

Three Problematic Concepts in the Study of Public Affairs: Systems Approach; Organizational Health; and Development

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This paper is an outcome of a preliminary expedition to the semantics jungle of a few familiar but elusive concepts of public affairs studies. The author's intention in the expedition was to help build a consensus on the usage of those terms. He tried to define the concepts or probe and clarify problems of their uses. But his explication is neither comprehensive nor conclusive. Assertions made in this paper are experimental, and, in many places, opinions of others are fitted together into a mosaic.

It is a note the author should make that he feels premature to reveal this unorganized memoir. What countervails this feeling is the expectation that he could enlist better suggestions from readers and take the opportunity to rearrange his thoughts. He hopes to revisit the concepts explored in this paper.

(A) Systems and Systems Approach in Social Sciences

In many disciplinary areas, the systems concept often provides researchers with a methodological orientation (merely, a broad perspective) of their studies. Sometimes, at a more specific level, the systems model offers an immediate frame of reference and techniques of analyses.

In any case, the adoption of the systems approach in social sciences presupposes that the concept of systems provides us with the most useful set of guidelines in the research. It is considered to be the most fruitful means of summarizing and simplifying complex phenomena in such a way that it allows us to ask proper questions in relevant ways.

As Walter Buckley has observed, the systems approach provides better techniques for treating large, complex organizations. It helps us to develop a synthetic approach where piecemeal analysis is not possible, due to the intricate interrelationships of parts that cannot be treated out of context of the whole. It also facilitates the development of a common vocabulary unifying the several "behavioral disciplines."⁽¹⁾ This concept of system is expected to sharpen our directional focus, clarify our thought and refine our observations.

However, arguments on merits of the systems approach remind us that there is no easy, ready-made synthetic approach to the systems approach. The systems approach reflects the widely held theme (rather, a spirit or an urge) of *interrelatedness* that prevails over contemporary thinkings of both natural and social sciences. The idea of system or systems approach thus gained its momentum and popularity in the literature of sciences. The systems concept has been prevalently used with a multitude of connotations in varying contexts. Although we are not to deny that abundant inventions of system models have enriched our wisdom, they certainly helped create perplexity of the systems approach. The multiplicity of system models is itself an indication of this perplexity. "The fact that the term (system) has become so popular (if not the victim of a scholarly fad) has contributed more to the obscurity of its meaning than to the clarity of its use."⁽²⁾

Of course we admit that there is a minimum synthesis in various definitions of system. Their common denominator can be distilled as following: "a set of variables," or "a set of related things." But, this minimum common denominator has little meaning, since it hardly gives us any distinction between a system and a non-system. Although the adoption of the unspecified systems notion (or orientation) may impose some broad constraints on the mode of a study, it does not meaningfully designate the specific way of analysis.

In a sense, the systems approach can be regarded as "a point of view plus a few key ideas, integrated into a logical pattern."⁽³⁾ This point of view is analytic and abstract in that it

1. Walter Buckley, *Sociology and Modern Systems Theory* (Prentice-Hall, Inc., 1967), p.39

2. David Easton, *A Framework for Political Analysis* (Prentice-Hall, Inc., 1965), p.24

3. Chadwick J. Haberstroh, "Organization Design and Systems Analysis," in James G. March, ed., *Handbook of Organizations* (Rand McNally & Company, 1965), p. 1172

deals with the symbols that stand for aspects of real objects, of their interrelationship rather than the real entity itself. This implies that the analytic configuration of social systems is an intellectual product of a researcher facing specific problems. Any specific model of social systems is framed through a gestation process in which outcomes of personal inspirations (intuitions) and experiences and of examination of the literature are combined. In short, a system is a man-made framework for the analysis of the problem at hand.

In this section, the author will outline the key "ideas" comprising the systems concept. The systems concept might be given a more specific and restricted meaning through the introduction of those key ideas. But it is not a synthetic summary of divergent system models which widely differ in form and content. The discussion does not touch specific contents and analytic techniques of various system models. It does not go that far. And, the abstracted key ideas described here may be an outcome of the author's personal biases. He only believes that it is a good starting point for inquiries into a common *spirit* and a synthetic *style* of the systems approach. It is a kind of probing experiment.

A social system is a set of related or patterned human interactions, which intakes inputs and produces outputs. One set of interactions, i.e., a system, is conceptually distinct from other systems of a society. The identity of a system is distinguished by its boundaries. Interactions that fall outside of system boundaries constitute the environment of that system. Social systems are open systems, that is, there are transactions across the system boundaries. Social systems interact and influence one another. These interactions and influences are analytically simplified as inputs and outputs of the system. The input flows into a system from the environment; the input is converted or transformed into the output through processes of the "throughput" (or conversion or withinput); and the output flows into its environmental systems. A part of its output (more precisely, the effects of the output) returns to the system through "feedback" processes. The notion of system dictates the orderly patterning of events or interactions. This pattern constitutes a system structure. Within this structure the system performs its functions of maintenance and production.

The idea of open system emphasizes the necessary dependence of a system upon its environment. But, changes in environment do not automatically determine the system state. In other words, system variables are not completely dependent upon external variables. A goal directed system maintains a degree of autonomy and self-steering capacity.

For any system, the larger system to which it belongs is its environment, and the smaller

systems within it are its components. Any system must contain at least two interacting components. A given system may be a component of two different systems.⁽⁴⁾

a. Structure and performance of a system

A social system has a structure which is a pattern of interactions. The structure is an orderly patterning of system subparts. Social systems, including organizations, consist in patterned interactions of a plurality of members whose "relations to each other are mutually oriented through the definition and mediation of a pattern of structured and shared symbols and expectations."⁽⁵⁾ These patterned interactions are "complementary or interdependent with respect to some common output or outcome; they are repeated, relatively enduring, and bounded in time and space."⁽⁶⁾ The system structure encompasses both internal and external relations and presupposes differentiated subparts of the system. Elements of the system structure or contents of interactions are made up of men, non-human materials, energy or information, which are grouped together into system subparts that interrelate among themselves and with the environment. Thus we may call the social system a "man-material-energy-information system."

From the structure of a system emanates its functions. The structure initiates and processes inputs and converts them into outputs. It maintains and adapts itself. An examination of the structure provides a map for the exploration of a system state. The description and analysis of the system structure is indispensable in the study of social systems. "It provides the setting for and statement of problems. For if one is to get beyond description into analysis, the orderly patterning of systems must be taken as problematical."⁽⁷⁾

The function of a system is an outcome or outflow of the structure, and it points to a "system in action." In the study of social systems, we must also analyze the mode of systems in their continuous operation. However, as Bertram M. Gross⁽⁸⁾ has pointed out, the term "function" has a misleading connotation. It is often regarded as referring more to a "state of

4. Alfred Kuhn, *The Study of Society: A Unified Approach* (R.D. Unwin, 1963), p. 48.

5. Charles Loomis, *Social Systems: Essays on Their Persistence and Change* (D. Van Nostrand Company, Inc., 1960), p. 4

6. Daniel Katz and Robert L. Kahn, *The Social Psychology of Organizations* (John Wiley & Sons, Inc., 1966), p. 17

7. F.X. Sutton, "Analyzing Social Systems, in Jason L. Finkle and Richard W. Gable, eds., *Political Development and Social Change* (John Wiley & Sons, Inc., 1966), p.20

8. Bertram M. Gross, "The State of the Nation: Social Systems Accounting," in Raymond A. Bauer, ed., *Social Indicators* (The M.I.T. Press, 1966), p. 181

affairs” or potential than to action, operating or functioning. To avoid the semantic confusion, we propose here to use the term “performance.” The performance delineates the picture of a system in action. The performance of a social system consists in activities concerning the reception or initiation of inputs, the conversion of inputs, the production of outputs into the environment, and the maintenance and adaptation of the system.

b. Boundaries and boundary-crossing transactions: inputs and outputs

A social system is distinguished from its environment by its boundaries. The boundary is the “line forming a closed circle around selected variables.”⁽⁹⁾ The boundary concept offers criteria for inclusion to or exclusion from a system certain variables. The significant role of this demarcation line or region in the study of social system is found in defining or delimiting relevant system variables to be studied. The boundary also explains the barrier conditions between systems.

The adoption of the boundary concept represents a research strategy for the simplification of reality. It helps us to isolate the most important and relevant variables that need to be extensively explored in the study of a social system.⁽¹⁰⁾

“The boundaries of a system are not inherent characteristics of things, but of the kind of problem facing the person who is studying or dealing with the system. Boundaries depend on the problem at hand not on the ‘nature of things.’”⁽¹¹⁾ Depending upon the researcher’s point of view and particular interests, the criteria of the boundary designation vary. Various criteria have been suggested by proponents of the systems approach. In the communication model (or you may call it information model or cybernetics model) of Karl W. Deutsch,⁽¹²⁾ the boundary is determined by *communication differentials*. He says that the limits of an autonomous organization can be described in terms of communication differential: among members or parts of an organization there should be more rapid and effective communication than with outsiders.

David Easton⁽¹³⁾ has suggested four indicators of political systems’ boundaries:

(a) extent of the distinction of political roles; (b) extent to which occupants of these roles

9. Robert Chin, “The Utility of System Models and Developmental Models,” in Finkle and Gable, eds., op. cit., p. 9
10. David Easton, op. cit., p.62
11. Alfred Kuhn, op. cit., p. 49
12. Karl W. Deutsch, *The Nerves of Government: Models of Political Communication and Control* (The Free Press, 1966), p. 205
13. David Easton, op. cit., p. 69

form a separate group in the society and possess a sense of internal solidarity and cohesion; (c) extent to which political role hierarchy is distinguishable from other hierarchies; and (d) extent to which recruitment processes and criteria of selection differ for the occupants of political roles as contrasted with other roles. To John T. Dorsey, Jr.,⁽¹⁴⁾ it is an information and/or energy differential, when he said that "a system is a bounded region in space and time, within which information and/or energy are exchanged among subsystems in greater quantities and/or higher rates than the quantities exchanged or rates of exchange with anything outside the boundary, and within which the subsystems are to some degree interdependent."

Daniel Katz and Robert L. Kahn⁽¹⁵⁾ defined the boundary as the area where a lower interchange of energy or information occurs than in the system proper. They commented further that, in social systems, it is also a matter of qualitative breaks between the activity within the system and the activity on the outside. Finally, Chadwick J. Haberstroh⁽¹⁶⁾ has offered a set of definitional criteria of boundaries: common purpose; functional unity; and high internal interdependence.

For our own purpose, we propose here to adopt multiple criteria for the determination of the system boundary. These criteria may include: intensity of "specific type" of interactions (the degree of the exchange of information, energy and other resources); commonness of purpose; similarity of role structure and recruitment processes; functional interdependence; role occupant's sense of identification, etc.

Transactions across the system boundaries are summarized by the concept of input and output. Broadly, the input is all the effects a system receives from its environment; the output is any effect of a system on its environment. There may be milliards of effects exchanged between real (concrete) systems, far exceeding the human ability of perception and analysis. Therefore, they must be reduced to a manageable size. The idea of inputs and outputs is an "invention of a way to trace out the complex exchanges so that we can readily reduce the immense variety of interactions to theoretically and empirically manageable proportions."⁽¹⁷⁾ It allows us to effectively summarize and select significant exchanges between systems, in the form of

14. John T. Dorsey, Jr., "An Information-Energy Model," in Ferrel Heady and Sybil L. Stokes, eds., *Papers in Comparative Public Administration* (Institute of Public Administration, University of Michigan, 1962), p.43

15. Katz and Kahn, op. cit., p. 62

16. Chadwick J. Haberstroh, op. cit., p. 1174

17. David Easton, op. cit., p. 109

inputs and outputs.

All social systems import inputs to produce outputs and to maintain themselves. Inputs and outputs include the exchange of man, information, energy and other resources. A part of the input is invested in the system for its maintenance and growth; other inputs are converted into outputs. Social systems have some "selective mechanisms" for intaking inputs and discharging outputs. Inputs and outputs are essential elements in the definition of open systems. "That a system is open means, not simply that it engages in interchange with the environment, but that this interchange is an *essential factor* underlying the system's viability, its reproductive ability or continuity, and its ability to change."⁽¹⁸⁾

c. Feedback

"While affecting the environment, a process we call output, systems gather information about how they are doing. Such information is then fed back into the system as input to guide and steer its operations."⁽¹⁹⁾ Through the feedback process, a system responds to the information on the system state and the environment which is fed back to the system as a result of its operation. The feedback information triggers new actions which will redirect or modify subsequent system behaviors. Depending upon the kind of information and response of a system, two patterns of feedback are distinguished: "negative" and "amplifying" feedback. In case of a *negative feedback*, information concerning the performance of a system is returned to it and may serve to negate, oppose, or reverse its current action if that action has been leading the system away from its goal. In case of an *amplifying feedback*, information about the response of the system serves to reinforce that response in the same direction.⁽²⁰⁾

The concept of feedback is useful in analyzing the system's response to the outside stress and system's capacity to learn. The type and magnitude of information which regularly returns to the system; the accuracy of information; the number, length and variety of feedback-loop; "time leads" and "lags" of information return and response of the system; and the degree and speed of diminishing mistakes by the feedback are some of the important features to be considered in the evaluation of a feedback process.

18. Walter Buckley, *op. cit.*, p. 50

19. Robert Chin, *op. cit.*, p. 11

20. cf. Karl W. Deutsch, *op. cit.*, pp. 192 and 195

(B) "Organizational Health"—Efficiency Concept Extended

In the field of organizational analysis and comparisons, the dominant, contemporary tendency has been marked by ever-broadening perspectives. Viewpoints of organizational studies have been continuously refined, deepened, and broadened toward the preferred perfection of human knowledge. Multi-dimensional, broadly-gauged measuring sticks in the analysis of organizations are the part and outcome of the overall syndrome of broadening perspectives in the study of organizations.

New discoveries of aspects of organizational behavior formerly ignored or unknown; rediscovery of the nature of man; introduction of the systems concept and subsequent expansion of the area of study; and intercultural comparisons are some of the important factors which resulted in a broadened and enriched wisdom in exploring organizational phenomena.

Particularly, new discoveries in measurement methodologies have greatly contributed to the identification of new dimensions of the state of organizations, and to the clarification of problems of *how to measure* and *what to measure*. As Walter Buckley summarized them, discoveries of step function, buffer mechanisms, the concept of primacy in plural effectiveness of systems, reciprocal and mutual relations, circular causation, and feedback relations are some of the important methodological innovations.⁽²¹⁾

All these trends point to the wholesome and balanced analysis of the organizational health rather than any segments of it. This means the expansion of variables we consider, and it makes less likely a neat mathematical formulation or quantification with a mechanical accuracy. Thus, a balanced, wholesome measurement may appear less scientific. However, the broad-gauged analysis in the combination of qualitative and quantitative terms, with "more-or-less" standards on the total of relevant variables, has better validity than the static analysis with mechanical accuracy on quantifiable segments.

The origin of the concept, "organizational health," (and, at the moment, you may say that the term is invented by the author) can be traced back to the classical economic principle of profit maximization and classical notions of efficiency and effectiveness. These classical concepts or principles have undergone substantial changes. Economists have increased variables included in the calculation of the economic efficiency, or in the comparison of costs and benefits of

21. cf. Walter Buckley, *op. cit.*, pp. 67-68

economic activities.

In the study of organizations, analysts have kept pace with the trend of expanding variables. Some theoreticians basically maintained classical formula of the ratio between the directly measurable input and output, and they defined organizational efficiency as the maximum accomplishment with minimum costs. However, they felt that this formula was limited and, to that extent, inadequate, and they tried to supplement the original formula by introducing indirect elements or secondary and tertiary effects. Another group of theoreticians departed more drastically from the original scheme of classical measurement and introduced a multiple criterion of evaluation.

It would be worthwhile here to examine some of these theoretical propositions. It would clarify the paths of intellectual evolution leading to our definition of organizational health. In fact, such concepts as efficiency, effectiveness, capability, performance level, etc. are not mutually exclusive or contradictory, but they are mutually supplementary, each representing bits and pieces of one large problem, or representing various viewpoints from different angles of observation. The term "health" is introduced to broaden and synthesize these conventionally used concepts.

At this point, the author wants to inform the readers that sources of definitions or propositions cited below are not limited to the literature of so-called organization theory.

Herbert A. Simon⁽²²⁾ has rediscovered the classical notion of efficiency when he said that "the criterion of efficiency dictates that choice of alternatives which produces the largest result for the given application of the resources." He also maintained that the criterion of efficiency as applied to administrative decisions is strictly analogous to the concept of maximization of utility in economic theory. Therefore, in both commercial and non-commercial organizations (except for voluntary organizations) the "input" factor can be largely measured in money terms. Also in commercial enterprise, money value of output plays somewhat the same role as cost of production (input) in summarizing the value element involved. Thus far, Simon's conceptualization is closest to the original economic concept of efficiency. But he recognized that the output of public services are not calculable in monetary terms, and proposed to find out substitutes. And he said that the substitute is found in a statement of the objectives of the activity, and in the construction of indices that measure the degree of attainment of these

22. Herbert A Simon, *Administrative Behavior: A Study of Decision-Making Process in Administrative Organization* (Second Edition; The Free Press, 1957), pp. 179-192

objectives. He further proposed that major steps must be taken for the understanding of non-monetary, distributory values of administrative decisions. By recognizing the non-monetary aspects of outputs, Simon has considerably broadened his *neo-classical* definition of efficiency.

In his explanation of "social efficiency," Bertram M. Gross⁽²³⁾ made a statement: "Thus on the input side, attention may be paid to external unpaid inputs, such as free services provided by government agencies and other external economies. On the output side, attention may be paid both to indirect benefits and indirect injuries or disutilities." This provides us with another example of the neo-classical approach, in which input and output factors are modified or multiplied.

Another group of theoreticians introduced the notion of effectiveness in addition to that of efficiency, or emphasized some different aspects of the *measure-worthy* capacity of organizations. Fred W. Riggs⁽²⁴⁾ said that there are two aspects of performance level, which are distinguished by the words "effectiveness" and "efficiency." To him, effectiveness means the extent to which actions by participants conform to the role expectations of others in the same social system, while efficiency means the extent to which actions reflect the propositions of actors, so as not to produce consequences which negate or frustrate the intended action.

A similar analysis was offered by Chadwick J. Haberstroh.⁽²⁵⁾ He stressed the element of goal in judging organizational effectiveness. In his term, effectiveness refers to the attainment of the formal objectives of the organization.

Karl W. Deutsch⁽²⁶⁾ threw a light on adaptability of organizations by introducing the concept of "learning" capacity. In his scheme of explanation, the quantitative and structural aspect of information flow, the communication channel, and the feedback loop are the important indicators of that capacity.

Daniel Katz and Robert L. Kahn⁽²⁷⁾ distinguished effectiveness from efficiency. To them, efficiency is a component of organizational effectiveness. Efficiency is defined as the ratio of energetic outputs to energetic inputs. Efficiency is primarily a criterion of the internal life of the organization, and is concerned with economic and technical aspects of the organization. Organizational effectiveness is defined as the maximization of return to the organization by all

23. Bertram M. Gross, op. cit., p. 243

24. Fred W. Riggs, "Administrative Development: An Elusive Concept," in J.D. Montgomery and W.J. Siffin, eds., *Approaches to Development* (Mcgraw-Hill Book Company, 1966), pp. 237-8

25. Chadwick J. Haberstroh, op. cit., p. 1171

26. Karl W. Deutsch, op. cit.

27. Katz and Kahn, op. cit., pp. 149-170

means. The maximization of return is achieved through economic and technical means and by non-economic or political means. It also depends upon the advantageousness of organization-environment transactions. Increase in effectiveness is observable in the storage of energy, organizational growth, organizational endurance and survival, and in the organizational control over the surrounding environment. By suggesting the examination of these aspects of organizations, Katz and Kahn have departed from the position which advocates merely the measurement of the magnitude of inputs and outputs.

Still another group of scholars attempted a drastic departure from the classical notion of efficiency, and oriented themselves toward a more wholesome and balanced set of capacity criteria. They introduced multiple criteria in judging the state of organizations.

In his discussion of political systems, Gabriel A. Almond⁽²⁸⁾ has introduced multiple criteria for the analysis of systems. Although his discussion is concerned with political systems or systems in general and not with organizations in particular, his propositions are highly informative for our inquiry into organizational health. He argued that the comparison of political systems must be undertaken in terms of capabilities, conversion functions, system maintenance and adaptation functions, and interactions among these three functions. These functions are circularly interrelated. The concept of capabilities is a way of characterizing performance of a system and of changes of performance. He treated capabilities as performance magnitudes, or either actual or potential performances. Among the factors to be analyzed in the study of political systems, the concept of capabilities is the one which relates to the classical concept of efficiency. Capabilities are understood as rates which maybe computed from the volume of particular kinds of output over time. After introducing these multiple criteria for the analysis of systems, Almond proposed that the aim of research on political systems must be: (1) to discover and compare capabilities profiles summarizing the flows of inputs and outputs; (2) to discover and compare the structures and processes which convert these inputs into outputs; (3) to discover and compare the recruitment and socialization processes which maintain these systems in equilibrium or enable them to adapt to environmental or self-initiated changes. He also argued that the support aspect of capabilities be measured.

Edgar H. Schein⁽²⁹⁾ proposed to define effectiveness in terms of system-level criteria. He

28. Gabriel A. Almond, "Developmental Approach to Political Systems," in Finkle and Gable, eds., *op. cit.*, pp. 102-116

29. Edgar H. Schein, *Organizational Psychology* (Prentice-Hall, 1965), pp. 96-109

viewed organizations as adaptive, problem-solving, organic structures. And, acknowledging that every system has multiple functions and that it exists within an environment which provides unpredictable inputs, he asserted that a system's effectiveness can be defined as its capacity to survive, adapt, maintain itself and grow, regardless of particular functions it fulfills. Inferences about effectiveness have to be made, not from the static measure of output, though these may be helpful, but on the basis of processes through which the organization approaches problems. He concluded that a system-level criterion of organizational effectiveness must be a multiple criterion involving adaptability, sense of identity, capacity to test reality, and internal integration. This conclusion was based on an analysis that no single time slice of organizational performance, e.g., measurement of output, can provide valid indicators of organizational effectiveness.

The author proposes to adopt the concept of *organizational health* as the criterion of organizational analysis. The same meaning can be conveyed by the familiar word "effectiveness." But the term "effectiveness" has been exploited in so diverse ways that confusion may ensue, and it is apt to confine its meaning to a narrowly gauged depiction of the production level. To avoid confusion attached to such vocabulary, we shall use the term "health" which is designated to encompass the overall system state of an organization. The adoption of this terminology and the accompanying orientation signifies the expansion of the breadth of our inquiry. It marks a transition of our focus of attention from such a limited question as *how well produce* to a more inclusive question of *what the organization is like*.

Organizational health can be defined as the capacity to produce, to maintain and to adapt. Major criteria of the health measurement are the capacity to produce, the state of maintenance and conversion processes, and the adaptability or learning capacity of organizations.

The system state of an organization can be best understood by applying these circularly interrelated criteria, rather than any one of fragmentary criteria. These criteria are overlapping and closely interconnected. Among these criteria, the pivotal one may be the level of performance measured in terms of output levels of production, because an organization exists to produce, that is, to perform its basic tasks. However, to produce, organizations must first survive and maintain themselves. And organizations must adapt to changing conditions to maintain or to increase the performance level. We may conceptualize that other elements of system-state indicators are supportive to the production capacity. But the interrelationship among these variables is not based on one-way path but on a circular causation. This way of defining

the concept is to acknowledge the fact that any one isolated criterion of the organizational analysis does not offer a valid indication on the whole system state, and further, that any one criterion of analysis cannot be adequately measured in isolation from other criteria. This definition also presupposes that an organization is a goal-seeking, adaptive, open system with multiple goals and functions.

Organizational health thus defined, our next step of inquiry must be to ask questions on empirical indicators of these criteria. This problem is to do with such questions as *where to look at* or *what to measure* to evaluate organizational health. In other words, we must explore the "surrogates" of organizational health. "Surrogates" are indirect indicators that serve as representatives of the phenomenon we want to measure.⁽³⁰⁾ The surrogates must be designated in such a way that they can be relevantly related to such important questions as: How much the organization can produce? How good are the production processes and maintenance structures? How well the organization adapts and changes?

Surrogates of organizational health can be classified into four broad categories: the level of production performance (production inputs and outputs); the maintenance performance and maintenance inputs; the support aspect of the system; and the structure and processes in general.

i. The first group of surrogates is concerned with the quantity and quality of production inputs and outputs. The magnitude and quality of production outputs are the direct measure of performance levels. We may measure production outputs in terms of subtypes of the output. The "output-mix" of different subtypes of the production output must be analyzed in terms of the overall goal achievement. In the measurement of such intangible services as those of regulatory agencies of the government, we must employ secondary surrogates such as the number of clients and cases handled, duration of services, the number of reports produced, the number of inspections made, and so forth. In relation to the quality of output, we may examine contents of decisions, the number of review requests on such decisions, attainment of desired effects, etc.

We may also analyze the ratio between production inputs and outputs. This is an operational measure of responsiveness of the system. Organizational health is a relative thing, and is a matter of degree. Judgment on production capacity is dependent upon goal parameters and

30. The term "surrogate" is borrowed from: Bertram M. Gross, op. cit., p.267. However, this word is used here with a broader meaning than that defined by Gross.

demands placed upon the system. Generally speaking, the comparison of production inputs and outputs of a governmental agency becomes less meaningful if we do it in the form of cost-benefit evaluation. The comparison in terms of positive and negative values of performance, especially when it is translated into monetary terms, has little meaning in the study of governmental agency of regulatory nature. In such cases, the production input may be regarded mostly as the information input of the environmental support and demand. The production output may be understood as a response to the input. The analysis of this *response-relation* may be assisted by such cybernetic notions as: magnitude and change of information *load* (especially the concept of informatron overload); *lag* in the response of the system; *gain* in corrective steps; and *lead* in the production.

The comparison of the production output with maintenance input is less useful in the study of governmental agencies, though this comparison may give us glimpses of the potential performance level of the system.

ii. The second group of surrogates is related to the quality and quantity of the maintenance input, its disposal, and "adaptive coping" activities of the system. The quantity and nature of information, men, materials and energy imported into the system to maintain and adapt the system are important elements in an analysis of organizational health. The mode of processing and management of these maintenance inputs is also an important factor to be analyzed.

iii. The third group of surrogates is concerned with the structural design of the system. Structural surrogates cover all the spheres of production, maintenance and adaptation. As a mode of patterning system components, the structure naturally encompasses the whole area of the system state. In other words, we are here concerned with structural indicators of production, maintenance and adaptation of an organization. Problems are viewed from the structural point of view. This structural point of view will supplement all other surrogates.

Structure can be distinguished from performance for the convenience of analysis. However, the relation between structure and function is not easy to define. It is extremely complex. An indefinite number of permutations may be created, if possible, by combining various elements of structure and performance. Almost any aspect of the system performance will have some effect on various aspects of the system structure. Any important plans for changes in the future performance inevitably require significant changes in the system structure. Changes in the system structure, in turn, always have implications for the future performance.⁽³¹⁾

31. Bertram M. Gross, op. cit., p. 185

Important structural surrogates include: consciously structured goals and plans which set the frame of reference for the evaluation of the systemic health; the mode of differentiation; authority relations; regulation and control mechanisms; the state of communication channels; the pattern of stored knowledge; and standard procedures (pathways or routines).

iv. Finally, there are surrogates on the *support aspect* of the system capacity. The variables we are concerned with may be a part of the input in its broad definition. They are related to the potential "support" inputs which are not actualized, and to the more or less intangible or indirect environmental influences over the organization.

Gabriel A. Almond's "support aspect of capabilities" and Katz and Kahn's "advantageousness of the organization-environment transactions" are related to the problem we face here.⁽³²⁾ Almond argued that political systems may operate at "less than capacity," or they may be drawing on reserves which in time will be exhausted. Thus the support aspect of capabilities has to be measured in terms of the resources delivered in relation to the resources levied, the obedience accorded in proportion to the obedience required, the allocation accepted in relation to the allocation imposed, and the responsiveness of the population to symbolic outputs in relation to that which is expected.

Surrogates of the "support aspect" in relation to a regulatory, governmental agency may include the magnitude of increases in personnel and budget in the past, the acceptance and compliance by controllees to the decisions of the agency, the number of appeals filed with the agency, the number of opinions of the agency solicited, the policy support by the governing centers, etc.

(C) Development

You may write a book on the problems involved in the definition of development, and feel insufficient in covering them. Development is a *pan-disciplinary* concept. It is contemplated in relation to the fragment of a situation or a human action; an organization; sectors of a social system; and the social system as a whole. Somebody may also try a hierarchical arrangement of development by adopting such terms as change, growth, development, national development, modernization, industrialization, etc. Often than not, scholars use these terms interchangeably. Somebody may dramatize the problem by introducing types of change: revolutionary; evolu-

32. Almond, op. cit., p. 111 and Katz and Kahn, op. cit., 161

tionary; static or dynamic; induced or immanent; etc.

In this section the author concerns himself only with one particular aspect of the definitional problem of development.

We take it for granted that development or change be defined in terms of process or movement. But, when we look at the concept more closely and try to operationalize it, we find that there are at least two sets of conditions involved in the concept. They may be called "what-conditions" and "how-conditions" of development. What-conditions are related to the description of the *situation variables* or direction or state of a system under change (objects of change). How-conditions are related to the cause or process or movement of change.

We should first identify the objects of change, such as "family system," "per capita income," or "production function." Next step is to visualize conditions that make these objects change, such as "tension," "disturbance of equilibrium," "dissatisfaction," "external forces," "growth of aspiration," "innovation," "dysfunctional input," or "conflicts," and to identify paths or steps or patterns of changing movement.

Most theories of development or change include these two steps or elements of explanation. And, what-conditions can hardly be separable from how-conditions. However, some students are more interested in showing the objects of change. Examples are found in dichotomized descriptions on the characteristics of traditional societies and modern societies. They first identify the characteristics of a social system at the beginning state of social change, and then they formulate a set of characteristics of the ending state of change, sometimes as preconditions of development. Others are more interested in exploring the causes of change, i.e., the question of what makes a society change, or how does it change.

Talcott Parsons and Neil J. Smelser presented a set of conditions for change, which seems to be a typical example of the conditions of "how." They are: a. dissatisfaction with the achievement and a sense of opportunity; b. symptoms of disturbance; c. an attempt to handle these tensions; d. supportive tolerance of new ideas; e. positive attempts to specify the new ideas; f. responsible implementation of innovations; and g. institutionalizing the new way of doing things.⁽³³⁾

Ferrel Heady's common administrative patterns of developing nations are concerned with "what-conditions" of development: a. The basic pattern of public administration is imitative

33. Talcott Parsons and Neil J. Smelser, *Economy and Society: A Study in the Integration of Economic and Social Theory* (The Free Press, 1956), pp. 270-1

rather than indigenous; b. The bureaucracies are deficient in skilled manpower necessary for developmental programs; c. A third tendency is for these bureaucracies to emphasize orientations that are other than production-directed; d. The widespread discrepancy between form and reality; and e. The bureaucracy in a developing country is apt to have a generous measure of operational autonomy.⁽³⁴⁾

W.W. Rostow presented an example of the combination of how- and what-conditions when he identified following conditions of take-off: a rise in the rate of productive investment to over 10% of national income; the development of one or more of substantial manufacturing sectors; existence or quick emergence of a political, social, and institutional framework which exploits the impulses in the modern sector and the potential external economy.⁽³⁵⁾

The author experimented an identification of how-and what-conditions in the definition of administrative development. Administrative development may be summarily defined as a preferred change in the structure and performance of the administrative system. The change must occur in every aspect of the system.

(1) What-conditions of administrative development

In directional terms, the important indicators of development include: increase in the level of production (goal achievement or task accomplishment); structural differentiation and integration; increase in the adaptive coping capacity; and the change in pattern variables of the system toward rationalism and achievement orientation. These variables are closely interrelated each other. Change in any one of these variables cannot be successfully manifested or installed without paralling changes in other variables, and change in any one of the variables may most likely cause changes in others. Thus, change in one point of the system promotes changes in other parts of the system, and influences the subsequent behavior of the system.

i. The first and the most obvious indication of development can be measured in terms of the production performance of the system. This indicator is concerned with the quantity and quality of the output of the system. It relates to the question of how much of the goal of the system is achieved in the task performance. The level of task accomplishment is also judged relative to inputs of the system, particularly in terms of environmental demands.

34. Ferrel Heady, *Public Administration: A Comparative Perspective* (Prentice-Hall, Inc., 1966), pp. 69-72

35. W.W. Rostow, "The Stages of Economic Growth," *Economic History Review* (August 1959), pp. 1-3

ii. Structural differentiation is a symptom of administrative development. Development of a system involves a multiplication of roles in a greater specialization of functions.

Structural differentiation is regarded as a process whereby each of the stages in the decision making gains recognition as a distinct procedure and, to some extent at least, different roles become specialized for the performance of one or more of these stages.⁽³⁶⁾

Structural differentiation also involves a series of steps whereby one unit of organization differentiates into two which differ from each other in structure and function for the system, but which together are in certain respects "functionally equivalent" to the earlier less differentiated unit.⁽³⁷⁾

Structural differentiation is an essential ingredient of development. Greater the differentiation of roles (functions, decision making or organizational units) the better the chances for variation and innovation, and consequent better performances. However, structural differentiation must be accompanied by a superordinate structure of coordination, lest the system disintegrates as the result of differentiation. As Alvin Boskoff⁽³⁸⁾ has observed, structural differentiation may create narrow and contradictory allegiances. Integrative processes serve to demonstrate or assert the common underlying interests and values of the members in the component structures, as well as their collective differences from other systems. Integration is essentially a problem of maintaining the identity of a system.

iii. Development of the administrative system also indicates a larger capacity of "adaptive coping."⁽³⁹⁾ It is an initiative cause of development as well as the result of development. Development depends upon the systemic capacity of adaption to changes in the environment and of managing self-initiated changes. It is often called a learning or self-steering capacity of an open system existing in the changing environment. Basically, the very survival of the system is dependent upon the adaptive coping capacity.

Adaptive coping processes involve a series of steps: detecting changes in the system and its environment; receiving relevant information on these changes; creative evaluation of information and subsequent recombination of structure and performance; and managing dysfunctional

36. cf. Fred W. Riggs, "Administrative Development: an Elusive Concept," in John D. Montgomery and William J. Siffin, eds., *op. cit.*, p.223

37. cf. Parsons and Smelser, *op. cit.*, p. 235

38. Alvin Boskoff, "Functional Analysis as a Source of a Theoretical Repertory and Research Task in the Study of Social Change," in George K. Zollschan and Walter Hirsch, eds., *Exploration in Social Change* (Houghton Niffin Company, 1964), p. 221

39. This term is borrowed from: Edgar H. Schein, *op. cit.*, p. 99

aspects of change.

iv. Development requires a change in pattern variables toward rationalism and achievement orientation. These pattern variables relate themselves to every aspect of the system. They define "situational" conditions as well as the perception and attitude of actors. Rationality may be defined as the correctly (or consciously) calculated choice of means for given goals. Rationality contributes to the facilitation of the reasoned choice of alternatives without hindered by the stereotyped routines of established patterns. "Achievement orientation" is understood as contrasted to ascriptive orientation. It is well explained in the concept of "n-Achievement" (a need for achievement or a urge to work better).⁽⁴⁰⁾ This positive motivational drive is essential for the initiation of development and it is at the same time a symptom of development.

(2) How-conditions of administrative development

An analysis of development involves examination of the causes or conditions of development. An administrative system changes either immanently or through external stimuli. Some internal or external forces trigger change processes. These forces introduce a "disturbance" or "dissatisfaction" to the existing system state. The concept of disturbance has a broad connotation, and the types and modes of disturbance may vary greatly.

The process of change begins with an occurrence of disturbance in the existing system state. This disturbance leads to a need for change. "Persistence comes about primarily because the individual or organization does not search for or consider alternatives to the present course of action unless that the present course is in some sense unsatisfactory."⁽⁴¹⁾

Important disturbances arise in cases where the system fails to meet existing goals; where new needs are created by external changes; where aspiration level of the system is changed; and where deliberately programmed stimuli are introduced. Control standards set on a little higher level than that of the present performance and other techniques such as the fixed rate of change and deadlines of task accomplishment are some examples of the deliberate introduction of dissatisfaction.⁽⁴²⁾

Disturbances must be properly perceived and translated into the need for change. This need for change, in turn, must be channeled through innovative search and evaluation into new

40. D.C. McClelland, *The Achieving Society* (Princeton University Press, 1959), pp.391-437

41. James G. March and Herbert A. Simon, *Organizations*(John Wiley & Sons, Inc., 1958), p.173

42. *Ibid.*, p. 184

solutions to meet the felt-needs. Not all changes or innovations are contributory to development. The innovative process should be geared to the direction of development. The developmental innovation process requires the "constructive creativity"⁽⁴³⁾ and the need for achievement. A sense of security and freedom of action (supportive tolerance) as well as an integrating force (e.g., professionalism) are essential preconditions for constructive innovations. Psychological security and some countervailing forces must at work simultaneously.

Peter M. Blau made a comment on this point:

"Employment security in the administrative system gives the psychological freedom of action that enables individuals to originate change and to adjust to changes. Insecurity in bureaucratic situation breeds ritualistic adherence to the existing order. But the security and freedom of employment alone do not guarantee that these will further the development of the system. In addition to these conditions, a professional orientation must prevail in the system through socialization and control process."⁽⁴⁴⁾

Innovated alternatives, finally, must be properly installed and managed. All these essential steps need an adequate storage of knowledge, extentionality(openness) of the system, facilities of communication, and uncommitted or recombinaible resources.

There may be an irrational or unconscious area of change. In other words, there arises a change without the relevant introduction of stimuli, or the manifestation of conscious responses. However, this unconscious change has little relevance to our discussion of development.

43. Carl R. Rogers, "Toward a Theory of Creativity," in Harold H. Anderson, ed., *Creativity and Its Cultivation* (Harper and Brothers, 1959), pp. 71-75

44. Peter M. Blau, *The Dynamics of Bureaucracy: A Study of Interpersonal Relations in Two Government Agencies* (Revised Edition; University of Chicago Press, 1955), p. 257