been increasing.

The inadequacy of our capabilities or perhaps willingness to handle world problems may be illustrated in the following statistics taken from the study we have already mentioned. The almost 1,000 multi-lateral treaties in force currently, only treat about 250 world problems. The 700 human values accepted today only relate to 350 problems. The 300 Inter-Governmental Organizations and 3,000 Non-Governmental Organizations operating throughout the world are only handling 300 and 700 problems respectively. Finally, the almost 2,000 disciplines in the world only cover about 1,300 problems. When we recall that the grand total of the problems identified was 7,500, these figures show how insufficient are our means for treating the illnesses of our system.

No matter how misleading statistics may be, there is no question that the growth in quantity and quality of world problems is happening at a faster rate than the growth of our mechanisms for their solution. Before this gap becomes unbridgeable, if it has not already reached that stage, there is a pressing need for improving our abilities for problem-analysis and problem-solving. Once we have this increased knowledge, we may hopefully acquire the necessary resolution to apply it in the service of the world.

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