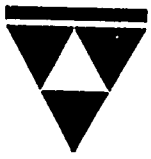
COMPARATIVE THEORIES OF SOCIAL CHANGE



FOUNDATION FOR RESEARCH ON HUMAN BEHAVIOR

COMPARATIVE THEORIES OF SOCIAL CHANGE

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Foreword

The rapid rate of social and economic changes throughout the world has not only whetted man's interest in understanding himself and th processes of change. It has made it more than ever necessary to understand the dynamics of many kinds of social change, so that desired changes may be planned, guided and effectively brought abou It would be a tragedy if, in our age of magnificent scientific achievement, man's means of achieving a livelihood, optimal social organization, happiness and well-being should continue to be largel dependent on chance, unplanned events and the vagaries of nature. It is disconcerting to observe that social knowledge seems usually to lag behind technical knowledge, when at the same time it is soci organization that determines the effective use of new technology.

The Agency for International Development is one of many organizatio public and private, that have been engaged in planned programs of social and economic development in the less developed countries of the world. The objective of AID programs, which are always formula in cooperation with recipient governments, are both idealistic and practical. The experience of nearly two decades, however, has made it clear that economic assistance does not automatically bring desired economic development, and that social change is vastly more complex than economic change. New approaches, and better understanding of how social systems really work, have been required.

Even understanding social systems, as difficult as that may be, is not enough. It is also imperative to know the strategic points of leverage, and the appropriate strategies of intervention, so that changes can be effectively stimulated toward the desired goals of the communities or nations involved.

We are often reminded that "there is nothing more practical than a good theory." Applying this to complex development problems, program planners, administrators and social scientists might agree that our theories are not yet good enough, but also that we are not using in our assistance operations all that is known, with reasonabl certainty, about social change.

Convinced that the potential contribution of the social sciences to development programs can be very substantial, the Human Resources Division of the Office of Technical Cooperation and Research of AID accepted the plans of the Foundation for Research on Human Behavior to organize a symposium on comparative social change, with the help

of a Steering Committee.[1] AID wisely decided that it should not seek in this conference, the help and advice of the scholarly community on its own operating problems or on short-run decisions concerning the allocation of its resources to specific projects. Recognizing that the program of foreign assistance must be viewed in a long-term perspective, AID expected that the symposium would contribute to: (1) sounder programs of research and development in the field of foreign aid, and (2) the formulation of policies related directly to the best scientific knowledge and theories of social change available. In other words, what was being sought was a better frame of reference for research efforts on guided social change, and for operating policies.

The Steering Committee decided that what was most needed at this stage was a statement of the theory of change and development viewed from the perspective of major social disciplines. There are already a number of theories of economic development which describe the necessary preconditions, the dynamic elements and motivations, the stages and sequences of sector growth, and other characteristics that lead to sustained capital accumulation and economic development. However, economic well-being is only one of the many social values, with the particular characteristic that its development usually produces resources useful for the shaping and sharing of other values. There did not seem to be comparable development theories which explain societal growth and maintenance, not in terms of wealth, but in terms of political organization, social and class structure, education, health, communication, family patterns, ethics, or other important dimensions. It was felt that more comprehensive theories in these areas could provide guidelines for prediction, for planning and for carrying out social development programs.

The social scientists planning the symposium recognized the tendency of scholars and researchers to look at the development process within the limits of their own professional disciplines. Consequently, the organizing theme selected by the Committee was the problem of linking and reconciling the various partial theories of social change and development. A good deal of effort was devoted to exploring the interfaces and interrelationships between the significant variables of different theoretical systems. The papers prepared for the symposium deal with a wide variety of value and institutional areas of society. These amply illustrate the complexity of integrating partial theories, without exhausting the range of appropriate subject matter. For example, comparable essays on ethics, religion and the family would have been relevant and might have been included.

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[1] *The Steering Committee consisted of the following members who took an active part in the symposium planning: Dr. Allan R. Holmberg, Cornell University; Dr. Donald D. Humphrey, Tufts University; Dr. Eugene Jacobson, Michigan State University; Dr. Harold D. Lasswell, Yale University; Dr. William A. Lybrand, Agency for International Development; and Dr. Hollis W. Peter, Foundation for Research on Human Behavior.*

The Foundation and the symposium members are grateful to AID for funding this joint effort to bring somewhat closer together the numerous disciplines concerned with social change and development. By restraining a natural urge to get practical help in solving today's operating problems, AID has made possible an exchange among scientists that should help provide a basis for more effective programs in the future.

Hollis W. Peter

The theories presented in this volume and the interpretations and conclusions derived from them, are those of the authors and do not purport to represent the policies of the Agency for International Development.

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SUMMARY

by

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A. QUESTIONS OF ANALYTICAL METHODS

1. Interdependence in Social Science

Specialization within the social sciences, necessary for ease and depth of study, has meant the separation of the single fabric of society into rather arbitrary subject areas. One result is a growing wealth of knowledge about man, but another is that artificial boundaries, which do not exist in the real world, tend to become established between the various social science disciplines; findings and theory become compartmentalized. It is, therefore, a healthy sign whenever social scientists, outstanding in their distinct fields, join forces to explore a common problem area of interest, such as social change, without the usual academic constraints. Each member of the symposium contributed, through his disciplinary approach, to understanding of particular key variables, processes and sequences involved in social change. In this exercise, the accepted concept of open, general systems theory helped the group to see its own partial theories in broader perspective.

2. Progress Toward a General Theory

Social scientists agree that there is at present no satisfactory general theory of social change. The papers and discussions at the symposium showed, however, that there have been advances in recent years toward the formation of such a theory. The major Lasswell-Holmberg paper provides a paradigm designed to be sufficiently general in scope to accommodate any and all human activity for social change and economic development. The Hughes paper provides an equally all-encompassing ecological framework for viewing man's health, well-being and continual adaption to his environment. Lerner shows how global communication, seen as the main instrument of socialization, influences people in traditional societies, creating higher expectations and readiness even before modernizing activities take place. Hagen delves into the psychological needs of persons engaged in pre-modern economic activity, providing an explanation for the lack of dynamics in traditional economic development theory. Stein shows how creativity and innovation, so highly prized in the science and knowledge industries, are inextricably interactive with

the physical and cultural environment. Esman and Bruhns stress institution building as the most needed area in social development activities. Peter and Bennis sketch the elements of a behavioral theory of social change focussed on organizational improvement, in the belief that such change comes largely via organizations. Deutsch provides further insights regarding the role of political power in social change. Isard and Rydell present a delightful and thought-provoking essay of two parts. One is a fictitious case study which reveals some of our Western cultural blinders, and suggests how research can be improved. The other is a rigorous static equilibrium model of a social system (which has also been developed as a mathematical model).

The symposium did not reach a satisfactory integration of the various partial theories, although discussion did reveal a number of themes and common issues running through the papers. The differences between these themes and those which occupied the attention of social theorists a decade ago give some indication of the increasing growth and sophistication of social science knowledge.

3. Meaning of Values

In the papers presented, there were several quite different uses of the term "value." These need clarification in order to distinguish between the traditional and certain special meanings through which some of the authors have extended the concept. Hughes, Esman and Bruhns, and Peter and Bennis in their papers retain the more conventional idea of value as an abstract standard of what is desirable, by which events or objects are evaluated. In contrast, Lasswell and Holmberg in their framework paper, use value not as a yardstick, but in a special, restricted sense to mean any one of at least eight general categories of social commodities sought after by individuals in any society. They have often linked the word "value" in conjunction with another word to help make their usage clear, as, for example, "value outcomes" (culminating events), "value unit" (symbol or sign describing the particular commodity and the direction of commitment), "value institution" (practices to achieve social goals), etc. The eight Lasswell-Holmberg values are power, respect, enlightenment, wealth, skills, well-being, affection and rectitude; these may be represented by the acronym PREWSWAR.

Isard and Rydell accept the Lasswell-Holmberg concept of value in their static equilibrium model, but place the symbol "c" before the social commodity (for example, c-respect) to indicate that they are interpreting the word which follows in the restricted sense of their definition. The c-values used by Isard and Rydell overlap but do not coincide with the eight in the Lasswell-Holmberg paradigm. For example, c-sociality, c-solidarity, c-transfer, c-sanctions and c-love tendered are value categories which they have found helpful in developing and explaining their equilibrium model, but which are

not mentioned in the Lasswell-Holmberg model. These four authors point out that their categories are tentative. Lerner also follows Lasswell in discussing the value variable of enlightenment in his paper.

While the varied uses of "value" may be somewhat confusing, the attempts of these authors to develop conceptual equivalents across the complete range of non-economic as well as economic social commodities make a substantial step toward a more general theory.

4. Distinguishing Progress from Change

Identifying, classifying, measuring and trying to understand the relationships among significant interactive variables in social change is the formidable task to which many social scientists are devoting their skills and energies. Distinguishing such change "for the better" from that which is "for the worse" or is neutral, really requires two different kinds of judgments or evaluations. One is essentially a statement about the preferred goals against which the direction and nature of the change are compared; this must necessarily be a subjective (or value) judgment. The other is an evaluation of whether a particular new action or change moves toward or away from the achievement of the preferred goals. An objective evaluation is possible if the functioning of the system in question is understood, and if criteria are available for distinguishing between the results of different kinds of performance within the system. In this situation, "good" or "bad" does not involve the subjective choice of goals, but requires a professional judgment based on scientific knowledge and demonstrable linkages between action and result. Most but not all symposium members felt that the scientific knowledge now available does permit an objective distinction to be made between improvement and retrogression in many (but not all) social change situations, once the prior choice of preferred goals has been made.

To illustrate, a social change in which the literacy rate increases to fifty percent while urbanization remains at ten percent is "good" if the society's goal (subjective value preference) is solely to increase literacy. However, this rapid an increase may also be evaluated objectively as "bad" if, as Lerner demonstrates, a lower ratio between literacy and urbanization is necessary to prevent imbalance, frustration and political instability, all of which may hinder the attainment of modernization goals (including even further literacy) to which the people in the society aspire. Data on literacy-urbanization ratios collected from seventy-three countries provide the basis for the criteria in this evaluation.

5. *The Multiple Roles of the Social Scientist*

The question of what are appropriate roles for the social scientist, a subject which received a good deal of attention, is intimately related to value issues. Several symposium participants reflected the position that social scientists will most rapidly acquire knowledge about social change if they observe and do research, but remain essentially aloof from action programs.

It was agreed that the professional task of researchers and theorists is to try to understand social systems and processes well enough to be able to predict what results follow what actions, in particular situations. It is part of their job to study how individual and group values develop, change and affect other behavior.

Some symposium members felt, however, that the neutral role of the pure scientist is no longer adequate nor necessary, and that social scientists can become active in other capacities than research -- as consultants, for instance -- without losing their professional objectivity or integrity and without going beyond their competence. Whether the consultant should limit his activities in the value area to helping a clinet system understand and articulate its own goals, or whether it is also permissable for him to influence the goals of others, was an unresolved issue in the meeting.

The optimal solution does not seem to be either a choice or a compromise between extreme positions, but in the proliferation of roles to meet a range of requirements. Already in the physical sciences, for example, there are many distinct but related roles, -- from the pure researcher to the applied researcher to the development man and finally to the practitioner. What is badly needed in the social sciences is a comparable (not identical) series of roles through which individuals and teams can gain new knowledge (pure research), consider how it might be used (applied research), formulate, experiment with and test the methods for practical application (development) and, finally, help program administrators incorporate these social innovations into improved normative operations (consultation and practice).

The considerable attention given to the appropriate roles of the social scientist in social change reflects the strong inclination of most symposium members toward theories which are not only descriptive, not only predictive, but which specify where strategic change intervention is possible.

6. *Micro and Macro Systems*

Another recurrent theme in the meeting revolved around the interactive linkages between micro and macro systems. The smallest unit in social science is a man, while the largest units discussed in relation to social change were nation states. To understand the individual as a

"system" requires probing the myriad micro systems of which he is composed, and their complex inter-relationships, which make up the human being as an entity. In discussing social change, however, man and the small groups of which he is inevitably a part comprise the micro systems, whereas larger groups organizations, communities, regions and nations approach the macro systems.

It was in this context of interactive micro and macro social systems that theorizing was carried on, which in the earlier days of social science would have been inter-disciplinary arguments about the most suitable approach. The accepted multi-level, multi-variate framework of the symposium stimulated correspondingly varied responses. For example, Stein, as a clinical psychologist interested in creativity in the individual (micro system), explored the cultural conditions affecting creativity, under the assumption that it is a function of the transactional relationships between the individual and his environment (macro system). The capacity which Lerner described as empathy develops with the stimuli of communication from the environment and becomes an indispensable personal skill for people moving out of traditional settings. Deutsch showed how feedback loops in the theoretical models increase their explanatory power by linking the interaction of micro and macro systems through time.

As a general proposition, one can state that models of social change are more realistic expressions of the real world to the extent that they contain feedback loops or similar representations of the interactive linkages among micro and macro systems, and over time. This kind of formulation seems more useful than the theoretical arguments over the issue of "personality vs. environment" or "nature vs. nurture."

It was not always easy for participants to see the relevance of findings and theory which were not only from outside their own particular disciplines, but also at quite different levels of system analysis. For example, how can knowledge about small group dynamics in a few modernized countries be made useful to political theory or to the solution of political problems in developing nation states? There exists among social scientists a certain faith that fuller understanding of the variables and relationships in the functioning of particular micro systems must not only be consistent with, but will contribute to explaining larger social systems which are characterized by other variables and relationships. The whole is both different and more than the sum of its parts; the principle of synergism persists.

7. Distinguishing Institutions and Practices

It was not surprising that a central focus of the authors writing papers for this meeting was on the transformation of social practices -- after all, this is what modernization and social change

are all about. To Lasswell and Holmberg the relatively stable patterns of practices which are somewhat specialized to particular value outcomes, and employed to maximize net value outcomes, are defined as institutions. Similarly, Lerner uses institutions to mean the behavioral patterns of performance of people whose goal is to enhance as much as possible the values which they hold important; in short, institutions are codes of rational, routinized activity. He stresses that changing these codes (institutions) in traditional societies requires an initial intrusion from outside, usually through communications media. Thus, to these three authors institutions and practices (codes) are equivalent targets of change; the transformation and modernization of patterns of practice *is* the transformation of institutions.

Esman and Bruhns, in contrast, define institutions not as practices but as functionally specific *organizations* which incorporate, foster and protect normative relationships and action patterns, and perform functions and services which are valued in the environment. They believe that by studying the way institutions (organizations) are built and grow in developing countries will eventually suggest how improvements can be made in practices. Isard and Rydell mention institutions only in describing organizations which are, in the sense of Talcott Parsons' pattern-maintaining sub-systems, concerned with the preservation of certain values. Other authors do not refer at all to institutions in explaining how practices can be changed.

Bennis and Peter also discuss how transformation of practices can be brought about within organizations, but avoid the term "institution." Hagen is quite specific about the conditions that have to be met in changing economic practices from those of the traditional bazaar to the modern factory system. Hughes analyses the requirements of redirecting health practices, and his ecological model has many applications beyond this subject area. Deutsch, without referring to institutions, elaborates on the processes of modernizing political practices.

Thus, though institutions seem to be at the heart of the partial change models discussed, the major common concern was, in fact, primarily with the transformation of attitudes and behavioral patterns. Perceptions, attitudes and beliefs were generally felt to change prior to overt behavior and practices, although it was recognized that the reverse sequence sometimes occurs.

8. Technology and Social Change

The importance of technology as a major factor in shaping the direction, nature and speed of social change was recognized in the symposium. Conversely, the requirements and available resources within social systems also partially determine technical possibilities and resultant technology. The term "socio-technical system," used by several authors, reflects this interaction with respect to both cause and effect.

That social change seems more typically to occur as a lagging response to technological developments is due to several factors. A great deal more time, money and effort is devoted by professionally qualified scientists, applied researchers and development engineers in all countries to the production of technological improvements. Thus, a larger number of such significant innovations (with their easily demonstrated potential benefits to mankind) appear. Many of these require social adaptation for their efficient use. Moreover, physical systems are generally easier to transform than social systems, since people must overcome the inertia of habit and acquire the new attitudes, beliefs and practices which are concomitants of social change.

9. Time

The importance of time in the modernizing process received emphasis in many ways. Social development may take place in a number of sequences or time paths; each of these represents at any point a process made up of components which form an interdependent system, and which must go together; significant variation in one component entails at least some variation in all the others.

Symposium participants made the observation that functional relationships within a social system do not seem to have the stability over time that would be comforting to both theorists and practitioners. The problem is not solved by just building known rates of change and existing trends into current theories (though this is difficult enough); the rates of change may also vary whenever something new and sufficiently powerful is introduced into the system. We know that both major technological and social innovations, in the past, have had this effect. While these difficulties help to explain one of the inadequacies of existing partial theories, they also describe a desirable feature of better predictive models. Using all the experience and knowledge of past and present trends, these newer models should include a way of accounting for the likely future impact on functional relationships, of yet-to-be-discovered innovations of both a technological and a social nature.

B. DEVELOPMENT STRATEGIES

1. Reappraising Development Strategies

Since the early days of the modest Point Four program of technical assistance, U.S. foreign aid has progressively expanded in concept, first to include economic aid, and more recently, many aspects of social development. The justification for the expenditure of tax funds for development abroad has, during this period of more than a decade, been one of enlightened self-interest, within the context of the cold war. But this consistent and admirable ideology has not, of itself, provided theories or models of the change processes which

match the growing complexity of the development components with which the aid program has become involved. From cooperation in selected "self-help" assistance to partnership in total socio-economic development represents a gigantic leap. It would be surprising if there were not still remnants of the simple, sincere and optimistic beliefs that dollars, technicians and mutual good intent lead quite straightforwardly to higher living standards, social improvement, democracy and increased political stability.

The disappointments and frustrations arising from discrepancies between expectations and results achieved are certainly not limited to the developing countries themselves. Their gap between achievement and expectations has its counterpart in a domestic gap felt in most Western donor nations. Many private citizens and their representatives in government have expressed disillusionment with the programs because their early that optimistic hopes have not been realized.

The resulting frustration will be dysfunctional, at least in the United States, if it continues to express itself solely as criticism either of the foreign aid programs or of the efforts of developing countries. It could be a powerful positive force if directed toward a realistic reappraisal of capabilities and strategies for intervening in social change. Time perspectives, the scale and mix of resource inputs, and of course change strategies themselves all need review and possibly revision. Working within existing aid concepts, it will probably take longer for less developed nations to achieve their desired social and economic advances than either they or we have been willing to admit. Perhaps our reluctance is partly because the spectres of runaway population growth, declining living standards and political instability all indicate that there may not be all that much time. Yet, unless the attack on the problems of social and economic development can be made more efficient through the use of better knowledge about the dynamics of these growth processes, there is no particular reason to believe that forward progress will become more rapid or effective than it is at present. Thus, a crucial issue is: how soon and to what extent improved social change theory, translated into technology and applied in programs, can increase the effectiveness of human, financial and physical resources involved in social development. The pressing need is to mobilize social science research and development facilities and talents on an appropriate pattern and scale, as has been done to achieve notable breakthroughs in atomic and space problems.

2. *Research Guidelines*

Stating that social change is not random and can be approached more scientifically merely reaffirms the belief in the orderliness of nature, supported by every new bit of scientific evidence. Reiterating that social change is multivariate and vastly complex only emphasizes the need for better theories to describe, explain and predict. This is the challenge for further research and later practical application.

Specific research proposals are made in several of the papers, and it is not the intention in this summary to repeat what various authors have proposed or implicitly suggested. For example, Lerner would prefer a research-policy program based on Want:Get Ratios; Deutsch suggests a research program based on political data-banking; Lasswell and Holmberg are writing about milti-value and highly multi-variate research programs. What follows are suggested guidelines for needed research on social change, from the symposium, as interpreted by one member of the group.

a. Cross-national research teams. As a result of the previous programs for educating and training social scientists, most of the less developed countries have substantial numbers of qualified people available to study social change in their own countries. These scientists are becoming resentful of "importing theory and exporting data" in their unbalanced intellectual trade with the United States and other donor countries. Without the collaboration of outside experts and their sponsors, however, the indigenous social scientists may be without financial means, and may be politically vulnerable when studying sensitive problems in their own countries. On the other hand, foreign researchers, left to their own devices, often study "the wrong problems at the wrong times" because of their own (unperceived) cultural blinders. More truly collaborative research teams and cross-national designs would greatly speed both the penetration and impact of research on social change. More long-range inter-university programs is one possibility. Among the benefits to be gained from such cross-national research are (1) building the indigenous capacity for complex approaches, and (2) joint or multilateral auspices permitting the groups to work with less likelihood of charges of political interference or undue influence by any of the countries participating in the programs.

b. Interdisciplinary approaches. The problem unit chosen for research by most social scientists is still generally one of personal preference and convenience, and cross-disciplinary teams are much more unusual in this field than in physical science or operations research. It seems clear, however, that social change cannot continue usefully to be explored through narrow and uncoordinated approaches. AID could break new ground with experimental studies including a number of different disciplines. This research might also encompass (1) considerable continuity over time, and (2) a reasonably small study area where both indigenous and exogenous variables can be identified, measured, and fitted into change programs.

c. Practitioner guidelines. A review of the partial theories presented in the meeting showed many large gaps and inadequacies which need to be overcome. Not withstanding the deficiences, discussants felt that more of what is now known could be converted into usable form for program administrators, field

technicians and others participating directly in social and economic development programs. This suggests that AID might sponsor an effort to translate and adapt current findings into practical working guidelines for operational staff, many of whom recognize that they could use such information. For example, a good deal is already understood about how to be a successful change agent, about the processes of institution building, about communication and about methods of overcoming resistance to change. Guidance for programmers and operators could come not only from use of the partial theories of the social scientists, but from an analysis of the experiences of more than a decade of foreign aid activities.

d. Practitioner-researcher dialogue. A more encompassing, systematic and continuing dialogue between change practitioners and social researchers is also needed. This would encourage a greater flow of ideas and knowledge in both directions, tapping the work of social scientists in many research centers and the program experience from many countries. The likely results of such a dialogue would be to strengthen research and theory-building on the one hand and to improve practices within development programs on the other.

e. Research on change-agent roles. The growing emphasis on theories of deliberate changing, and the unresolved issues of appropriate functions and value orientation in the wide range of possible roles for social scientists, suggest a need for more direct research on the multiple change-agent roles that could be made use of in AID and other development programs.

2

TOWARD A GENERAL THEORY OF DIRECTED VALUE ACCUMULATION AND INSTITUTIONAL DEVELOPMENT

by

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The present paper is a sketch of the criteria of a general theory of directed social change and a provisional outline of a theory that meets these specifications. Given the enormous scope of the task it is perhaps unnecessary to say more by way of disclaimer than to underscore the words "sketch" and "provisional outline."

The fundamental criterion of a general theory is contextuality. It must be inclusive enough to take into consideration all significant interactions in the social context of change. Because of the importance of the nation state as the unit of decision in the contemporary world we give prominence to the national frame of reference. However, a general theory must be formulated in ways that can be adapted to the world community as a whole, to trans-national regions, or to sub-national communities.

Contextuality includes the requirement of versatility in regard to the goals of directed change, since development can be conceived in many different, even incompatible, terms. The general theory is primarily a systematic model of social change whose primary categories provide an inventory of the most relevant variables in the process, and whose rules of interaction allow for the statement of static and dynamic equilibria confirmable by empirical observation. The theory must be equal to the challenge of studying the salient features of the past, and of incorporating modifications of detail in the light of accumulating knowledge. A suitable theory is also required, to provide guidance for the projection of past and present trends and conditioning factors into the future. A satisfactory theoretical system will, in addition, guide the policy advisor or decision maker in inventing and evaluating the net advantages of policy options.

The criteria may be summarized as principles of guidance in performing the intellectual tasks of problem solving in reference to directed social change. The intellectual tasks are clarification of goal, the discovery of salient trends, the progressive analysis of conditioning factors, the projection of futures, and the invention, evaluation and commitment to value maximizing policies.

PREFERENCE MODELS

It may be worth emphasizing the point that social change can be directed toward terminal states that differ from one another in fundamental characteristics. Some preference models are inclusive of the value-institution processes of the community, while others are limited to a single sector. We are accustomed to think of economic models, and to an increasing extent preference models are gaining definition in terms of politics, health, education, and related sectors. Inclusive goals can be formulated in reference to human dignity or indignity, the former expressing aspirations toward a free society, the latter giving voice to the ideology of caste. Preference models differ in time span, extending from long-range through middle range to immediate periods. In general, when we speak of goal values, we have in mind the overriding distribution pattern of power, wealth and other values; less long-range and more particular objectives emerge in the context of immediate policy urgencies.

SOCIAL CHANGE GENERALIZED

We introduce at this place in the discussion a highly generalized mode of characterizing the process of social change. Change is social since it is interactive, involving in varying frequency and intensity all participants. Social change is a process, since it is not chaotic. As human beings are involved, valued outcomes are sought to be maximized (such valued outcomes are often called "needs," "desires," "wants," "preferences"). The collective process of interaction is pursued by relatively stable patterns of practice which are somewhat specialized to particular value outcomes, which we call institutions. Institutions that prepare the outcomes are chiefly concerned with value shaping(production); institutions functioning at the outcome and post-outcome level are concerned for the most part with value sharing. In a phrase, social change is a process in which *participants* seek to maximize net value outcomes (*values*) by employing practices (*institutions*), affecting *resources*.

THE CHOICE OF VALUE-INSTITUTION GROUPINGS

The general model that we propose uses eight categories for the purpose of distinguishing the principal value-institution groupings in social process. It need scarcely be said that there is no magic about the number eight. The choice was made with several considerations in mind. First of all, an inclusive list of terms is required in order to foster the comparative study and management of any social context. Unless an inclusive list is employed to report observations, it is impossible to establish equivalencies among observational fields, or among equally inclusive, though different, lists. We note, second, that a short list is required, since the

number of specific outcomes sought is an unwieldy total. For instance, thousands of words are necessary to designate the articles on sale in a supermarket or the items of food and clothing in a given culture.

A third point is that the principal value-institution categories are especially convenient if they can be closely related to the several branches of specialized knowledge in the sciences relating to social process. It is evident that our terms refer to sectors of society that are investigated by readily discernible groups of scholars. The power value and the institutions of government are the province of political scientists, students of international relations and jurists. The enlightenment value and institutions of communication and inquiry are studied by professors of journalism and others. The wealth value and economic institutions are the economist's concern. The well-being value and institutions of safety, health and comfort are investigated by social biologists and public health. The skill value and institutions of pedagogy and of occupational and professional standards are objects of research by educators and occupational sociologists. The affection value and institutions of friendship, family and loyalty come within the domain of anthropologists and sociologists of family and kinship structures. The respect value and institutions of caste and class fall within the scope of anthropologists and sociologists who deal with social structure. The rectitude value and institutions are the province of scholars of comparative religion and ethics.

Value outcomes are culminating events in the neverceasing interplay among participants in the social process. Power outcomes are the giving (and receiving), the withholding (and rejecting) of support in matters of community-wide concern. Enlightenment outcomes are the giving (and receiving), the withholding (and rejecting) of information about the social and natural context. Wealth outcomes are the giving (and receiving), the withholding (and rejecting) of claims to processed and unprocessed resources. Well-being outcomes are the giving (and receiving), the withholding (and rejecting) of opportunities directly affecting safety, health and comfort. Skill outcomes are the giving (and receiving), the withholding (and rejecting) of opportunities directly affecting the acquisition and exercise of proficiency in the performance of teachable (and learnable) operations. Affection outcomes are the giving (and receiving), the withholding (and rejecting) of intimacy and loyalty. Respect is the giving (and receiving), the withholding (and rejecting) of recognition. Rectitude is the giving (and receiving), the withholding (and rejecting) of characterizations of conduct in terms of responsibility (religious, ethical).

VALUE SHAPING AND SHARING

In these culminating situations, participants in the social process are seeking to maximize their net value position. A value indulgence is a positive gain or an avoided loss; a value deprivation is a positive loss or a blocked gain. To maximize net values is to use available values (base values) to influence outcomes in ways that leave the participant (or participants) relatively well off in terms of indulgences and deprivations of scope values (preferred values). Obviously any value may be a base for itself as a scope value (power for power, enlightenment for enlightenment, wealth for wealth, etc.), or a base for another value as the scope value (power for enlightenment, power for wealth, etc.). The maximization postulate may be given a strict or a loose interpretation by the social analyst. A loose interpretation calls for a result that is relatively advantageous, though not the best possible.

The flow of preparatory events prior to the culminating outcome are "value shaping"; outcome events of "value sharing" foster value accumulation or value enjoyment, the former referring to the potential use of a value to shape more of itself, the latter referring to the potential use of a value to obtain other values.

FUNCTIONAL AND CONVENTIONAL MEANING

Equipped with a value-model, the social scientist who approaches a specific social context employs it to scan the interactions occurring therein for the purpose of identifying institutions that perform a functionally equivalent role. The practices that are relatively specialized to power outcomes (decisions), pre-outcomes and post-outcomes are the governmental, legal or political institutions. Similarly, the institutions of enlightenment, wealth, well-being and the other values can be located.

At this point we emphasize the distinction between functional and conventional categories. The terms introduced in the scientific model are defined to serve the purposes of comparative research on all social contexts, regardless of inclusiveness or location in the time-space manifold of events. There are, however, rough equivalents current in the usage of most cultures. The investigator must, as a rule, begin his study of strange social contexts by identifying the situations that are conventionally regarded as approximations to power and other institutions.

The initial classification of situations may be drastically modified as research discloses the finer structure of the total process. At first, "medicine men" and their activities may be assigned to the category of well-being. In the end, some of these persons and operations may be reassigned to power, as it becomes clear that they are deeply involved in the making of community-wide decisions which are supported by the use of what are recognized to be severe value

deprivations. It is a commonplace of scientific inquiry on a cross-cultural scale to find that conventional institutions, when functionally considered, play roles that differ from the local label. Private monopolists of land, for instance, may belong to the power elite, not only to the elite of wealth.

A comprehensive value-model makes it possible to select any institutional pattern to explore its significance in the shaping and sharing of all values, not simply the one or two in regard to which it has the heaviest impact.

In using the generalized value map in relation to concrete circumstances it is ultimately desirable to choose operational indices of each conceptual term. These indices must refer to institutional patterns even though they are selected with value categories in mind.

THE FLOW OF GROSS AND NET OUTCOMES

One task of any value-model is to guide investigations in the search for convenient ways of describing the flow of outcome events during any selected period, whether we speak of years, or of multiples or fractions of years. Since the present frame of reference gives prominence to value accumulation and institutional development, the scientific investigator must define the changes which he assumes to be the goal model. It is not necessary that the preference model gives expression to his personal demands. In his strictly scientific role, the specialist may go no further than to adopt a model as a point of departure for research.

An inclusive preference model prescribes (1) a pattern of participation in value shaping and sharing, and (2) a pattern of basic institutional structures. Such a model defines the system of public (or civic) order which it is proposed to achieve or maintain. For convenience we label as "preferred" the patterns that conform to the goal (others are "non-preferred"). The term "preferred" is not to be understood as expressing a personal judgment by the investigator.

During any given period value outcomes can be described to bring out the relationship between current indulgences and deprivations. All participants in the social process who identify themselves with preferred patterns are value-indulged when these are approximated and value-deprived when they are not. The gross outcome is the sum of indulgences; the net income is the sum when deprivations have been deducted.

The first step in examining power outcomes is to identify all changes that have occurred in the given period in the structure of the decision process (the constitutive process). Some of these changes are issues, since they reach a specified minimum of attention. Even preferred innovations carry deprivations (costs)

with them, and a balance sheet must take costs into account. At this stage of research it is not necessary to insist on a sole method of measurement. Let us assume that specific costs are the base values required to neutralize or overcome non-support on issues. It is not unreasonable to assume that cost varies inversely with the margin of success or failure, which implies that the narrower the margin, the more opposing or non-committal elements are neutralized. Non-issue changes involve non-specific costs or gains. (Issue and non-issue changes can be considered as equal, or weighted according to scope.)

Power Outcome (during select period)

gross = marginal support on successful preferred issues

\+

preferred non-issue changes

net = gross outcome

\-

marginal support on unsuccessful preferred issues

\-

non-preferred non-issue changes

The preferred model of enlightenment prescribes criteria for the content of communication, characterizing the degree to which community members are exposed to (or have access to) intelligible, comprehensive and realistic statements about past and future events. The techniques of content analysis are available for the task, whether the media are oral or documentary, and whether information is disseminated or stored.

Enlightenment Outcomes

gross = exposure to preferred communications (news reports, research reports, forecasts, storage of potential information; exposure to media and to educational presentations)

net = gross exposure

\-

exposure to unpreferred communication

The preferred wealth model prescribes the level of aggregate income sought, and the volume and composition of the products resulting from production. The latter specification may be in such vague terms as "increase" in products requiring impersonal technology, or in explicit objectives expressed in money units. The aggregate result may be formulated in terms of the resource characteristics

of products (animals, plants, minerals, clothing, shelter, etc.). The preferred model prescribes a pattern of income sharing (distribution).

Wealth Outcome

national income

gross (in money units)	=	preferred level sought - (or +)[1]
		gross national income (income received by all production units, less materials and service payments made by production units)
net (in money units)	=	(above) - net national income (depreciation on plant and equipment, indirect business taxes)
gross (in resource characteristics)	=	preferred level of product (animals,etc.) - (or +) gross level of product
net (in resource characteristics)	=	(above) - products utilized in production

personal incomes

gross (pattern of distribution)	=	preferred pattern of distribution - (or +) pattern of aggregate personal income payments
net (pattern of aggregate disposable income expenditure)	=	(above) - personal taxes and savings

[1] *The gross outcome usually falls short of the goal; however, the + indicates the possibility that a goal may be exceeded.*

The preferred well-being value goal prescribes the aggregate level sought, particularized as to safety, health and comfort category; and the pattern of incidence (sharing).

Well-being Outcomes

gross = preferred level sought
- (or +)
population additions (births, immigrants)
+
positive vigor (health, injury-free, defect-free, anxiety-free, comfort)

net = (above)

-
population subtractions (deaths, emigrants)

-
negative vigor (injuries, illnesses, defects, anxieties, discomforts)

-
care (time in activities specialized to custody, treatment, preventive measures)

-
destructiveness (time in activities specialized to killing, maiming, etc.)

The preferred affection goal prescribes the desired level of individual congeniality. For example, our objective may be to eliminate quarrelsomeness. However, some models may conceivably aim at maintaining attitudes of indifference, or even dislike among individuals. The preferred goal also prescribes loyalty activities toward the symbols of the whole (as when a national goal requires expressions of loyalty to the flag). The goal model also prescribes collective congeniality (or uncongeniality), emphasizing affirmative (or negative) expressions among groups inside or outside the context. This differs from the first objective mentioned above in that it concerns interactions among individuals in terms of their group identities rather than simply as human beings who belong to the nation. (The accent may be on sectional, ethnic or other groupings.)

As a matter of convenience in examining a social context, we assign such conventional institutions as the family to the affection category. In complex societies, the family does appear to be divested of the economic, power and other value shaping and sharing functions with which it is so highly implicated in folk or peasant societies. If kinship and immediate family institutions are functionally studied in a peasant society, the initial classification as an affection-oriented institution is almost sure to be drastically

revised. This is a typical instance of the end result of exploring any institution contextually with a multi-valued model.

Affection Outcomes

gross = preferred level sought
- (or +)[1]
individual congeniality (positive activities toward others and by others)

+
loyalty (own group identity; positive activities)

+
collective congeniality (positive activities toward other groups)

net = (above)

-
individual uncongeniality (negative activities toward others and by others)

-
disloyalty (negative activities)

-
collective uncongeniality (negative activities toward other groups and by other groups)

The preferred respect model prescribes the level and pattern of recognitions (or discriminations) among individuals. If the goal is an open society, the aim is to abolish discriminations that depend on race, sex and other characteristics beyond the control of the individual, and to insist on a minimum base level of respect for all persons as human beings. Beyond this, the goal is for respect to be accorded on the basis of merit. In societies that are concerned with maintaining or achieving a self-perpetuating caste, the allocations of recognition and discrimination are appropriately stratified. We classify outcomes according to the individual-to-individual pattern sought, and according to the collective pattern (group identity to group identity) sought.

[1] *The - indicates not only that positive activities may fall short of the goal but that they may not be included in it.*

Respect Outcomes

gross = preferred level sought
- (or +)
individual indulgences (individual recognitions of others by others)
+
collective indulgences (recognitions of groups by groups)

net = (above)
-
individual deprivations
-
collective deprivations

The preferred rectitude goal prescribes the level of conformity to uniform standards of responsible conduct, including religious or metaphysical rites and articulated beliefs. In some circumstances the preferred objective is to achieve a state religion and to tolerate no others. The open society seeks to develop individuals who demand of themselves and others that they take the common good into account. The open society also condemns moral and religious denunciations of individuals or groups who worship in their own way, and who otherwise impose no unwarranted deprivations on others.

Rectitude Outcomes

gross = preferred level sought
- (or +)
conformity to standards

net = (above)
-
non-conformity

VALUE ACCUMULATION AND ENJOYMENT

Values are accumulated when the level at the beginning of an outcome period is heightened by the end of the period. Disaccumulation is also possible when the total situation is appraised in reference to a given preference model. It is to be stressed that any assessment of values at a cross-section in time is largely a characterization of potential responses to a future set of specified environmental circumstances. Inferences are based on overt responses observed in the recent or remote past. We do not at present express a judgment on whether a single comprehensive model that employs all values, and summarizes a situation in quantitative terms, is worth attempting

The only solid conclusion that we presently recommend is that a generalized inclusive model provides a frame of reference in which a great many partial models can be explicitly perceived in relation to one another.

Value accumulation, we have indicated, is change or addition of predisposition among individuals, and change of resource capabilities. Power accumulation is positive when the predispositions in support of the preferred system of public and civic order at the outset have been maintained without loss or intensified, and when the resource capabilities at the beginning of the outcome period have been replenished in case of depletion, or added to. In regard to the perspectives of the participants in the social process, the inference is that initial responses were able to obtain net indulgences sufficient to sustain or intensify themselves, and that these perspectives were effective in influencing capabilities to maintain or expand the total stock. Such a theoretical model, at least, is suggested by the maximization postulate. Its relevance to concrete circumstances depends on the results of empirical inquiry.

We have called attention to the fact that participants who obtain a value indulgence may employ the indulgence to influence the future of the value immediately involved, or use the indulgence to obtain another value. The former is value accumulation; the latter is value enjoyment. The participant who receives a value indulgence in return for providing participant A with enjoyment may regard this input as part of his gross income as a value shaper, and make various set-offs against it before arriving at his net. The net value claim may be accumulated (used as a base for the same value) or enjoyed. It need not be assumed that all or even a high proportion of value indulgences are deliberately classified by participants in social interaction as a value input, or as a gross or net input, or that his disposal responses are self-appraised as accumulation or enjoyment.

Returning to the aggregate outline, note that the power model is restricted to constitutive changes in a nation state. Hence, it does not deal with the power position of the state in the world arena except to the extent required to complete the constitutive specification. For example, the preferred constitutive model presumably includes enough independence of external control to maintain the role of a nation state. But the present preferred models do not include, for instance, a demand to dominate the states in a given region, or to conquer and include them within an expanded nation state. Such models, however, can be explored within the comprehensive map of social process in which we are operating.

Accumulation:

Power
= initial support of preferred constitutive pattern sought
+
net outcomes

Wealth
= initial level of preferred assets (reproducible tangibles for production, land (surface), net foreign balance, consumers' semidurables and perishables, subsoil, and pattern of income distribution
+
net income (in terms of resource characteristics) and pattern of aggregate disposable income expenditures

Enlightenment
= initial level of preferred knowledge stored, or reporting, of forecasting, of exposure to media, of exposure to educational presentations
+
net outcomes

Well-being
= initial level of preferred population and vigor (expectation of death, injury, illness, defect, anxiety, discomfort), care, and destructiveness
+
net outcome (expectations at terminal date)

Skill
= initial level of preferred training and experience
+
net outcome

Affection
= initial level of preferred patterns of individual congeniality, of loyalty, of collective congeniality
+
net outcome

Respect
= initial level of preferred patterns of recognition and discrimination, individual and collective
+
net outcome

Rectitude
= initial level of preferred patterns of responsible conduct
+
net outcome

Although the data required for an enjoyment model have not been called for in the preceding outlines, the theoretical model is clear:

Enjoyment
= net power indulgences used to indulge or deprive others in obtaining enlightenment, wealth, well-being, skill, affection, respect, rectitude (appraised according to preferred patterns)

net indulgences of each other value (enlightenment, etc.) used to indulge or deprive other participants in obtaining other values (appraised according to preferred patterns)

Assuming that the comprehensive value model can be applied to a national context, it becomes possible to characterize the relative significance for each value of accumulation or enjoyment, and the significance of each value for every other. Input-output analysis among the sectors will reveal the ratios of interchange among them. The shaping of each value calls for inputs from other value sectors which typically are costs that take the form of outputs to all other value sectors; and the enjoyment of each value also calls for outputs to all other sectors.

According to the maximization postulate, the allocation of values is carried on in ways that are expected to achieve or maintain net value indulgences. Let us assume that the relevant perspectives of demand and expectation can be measured by such relatively direct procedures as interviewing. It is therefore possible to examine the allocation of values to discover the degree to which the aggregate pattern realizes net expectations, or, on account of error or chance, deviates from them.

If the allocation does, in fact, conform to the pattern sought, it may be static or dynamic. In the former case, the expected net advantage calls for no structural changes in the system. In the latter case, structural changes are required. Since we are concerned with value accumulation and institutional development, the preferred models are likely to be dynamic, and to call for structural changes of demand and expectation.

When events conform to a static model, changes in the rate of value accumulation do not occur, since no change is expected to yield a net advantage. The situation is parallel to the indifference model employed in describing situations in which economic change is perceived as culminating in no net advantage.

We have a national context in view in the present discussion; but we have given little explicit attention to the interaction between one nation and its neighbors. It is feasible to apply contextual analysis to this interplay. Similarly, it is pertinent to describe the balance of interaction between a sub-national community and its environment.

VALUE UNITS

If the inclusive model is to be related to concrete events, appropriate value units must be devised and applied. The fundamental units must be formulated in terms that refer to the elementary components of an interaction. Two categories of elementary components are patterned in every such interplay. There are the subjective events (the moods and images) of each participant, and non-subjective events. A scientific observer is unable to obtain direct access to the subjectivities of anyone but himself. He can, however, make inferences about the subjective events of others by examining non-subjective patterns. If we call these the mass and energy events that can be indexed by physiochemical measures, attention can be focussed on somatic happenings in the body, on body movement, and on any resource features of the environment that are implicated. An interaction is any sequence of events among participants in a social process whose relationship to value outcomes can be conveniently characterized. Such a sequence, we have indicated, can be described as a pattern of subjectivities, of somatic events, of body movements, and of resource changes.

An interaction can be summarized as a sequence of communication and collaboration. The distinctive mark of communication is the use of signs, which are somatic events, body movements or resources that are specialized mediators between the subjectivities of participants. The collaborative dimension of an act is composed of non-sign events. As indicated in the definition of an interaction, communication and collaboration are implicated in every act, though in varying degree.

To say that a sign mediates is to underline the point that in addition to physiochemical dimensions, it refers; its referents are the interpretations by those who initiate a sign sequence or are exposed to signs.

Since value events are defined as interactions, they can in principle be designated by the use of three kinds of elementary units which can be combined into patterns of any degree of complexity. The units are symbols, signs and resources. The interactions specialized to any value can be described during any period as frequencies of symbol references, of signs, and of resource changes appropriate to the value.

A power unit must be a fundamental unit of support (non-support) in a decision. If it is desired to have a distinctive term for the unit, we may borrow the word "vote" from conventional usage. Recall that the universe of decision events during a time interval may be peaceful election or a battle. The number of votes is the number of decisions and decision makers. The unit of support is partially defined as a symbol reference indicating who is supporting (non-supporting) in the context. In addition to the directional reference, a vote has an intensity dimension. In a free election, the intensity of a vote can be described according to the hours spent in seeking to influence

the outcome, and the resources devoted to this objective. (Resources can be summarized according to the voter's proportion of all the resources mobilized in the election.) In a battle, the direction may be articulated ("Long live the King"); intensities include the man hours and resources committed (a proportion of all the man hours and resources mobilized for the struggle). Not all decisions become issues; and observers may discover that the culminating events are spread over time rather than bunched in an election or battle. These culminating events must be located before the alignment of votes can be identified and measured. Power interactions obviously vary in the degree of awareness among participants, as well as in the expectations in regard to the character of the commitment events themselves (whether the ballots of a civil arena, or the victories or defeats in combat of a military arena).

An enlightenment unit is an act directing an informational communication during a stipulated time period, with a degree of intensity that is describable by the time and resources involved in pre-outcome activities. The scientific observer must identify the culminating events, noting the total flow of relevant communications, and the number of participants. As implied above, he must also describe pre-outcome hours and resources. Although there is no agreement on a basic unit of enlightenment, communication content is often described in terms of statements, or of signs (information bits). It may be useful to generalize the term "vote," and to define the fundamental unit of enlightenment as the enlightenment vote, meaning an act of disclosure (or non-disclosure) of information.

A wealth unit (or vote) is a claim over resources, whose intensity can be described according to the time and resources involved in pre-outcome and outcome activities. The scientific observer of the social process must identify the culminating events, taking account of the transfer of claims, the number of participants, the pre-outcome hours and resources involved, and the resources referred to by the claims at the outcome phase. When participants in the outcome phase calculate the net advantage of transferring their claim in return for a claim to a common medium of exchange (money), a *pricing* institution is involved. If the participants calculate claims in kind, barter is used. When a claim is transferred without an explicitly negotiated agreement to receive an equivalent, though with the expectation of sooner or later obtaining an equivalent in accord with customary expectations, we speak of *reciprocity*. *Mutuality* is a relationship in which the transfer of a claim is unreflective, and hence not accompanied by expectations of obtaining any explicit equivalent; however, the implicit expectation is that the chain of mutuality will continue indefinitely.

A well-being unit (or vote) is a claim to opportunity for safety, health and comfort, or for the limitation or destruction of such opportunity. The claim can be described as a communication (explicit, implicit) whose intensity can be gauged by the pre-outcome and outcome time and resources involved. The scientific observer of the

social process must identify the culminating events of realized or damaged opportunity, and the number of participants. Some interactions can be located as episodes that are rather narrowly delimited in time and space, such as giving or receiving life (birth), or a mortal blow. Some outcome events are spread through time and can be described according to the units of time during which they continue, and the magnitude and character of the resource involved (a mental or physical defect, for example).

A skill unit (or vote) is a claim of opportunity to acquire or exercise proficiency. The scientific observer must identify the culminating events, the numbers involved, the time and resources implicated at pre-cutcome and outcome phases. Proficiency is the arrangement of component elements in an operation. The terminal event that calls for skill may be a value other than skill, as in proficiencies connected with obtaining political and other results. If the outcome event is an arrangement of elements as an exercise for its own sake, the skill is aesthetic, as in the case of "pure music" rather than military band music, where effects are disciplined by the impact sought on soldiers and civilians.

An affection unit (or vote) is a claim of opportunity involving love or loyalty. The scientific observer must identify the outcomes, the number of participants, and the time and resources involved at pre-outcome phases.

The respect unit (or vote) is a claim to opportunity for recognition. The scientific observer must identify the outcome events, the number of participants, the time and resources involved.

The rectitude unit (or vote) is a claim of opportunity to act responsibly. The scientific observer must identify the outcome events, the participants, the time and the resources employed.

The foregoing analysis outlines the possibility of devising value units by the use of composite indices that relate to communication (or communication equivalents) in selected time intervals. The operational indices are the scientific observer's bases of inference about the direction and intensity of demands (claims) made by participants at the outcome phase of interaction. The scientific observer takes responsibility for identifying the aggregate flow of outcome events during chosen periods, and categorizes them according to the values available for transfer, and the number of participants involved. An available value is indexed according to the message content of communication (or communication equivalents). ("I vote..." [power].) A value unit is a participant's *direction* of commitment; this too, is indexed by message content ("I vote for or against; I don't vote"). The *intensity* dimension of a value unit is indexed by the participant's proportion of all the resources mobilized in the context at pre-outcome and outcome phases, and by his proportion of activity in symbol and sign manipulation during the pre-outcome phase.

Indices are adapted to the shaping or sharing roles performed by the participants described, since every participant functions to some extent both as a shaper and sharer of every value. Participants act as individual personalities, or as members of organized and unorganized collectivities.

VALUE SHAPING AND SHARING ROLES

(with some examples)

Power	shapers	= officials, leaders
	sharers	= participants in a domain
Enlightenment	shapers	= reporters, researchers, forecasters, storers (librarians, etc.)
	sharers	= learners (of accumulated knowledge), viewers, readers or listeners to news
Wealth	shapers	= producers (controllers of production factors)
	sharers	= income receivers, consumers
Well-being	shapers	= caretakers, therapists, preventers, destroyers
	sharers	= experiencers of safety, health and comfort
Skill	shapers	= practitioners (levels of training and experience, of performance), apprentices, masters (trainers)
	sharers	= evaluators (critics, connoisseurs)
Affection	shapers	= projectors of affection (friends, parents, loyalty models)
	sharers	= experiencers of love and loyalty (of indifference, dislike)
Respect	shapers	= formulators of respect standards and appliers (etiquette models)
	sharers	= recipients of recognition (or discrimination)
Rectitude	shapers	= formulators and appliers of religious and ethical standards of responsibility
	sharers	= recipients of evaluation

Examining the value distribution at any cross-section in time, the participants in any social context can be classified by each value, or in terms of all values, as *elite, mid-elite, rank and file,* or in any convenient number of classes (or castes).

Institutions: Sub-outcomes (Prescription, Intelligence, Promotion, Invocation, Application, Appraisal, Termination)

The value map of social process, though providing a contextual guide for the examination of any matrix of interaction, must be brought into close relationship to the institutional patterns current in any particular situation. This can be accomplished by successive breakdowns of the fundamental pre-outcome, outcome, and post-outcome phases of the value shaping and sharing process. It is, for example, useful to describe the various culminations as components of a system whose interrelationships are viewed as a system. Some collective movements may pass through every conceivable outcome phase in any imaginable sequence; many collective operations, however, are focussed around a single phase.

We begin with *prescription* (chiefly because of its obvious importance). To establish a prescription is to formulate expectations about a general norm of conduct. Every prescription is analyzable into three components: *norms, contingencies, sanctions*. The norms refer to the required standard, contingencies to the circumstances in which the norm is appropriate, and sanctions to the indulgences or deprivations expected to achieve and maintain conformity. Prescriptions are sometimes "issues" that are explicitly resolved by a specialized formal structure (e.g. legislatures); or they are "non-issues" whose crystallization is dispersed (e.g. changing customs about family formation) and typically must be discovered by specialized research. We define prescription to include more than words; it is necessary to demonstrate a minimum frequency of conformity in appropriate situations. Since programs of development involve new prescriptions, it is important to identify the time when *articulated* prescriptions become *effective* prescriptions. Prescriptions define the role of any organized policy institutions specialized to the value in question. *Constitutive* prescriptions make explicit how the policy structures are set up and operated. *Supervisory* prescriptions cover private controversies regarding the value which are referred to policy makers for settlement. These prescriptions indicate how the controversies are to be brought to the attention of the judges or arbitrators, and how they are to be disposed of. *Regulatory* standards deal with activities that are left private participants, yet may require intervention by the policy makers concerned with the value in question if conformity is to be maintained to collective norms. *Enterprisory* prescriptions, though perceived as distinct from the constitutive process, are administered by structures that act for participants in the value process involved. *Corrective* prescriptions, strictly defined, do not cover all sanctions (although it is often convenient to consider all sanctions together). Corrective measures refer to individuals who require personality reconstruction or permanent exclusion from full participation in the value process. During the transitional phases of development rigid personalities may require special methods of re-education or control. In folk or peasant societies, as well as in civilizations, corrective measures are used to cope with the young, the defective, the chronic offender and related challengers of the established order.

By *public order* of a nation we mean the pattern of value distribution, and of basic institutions, which need to be protected by the use of power, if necessary. Power relations involve the expectation that decisions, if defied, will be enforceable against defiers by extreme value deprivations. It is also assumed in the context that defiance rarely, if ever, achieves the level of civil war. By the *civic order* of a nation we mean the protection of basic value and institutional patterns by the use of relatively mild, rather than severe, sanctions. The scientific observer must take responsibility for specifying in the context the prescriptions which he classifies as inclusive of the nation, and as involving severe or mild deprivations.

It is pertinent to bear in mind the distinction between functional and conventional categories in the study of public and civic order. From the conventional point of view, legislative statutes are commonly assumed to be part of the public order. Research may, however, show that some of them belong to the civic order (functionally defined). Many statutes are not expected to be, and are not, enforced; many others involve only mild deprivational sanctions against offenders. Note also, that from the conventional point of view, many ecclesiastical, business and other prescriptions are not part of the national system of statutes. They are perceived as part of the civic order. Research may, nevertheless, demonstrate that some of these prescriptions have important value consequences throughout the nation, and that they are enforced against nonconformers by severe sanctions. Hence, in the functional sense, they belong to the public order. The scientific observer must take responsibility for specifying the minimum level of value consequences in the community which are "important," and the meaning of severity. Since the aim of contextual analysis is to exhibit the full richness of interaction in a social process, it is far less helpful to draw lines in a continuing gradation of events than to make sure that the entire gradation is covered. The gradation from public through civic order poses problems of great relevance to development policies, since a major strategic question is when to proceed on a nationwide or a functional program, and when to employ severe or mild sanctioning measures.

It is useful to use the concepts of public and civic order within other than national social contexts. The public order of a business, for example, includes the patterns which are supported against deviants by sanctions that, within the business setting, are severe rather than mild. If all interactions in the social process are included within the power process, the society would be entirely politicized.

For convenience, the following comments will often refer to conventionally perceived institutions. It is, however, to be understood that functional findings must ultimately be obtained to locate their true significance.

Enlightenment prescriptions that refer to the constitutive structure of policy formulate the norms concerning who, using what base values, for what objectives, in what manner, is authorized to make what policy choices. In societies where mass media exist, the main policy makers are a blend of government and private organizations and individuals. Hence, some constitutive policies are also part of the power process. Supervisory prescriptions provide guidance for policy makers, such as those who are asked to settle the complaints of two newspapers or television stations concerning violations of an agreement about the retention or dissemination of information. The regulatory prescriptions of a private code of broadcasters may set standards which authorize action by the administrators of the private code. Enterprisory prescriptions cover the scope of the activities undertaken by a joint agency of research, storage, or dissemination. Corrective prescriptions deal with the enforcement measures at the disposal of policy makers.

Prescriptions in regard to the constitutive processes of wealth may largely depend on agreements made in a market that is largely free of government control. The supervisory code may provide for mediation, arbitration, or private adjudication of controversies arising under formal or informal codes. Regulatory prescriptions may authorize trade associations to step in to alter practices that violate the code. Enterprisory activities, such as a cooperative purchasing organization, may be run according to a prescriptive code. Corrective prescriptions cover various enforcement instruments at the disposal of policy makers.

The code of well-being prescriptions contains constitutive arrangements concerning policy makers, such as who is authorized to define disease or defect. The supervisory code prescribes for the handling of disagreements, including those referred to health associations for settlement. (Also there are regulatory, enterprisory and corrective prescriptions.)

Skill prescriptions that set forth the constitutive code cover such questions as who is authorized to set standards of excellence for occupational, professional and artistic operations. Affection prescriptions that deal with constitutive relations prescribe who is authorized to formulate norms of love and loyalty. Respect prescriptions relating to constitutive matters indicate who can legitimately formulate norms of recognition (or discrimination). Rectitude prescriptions of the constitutive code specify the policy makers who may prescribe norms of responsible behavior (religious, ethical). Skill, affection, respect and rectitude codes also include supervisory regulatory, enterprisory, and corrective standards.

Although the outcome events specialized to prescription have been considered first, they are preceded by intelligence and promotional outcomes in a typical social movement. *Intelligence* outcomes that relate to power are decisions to disseminate or withhold information of possible concern to public policy (e.g. to release a report on

official planning; to defer publication). Intelligence outcomes, when specialized to enlightenment activities, pertain to policies regarding the acquisition and dissemination of knowledge. Included is the choice of information about news, research and forecasting operations at home and abroad. Intelligence outcomes, when related to wealth, include choices to publish or withhold information about economic trends, conditions, projections, goals and objectives. Similarly, intelligence choices pertaining to other values concern information about the appropriate trends, conditions, projections, goals and objectives (skill, affection, respect, rectitude).

Promotional outcomes, if specialized to power, are decisions to advocate or refrain from advocating public policies. Thus, governments sometimes forbid themselves to engage in specific propaganda campaigns, or decide to cooperate in them. Enlightenment promotions are commitments to advocate (or abstain from advocating) specific news, research, storage and related operations. The type of promotion particularized to other values is fairly clear.

Power *invocations* are decisions that provisionally characterize concrete cases in prescriptive terms (as when a police officer alleges a violation, or a grand jury returns an indictment). Parallel operations occur in other value institutions.

Power *applications* are decisions that finally characterize concrete cases in terms of prescriptions. The decisions of most administrative organs are covered. Other institutions engage in parallel activities.

Power *appraisals* are decisions in which official activities are characterized according to their effectiveness in the implementation of policy objectives. Legislative committees, for example, may vote to censor officials for failure or inefficiency.

The *terminating* outcome in the power process is a decision to end a prescription and to deal with the expectations raised during the period when the prescription was in effect. Development programs typically entail the obsolescence and final termination of older norms. Compensation or failure to compensate affects the smoothness of transition. Whole areas of human interaction, previously subject to customary claims, are forcibly moved by the state into zones of negotiated agreement. The transformation "from status to contract," in Sir Henry Maine's phrase, does not necessarily provide compensation, for example, to the holders of previous claims to the use of communal lands. The termination function, like appraisal, is performed in all value institutions.

INSTITUTIONS: INTERACTION SITUATIONS (ARENAS, ETC.)

In fitting generalized value maps to institutional detail, attention must go to interaction situations where the boundaries of any social

context are, in fact, defined. The nation's arena of power is the locus of interaction among nation members. For convenience it is conventionally delimited by boundaries. There are many lesser arenas in which participants recognize that power is a dominant value. Many of these situations are explicitly organized as part of governmental, political party, or pressure group structures.

Political parties and pressure groups are among the distinctive structures evolved by modern, large-scale popular governments. A political party is organized to obtain votes in elections by presenting both candidates and an inclusive platform of issues. A pressure group focuses on particular issues; in elections it may or may not try to obtain votes in its own name. In a functional sense, it may be noted, some conventionally labeled parties are pressure groups (the prohibition party in the U.S., for example). Recent totalitarian movements have partially incorporated the practices of popular governments, such as elections and political parties. Because authority and control is monopolized by a single organization, the Nazi, Fascist and Communist "parties" are not true parties. (They may be called "political orders;" and power seeking groups which coercively pursue specific outcomes are "gangs.")

Organized arenas are territorially *centralized* or *de-centralized* (with many intermediate steps between the most and the least inclusive units). At any territorial level policy organizations are *concentrated* or *de-concentrated*, depending on the number of coordinate organs involved. In the U.S. body politic, for instance, the legislative, executive and judicial branches are independent; in a system of formal and effective kingship, the monarchy exercises concentrated authority at the top. At any territorial level organizations may be *monopolistic* or *pluralistic*. We speak of a national society as highly governmentalized when interactions are formally and effectively monopolized by government (relative to the role of private organizations). The degree to which individual activities are *regimented* or *individualized* is also to be noted, whether the regimentation is by governmental or pluralistic associations.

We underline the point that an organization is to be understood as a pattern of situations which are interconnected by communicative and collaborative activity. An official agency exists (whether official for power or some other value) when a stable routine of formal and informal messages reaches the attention of officials (and other significant participants), and when messages are interpreted by common criteria. The message flow must be managed in a way that permits the overt collaborative operations of the organization to be stabilized. The personnel, equipment, and other facilities of the total enterprise are assembled, processed, and released as a stream of outputs. Each situational component of an organization is appropriately structured when it mobilizes the value expectations, demands, and identifications which are necessary to lead the participants in the situation to expect to be better off by performing the operations required than by failing to do so, or by acting inefficiently.

VALUE INSTITUTIONS: MYTH (DOCTRINE, FORMULA, MIRANDA)

The participants in every social process act in the frame of reference of the myth. The subjective events of individuals (perspectives) can be classified according to the symbols of identity ("I," "we," "you," "they"), of demand (value preference or volition), of expectation (matter of fact reference to past, present and future events). The myth is the pattern of stable perspectives among the members of a collectivity. The myth clarifies goal, provides a historical panorama of trend, formulates assumptions about conditioning factors, projects the future course of events, and fosters the invention and evaluation of policy.

A myth comprises *doctrinal* statements (the high level abstractions or philosophy), statements of the *formula* (prescriptions of public and civic order), and *miranda* (popular versions of past, present and future). In isolated folk societies the myth is unchallenged. Attempts at development are likely to introduce a novel set of conflict experiences in which the traditional myth becomes the ideology of the established order (or one section of the elite), while new perspectives become a counter-ideology propagated by some members of the elite (or non-elite).

For comparative purposes it is essential to describe the intensity with which myths, and myth components, are held by representative participants in a social context. (Methods of varying depth are available.) In complex societies it is not difficult to distinguish somewhat distinctive value myths from one another. Among the current myths of power are liberal democracy, totalitarianism, racism. The principal enlightenment myth presents a scientific map of man and nature, and a demand for freedom of information. Among the ideologies of wealth are private capitalism, socialism, and consumers' cooperation. Well-being myths differ in their degree of reliance on scientific methods of inquiry, and on the inclusion or exclusion of subjective events as significant factors in disease. Skill myths glorify various forms of excellence as ends in themselves ("art for art's sake"), or as indispensable contributors to other social outcomes. Affection myths magnify the importance of love and loyalty in individual and group relations, often seeking to direct love along the conventional channels provided by the established patterns of sex and family relations. Respect myths characteristically glorify individual human beings and meritorious achievement, or claim recognition for racial or other castes. Rectitude myths include the many religious and ethical systems of the globe.

In folk societies the differentiations of myth may be lacking, or require subtle observation.

INSTITUTIONS: STRATEGIES

The level of development of any society is directly reflected in the strategies in use for manipulating the base values of the community. These strategies can be variously classified to highlight distinctive operations. There is, for example, the distinction between *assembling* and *processing*. The objective of strategies specialized to assembling is to bring together the personnel and facilities essential to complete the preparation of impacts at the outcome phase. In an industrialized society, where popular government prevails, the exercise of influence on decision calls for the establishment of a party or pressure group organization tooled to manage campaigns. Enlightenment operations need personnel and equipment if they are to engage in news gathering and dissemination, and in other functions appropriate to the obtaining and circulation of knowledge. Production activities require the assembling of units of personnel and facilities capable of manufacturing or otherwise processing commodities for the market. Parallel operations are required in connection with all the other values, as suggested by referring to hospitals and well-being, schools and skill, family formation and affection, ecclesiastical organization and rectitude.

Strategies can be classified according to the degree to which reliance is put on communication and collaboration. More precisely, the distinction is according to the relative position of units (*symbols or signs, resources*). When power is used, we commonly refer to diplomacy and propaganda, or to economic and military instruments. (Diplomacy is elite to elite negotiation; propaganda is elite to rank and file communication.) Enlightenment includes scientific and informative statements; such statements can be used for influencing purposes as part of diplomacy or of a general program of enlightenment. Resources specialized to research or dissemination can be employed productively (or destructively). Wealth instruments include the statements, specialized to production and consumption, which enter into negotiation and advertising. Economic means also comprise the goods withheld in boycott, or supplied for weapon manufacture. Well-being instruments are statements from elite to elite, or are public communications about safety, health and comfort. Also included are facilities relating to health, and specialized physical resources (infectious agents, etc.). Parallel distinctions apply to skill, affection, respect and rectitude.

A fundamental dimension of strategy is the management of *indulgences and deprivations* (positive gains, avoided losses; losses, blocked gains). The most complex problems in this connection appear when the base values manipulated by the strategist are not perceived in the same terms by the targets of influence. The "trading beads" of the early explorers and adventurers were viewed as worthless by the explorers but not by the targets of negotiation, until they gained more enlightenment about the larger world.

Another important dimension of strategy is along the continuum of *persuasion* and *coercion*. In the former case, the participants have several choices which they regard as yielding favorable results; in the latter, some participants have few if any options, and all are perceived as severely deprivational.

We distinguish further between strategies of *isolation* and *joint* action (in general, strategies of coalition).

In this connection, we comment on the aggregate pattern formed by the flow of strategic activity in an arena, or in any other situation. If a single participant were to exercise a predominant role over the others, the pattern would be unipolar. Other combinations are bi-, tri-, pluri- and multi-polar; and each seems to exhibit somewhat distinctive features.

INNOVATION, DIFFUSION, AND RESTRICTION

The social process of any nation is in perpetual interaction, whether casual or intensive, with other nations. Viewed in the global setting, institutional patterns identifiable during a given period can be classified as innovations, or as instances of the diffusion or restriction of previous patterns. A comprehensive model of social process must point to the relations that account for the occurrence of these three responses. The maximization postulate is a guide to the formation of realistic hypotheses, since it suggests that innovation, for instance, occurs when alternative responses are expected to yield net disadvantages, hence the search for new patterns is favorably viewed. In modern industrial societies, the deliberate pursuit of innovation is a built-in characteristic. It is exhibited in the pursuit of new political tactics, new scientific and scholarly knowledge, new commodities and modes of production, new means of diagnosis and therapy, novel forms of skilled expression, novel experiences of love, novel modes of fashionable distinction, novel experiences of responsibility. A theoretical model of an extremely static society emphasizes the severity of the sanctions imposed on deviation from established norms. The entire web of institutional practice is comprehended within the public order of such a society. To adopt a novel pattern is to perform an act whose significance can be faintly communicated to a modern man by characterizing it as an act of treason, of sacrilege, of immorality; it is shameful, villainous, stupid, disloyal. The adjectives that evoke some sense of what is involved come from the sectors of power and rectitude, as a rule, with some embellishment from other components (such as respect -- "shameful," enlightenment -- "stupid," affection -- "disloyal"). In the static model, personalities are so deeply molded by socialization that the punitive super-ego may actually impose self-destruction on the violator of the common norm. The specialists on the transempirical forces that are perceived as determining the fate of the community are beneficiaries of the sacred myth; they are often the power elite, superior to chiefs and specialists on such

limited forces as those connected with individual worries about love, disease, or craftsmanship.

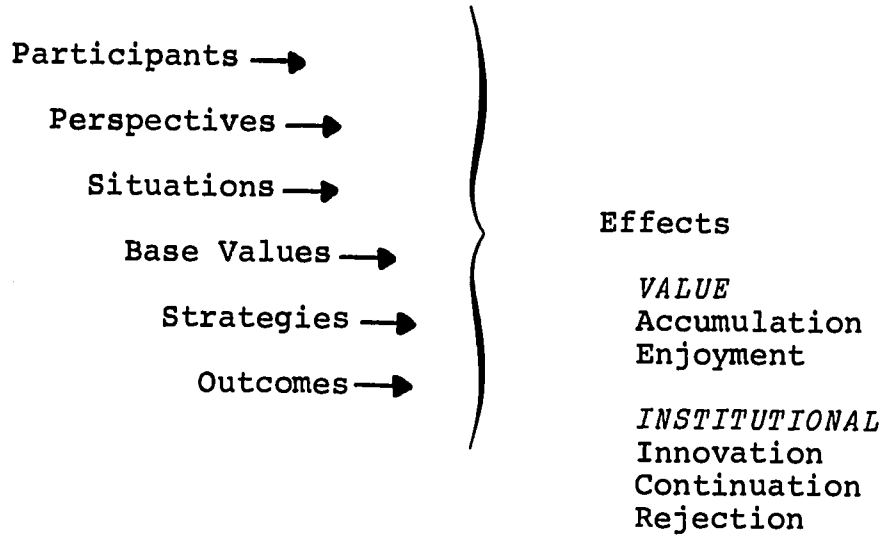
The theoretical model of a wholly static society (of the savage "caked with custom") is in varying degree inapplicable to the facts of folk and peasant society. After all, innovations did occur in folk societies, and spread from one society to another. In principle, there is nothing new about the spread of modern science, technology, and its accompanying patterns; distinctiveness resides in speed and depth of change.

If our theoretical models are to be disciplined by the results of prediction, it is desirable to map the zones of culture distribution throughout the globe, with particular attention to the lines that delimit equality of access to competing institutional patterns. From the present evidence, it seems that the spread of science and technology is far from uniform along the spokes of potential diffusion from the centers in Western Europe or North America, or the sub-centers outside Europe and North America. The same observation applies to associated institutional patterns, such as "socialism" from the USSR and "capitalism" from the Western powers. Social scientists have scarcely begun to chart the "zones of equi-deprivation," the localities where available patterns are perceived as affording net disadvantages.

In this connection, we suggest that insufficient scientific attention has been given to the latent (the repressed and suppressed) rebelliousness of primitive and peasant societies against their cultures. The potential intensity of these responses is suggested by the alacrity with which features of the universalizing pattern of scientific technology are partially incorporated in many areas. The image of the self as faintly ridiculous ("naked" savage; "quaint" costumes) and more than a little unenlightened is probably much more general among underdeveloped peoples than is usually assumed. The static model of society may underplay the intensity of the unacknowledged internal conflicts generated by the deprivations of curiosity (enlightenment) which are inseparable from small group living. As latent tendencies are stirred, many defensive mechanisms of the individual psychic system come into action (boredom, for example).

THE VALUE INSTITUTION MODEL

The preceding discussion has suggested how to adapt the highly generalized social process model to the finer details of a social context:



The diagram restates the social process as "participants interacting in situations, controlling base values, employing strategies to influence outcomes, with effects on value accumulation and enjoyment, and also institutional innovation, continuation and rejection."

We suggest that the conception of development as growth, if somewhat reformulated, is a satisfactory model of the process. The conception must be generalized beyond one value (wealth) to all values in the social process. In order to remove the ambiguities of a model that is exclusively stated in value terms, it is important to complete the preference map in institutional terms. As indicated above, our recommended goal is widespread participation in all preferred values; furthermore, we stipulated some of the principal institutional features of such a model. It is only when a value-institution pattern is clarified that it becomes possible to pinpoint the predispositions and the resource capabilities that are required to achieve the goal.

The theory of definite stages of value accumulation and institutional development is misleading and ought to be dropped. The idea of "self-sustaining" growth is serviceable only if it is understood to mean that the preferred model, once established, can perpetuate itself as a system of public and civic order. Goals are most likely to be approximated at different tempos, in different sectors of a nation, and in various nations.

Although it is theoretically possible to quantify the dimensions of a preferred system of public and civic order, the data required for such a model, or for approximating toward it, are not presently available. No doubt it will be possible to move toward inclusive quantification by a series of partial models, adapted to the contours of specific nations and national groups.

A partial model of power outcomes, for instance, can be devised to summarize the interdependencies among sub-outcomes within the nation at any level. Such a theoretical image must be able to predict how

any flow of decision outcomes (intelligence decisions, for instance) will influence (and be influenced by) all other decisions. If worked out in detail, it ought to be possible to predict changes in decision outcomes related to the process of development itself.

The predictive role of a strictly outcome model is constructed to ignore data that, if included in a more complex theoretical structure, increase the scope and fit of predictions. Suppose we enlarge the model to cover changes in the number of participants in the decision process. If the voting population increases, the demand to modernize may become more urgent.

The image can be further refined by including information about the predispositions of newcomers into the arena. Survey research may show that the younger generation at all levels is pro-modernization.

Further modifications may introduce data about arenas, base values and strategies. The model may allow for enlargements of the franchise for increased funds at the disposal of modernizing parties, or for new political propaganda methods.

Each of these categories of the power process can be dealt with in great detail. To choose a single example: the perspectives of power participants can be described in ways that disclose the direction and intensity of their support for, or rejection of, established myths. Distinctions can be drawn between perspectives relevant to doctrines, formula and miranda. The model may include stipulations about the routines of influence, indicating which changes in doctrine, for instance, bring about changes in formula and miranda. Or -- to choose another example of elaboration -- power structures can be dealt with in detail. Perhaps any shift from centralization to de-centralization will immediately precipitate movement in the opposite direction or changes from concentration to de-concentration.

In the formation of explanatory theories of development, it is important to give prominence to the role of significant participants (*communities, classes, interests, personalities*). The present discussion, of course, gives prominence to national communities. However, the model can be extended to cover any territorially oriented group (transnational, national, subnational). A key scientific question is how nations function as factors in development; and this calls for the identification and assessment of factor combinations that characterize a nation's potential.

Since the response to be explained is acceptance or rejection of changes which are partially modeled in other nations, predispositional factors in regard to such changes are pertinent factors. There is the delicate problem of matching readiness to perceive with the presented configuration. In extreme cases of cultural discrepancy, novel patterns are seen as confusion, not as pattern. An image of the self as a past beneficiary of change -- as in the Japanese case -- is a favorably disposing propensity. Estimates of past experience

with innovation operate as significant selective elements in the present. The application of the total model to dynamic situations can be expected to bring out the distinctive combination of pertinent factors.

We are concerned with *class* interactions as they relate to development. The term "class," it will be realized, refers to the upper, middle or lower position of individuals in reference to one or all values. The class structure of any stable community is a set of social environments that affect the predispositions of each member. At any given moment the significant question is whether and to what extent the active elite perceives itself as threatened from within, or without, by novel patterns. If indigenous elites have been subordinated by foreign empires (though permitted to continue), their predispositions are deeply affected by the strategies of the imperial rule to which they are subject. If modernizing patterns have been partially incorporated by the indigenous elites, it is probable that a split will eventually occur, in which dissenting elements break away from accommodation with the colonial master and join a coalition of middle and lower class elements who strive to secede from the empire and achieve independent statehood. Since Japan, Turkey and Thailand were not formally colonialized, their evolution diverges from India, Pakistan, or Burma, for example, or much of Africa. The generalization that appears to account for the peculiarities of "innovation from above" is *the principle of minimum power loss or risk*, which means that political elites seek to make the fewest changes in power that they expect to be able to get away with.

In addition to the role of communities and classes, it is relevant to examine interest groups, that is, groups that are less inclusive than the former categories (of community and class), or cut across them. Every value, value phase and institution can provide an experience of identity, demand and expectation that functions as an interest factor in relation to growth. In some feudal societies the "lead" as against the "lag" role is taken by military specialists when they see traditional weapons and tactics collapse before the products and strategy of industry. Crucial initiatives may germinate in the minds of top officials or diplomats who see the handwriting on the wall; or initiatives may originate with traders and go-betweens who recognize how to exploit novelty for gain. A new class of scholars may appear in connection with translation, journalism, teaching, and eventually research. Contrasting roles may be played by intellectuals of skill and of enlightenment. A skill specialist is prone to act like Pye's civil servants in Burma who hold tenaciously in post-independence years to a laboriously acquired set of operations which they use to obtain such personal objectives as economic security, respect and shreds of power. An enlightenment oriented intellectual, on the contrary, is concerned with an inclusive version of man and nature which is at once innovative and realistic, meditative yet compatible with active participation in life. (Interests can be conveniently classed according to value institution category.)

Collective roles furnish us with many clues to the dynamics of growth. It is, nevertheless, important to look at human beings as whole *personalities*, and to explore the significance of their interplay in the growth process. Personalities differ from one another in value orientation, in balance of conscious and unconscious components, and in reliance on mechanisms of integration. Scientific interest has been brought to bear on these factors by McClelland's emphasis on the demand for achievement, Hagen's analysis of the deeper motivations and mechanisms of enterprisers, and Lerner's evidence of the place of empathy is enabling individuals to entertain a wide and rather accurate image of the perspectives of other human beings.

In commenting on subjective events, we mentioned images (which refer to particular events) and moods (which are suffuse experiences -- euphoria, depression, and so on). As acts move from unconscious levels to conscious awareness and expression, the psychic systems of individuals and groups appear to maintain characteristic patterns of equilibrium. These patterns are often described in terms of "temperament," and provide relatively stable subjective features of culture. The moods are classifiable according to the values that are indulged or deprived if the acts are permitted to run to completion (e.g. imperiousness, intellectual curiosity, acquisitiveness, anxiety, aesthetic absorption, love, pride, righteousness).

When act systems conflict with one another they generate a mood of anxiety (negative well-being); and other moods, images, or somatic activities are employed as defenses against anxiety. The mechanisms of repression and resistance operate to stabilize a mechanism of continued exclusion from conscious awareness. However, if intense conflicts are restored, these mechanisms can be overcome.

Since culture transformation invariably involves personality reorientation, it is important to encourage intensive inquiry into the sequences of acceptance or rejection of novelty. Some successions are well known: individuals in culture *A*, after early non-attention and rejection, idealize culture *B*, and either desert *A* or seek to revolutionize it. At a later phase of partial incorporation of myth and technique from *B*, *B* becomes a target of active rejection. Ultimately, a complex blend of elements from *A* and *B* becomes relatively stable and acceptable. In these several sequences we distinguish between the patterns of *A* and *B*, and the identities of the cultures involved. *A* often rejects *B* as an entity, at the time *A* is incorporating many of *B*'s principal institutions.

In refining the analysis, we may consider the factor of *crisis level*, meaning that responses are affected by the intensity of conflict between the nation and other national or subnational groups; and among and within classes, interest groups and personalities. If power elites, for instance, are in internal conflict (or engaged with other power classes), coalitions may bring external individuals and groups into the national picture. Conflicts of interest may aid in weakening the hold of traditional identifications by criss-crossing tribal, ceremonial and related drives.

We especially note the significance of crises in the course of national growth. They are characterized by changing levels of mood among participants in the social process, and by the competition of strategies to give direction to collective expression. Crises range from near-total disorganization to reaffirmation of solidarity and cooperation with the emerging frame of public and civil order.

DIRECTIONAL AND LATERAL DIMENSIONS

The contextual model of social process, modified to emphasize the problems of value accumulation and economic development, can be variously applied for the purpose of giving prominence to particular frames of reference whose significance emerges as research and policy considerations change. One advantage of the inclusive model is that it can be rotated or turned on its side as an aid to theory formation and investigation.

By underlining the arrow of time -- the directional flow of events, the model directs attention to the sequence of shaping and sharing of every value. When the value categories are applied to the sequence of events in any situation, it is possible to describe the extent to which activities are passing through the same or different phases at the same time. By moving back and forth between the directional and the lateral dimensions of process, the context gains intelligibility.

The institutional categories refer to directional phases of the shaping and sharing model (pre-outcome, outcome, post-outcome). At any cross-section of time the institutional categories give finer visibility to the lateral sequence of events in each value sector.

Because of the relative novelty of some of the distinctions employed, it may be clarifying to comment on the relationship between the value institution model outlined here and some topics of interest as phrased in more conventional language.

Assume, for example, that we are interested in *socialization*, the induction of newcomers into roles appropriate to a mature participant in a given political and civic order. All career lines are conceived as interacting sequences of events; hence, the socialization of the infant begins as soon as he is exposed to, and capable of interacting with, the social environment. The traditional emphasis is on the face to face relations between the target of socialization and all who influence him (the socializers), especially family, school and neighborhood members. This image is inadequate to deal with the facts in a society in which mass media of communication supplement, or in some matters supplant, the models of conduct presented to the growing individual in primary relationships. Whatever and whoever influences the formation of predispositions in the pre-adult are components of the socialization process.

Since our general model emphasizes the interactive character of society, it suggests that any conception of socialization is inadequate that deals solely with changes on the part of pre-adults, and ignores the impact of socialization on adults. Where mass markets and mass communication exist, the changing perspectives of the young influence the perspectives of adults, inside and outside the family circle. These effects can be traced in every value-institution sector. In developing societies it is particularly pertinent to inquire into, and to devise strategies for, managing and training and selection of personnel for common and specialized roles in every institutional context, whether arenas of power, or the situations in which affection, rectitude, wealth, or some other value predominates. To study socialization is to investigate a lateral feature of all social interaction, a feature defined by the presence of pre-adult participants.

Activities relating to development are no exception to the generalization that a specialized elite begins to emerge in connection with every continuing policy problem. *Specialists on social development*, especially transnational development, have come into existence to face the challenges and opportunities of assistance programs. All the usual questions arise in connection with this new generation of specialists. From what sources in the society are they drawn? How do their predispositions influence the perspectives which they bring to the arena of politics? What assets and liabilities (base values) do they start with? What strategies are they disposed to use in seeking to affect outcomes? What impact do they have? How are they modified by the situations, formal and informal, in which they find themselves? What is the probable future of these new occupations and professions?

In this connection, it will be of great interest to assess in detail the diffusion, restriction and innovation process. How does the new elite of developers conform to or deviate from the roles previously evolved by foreign investors and enterprisers; missionaries; private foundations devoted to medical, educational, and scientific purposes; advisors of governments?

Another frame of reference related to the whole process of development is the *reciprocal impact of participation* in these operations on the assisting nations. At the outset of programs connected with transnational development, the effective initiative may be taken by a few, notably by small cliques of important political, military and financial figures. As the policy becomes stabilized, more elements in the assisting country are involved, either by direct participation in specific programs, or as opponents of the policy. Latent predispositions in the body politic set limits on which is sought to be done, and how.

GOAL MODELS RECONSIDERED: A POWER SKETCH

Having come this far, it may be clarifying to consider some of the implications for a political model of value accumulation and institution development. A power model must be far more explicit than an economic model in referring to the total society.

I. We accept the conception of political development as *a sequence of approximations toward a self-sustaining level of power accumulation*. This means that when the structural characteristics of the preferred goal have been made articulate, attention will be directed to the predispositions and capabilities in terms of which value accumulation can be assessed.

2. We join with those who desire to achieve *an ideology of progress, of commitment to wide participation in power as a long-run goal*. A primary function of any policy model is to provide a guide for taking sides in controversies over basic objectives. We concur in recommending the conception of human dignity as an overriding goal. We understand this to include effective (and formal) participation in the decision process. Such a position implies the willingness to make sacrifices of economic growth, if necessary to sustain progress toward popular government. We accept as problematic -- and therefore as an appropriate topic of continuing research -- the frequent assumption that economic growth automatically guarantees the attainment of political development. The motivations and instruments of control available to modern garrison-police states are so formidable that it is no foregone conclusion that they will be insufficient to perpetuate an oligarchical or even caste system.

3. An adequate model of political development emphasizes the importance of *obtaining sufficient power to maintain national independence*, and therefore includes *effective political demands not only for economic development, but for growth in all the value-institution sectors of the body politic*.

   Since effective independence is a collective demand to function as a nation state, it carries recognition of the necessity for control over the base values on which effective power depends. In this frame of reference it is obvious that political development calls for economic growth, and that lagging economic growth is at least a partial consequence of political underdevelopment. If the past decision process had been more realistic in planning for the future, many states would not have lagged behind states which eventually infringed their independence, after first attaining economic superiority. As we look back at the expansion of Europe, a fascinating question is why the elites of the extra-European world failed to estimate the significance of the then present for the future. Equally impressive are the examples of effective acceleration which power elites have often been able to give to economic growth. For present purposes, the

significance of the record is that it draws attention to the reality-orienting task that faces the decision process of every political unit in world politics, and underlines the significance of political realism for development.

4. Political development includes *willingness and capacity to play a responsible role in world politics.* In 2 above we emphasized the cruciality of power for the task of maintaining an independent role in the world arena. The present criterion makes the related point that *unrestricted* pursuit of power is not an acceptable component of the objectives of a developed national state. Political modernization is not to be achieved by withdrawal from world politics; withdrawal is not permitted. A developed nation state expects, and is expected by most other members of the world arena, to conform to an inclusive body of authoritative prescription; and this expectation implies an internal system of public order both willing and able to comply.

   In a political sense, every nation state must remain somewhat underdeveloped so long as the arena of world politics falls short of inclusive public order in which transnational responsibilities are effectively defined in terms of human dignity. There are, of course, great differences among nations in the levels of responsible participation in world affairs. Among contemporary states, no one doubts that Great Britain sustains a relatively high level. On the other hand, the states of the Soviet bloc that have depended on the Kremlin are only beginning to move toward a sufficient breadth of contact with other states to gain the cumulative experience and discipline needed for full acceptance as internationally responsible.

   The following indices are among those that show the accumulation or disaccumulation of predispositions to act responsibly in external affairs: universality of formal recognition by other states; exchange of diplomatic officials; membership in transnational organizations; acceptance of third party assistance in the persuasive settlement of disputes; participation as a third party in the persuasive settlement of disputes; acceptance of obligation to aid in the sanctioning activities of transnational bodies; maintenance of impartial legal protection of aliens in harmony with transnational norms.

5. It is implied in the foregoing, but must be made explicit, that political development calls for an *internal process of decision whose structures -- both formal and informal, organized and unorganized -- constitute a system of public order capable of creative, realistic problem solving in pursuit of a rising level of participation in all values.*

   We characterize briefly (and incompletely) the seven phases of the decision process. The *intelligence* phase functions appropriately when it supplies a flow of realistic information

about trends, conditions, and projections which foster the clarification of overriding goals, and the invention and evaluation of policy alternatives. As technology advances, it becomes both necessary and possible to rely heavily on mass media and research agencies to supply current intelligence, and, in conjunction with schools, to shape the socialization process.

The *promotional* phase of decision is in some ways the most distinctive mark of advanced politics. Promotions must include diverse demands and expectations which are non-coercively pursued for the purpose of affecting the course of decision. In caste-bound societies it is unthinkable that the political process operates on the basis of authoritative and controlling expectations that the non-power castes shall have anything to say about what goes on. Under conditions of vast distress they may erupt into the arena of politics; but this is a sign of chaos, not of orderly participation. Political party systems (not one-party dictatorships, political orders), pressure groups and public commentary are fundamental features of power sharing in big-scale states; and they are substantially missing from "village plus oligarchy" or "village plus monocracy" at the inclusive level.

The *prescribing* function in modern societies must be able and willing to foster the growth of expectations in regard to appropriate norms by means of explicit legislation, rather than by relying on unacknowledged legislation (customary usage). It is often alleged -- though research is meagre on the point -- that the discipline of rule writing, resented and evaded as it may be at first, spreads the expectation that controversies will be impartially resolved, and that traditional loyalties to family, neighborhood and tribe will be undermined for the ultimate benefit of state loyalty. The prescribing function as an instrument of development takes the lead in clarifying and repeating the aims of the body politic and the practice of justifying specific measures in these terms.

The phases of *invocation* and *application* are focalized in administrative organs, civil and military. A detailed specification of relevant criteria must be included in a full model. The same point applies to *appraisal* and *termination*.

Adequate political models provide *strategical guidance for timing the component elements in sequences of development.*

Strategies of growth are confronted by the task of timing and placing the factors that are estimated to contribute to the terminal result. Programs of national development must keep transnational trends and prospects in view if favorable opportunities are to be seized and adverse circumstances nullified. The developers often operate across national lines from a

national base, or in the framework of an intergovernmental organization. Whatever their geographical situs, developers are active agents of innovation, diffusion and restriction. A growing country responds selectively to the models in its international environment at different times. Policy and science are both concerned with identifying the contexts in which innovations come to the notice of individuals who are located at various geographical and social distances from where the activities occur. Who perceives himself better off by directing attention to them? By ignoring them? Among those who hear of change, who sees himself as better off (in terms of all values) by facilitating or blocking diffusion? As a result, what patterns of route and zone are followed if innovations spread?

As a means of stimulating further inquiry, we formulate a few principles addressed to advisors or final decision makers who are responsible for programs of value accumulation and institutional development.

a. *Think contextually; keep policy questions related to the goal values of all whose effective support is required for success.*

   Part of the problem is to invent policies and to devise programs of policy presentation that elicit the coalitions needed to obtain an effective demand to innovate. Expectations must be strengthened or modified that affect value demands and self-identification.

b. Among more particularized guides is the *principle of decisiveness*. It affirms the importance of avoiding confusion or paralysis during nation building by maintaining a decision process that produces realistic and timely commitments. As Karl Deutsch has emphasized, communication networks may be overloaded; but indecisiveness may be a consequence of poor collaborative as well as poor communicative synchronizations.

   The principle must be disregarded when the effective elite of a nation is largely hostile to the innovations that it feels constrained to make. The strategy of development calls for measures that increase the strength of whatever factors make for indecisiveness in the official process of decision, while simultaneously giving aid and comfort to a modern-minded alternative.

c. Although external assistance in development programs is likely to be welcomed by important elite and non-elite elements, dependence is also resented. Hence, *outside assistance ought to be given tactfully, which means giving respect to nationals of the receiving country.*

d. The *devolution of effective power to recipients of aid needs to be a reward for responsible performance* by the elite elements which it is proposed to encourage on a long-term basis.

National elites can be expected, as part of the ordinary power balancing process, to seek to dilute their dependence on one foreign source by multiplying these sources. As far as possible, the relinquishment of whatever effective power results from providing assistance should be used to strengthen modern-minded elements who are willing and growingly competent to act responsibly. The problem is to avoid the use of aid as blackmail by archaic or incompetent social formations.

e. Sound strategy requires the *ideological incorporation of the entire nation into the challenging task of development, and the encouragement of self-awareness of the process.* Doctrine, formula and miranda gain impact, elaboration and stability as a by-product of collective problem solving. If economic development is an attractive ideal, it should be integrated with the demand to achieve a nation that is truly modern in all dimensions of life.

f. National development requires *simultaneous emphasis on a universal minimum of literacy and education, and on the rapid preparation of highly expert personnel.*

This is a warning against unbalanced skill and enlightenment policies; more concretely, it is a warning against the neglect of universal education, or the over-production of university-trained students without a future.

g. A general principle in regard to the institutions of decision making is to *encourage administrative competence without precluding the growth of responsible legislatures, parties and other plural associations.*

One implication of this principle is that administrative inefficiency and corruption is not to be treated with too much alarm if it contributes to the growth of leaders and organizations who develop a new set of identities, expectations and demands that cross-cut and supersede older social formations.

h. *International organizations should be used as far as possible to assist in strengthening ideological and organizational adherence to civil order, including the protection of basic human rights.*

Since underdeveloped nations are often power vacuums, they provide an occasion for consolidating the institutions of transnational order while aiding the process of national growth.

Discussion

1. *INTEGRATING FRAMEWORK*

One of the goals of the conference, said Peter, was to fit together portions of the partial theories of social change coming from the specialists - the anthropologists, the economists, the political scientists, the sociologists, the psychologists. To do this some intellectual framework was required a general theory however provisional, that would be inclusive enough to take into consideration the many significant interactions in social change that might be proposed from any of these disciplines. This criterion - breadth of contextuality is met by the Lasswell-Holmberg model of directed social change. It has been formulated in such a way that it can be adapted not only to any subject matter but to any size of unit - to the world community, to the nation state, to regions, or to smaller communities. The authors themselves have summarized the requirements of a general theory for directed social change; their own formulation of social change is innovative and powerful in several dimensions.

As Hughes summarized the Lasswell-Holmberg model, it is "based in process, activity, purpose, rather than inert structure; it is functional, ramifying, contextual. It uses institutional categories heuristically, as ways of ordering the data of concrete complex social behavior into eight value areas. In pursuit of these value-ends, man (and, by extension, society) acts through the instrumentality of institutions conceived in value terms, and values themselves seem to be viewed more as "accumulatable" items than as "substitutable" elements of social behavior. Action is analyzed into two principle components: the phenomenological (including "perspectives," images, values, beliefs, attitudes, etc.) and the behavioral ("action," Institution, practice, etc.).....social change is conceived multifactorially rather than in terms of unitary determinants."

2. *THE "PREWSWAR" VALUES*

Social change is seen as a process in which participants seek to maximize net value outcomes (social commodities) by employing

practices (institutions), affecting resources. It is in the range of net value outcomes (values) that the Lasswell-Holmberg formulation first demonstrates its all-inclusive scope and potency.

The general model uses eight categories for the purpose of distinguishing the principal values in societies. This list of values is inclusive (though not all-inclusive), so that it covers every major value which is thought to exist in social processes. The particular terms for these values have been selected to link conveniently to the values already being studied and used by others in the several specialized branches of social science. The goal of having such an inclusive list is to provide equivalencies among the various disciplinary fields and to simplify the comparative study of these values and their accumulation.

The eight categories of values are:

1. Power
2. Respect
3. Enlightenment
4. Wealth
5. Skill
6. Well-being
7. Affection
8. Rectitude

The acronym PREWSWAR was coined at the symposium as a handy reminder for these key values.

These eight values seem to cover the major categories of human needs and goals. In the case of wealth there is a reliable, quantitative measure - money - available for use; in the case of health, power and other values, some valid measures have been developed but are more difficult to use. There was some feeling among symposium participants that a ninth value existed, representing the ultimate goal of personal satisfaction, happiness, or enjoyment for which many of these eight values are instrumental intermediate or facilitating goals. There was also the recognition that adding other values would not affect the essential purpose of this categorization.

3. *SEARCHING FOR CONCEPTUAL EQUIVALENTS*

The Lasswell-Holmberg model has so much in it that very precise language and definitions were found necessary by the authors to make clear how they were using various terms. They are to be congratulated on the vigor with which this was done. Still, more has to be done to make these terms as rigorous (i.e. operational) as they are vigorous. The reader may experience some difficulty in adapting to this language and in knowing how to interpret similar terms used in other papers. For example, the Lasswell-Holmberg meaning of "values" as "social commodities," however intangible they may be, is not shared by all other authors. For this reason, a glossary of terms is included at the end of this report.

This problem of using terms in the same way is of course a general one in social science. An explicit goal of the symposium was to discover conceptual equivalents, and then to determine what terminology might make these clear.

4. *VALUE-INSTITUTION GROUPINGS*

The eight values (PREWSWAR) used in the Lasswell-Holmberg model are only the beginning of the contributions they have made to formulating a more inclusive framework of general theory for directed social change. Actually they describe these eight categories as "value-institution" groupings. According to their definition of social change (see 2 above), human beings are involved in maximizing net value outcomes. The collective process for doing this involves all sorts of social interaction, but is carried out by relatively stable patterns of practice which the authors define as *institutions*. Institutions, as patterns of practice which are somewhat specialized to particular value outcomes, also differ from one another in their concern with the production of values, called value shaping, and the diffusion of values, called value sharing. Thus values can best be seen and discussed in relation to the institutions which help produce and nurture them. Lasswell and Holmberg point out that a comprehensive value-model makes it possible to select any institutional pattern and to explore its significance in the shaping and sharing of all values, not simply the one or two in which the institution may specialize.

5. *DEVISING VALUE UNITS*

The authors of this comprehensive model of social change tackled the extremely difficult problem of devising appropriate value units. Value events are defined as interactions and they can in principle be designated by three kinds of elementary units, symbols, signs and resources.

Examples are described of various kinds of units, representing interactions specialized to particular values. A power unit, or vote (in conventional usage) is the fundamental unit of support or non-support in a decision. An enlightenment unit is an act directing an informational communication; generalizing the term vote, an enlightenment vote is an act of disclosure (or non-disclosure) of information. A wealth unit or vote is a claim over resources. A well-being unit (or vote) is a claim to opportunity for safety, health and comfort. And so on for other value units.

The authors' analysis outlines the possibility of devising value units by the use of composite indices, taking into account a participant's direction of commitment and the intensity of his claims.

Discussants at the symposium agreed that devising value units which are precise and readily usable constitutes a major task.

6. INSTITUTIONAL TASKS

The value map of social process in the Lasswell-Holmberg model is partly explained by breaking down and examining institutional tasks in the several phases of value shaping and sharing. These institutional tasks, performed by the elite, include prescription, intelligence, promotion, invocation, application, appraisal and termination - each described with examples from several values. Discussants noted that while these institutional tasks are quite similar to what are generally recognized as the manager's responsibilities in organizations, the Lasswell-Holmberg model views them more explicitly in terms of appropriate value categories.

An organization is to be understood as a pattern of situations which are interconnected by communicative and collaborative activity. Lasswell and Holmberg make clear that participants in every social process act in the frame of reference of their collective *myths* (the patterns of stable perspectives among members) which give rise to *doctrinal* statements (the high level abstractions or philosophy), to *formulae* (prescriptions of public and civic order), and to *miranda* (popular versions of past, present and future). It follows that the strategies used for manipulating the base values of a community must reflect the level of development of that society, and can be classified and described to highlight distinctive operations and requirements.

7. THE SCIENTIFIC OBSERVER'S TASKS

There are quite different tasks for the social scientists observing and analyzing the social process. Lasswell mentioned five intellectual tasks involved in considering social change and the interrelationships among factors. One must ask and answer the questions:

(1) What are the goals? (Lasswell's preferred events)

(2) What are the trends?

(3) What are the conditions? (and the interdependences)

(4) What is the projection, the probable course?

(5) What are the alternatives, and the strategies?

8. RESEARCH ON RECEPTIVE PROPENSITIES

The authors view all institutional patterns, in a global setting, as innovations, or as instances of the diffusion or restriction of

previous patterns. While social process is in perpetual interaction, they suggest that it would be highly desirable to map out zones of culture distribution throughout the globe, with particular attention to the lines that delimit equality of access to competing institutional patterns. What seems to be suggested is a better basis for estimating receiptive propensities as a guide for prediction and program planning.

9. *DEVELOPMENT AS MULTI-VALUE GROWTH*

The social process is described by Lasswell and Holmberg as "participants interacting in situations, controlling base values, employing strategies to influence outcomes, with effects on value accumulation and enjoyment, and on institutional innovation, continuation and rejection." They suggest that the conception of development as growth is a satisfactory model of the process, provided the conception is generalized beyond one value (wealth) to all values in the social process. It then becomes important to complete the preference map in institutional terms for all values, at which point it becomes possible to identify the predispositions and resource capabilities that are required to achieve the goal.

Symposium discussants did not disagree with the authors' suggestion that the theory of definite stages of value accumulation and institutional development should be dropped. The goals for different values in a more inclusive preference map are most likely to be approximated at different tempos in different sectors of a nation and in various nations. Moreover, the data for quantifying the dimensions of preferred systems in the several value-institutional areas are not presently available.

In discussing the dynamics of growth and development, the authors provide useful observations on the part played by class interactions, special interest groups, personality types, and crises which change the mood of participants in the social process.

10. *QUALITY AND PATTERN OF VALUE BUILDING*

Had space and time permitted, the Lasswell-Holmberg model would have seemed more descriptive of real life and somewhat less intellectually abstract, had some illustration and case examples been built into it. This will, hopefully, be added in the more complete statement the authors are preparing for separate publication.

A more basic critical comment is that developed by Hughes in his own paper. He feels that the Lasswell-Holmberg model is derivatively based on an economic paradigm, primarily to take magnitude and not quality or pattern as the basic essential of the value-building process.

11. MANIFEST AND LATENT VALUES

Members of the symposium felt there was still some ambiguity in the ways the word "values" was used.

Hagen proposed that values can be seen either as (1) yardsticks for making comparisons, or (2) as amounts or qualities as measured by some yardstick. Lasswell pointed out that it is the function and responsibility of the scientific observer to characterize outcome events. The participant in the event may state his manifest values, but the scientific observer must also look for latent values. Deutsch suggested this meant a double entry system of bookkeeping, in which every event is scored twice, once as to the preferred value reported by the participant, and once as seen by the scientific observer. Hagen observed that the value of a steel mill might be reported by the country's leaders as wealth accumulation (manifest value of participants) while the scientific observer might also note the prestige or respect value (latent) being sought. The actual construction of the steel mill could lead to any number of outcomes - perhaps either an increase or decrease in wealth value, perhaps some prestige satisfaction of the leaders or none at all, or perhaps even a change in power distribution increasing the sense of threat in neighboring countries. Professor Lasswell characterized events as actual or potential, whole or in part, subjective and non-subjective. All events are doubly referred to, in terms of values and institutions.

12. VALUES IN SHORT AND LONG TERM PERSPECTIVE

Jacobson commented that both the participant's and the scientific observer's understanding of the value accumulation may be inadequate and that an objective subsequent measure of actual resource changes might be different from either.

Deutsch stressed that value accumulation may be quite different in short and long run perspectives, so originally the outcome is quite uncertain. This means that time coding is required. For example, in early colonial days in the U.S., ironworks were established that brought new skills and enlightenment into the country, which turned out to be very important to economic development and worth a great deal more than the value of the iron produced. On the other hand, the establishment of port wine production in Portugal did not build a base for multiplying skills and enlightenment.

It seemed quite possible to seminar participants to use the contextual model of social process in giving special attention to time or the directional flow of events.

13. EXCHANGES AND TRADE-OFFS AMONG VALUES

Peter suggested that there were possibilities for analyzing the trade-offs among different kinds of value accumulations, in various directions among values and over time. The Lasswell-Holmberg model states that any value may be a base for growth in this particular value (i.e. power for more power, enlightenment for further enlightenment), and also that values serve as bases for other values (i.e. power for wealth, wealth for enlightenment, etc.). For example, the strategy of building or assembling an educational facility (enlightenment institution) requires not only wealth, but also enlightenment itself, skill and probably some respect value. It is easier to see how one could work from base values of power or wealth to other values, but conceptually one could show exchanges starting from any value.

Deuschle described the case of a doctor he knew, who had started with skill values in medicine and who had done a magnificient job in building on this skill value to augment his wealth, power and respect values in his community.

Stein observed that an individual's value position, and what he is striving to attain as preferred outcomes, may turn out to be quite different from what he wants because he does not actually know the chain of causation. Health taboos are a good example. People may not do what is actually required to improve their health because their approach is quite different in ascribing causes of illness.

14. EXPENDABILITY OF VALUES

Block observed that Lasswell's model did not make assumptions as to whether values traded off were expendable or necessarily even decreased. Lasswell agreed that this was a key point. Whether values decrease or actually grow when used is a matter of empirical enquiry. Peter suggested that skill and enlightenment values are among those not exhausted with use, while wealth values seem generally expendable. Lasswell also noted that giving affection and respect does not necessarily diminish the available supply, but that empirical investigations would determine under what conditions giving too much respect might "cheapen the currency." For example, military decorations are symbols of respect. At what point would giving out too many diminish their respect value?

15. INITIATING CHANGE

According to Hughes, the model should be more explicit in stating that there is a change in configuration among the value sectors when change and development are about to take place. In the process of development a change agent comes in, and through a series of initiating processes, he institutes change and tries to upgrade some

of these value sectors rather than others. The total configuration of values changes too, as identified with the social context. Even among the Nigerian "bush gillies" you find the same series of value sectors and processes, but relating to different social objects.

Lasswell commented on the way an observer would characterize the changing. One, the participants change. Some change processes begin by changing the participants in the situation, by shifting the value perspective of the participants. Sometimes this shift is identifiable and various parts can be quickly characterized by their values. In the early days of Vicos, an Indian village in Peru, Professor Holmberg did it by identifying how the participant villagers perceived themselves. The social scientists were interested in getting the people of Vicos to adopt a new method of potato raising. The new method offered the possibility of change in the expectations of the people not only in wealth, but in well-being and respect values. Modifying the participant's perspectives led to modifying the situational organization and the interaction of individuals and sub-groups. One can say that a change could be initiated at any point in the value sectors. At Vicos, the critical innovation may have been in the strategy of initiation.

3

TOWARD A THEORY OF POWER AND POLITICAL STRUCTURE

by

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As cultural and social change moves countries from traditionalism to modernity, and economic change moves them from stagnation in poverty to self-sustaining economic growth, so political change moves their governments, their administrations and their entire political systems from low levels of capability to substantially higher ones. Modernization is politicization. Its progress depends in substantial part on political inputs and services, and it produces in turn a substantially enlarged political sector in the life and the institutions of the country.

If this is so, then there should correspond to each level of social, cultural and economic development an appropriate set of characteristics of its political structure and institutions, as well as of its political processes and the political behavior. If the characteristics are approximated in fact, we may expect the difficulties and tensions of social, cultural and economic transition to be less, and the government itself to be relatively popular and stable. Where there are gross deviations from these characteristics of the political sector, they would need to be compensated for by other structures or processes; or, in the absence of such compensation, we should expect greater tensions and conflicts, diminished political stability, and in severe cases, even a break-up of the body politic in some uncontrolled conflict between regions, or ethnic or cultural communities, or social classes and strata, or else a partial halting of modernization and economic growth.

What has been sketched here is not a theory, but at most some rudiments of one.

The task of this paper only can be to indicate a few directions in which a more adequate theory could be developed.

SOME THEORETICAL CONCEPTS OF POWER

1. *THE POWER TO OVERCOME RESISTANCE*

Power is often visualized as the ability to overcome resistance, either of one's environment in general, or of some specific obstacle, rival or opponent. In this sense, gross power could be measured in principle as the actor's probability of carrying out his own inner program, over and against any programs of his environment. *Gross power* in this sense preserves the inner structure or order of the actor and acts out its implications, while overriding, modifying, destroying or degrading the order of his environment. It thus could be said to preserve the negative entropy of the actor, while increasing the entropy of the world around him. The more power of this kind an actor has, the less he has to adjust his own structure and behavior. Gross power is thus the power not to have to learn.[1]

Where an actor's gross power is not overwhelmingly superior to his environment, however, his efforts to carry out his own program will at best only succeed in part, and in the course of the struggle or interaction with his surroundings, or with his adversary, he will have to accept some changes in his own structure and his own behavior. To keep prisoners in jail, some guards must stay in jail with them. To occupy a country with an unwilling population, the occupying power must keep an army there. Power thus has a *cost* which consists in those changes which the actor must accept in his own current structure and in his program and options for the future. The latter changes are related to what could be called the opportunity cost of power. *Net power* can be thought of, therefore, as the difference between the change imposed by the actor upon his environment and the change accepted by him in regard to himself. Correspondingly, the ratio of net power to gross power could be considered a measure of the *efficiency of power.*

2. *THE POWER TO ATTAIN SPECIFIC GOALS*

Even these views of power, however, are quite inadequate. Power is thought of not merely as the general ability to overcome obstacles, but also as the ability to produce specific results. In this sense, power has been treated by Robert Dahl as corresponding to causality, reminiscent of its view by Francis Bacon[2]

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[1] *The argument of this and the following paragraphs is pursued at greater length in K.W. Deutsch, THE NERVES OF GOVERNMENT, New York, Free Press, 1963, esp. Ch. 7, pp. 110-127.*

[2] *Robert A. Dahl, "On Power," Paper at Annual Meeting, New England Political Science Association, Northampton, Mass., April 25, 1965, unpublished.*

as the ability to accomplish "all things possible." Here the power of an actor can be measured by the increase in the probability of some outcome which the actor prefers. To measure or estimate this power of an actor to produce results, we must know which outcome he aimed at or preferred, and we must also know the *autonomous probability* of this outcome; that is, we must know how likely it would have been to occur in any case, without the actor's intervention. Such estimates can be made directly only for repetitive classes of outcomes, such as the passage of bills through a legislature, and they can only be extended by more or less uncertain analogy to relatively unique cases.

The more specific and improbable the goal or result is at which an actor is aiming, the more information will be needed for its description, and the greater will have to be the actor's power in order to attain it. This power to attain specified and improbable results presupposes some *self-control* of the actor, that is, some power to control himself and the distributions of his decisions, his resources and his actions. A charging elephant can overrun an obstacle but he is powerless to thread a needle. A nuclear bomb can wipe out a city, but it may be powerless as an instrument to govern it.

Indeed, the power to produce specific results thus requires several things. From the actor it requires power resources and a net power margin vis-a-vis his environment. It requires his self-control. It also requires his ability to make decisions and to keep to them. This capacity for decision maintenance implies the ability to subordinate the effects of post-decision messages to those of pre-decision ones. This is again a form of the capacity not to learn; and it is what we may call *will*. Finally, any complex actor - whether an individual or a group - may have to deal with several streams of information and several decision sequences at one and the same time. This will require some capabilities for their simultaneous monitoring, inspection and confrontations in highly abbreviated form, so as to permit the making of overall decisions to maintain their compatibility with one another, with the realities of the environment, and with the image of the state to be preserved or the goal to be attained. Complex actors will thus require some capabilities similar to *consciousness*.

3. *POWER AND THE FEEDBACK PROCESS*

Already the ability to accomplish some single specific result requires the actor to be able to utilize *feedback* information.[1]

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[1] *For a recent application of the feedback concept to politics, see also David Easton, A SYSTEMS ANALYSIS OF POLITICAL LIFE, New York, Wiley, 1965.*

From the outside world the actor must receive information as to where his target or goal situation is located in some relevant space; he must also receive information about the state of his own acting system and about its distance from the target; and he must be able to use this information in guiding his future actions so as to reduce his distance from his goal. This implies the operational equivalent of a criticism of his own behavior. If the current behavior of an actor is carrying him closer toward his goal, feedback information of this kind will tend to maintain or increase his current actions. If his current behavior, however, is carrying him farther away from his goal - for instance, he may have overshot it, or the goal itself may be moving away from its old location toward which the actor still is going - then the effect of such feedback information should be to oppose it, to reduce it, or to change or reverse its direction. For this reason, feedback of this type is called *negative feedback*, or *goal-seeking feedback*, since it tends to negate or change all behavior that does not bring the actor closer to his goal.

In all fields, negative feedback requires that the actors guide their future behavior by taking into account some information about the state of the outside world, the state of their own system, the results of their own behavior, and the operational equivalent of some memory or image of their own goal. In politics, this means that governments, parties, or leaders must know realistically not only their own goal, and the state of the outside world, but also and first of all the state of their own resources, supporters, and organizations, and the results of their own past actions. They must know not only whether their recent supporters still ought to be with them, but whether they are in fact still with them, and not only whether their recent policies ought to have worked, but whether in fact they did work, in what direction and to what extent. Political actors need, therefore, quick and realistic *internal intelligence* about their own supporters and their own recent performance, even more than they need external intelligence about their adversaries and about the larger political environment, both domestic and international.

Practical politicians know this all too well. Just as a general must know first of all who and where his own soldiers are, before worrying about the identity and location of his enemy, so many a political leader pays attention first and foremost to his own supporters, for they are normally the first source and basis of his power. Indeed, he may do this so thoroughly that he may have little or no time and attention left over to watch or understand his adversaries, and he may pay least attention to the bulk of the as yet uncommitted, undecided or apathetic population which may be the decisive group for the long-run outcome.

Communication and attention overload often tend to increase further this usual propensity to self-preoccupation on the part of political leaders, interest groups, and particularly of

national states and governments, and they thus tend to reduce their power to attain their goals or even to preserve themselves as effective political actors.

4. *THE INTERCHANGE OF POLITICAL SERVICES AND LOYALTIES*

The feedback relations between governments, on the one hand, and their actual or potential supporters, as represented by the individuals, families, and households of a country, on the other hand, are a major source or their power. Talcott Parsons has analyzed this feedback relationship into two major interchanges.[1] The first consists in the stream of specific demands and expectations directed by the population to the political sector, and hence to the government, and in the exchange of this "upward" stream for a "downward" stream of specific and relatively binding decisions and allocations which are flowing from the political system and from the government to the population. This is a form of "log-rolling" or the political equivalent of barter. To the extent that a political leader or government makes specific allocations or decisions wanted by the population, they receive specific support in regard to these particular matters.

As the leader or government continues, however, to produce allocations and decisions most of which are needed and wanted by the people, and few or none of which are bitterly resented, his actions may tend to build up among the people a set of memories and expectations regarding not only this or that specific decision or allocation, but rather popular expectations regarding much broader classes of such allocations and decisions, and finally regarding all decisions their government or leader is expected to make in the salient future.

This leads to the second kind of interchange. Now the government accepts the *general* role of responsibility for large classes of decisions, and eventually perhaps even the residual responsibility for all decisions, allocations and needed services that are not supplied effectively and acceptably by any other actor or agency in the society. In European history, something of this shift is illustrated by the change from the limited secular government of the middle ages to the princely states of the 16th and 17th centuries, whose rulers claimed the role of "fathers of the country" but who accepted with it, at least in principle,

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[1] *Talcott Parsons and Neil J. Smelser, ECONOMY AND SOCIETY, Glencoe, Ill., Free Press, 1956, pp. 46-85. Cf. also K. W. Deutsch, "Integration and the Social System: Implications of Functional Analysis," in Philip E. Jacob and J. V. Toscano, THE INTEGRATION OF POLITICAL COMMUNITIES, Philadelphia, Lippincott, 1964, pp. 179-208.*

some responsibility for peace, prosperity, food supplies, public health, and education -- in short for everything that happened to their subjects - except, in those days, any responsibility for ensuring them an expanding sphere of self-government and freedom.

In exchange for this general - and it should be noted often popularly desired - acceptance of responsibility, the population in turn may tend to develop *generalized* feelings of loyalty toward a particular leader, covering now also some unpopular decisions. This generalized loyalty may extend farther. It may cover some roles or offices, such as kingship or the presidency, including even some unpopular incumbents; or it may cover entire governments, covering also some unpopular institutions as well as policies. It may extend to regimes or to systems of government, such as constitutionalism, covering also some unpopular laws, or loyalty may become attached to particular policies, such as economic and educational development, regardless of the change of constitutions or their abolition. Finally, generalized loyalties may become attached to ideologies, such as Communism or Anticommunism; or they may become attached to a country or nation, regardless of the changing regimes, policies, constitutions and ideologies that may currently prevail in it.

In all these cases, however, generalized political loyalty is a product of social learning. It is a set of habits and expectations learned from experiences of specific responses made by governments, parties or leaders in answer to specific popular needs. In the long run, generalized political loyalty will persist unchanged or become stronger, if the stream of specific experiences with specific political decisions will continue to reinforce it. Where this is not the case, generalized political loyalties are likely to erode. They may again become specific, so that support again becomes piecemeal and contingent on prior or concurrent political performance. Or the disappointed population - and particularly its most disappointed or frustrated groups or sectors - may transfer some or most of their support to some counter-elite, opposition group or other source of alternative leadership; or they may even for a time fall into more general political alienation, anomie, and apathy.

Generalized loyalty is thus a form of political credit extended by the population to the government. Like economic credit, it usually must be earned and maintained by actual performance, even though it sometimes can be gained briefly by the shrewd manipulation of symbols and appearances. This performance required to maintain for a government its political credit in the form of the generalized popular loyalties of the population has a two-fold character. First, the preponderance of the ensemble of specific decisions of the government must continue to be popular, and second, they must stick. They must be "binding"

or "authoritative."[1] That is to say, they must be tolerated and complied with voluntarily by a sufficiently large proportion of the population to make it practical for the government to enforce them against the small minority of violators; and they must be so enforced with a sufficiently high probability, so as to reinforce the habits of compliance of the mass of the people. (If enforcement should also be frequent enough to reduce the probability of non-compliance, this would be of additional assistance to the government, but it is not essential. If every single rebel or lawbreaker should repeat his offense after punishment, or if for every executed offender another would step forward to continue the offense, the government still could cope with the situation, so long as the proportion of such rebels, lawbreakers or offenders remained low.)

5. *POWER AND COORDINATED EXPECTATIONS*

Generalized political loyalty and political credit are also based on the coordination of expectations among the population, as well as among the soldiers and officials of the government themselves.[2] The individuals in the armed services, public administration, and among the general population obey the government in part from preference or habit, but some of them also obey it because they expect most other men to obey it, and because they fear, therefore, to be isolated or punished for any act of disobedience, or nonconformity. Once this general expectation of widespread obedience to, or support of, the government should be weakened or abandoned, its latent opponents may oppose it openly. Its "fair-weather" supporters may retreat into cautious tacit sympathy, or into indifference, or they may even shift their loyalties still farther. The converse holds, of course, for any hard-core opponents of the government. If they succeed in establishing widespread expectations among the people that the government will fall, many of their opportunistic or passive symathizers may become active in politics or even in civil war, while many government supporters of this type may withdraw from the arena.

The coordination of expectations in either direction in a situation of limited or latent conflict sometimes can be established, or broken up, by an act of deliberate *escalation*. This might consist in some spectacular event or move, such as a bold challenge, a resounding victory, or a quick and spectacular resort to enforcement or violence in a tense situation of latent

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[1] *Cf. Talcott Parsons, "An Outline of the Social System," in T. Parsons, et al., eds., THEORIES OF SOCIETY, New York, Free Press, 1961. p. 53; and David Easton, op. cit., pp. 352-357.*

[2] *For the concept of coordination of expectations, and of "games of coordination," see Thomas C. Schelling, THE STRATEGY OF CONFLICT, Cambridge, Harvard, 1960, pp. 92-99, 283-286, 293-295.*

or limited conflict. Such a deliberate act of escalation will be the more profitable to the actor who resorts to it, the more the behavior of the ensemble of relevant actors depends on the coordination of expectations, and the less it depends upon their own autonomous preferences or upon other autonomous factors influencing its probability. Where, when and if individuals or nations are mainly opportunistic, cowardly, greedy, and lacking in any strong autonomous motives and preferences of their own, - or wherever they are perceived as being such weak and shallow opportunists - there the familiar images of the "band-wagon effect" the "row of dominoes," or of British naval discipline of the days of Captain Bligh or of Billy Budd will seem to apply. Wherever, on the contrary, autonomous factors and motivations exercise a strong influence on mass behavior, even if this influence should be latent for a time, there attempts at escalation, intimidation, "making an example," or otherwise trying to prevent, break-up, or reverse an autonomous change in mass expectations are extremely risky. In international conflicts, escalation may prolong and intensify a war, or precipitate a larger one. In domestic politics, escalation may be fatal to the side or regime that is trying to compensate by a show of firmness for its dwindling popularity.

Where the government has sufficient support, however, among the politically relevant strata of its country - and in the course of modernization these strata tend to include an ever larger sector of the population - there the government can use the power which it has at any one moment, so as to strengthen both the coordination of popular expectations of its continued power and the popular support for the substance of its policies as genuinely responsive to the needs and aspirations of the population.

In this manner, the government can build up its political prestige at home and abroad, and thus its political credit. By so doing, it can strengthen its actual power, and thus its political equivalent of cash; and it can strengthen its resources to apply force as a last resort on damage control mechanisms, and thus increase its political equivalent of a gold reserve that can be thrown on the market in an emergency, and that can be publicly displayed even earlier in order to stop an incipient panic.

6. *POWER AS A CURRENCY*

Power, so considered, functions as a currency in facilitating and coordinating political cooperation and support among individuals, groups, and nations, somewhat as money facilitates the coordination of their economic efforts.[1]

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[1] *Talcott Parsons has developed the concept of generalized currencies of social interchange, analgous to money, and applied it to politics. See works cited in notes mentioned previously.*

Governments function in this respect somewhat as bankers do. Both governments and bankers use promises as a means to coordinate many actions of their clients, or in the community at large. Bankers promise to repay the deposits of their clients, while governments promise to enforce their laws and commands. In fact, however, bankers lend out far more money, and thus create far larger deposits, than they could repay from their reserves, if all depositors should ask at the same time for their money; and governments promise to enforce far more laws and orders than they could in fact enforce, if all or most of their subjects should decide at the same time to challenge them.

From this viewpoint, a revolution is to a government as a run is to a bank. In the short run, each can be met by short-term methods: a bank run by gold or cash, and a revolution by force or power. In the long run, however, both banks and governments tend to survive better, the less often they have to meet such spectacular short-term crises and the more they prove themselves able to cope with the stresses of their environment and to satisfy the needs and aspirations of the people upon whose support they must depend.

If power resembles money in these respects, it differs from money in others. Though both power and money can be thought of in such limited quantitative terms as "more" or "less;" power resembles the pre-monetary media of exchange in some primitive societies in that it lacks any general numerical standard. As in the case of money, any numerical standard for power would have to be widely accepted in the society in which it was to hold. At most, however, students of power have attempted to use only very partial standards such as votes, soldiers, tanks and aircraft, tax payments, compliance rates with laws, or the more vague calculations of aggregate resources that are used to estimate the "power potential" or "war potential" of a country; and whatever consensus there has been reached on any of these partial indicators of power resources has been vague rather than precise.

7. *EFFECTIVE POWER AS "THE CHANCE OF BEING OBEYED"*

If the resources and capabilities of an actor indicate his potential power, the rate of the compliance or obedience of others to his demands indicates his effective power in operation. This notion resembles the notion of the effective purchasing power of money. Strictly speaking, effective political power would be the net rate of compliance which would measure the difference between the gross rate of observable compliant behavior and the autonomous probability of such behavior, that is, the likelihood that it would have occurred in any case without the intervention of the power wielder. Using this non-autonomous shift in the rate of compliance of others as an indicator of effective power comes close to the well-known definition by Max Weber of

"dominance" (*Herrschaft*) as the "chance of being obeyed."[1]

This view of effective power, as the increase in the probability of being obeyed, has three implications for the problem of political development.

First, it suggests that for a wide range of situations and levels of development there may exist an amplifying feedback relationship between the power of a government and the capacities of the population for complying with its orders. The stronger the government, the more easily it can teach, train, indoctrinate and reorganize its subjects to comply more fully and effectively with its orders. The more its subjects or citizens do so, the more powerful the government will become. This amplifying feedback cycle seems to have been repeated successfully in such countries and periods as Tudor England, the rise of Brandenburg Prussia, and perhaps in the rise of the Soviet Union after 1917.

The second implication is somewhat different. As a government becomes more powerful, it becomes more capable of enforcing its demands. When the government uses its capabilities for enforcement, however, the results will depend in large part on the *autonomous probability* of the compliant behavior that is now to be enforced against transgressors among the population.

If such transgressors would be few in any case, enforcement against such a small minority should resemble a weak amplifying feedback process: it should be cheap, and it should reduce the number of transgressors still somewhat further. Since the transgressors were few to begin with, the process will slow down very quickly and eventually come to a halt. If such transgressors should be many if enforcement were highly probable, but few, if it were not, then enforcement would indeed be a strong amplifying feedback process, highly productive of both popular compliance and of governmental power.

If, however, overt or latent transgressors should be very numerous, and if the autonomous probability of non-compliant behavior should be high, then the attempts to enforce the government's commands may well prove to be counter-productive. They may then shift more of the latent transgressors into overt opposition, and trigger off more active resistance. In extreme cases, this should lead to an amplifying feedback process in the opposite direction to that intended by the government, with enforcement breeding

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[1] *Max Weber, THE THEORY OF SOCIAL AND ECONOMIC ORGANIZATION, transl. by A. M. Henderson and Talcott Parsons, Glencoe, Ill., Free Press, 1947, p. 152. Cf. Karl W. Deutsch, "Diskussion über 'Max Weber und die Machtpolitik'," in Deutsche Gesellschaft für Soziologie, MAX WEBER UND DIE SOZIOLOGIE HEUTE, Verhandlungen des 15, deutschen Soziologentages, Tubingen, Mohr, 1965, pp. 138-145.*

popular resentment and defiance, defiance breeding more enforcement, the increased enforcement provoking more popular hostility, until the overstrained political system breaks down in civil war or revolution. History is replete with examples of this process.

Actual countries and political systems most often seem to be somewhere in the middle between the alternative extreme cases just sketched here. Their populations are sufficiently willing to obey their governments, and their governments are sufficiently cautious and limited in trying to enforce only those commands that are likely to be obeyed in any case by most of the people, so that a moderate amount of enforcement makes the government stronger. At the same time, there are sufficient limits to what the people will obey, and what the government can enforce without provoking widespread popular hostility, so that the government becomes weaker, not stronger, whenever it oversteps these limits. The entire process for most countries resembles most nearly a negative feedback process, which tends to enhance or reward more government enforcement up to some optimum point, but to oppose or penalize it beyond it.

8. *POWER AND VALUE PRODUCTION*

In all cases, the power of the rulers depends on the capacity and willingness of the ruled to obey. If the rulers want and value power, and wish to get more of it, then they are facing here an instance of the general rule that the allocation of any value also depends upon the ability of the society and population to produce it. As the allocation of wealth also depends on the people's ability to produce wealth, so the allocation of deference also depends on their ability to express respect, the allocation of affection depends upon the ability of persons to feel and express affection, and the allocation of power depends upon the population's ability to act, to comply, and to obey.[1]

It follows from this, that - if other things remain equal - the power potential of a government increases with the capacity of its subjects to act. If popular willingness to obey is taken for granted, then governmental power should increase with the population's wealth, their skill, their well-being, their enlightenment - in short, with their command of capabilities and values.

Exactly this general popular level of capabilities and values, however, may reduce men's motivations to obey any commands that are not autonomously acceptable to them. Insofar as modernization implies an increase in the capabilities and value positions of the population, therefore, it may lead to a paradox. It

[1] *This point is developed at length in K. W. Deutsch, "Some Quantitative Constraints on Value Allocation in Society and Politics," BEHAVIORAL SCIENCE, pub. sched. 1966-67.*

makes governments more powerful against outsiders or outside influences, but more dependent upon popular consent at home. Modernization thus generally makes countries harder to govern. It imposes a rising cost upon foreign intervention. And if it also requires, as it usually does, a larger flow of government decisions and government services, then it makes greater governmental power both more urgently needed and harder to attain and to preserve. This makes viable solutions to problems of political development not impossible, but difficult.

SOME IMPLICATIONS FOR DEVELOPING COUNTRIES

If the theoretical approach just sketched should have any merit, then it should be possible to develop quantitative indicators for many of the variables and parameters of the process. It should also be possible to develop a sharper and more explicit model of the power process in developing countries, and to developing techniques for at least partial computer simulation. A beginning in these directions is being made at the Yale Political Data Program, and significant research is going on at many centers in the United States; but the road will not be short.

Pending these long-range developments in research, we can sketch out some tentative guidelines for further thought about the theory and policy of political development, and suggest some hypotheses for exploration and testing:

1. In a developing country where social and political stability is relatively high, the government will need the more power, the greater the changes are which it aims at producing in its society. The need for political power will thus increase with the extent of the economic, cultural and social transformation needed by the country, or aimed at by its rulers; and this need for political power will further increase with the improbability of this transformation being accomplished automatically within a relevant time by some forces of the market or of social evolution.

2. In developing countries that have entered a phase of very rapid social change, or of revolution, it may require much more political power for a government to stop or slow down this process than to adapt to it and to try to give to the process of change some limited guidance. While more power would be needed to arrest far-reaching social changes in countries, the fact that such changes are already underway may make it difficult or impossible to recruit sufficient conservative political power within the country; and foreign intervention may run into rising costs, if its main thrust should be opposed to the trend of autonomous change already at work in the society.

3. To guide developing countries and societies through this stage of transformation, rapidly and yet in a controlled manner, may

require the largest amounts of power and the highest skills.

4. The educational, cultural and biological variables indicated by six of Harold Lasswell's value categories - enlightenment, well-being, skill, affection, rectitude, and deference - are not mainly matters of "super-structure," as some popularized versions of Marxist doctrine have asserted.[1] They furnish, on the contrary, crucial elements and partial preconditions for economic development and political modernization. The recent acceptance by some economists of the concept of an "infrastructure" for economic development - a concept which includes literacy, vocational skills, public health, and habits of discipline in regard to work and thrift - perhaps indicates a growing acceptance of this view.

5. Vigorous economic and social development may require, therefore, first of all an early, limited "down payment" in terms of these six educational, cultural and biological values and capabilities, as well as an early "down payment" in terms of a limited amount of accumulated wealth.

6. A crucial second stage of the modernization of a country may then be the early accumulation of political power in the hands of a government that has the strength, enlightenment and skill to act, and that is backed by political mass support and by the popular values and attitudes of deference, righteousness, and affection.

7. A government with such capabilities and powers, backed by such mass support may then be most likely to succeed in guiding its country and people through the higher stages of economic and political development. These stages will then involve faster rates of capital formation, increases in economic and social skills, larger sectors of government spending and of administrative skills, manpower, and responsibilities.

It should be possible to specify quantitative data for many of the levels of development and capabilities, sketched in the preceeding seven points. To do this even briefly, and to discuss the relevant problems of measurement and judgment, would require another paper. To do it with any thoroughness would require a major study. It may be worth bearing in mind, however, that at least intellectually and in principle, the job can be done.

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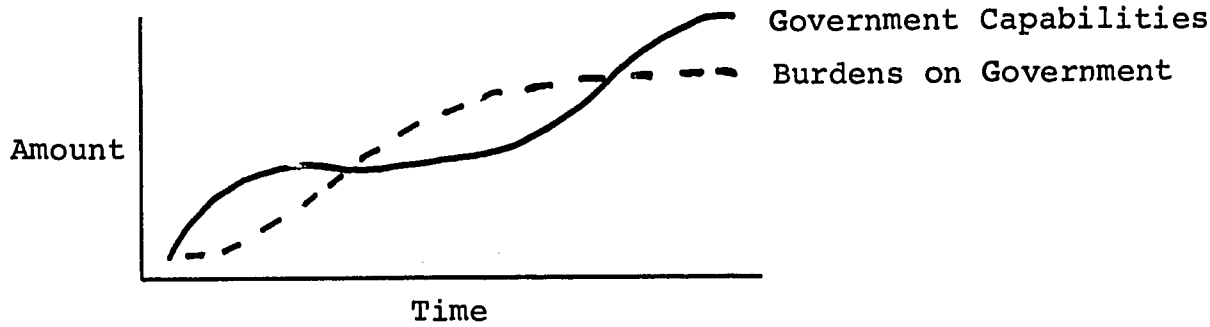
[1] *For a list and discussion of these categories, see Harold D. Lasswell and Abraham Kaplan, POWER AND SOCIETY, New Haven, Yale, 1950, pp. 55-102.*

Discussion

1. *GOVERNMENT CAPABILITIES VS. POPULAR DEMAND*

Esman questioned the proposition that modernization makes countries harder to govern. It appeared to him that the early transitional stages might be hardest, when severe economic, ethnic, religious and class problems exist, and when governments are inexperienced and have low capabilities. Deutsch said that as a nation grows from the initial, parochial, tribalized system of government, and shifts to a more reasonably centralized state, government capabilities usually increase faster, at first, than demands on its services do, as illustrated in the diagram.



There often follows a period during which the capabilities of the state to provide services increase rather slowly. In a later period, it begins to build roads and to set up educational systems, again substantially increasing its capabilities. In the meantime, however, popular demands on the state often follow quite a different curve of growth, depending on the cultural setting. In the early stages, there are peasants in villages and townspeople in guilds or bazaars who make few demands which cause problems for the government. With the growth of more industry, more mercantilism - the effects, in a way, of a commercial revolution, there are demonstration effects in all directions. Then, the population begins to make widespread political and service demands, severely taxing the government's capabilities in the public sector. Revolutions, such as resulted in France, may seek forcibly to equalize the distribution of available services. However, the government may not be overthrown; it

will have a hard time staying in power, and may resort to expedients such as military take-over, dictatorship and foreign adventure to retain its position. Eventually, if it survives, it increases its capabilities again quite considerably, even beyond the current level of popular demand. The periods when the government's capabilities lag behind the people's demands for services are, of course, the dangerous decades. Many former colonies went through periods in which they were considerably undergoverned or underserviced in the public sector in relation to their needs.

The diagram does not describe a curve of fate, but a curve people make by their own decisions. A physical improvement in government services may increase not only the governmental capabilities, but, after only a modest lag, the claims made on the government in the next time period. For example, providing a good road system increases the government's capabilities because troops and officials can now get around. It also increases governmental burdens because the people can also get around. Mobility stimulates the acquisition of additional needs.

2. *MEASURING SERVICE DEMANDS AND GOVERNMENT CAPABILITIES*

Lasswell suggested that the modernization sequence is usually accomplished at costs (value deprivation) to those involved, whatever the goals of future value indulgences. He thought that a generalized formula might be found, to guide research, comparing the curve of value loss and gain during the development sequences in different situations.

Deutsch believed that the curve of public claims for government services probably has to be taken as given. It is difficult to argue that a government should slow down the growth of literacy demanded by a population even if some other program seems, in theory, to be more important. The claim for services which will increase the survival rate of children cannot be slowed down for people know that it is not inevitable for children to die.

One of the first things that should be done, however, is to learn to understand and measure the curve of public claims as clearly as possible, through studies in a number of countries. We would then know where we stand - not only what are the present burdens on the governments, but what burdens are expected ten or fifteen years in the future. This would help those concerned systematically to plot future capabilities needed, and would make it possible to increase the accuracy and usefulness of social forecasting.

Deutsch felt that the recent history of Kenya as contrasted with Rhodesia illustrates the possibilities of anticipating problems and planning ameliorative government solutions in advance of crises. Both countries faced the prospect of independence and the problems posed by their minority white settlers. In Kenya, a compensation

scheme was worked out, previous to independence, guaranteeing a fair price to white settlers should they prefer to sell out rather than stay. In Rhodesia, no comparable plan was made for easing either the economics nor the politics of the transition. The difference in the techniques of underwriting and assuring the white settlers undoubtedly helped account for the increased hostility and antagonism among negroes and whites in Rhodesia, as compared with Kenya.

What seems to be needed is more study of the psychology of reassurance in political development and modernization programs. We also need to know more about prejudice of all kinds and its decay rates, to learn which predispositions to prejudice of different kinds and strengths are subject to what change and reduction.

3. *WELL-BEING AND SKILLS IN INFRASTRUCTURE*

Deuschle commented that public health, in earlier years of AID's predecessor agencies, had been excluded from the concept of infrastructure for economic development. Now, it appears to be accepted, along with concern for population growth and education. Sperling reported that this was a relatively recent development, but confirmed that public health is now among the highest AID priorities as one of the three "new initiative" - food (agriculture), education, and health. Deutsch concurred with Deuschle that this was most encouraging. He thought it fundamental that people should plan for the long-range future - should invest in their skills, and therefore in the insides of their skulls (education). We are assuming that people *have* a future when we plan for it. The plans are predicated on a reasonable life expectancy, which requires public health. A preponderance of modern thinking is concerned with investing in people and investing in skills as investments in the future.

One can build a system either by making a more and more complex system out of cheaper and cheaper parts, or alternatively, by increasing the value and capability of the components. Human progress has been typically based on upgrading the capabilities of the human components of social systems. Deutsch set this up as a general proposition in systems theory: human systems improve not by degrading but by building up the human components. The better governmental and industrial organizations of the future will be those in which individuals are *more* valuable.

4. *FEEDBACK TO GOVERNMENT*

Several members of the group raised the question of how a government can accurately get critical, or negative, feedback from the population in order to guide its actions. Deutsch explained that one way would be to tolerate a multi-party system, as in India. Opposition parties are not strong enough to replace the rule of the Congress Party, but are certainly able to supply negative feedback and force

a good many local changes. Other methods of obtaining feedback are to have the bureaucrats disguise themselves and mingle with the citizenry. Or, the government can get reports from the secret police, concierges, party block members and other eyes and ears of the state. These last methods tend to be highly inefficient because subordinates report what their superiors want to hear. There is no government, however dictatorial on the surface, that does not try, at least, to get some sort of feedback. One might even argue that a government which makes explicit provision for criticism is likely to be a lot more efficient than one which does not.

The traditional interest groups -- landowners, army and church - may give a little feedback to government, but typically are better at disseminating information downward than upward. In a few countries the churches are beginning to become the spokesmen for the poor.

The legalization of systematic opinion polling on a sampling basis helps. The very idea that thousands of people can be asked something provides the possibility of feedback.

A government is more likely to make effective use of feedback, thinks Deutsch, if it permits different opinions to be held among its bureaucrats, as the feedback of public information then helps resolve the differences in favor of one side or another. If there is only one "line," one bureaucracy and one "truth," then, even if there is feedback, it is likely to be accepted when it confirms the "line," but rejected if it contradicts the 'truth.'" Deutsch felt that the feedback problem is a crucial one for all governments.

5. *SOURCE OF ELITES FOR CHANGE AND MODERNIZATION*

Lasswell initiated a discussion of the components of the elite which is taken as the starting point for the sequence of development activities sketched by Deutsch. Where do they come from, and how do they become modernizing in their approach?

Deutsch said that the image of development which he described is that of an assembly line. There are a number, though not an infinite number, of viable processes for assembling a developmental sequence. At least a minimal societal capability in economics and culture is necessary for the accumulation of any political power. There must be some capacity for mass communications, for maintaining discipline, and for the coordination of social change; these all contribute to the ecology of political power.

If everyone's behavior is completely determined by habit, power cannot be exercised. Indeed, if all the resources of society are already committed to a particular culture pattern, change will be impossible. There must be some loose ends, some attention that can be shifted, some uncommitted manpower and resources. It follows that the least committed members of the elites are the most promising

groups to start some different power and political development. Historically, they have been members of marginal elites. There have also been cross-class coalitions of peripheral members of in-group elites with the ablest and most energetic members of out-groups. It seems to be a fairly regular pattern that it is these elites which form the take-off group and get change going.

Which elites are most pro-modernizing is a fascinating question that could be answered through a major research project. For instance, Deutsch said, the military could be studied, the hypothesis being that those groups requiring high technical skills, and therefore high willingness and capacity to learn, would be more pro-modernizing than those who do not require such skills. An Army elite dominated by non-technical cavalry colonels (such as the Polish Army before 1939 who turned down tanks because they don't eat hay), is not likely to be pro-modernizing. On the other hand, such groups as the Air Force, the Motor and Tank Corps, the Signal Corps, the Engineers and Medical Corps, are likely to have higher technical requirements, be more open to pro-modernizing ideas, and hence be potentially more innovative.

The same approach might be used in studying the relationship between elite groups and their technical requirements and innovation - orientation in other public sectors, and in the private sector. The elites interested in road building, civil aviation, automobiles and communications might be of special interest for study. The importance of having elite groups with high technical requirements and innovation-orientation helps explain why it is not desirable to have all highly technical industries foreign-owned and operated, even if this were more efficient in the short run. Companies in these important sectors have not only an immediate production and service function, but also a training function. They help to supply the external economies and innovations to other branches of industry. This is done in native companies, which naturally provide experience for native technicians and executives. It can also be done through systematic nativization at all levels; such programs are undertaken by many foreign industrial organizations.

Another question, which has to be answered empirically, is what the sons of existing elites in the developing countries study, and what they do with their training. To what extent are they being trained in the technical and innovation-oriented fields necessary for modernization and development of their countries?

Lasswell questioned whether the marginal elites committed to change are necessarily predisposed to modernization, and proposed that only those elites are pro-modernized who expect to get some advantage from the modernizing process. Moreover, it seemed that what constitutes a modernizing pattern would have to be defined by the scientific researchers. Deutsch agreed that the uncommitted elite may be for any change, whereas the modernizing elite is interested in continuing technical modernization, not just modernizing its consumption

function. It is interesting that technical development gets among other things, a feedback from nature. Every machine is, in a certain sense, a piece of nature; the machine works if it is treated right, but doesn't work if treated badly. Modernizing a production pattern requires also increasing skill and enlightenment values so that the capabilities for continuing modernizing production exists.

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WEALTH AND THE ECONOMY

by

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Parts of this paper are a summary from a manuscript on "Technical Advance and Economic Theory," now in process.

INTRODUCTION

I interpret my assignment as being to discuss economic "growth," the process by which the affluence of a society increases. (Economic progress might be a better term, but since the term economic growth is normally used, I shall use it.) The central feature of the process is technical change, and this in turn involves changes in the economic roles of individuals. By this last I do not refer merely to the change in economic role which is normally associated with advancement in the age of the individual. In a fundamental sense, that is not a change in role at all, but merely a shift from one aspect to another of a normal life-time role. Rather, I refer to acceptance of an economic role which, in the society being discussed, has not previously been adopted at any stage in the life cycle of the individual. Such acceptance of new economic roles, in order to gain increased income or for some other purpose, is a necessary part of economic growth.

I think it may be taken as an axiom that almost every individual of any society is, in a certain sense, an "economic man." Except for a few deviants, every individual prefers more goods--more income--to less, *other types of satisfaction being equal*.

Marion Levy[1] has summarized the matter: "There are no doubt important differences of degree as to how much the general members of a society are interested in material factors; but sanctimony aside, there are no societies in which the members as a whole are bent on spiritual matters to the total exclusion of material ones."

On the foundation of this fact of the universality of economic interest, many economists and some sociologists have constructed analytical models which explicitly or implicitly assume that the economic variables which affect human behavior operate independently of the other variables which affect it. Such models--models which have no variables except economic ones--are of course the basis of

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[1] *Marion J. Levy, Jr., "Some Structural Problems of Modernization and 'High Modernization': China and Japan," in PROCEEDINGS OF THE SYMPOSIUM ON ECONOMIC AND SOCIAL PROBLEMS OF THE FAR EAST, E. F. Szcepanik, ed., Hong Kong University Press, 1962.*

all modern economic theory. But economists (not all economists, of course) have applied them not only to societies considered at a given point or short period of time, but to economic progress. The barriers to economic advance in low-income countries are thought to be that income is too low to permit saving, or that markets are too small to induce investment in modern factories, and so on; the only inducements which are conceived of as stimulating economic progress are the economic inducements; and few factors other than these economic ones are thought of as important.

And some sociologists have conceived of economic relationships as forming a subsystem within society which can be analyzed as a separate system, its relationships with other subsystems such as the political then being considered in a second stage of analysis.

The economic theorizing has provided powerful insights into economic behavior within a social system whose structure, in the appropriate sense, is not changing materially. Perhaps the sociological models referred to may be useful for similar analysis. However, for the study of technical progress or other processes which involve change in the structure of the society, these sociological models seem to me to run the danger of being sterile, and the economic ones of being not merely sterile but pernicious.

To be most fruitful, I suggest, consideration of whether an individual (or a group of individuals) will seek or accept a new economic role, in the sense defined above, must recognize that doing so will affect his position in the power and political structure; the recognition, i.e. love and affection, accorded him; his well being and health; his opportunity for enlightenment as he conceives of enlightenment; his opportunity to exercise his skills, and the degree of creativity he must exercise (an increase in which may cause him either satisfaction or anxiety, and thus be an inducement or a deterrent); and his sense of rectitude and morality. (I would add that it will also affect his position in the religious structure; I think that his relationship with the supernatural powers he believes in comprehends something more than position in the power structure or sense of rectitude and morality.) His action will be determined by the net weight he accords to all of these changes in satisfaction; they are elements within a single system of action.

It is the purpose of this paper to spell out as specifically as possible within the limits of my understanding and the length of the paper, the nature of some of the gains and losses in these various dimensions involved in economic progress in low-income societies. It seems to me that it will be most useful to spell out, at some length, the nature of the relationships between economic and non-economic variables which in my judgment affect the process of economic growth in important ways. The bulk of the paper will be concerned with these relationships in two illustrative cases, change from bazaar to retail store and from cottage industry to factory. (This material is summarized and in part directly quoted

from a manuscript on "Technical Advance and Economic Theory," on which I am now working.) The narration of these processes of change, as I view them, in itself makes analytical points which I think are directly relevant to the interests of the symposium. In a concluding section I suggest some corollaries and extensions and also add some *obiter dicta* that seem relevant.

1. FROM BAZAAR TO STORE

Let me take as the first case the difficulty of a shift from the bazaar to Western style retail trading. In the bazaar, every small transaction involves a prolonged process of haggling over the price. It seems fairly obvious, at least to a Westerner, that conversion to a Western type of fixed-price dealing would save much time and thereby increase productivity markedly. The concept of fixed-price dealing is not a complex one, and the knowledge needed--the simple accounting of overhead costs and inventory control--is available. Why, then, does the process go forward so slowly in many areas?

I summarize some of the facts of the bazaar system from the discussion by Clifford Geertz in one section of his book Peddlers and Princes.[1] His discussion is of a town in Java, but with some adaptations it has widespread applicability.

The Bazaar System

The most conspicuous feature of the bazaar system is the bazaar itself, in which many petty traders, in stalls or on portable stands or simply at convenient spaces on the ground, sell unbulky, easily portable, easily storable goods. Each sells them in a large number of small transactions; the total number of transactions per day in the bazaar as a whole may be enormous. There may be very rapid turnover of goods and thereby of capital; the sales of each day may represent a large fraction of the dealer's total stock.

The price in each transaction is fixed in a process of prolonged haggling with each customer. This sliding price system, which in its turn is the most conspicuous feature of the bazaar itself, seems inevitably to develop where goods are unstandardized, and the value of the labor time spent in bargaining is low relative to the gain in the price of the goods which may be achieved.[2] It is

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[1] *PEDDLERS AND PRINCES: SOCIAL DEVELOPMENT AND ECONOMIC CHANGE IN TWO INDONESIAN TOWNS (Chicago; Chicago University Press, 1963.)*

[2] *These reasons are mine. Geertz states that it occurs "where economic conditions are unstable, market information poor, and trading hyperindividuated." (PEDDLERS AND PRINCES, p. 36). The hyperindividuation seems to me to be a result rather than a cause.*

worthwhile to reflect that bargaining occurs in high income societies when the same conditions pertain, as for example, in exchanging a used automobile in part payment for a new one, or in arranging a large business loan from a bank.

Within the volume of patronage of the bazaar as a whole, each dealer, situated between neighbors selling the same item, obtains his customers more or less by chance. The conspicuous competition is between seller and buyer, not between seller and seller. The gleam in each seller's eye is at the prospect of making a "killing" on an individual sale. If this is barred by the shrewdness of the buyer opposing him, at least he must avoid being defeated in the haggling process by failing to make a sale with at least a minimum profit once the process has been entered into. There is little attempt to lure customers from other sellers, and to attract a steady clientele is of very minor importance among the goals of the individual trader. Presumably, attracting customers would have to be primarily by price competition, and holding them by building a reputation for selling at low prices. Not only is establishing a clear price differential difficult, since usually the goods are unstandardized. In addition, to develop a reputation for selling at low prices would require foregoing most of the haggling which lends spice to the occupation, and by which an enlarged profit can occasionally be made.

Behind the bazaar lies an elaborate manufacturing, processing and trading mechanism, partly at the bazaar site itself, partly elsewhere. There are primary producers, traders in their products, processors, perhaps in two or more steps, assemblers of processed goods into larger lots, wholesalers, jobbers, retailers, and perhaps an added link between each of these. Typically, there is extreme specialization of function and commodity among processors and of commodity among the petty retail dealers. The standard Indonesian story concerning the latter specialization is of the trader who deals only in left shoes. However, it is possible that both the multiplication of middlemen and extremity of division of labor are results of recent economic stagnation and disruption leading to a great oversupply of labor, and are not intrinsic parts of the system.

A system of credit extension binds together these various links in the productive and distributive chain. Financiers are not a separate group; rather, the seller or on occasion, the owner of goods in process, contracting for work to be done on them, extends the credit. One aim of each dealer is to spread his capital as widely as possible by doing business as much as possible with someone else's capital. A delicate process of extending as much credit as any other financier-trader will offer, but not so much that the dealer will default, serves not merely to finance trade but also to cement trade relationships. Credit extension also is therefore a haggling process.

Each trader short of the retail level (and any but the pettiest dealer operates at wholesale at times rather than merely at retail) is typically engaged simultaneously in a number of deals, often carried out through a variety of temporary combinations with other buyers or sellers. To diversify his risks and his chances of profit, and also perhaps simply because it is more exciting, he would rather have one fifth of each of five deals than all of any of them. Indeed, if he comes upon a deal of more than average profitability, he has some obligation to let other dealers share in it.

The conventional concept of interpersonal relationships in traditional society is that they always take into account in addition to economic factors kinship, community, and other group relationships, relative political and social power, the need to continue to live in contact with the other party after the transaction is completed, and so on. This, indeed, is true among other groups, especially non-elite ones, but not of the trader. In the buyer-seller relationship of the bazaar business is business, detached from other aspects of interpersonal relationships. The bazaar dealer's activity is subject to ethical rules (for instance that of sharing deals) for which there are strong sanctions within his community, but these are not the rules or the sanctions of the other groups in the society. The bazaar dealer is a trader for trading's sake. The stimulus of his way of life consists not only of his financial success but also of his multitude of contacts, the changing play of diversification of his risks and opportunities, and the challenge of the bargaining of each transaction.

Petty retail traders and the large financier-trader alike are usually a distinct social group, looked upon by the rest of the society as "different." More often than not they are foreigners, but it may be suggested that they are not looked down upon primarily because they are foreigners. Rather, the dog-eat-dog ethics of trading violates the sense of fitness of both the peasant and elite classes, and of the bourgeoisie as well, so far as one has come into being.[1] Because the function is spurned, the individuals performing it are derogated, and only a group which ethnically or socially consists of "outsiders" will choose to perform it. The status of traders in Java, Geertz states, is "ambiguous at best, pariah-like at worst." The Javanese word for trader also means "foreigner," "wanderer," and "tramp."

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[1] *It is likely that, for reasons whose presentation need not occupy space here, trading as such is spurned, quite apart from its dog-eat-dog aspect, so that only groups with a dog-eat-dog ethic will indulge in it.*

Requisites for Change

What must such a bazaar trader do to make the transition to Western-type retail trading?

He must possess or acquire enough capital to cover the cost of a building, showcases, storage shelves, perhaps display windows, and other equipment, and a somewhat diversified stock of goods. Having this capital, he must give up the security of diversification of risks and instead risk in a single venture perhaps the life savings on which the security of his family depends. He has committed himself to overhead costs which are fairly large relative to his capital and experience, and he must therefore enter upon bookkeeping-based price planning, by which each sale will contribute a sufficient but, for competition's sake, not an excessive amount to covering those overhead costs.

In themselves, these are perhaps not extremely difficult technical changes. But to make the venture succeed, he must also handle a new quality of goods. The reason is this. Since he has high capital costs relative to a bazaar trader, he must achieve lower labor costs if he is to compete successfully. His sale prices must therefore be fixed, to avoid the time-consuming haggling process which characterizes almost every bazaar sale. If he handles the same goods as the bazaar traders, goods varying in quality and specifications (sizes, shapes, sleeve lengths, etc., etc.) both over time and among units at any given time, he cannot successfully maintain fixed prices.

To establish fixed prices and thus reduce the time required for each sale, he must obtain goods of reasonably uniform quality and specifications. He will not find the typical craftsman who produces for the bazaar prepared to provide them. Geertz writes that tailors in the Javanese town he studied draw a "fairly clear line" between "modern" craftsmen who can follow a pattern accurately and speedily and "old fashioned" ones, by far the majority, who cannot.[1] The distinction exists not merely in garment-making, and not merely in Java. Quite generally, inducing the new quality of craft work is not easy. Moreover, the would-be store proprietor will not find the typical petty merchant-capitalist who organizes production of items for the bazaar ready to enter into a continuing agreement, even if he could arrange the necessary precision of production. The attraction of ever-renewed bargaining and the possible "quick killing" are too great. The storekeeper must therefore enjoy the coincidence of finding a supplier who, like himself, is seeking a new way of life, and is willing and able to produce to unprecedentedly exacting standards, and will enter into a continuing agreement to do so; or he must enter into production himself.

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[1] *PEDDLERS AND PRINCES, p. 64.*

He must also manage a staff of permanent employees. If he does his own manufacturing, the staff will be fairly large; if not, it will be small; in any event, he must become a supervisor. This type of continuing interpersonal relationship, quite alien to the somewhat abrasive dog-eat-dog tactics of the bazaar, is one in which the typical bazaar trader may feel uncomfortable.

Even if he does all of these things well, he will fail unless he meets one other condition. He must develop or find in his community a new type of clientele, one whose members will forego the pleasures of bargaining in the bazaar and be content to buy in a brief transaction at a fixed price. Moreover, because of their more exacting specifications his goods will almost certainly be higher, not lower, priced than those of the bazaar. This does not necessarily follow; he might conceivably save enough on labor costs both to cover his higher overhead costs per unit and to sell better goods at bazaar prices; but in practice, the various cost elements usually work out so that higher prices are necessary.[1] Because of his higher prices and different trading style, his success almost inevitably depends on the coincidence of the existence in the community of a group of individuals who are socially restless, are endeavoring to strengthen their fledgling bourgeois status, and as a sign of their new status are seeking for better quality and a somewhat different style of goods than those found in the bazaar. If he attempts the transition in the absence of social ferment which produces a considerable number of such persons, he will probably fail.

A measure of his task is the fact that a large majority of individuals or firms entering upon retail business in the United States or Britain fail within one year, because of errors in judging problems which are only pale shadows of those faced by the erstwhile bazaar trader.

In summary, the trader must adopt a set of techniques new to him, maintain fixed prices and a larger and more varied stock of goods than carried by any one bazaar trader, direct a continuing staff of workers, and manage the economics of overhead costs. These may be difficult, but the greater difficulties lie outside his firm and within himself. To make the changes, he must either alter elements in the socio-economic system outside his enterprise or, more precisely, sense correctly the existence of an environment which is altering independently of him, and take advantage of it. That is, he must associate with his venture both producers and buyers who will

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[1] *Ultimately, the dominance in the market of uniform manufactured goods will work to his advantage, but initially he must deal in products made from the same materials available to producers for the bazaar. Imported goods already possess the uniformity which works to his advantage, but these are relatively expensive goods, purchased only by a limited clientele, and are not relevant here.*

behave in ways alien to the traditional environment. And to do these things he must, so to speak, alter himself. This phraseology is only figurative; he cannot change his own values and goals on command. However, he is deviant from his associates; if he were not, he would not have been motivated to make the transition. But even so he must overcome tensions in the new situation. He must abandon his old skills, give up the constant challenge and stimulus and satisfactions of bazaar life, and remove himself to a lonely managerial function. He is probably seeking to become bourgeois. In making the attempt, he must presume to intrude into the status one of the lower elite social classes now become bourgeois, which has previously, looked with distaste on his function and therefore his person, and will certainly wish no less to discriminate themselves from him now that they are seeking to establish a new status.

Obviously only an individual of exceptional ability, driven by unusual longings and willing to face the emotional strain of a drastically altered way of life, will succeed. And obviously he will succeed only if certain changes in social structure and function are proceeding in his community.

2. *FROM COTTAGE INDUSTRY TO FACTORY*

Lest you should think that such psycho-social problems are associated with only one type of economic change, that away from the bazaar, consider the transition from cottage industry to factory.

In a primitive economy, virtually all processing of goods beyond the stage of primary production is done either in peasant homes as the part-time or off-season work of family members, or by self-employed craftsmen in shops in their homes. The establishment of cottage industry already makes a definite stage in technical progress. However, cottage industry is common in most low-income countries, and its existence may be taken for granted here. Moving from it to establishment of the first factories presents difficulties parallel to those of early change in trade.

If prospective industrial enterprisers had to anticipate duplicating the factory products of industrial economies as cheaply as those economies produce them, their problem would be virtually insoluble. For while the factory managers of an industrial economy produce with the handicap of a high cost of labor per manhour, they have a great offsetting advantage in addition to their experience, namely,

operation within an industrial complex.[1] This advantage, which is often not fully appreciated by students of economic growth or of comparative costs, is so great that, until an industrial complex has developed in a low income economy, almost no owner of a factory, no matter how capable a manager he is, can produce the common factory products of industrial economies as cheaply as can the industrialists of those economies.[2] This is true even--or perhaps especially--if the producer in a non-industrial economy imports the machinery used in industrial countries, and uses techniques identical with those used there so far as this is technically possible and economic in his society.

However, prospective industrial enterprisers can usually enter any of a variety of industries serving their home market without fear of foreign competition. There are various reasons for this: transportation costs, the unsuitability of many products of industrial countries, and so on. The ultimate reason is that protection against imports will usually be afforded to any of a low income country who offers a plausible proposal to produce a wanted industrial product.

For many products, the techniques of production are simply beyond a non-industrial country. For some, the market may be so small that the cost per unit would be prohibitive even if the techniques were manageable. A simple example in tropical or sub-tropical countries is canned fruits and vegetables of many kinds; too great a variety of fresh fruit and vegetables is available too cheaply. But for other products, the problem is nothing more than that of finding a place in the domestic market in competition with cottage industry or other traditional methods.

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[1] *It is common to list a third advantage, namely, the large market available to him. The market in low income economies is visualized as small. It is small, for some commodities, but for the products in common use by consumers or in construction, the market within a feasible radius of a central production point is usually amply large to absorb the capacity output of not merely one but several modern factories. The major difficulty concerning large scale production is that it is not efficient except within an industrial complex. This advantage of the producer in an industrial country is an aspect of the one already mentioned in the text. For some products whose production is technically feasible in an economy just beginning to enter industry, the market is too small--see the text below--but these are not numerically important.*

[2] *Converted into his own currency at market rates of exchange. There are some qualifications to this statement, mainly related to conditions in which the exchange rate is not consistent with "equilibrium" relative prices of transportable goods in the two countries. I shall not take space here to spell them out.*

It would seem to many Western observers that there should be little difficulty in making factory production of these products economically successful. For is it not far more efficient than traditional methods? In the minds of many individuals asking the question, it is a rhetorical one, to which the answer obviously is, Yes. But, in the relevant context, in many cases the correct answer is, No. A modern productive system as a whole is clearly vastly more efficient; the quantity of goods turned out per manhour in industrial societies is a multiple of the quantity turned out in low income societies. This is true, including the manhours of labor involved in producing the machines used, as well as that in direct production. But whether a given modern process is economically superior when introduced individually into a non-industrial economy, and specifically, whether an enterpriser can introduce it in competition with cottage industry or other traditional methods of production is a much more complex question, to which the answer is much less certain.

The person in a non-industrial society who would most naturally be thought of as a prospective factory manager is the operator of a cottage industry enterprise. This is an establishment in which perhaps half a dozen similar operations on simple machines have been gathered together under one roof. Examples are weaving on simple looms and the production of shoes or articles of clothing by hand or on household sewing machines. Apart from lack of capital, a cottage industry proprietor would seem to be better equipped than anyone else in a non-industrial society to become a factory manager, for at least he has selected management of a processing enterprise as his career, and has some minimum acquaintance with machinery. Let us consider the problems he would face.

The first is familiar: highly mechanized methods may be disadvantageous in a non-industrial society simply because labor costs are low.

Economic Problems

The difficulty is that known to economists as the problem of relative factor prices. The "factors" referred to are labor and capital. The high degree of mechanization characteristic of modern industrial productive processes has been adopted in industrial societies for two reasons. One is that the machinery embodies technically superior processes. For example, it would hardly be possible to bore cylinder holes in alloy steel motor blocks even to the fairly crude tolerance of, say, one one-thousandth of an inch by hand, no matter how much labor was available for the purpose. Nor is it possible to make aluminum in hand forges or to brew modern chemicals in home workshops, even with hundreds of helpers.

However, the second reason for a high degree of mechanization is to save labor. As the cost of labor per manhour in industrial countries has risen with rising productivity, it has become cheaper to use much machinery and few workers in doing many tasks which can

be done with complete technical adequacy by a larger number of workers using simpler equipment.

The point becomes clearer if an example is spelled out. Machines cost as much in a non-industrial country as in an industrial one, and even more, for they must be imported from the industrial country, and the transport cost and associated costs must be added to their cost at the place where they are produced. The rate of interest on the capital invested is also likely to be higher. But labor may cost only one tenth as much per manhour. Hence a degree of mechanization which is economic in an industrial country, because it saves five laborers and costs less annually than their services would, may be an expensive luxury in a non-industrial country, where twenty workers could be hired at an annual cost much less than the annual capital and interest cost of the increased degree of mechanization.

If the producer in the non-industrial country could choose those aspects of mechanization which are technically necessary, and reject those introduced in the industrial country only because they are labor-saving, all would be well. But often the two aspects of the mechanization cannot be separated; they are built into the same machine. To get the advanced techniques the enterpriser in the non-industrial country must also take the expensive labor-saving aspects. Hence, modern methods are often much more expensive relative to simpler ones in a low-income country than in a high-income country. This fact greatly reduces the probability that a fairly complex factory will be economic in a non-industrial country.

That this consideration is important in other than merely extreme cases is indicated by Professor Hoffmann's statement that it was important in Germany in the nineteenth century. Mechanization in German weaving, he states, proceeded slowly until after 1865 because "so long as the wages were low, the mechanical loom had no cost advantage over the hand loom"[1]

However, these considerations are often not conclusive. The modern techniques incorporated in many types of manufacturing machinery are so advantageous that if there were no unique operating difficulties in non-industrial countries, the use of the machinery would be advantageous in spite of its costly labor-saving features.

There are unique operating difficulties. Before considering them, however, consider the problem of obtaining the necessary capital. The problem is not simply, as some economic theorists have assumed, that because the average level of income in the country is low, no one in the country has the necessary capital. Relative to the

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[1] *W. G. Hoffmann, "The Take-Off in Germany," p. 109, in THE ECONOMICS OF TAKE-OFF INTO SUSTAINED GROWTH, W. W. Rostow, ed., Macmillan, London, 1964.*

number of industrial enterprises which are technically feasible, a fairly large number of individuals in the country have or could borrow the necessary funds. But for non-economic reasons they are not likely to be interested.

The cottage industry proprietor is typically a man with limited capital. Many such proprietors will never accumulate the funds necessary to move to greater mechanization. Some others could make the move, but only by venturing all of their financial resources. At best, a cottage industry proprietor would likely be able to financ only a small advance in mechanization. A more elaborate factory could be financed privately within the society only if it seemed an attractive venture to some member or members of the wealthier classes, who of course are completely without industrial experience (for by assumption no industrialists other than the cottage industry proprietors yet exist). Only a landowner or a man who is a financier-trader on a fairly large scale will be able to provide twc or three hundred thousand dollars from his own plus borrowed funds. Neither would normally be attracted to an industrial venture. The distaste of members of the landed class for association with manual labor is proverbial. By extension, they feel equally strong repugnance toward being concerned with the operation of machines.[1]

The financier-trader is not likely to be attracted, for reasons analogous to those which make it difficult for a petty bazaar trader to make the transition to Western type retailing. The stimulus of the thrust and play of financial and trading deals is missing. It is necessary to shift from interest in money to interest in goods, and from the thrill of short-run to the satisfaction of long-run results; and the excitement of the short-run and the immediate handling of money are "in his blood." In short, important non-economic incentives work in the wrong direction. In addition, if the trader is of a rather distinct social group, subject to some social discrimination, he may fear to put his resources into something so unconcealable and subject to discriminatory taxation or governmental interference as a factory.

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[1] *Some members of the landed gentry were among the early innovators in England. Most of them seem to have been newly landed, of families that had made fortunes in trade or public service and had then bought land to attain a higher social status. Some of these became more traditional than the traditional, but others became innovators--or continued to be innovators, for in a sense their families previously had been. Even so, almost without exception their innovations were in agriculture or in activities closely connected with the land, such as road and canal building. For an analysis of a sample of British innovators which shows this latter point, see ON THE THEORY OF SOCIAL CHANGE, Table 13-3, page 301.*

Thus, the private financing of either small or larger factory ventures is likely to be only by individuals who, through some idiosyncratic circumstances in their environments, have acquired attitudes rather unusual in their societies. However, some such individuals may appear. Moreover, if finding the capital for factory ventures were the only or major difficulty, it could fairly easily be remedied by government erection of the factory or provision of the necessary funds.

THE TECHNICAL PROBLEMS

Given the capital, the would-be factory manager faces the problem of selecting the machinery and of arranging the management of its operation. With respect to purely mechanical problems he will have instruction and support from the company from which he purchased the machinery. Yet for a considerable time he would not in any real sense be managing a factory; he would be an apprentice playing a game whose outcome he could take only on faith but on which, if he is a private enterpriser, he has risked say several hundred thousand dollars of his wealth.

The difficulties so far sketched are those which arise in the management of any factory anywhere. The only handicap faced by the enterpriser in a non-industrial country--which of course is a major one--is his own inexperience and the absence of technically trained and experienced individuals within his country. However, with respect to certain other technical problems--the management of his work force, foremanship, and his relationships with his managers and with persons from whom he buys and to whom he sells--he will face problems which at least in degree are unique; problems which the manager in an industrial society does not confront.

The unique technical problems result from the fact that the factory is not situated within an industrial complex. For their economical operation, all except the simplest industrial plants depend to a degree not realized by the layman--and often not by the economist--on the technical and institutional complex within which they operate, and not merely on their own equipment, management and labor force. A typical factory depends on other plants, from week to week and day to day, for a variety of material inputs--several types of basic materials, auxiliary materials such as chemicals and lubricants, and partly processed components. If other industrial plants do not exist in the country, it will have to import many of these supplies. To be sure of having supplies when needed, and to minimize shipping costs by shipping in large quantities, it will have to maintain unusually large stocks. In a country short of foreign exchange, the firm may face an additional difficulty: the eccentricity with which import licenses are granted or denied by officials who do not appreciate the complexities of running an industrial plant.

The absence of other industrial plants will cause sales as well as supply difficulties. A factory in an industrial country may sell some of its by-products to other industrial firms, even though its main products are consumer items. In a non-industrial country, this source of revenue may be small or non-existent.

These difficulties in obtaining inputs or in selling by-products are largely avoided in the simpler types of production. For example, apart from raw cotton, a cotton textile factory needs hardly any current input but lubricants; and its only by-products are cotton wastes which may have a market almost anywhere and in any event are of little value. But even such a factory will experience two important technical difficulties not faced in an industrial country.

One is its power supply. In a non-industrial country, the electricity supply is likely to be uncertain, because both management and technical expertise are likely to be inadequate. The firm must then either provide its own power, at a relatively high cost because of its low volume of use and low period of use per day, or maintain an auxiliary power supply also at a relatively high cost.

The other is in machine repair and maintenance. In an industrial country, a factory may on very short notice obtain a spare part or have a piece duplicated in a foundry or machine shop. In a non-industrial country, the unit which is disabled because a part is broken may be idle for two weeks rather than overnight, because there is no foundry nearby capable of casting a replacement. Or, if there is a foundry, there may be no precision machining shop which can tool the piece to a moderately close tolerance. Not only will the preventive measure of maintaining a stock of replacement parts much greater than that needed in an industrial country be costly; it may not be possible to anticipate all contingencies.

The plant must depend on a network of transportation and communication facilities. If this network is rudimentary, as it may be, if for no other reason than that the volume of transport in the country does not justify an elaborate network, the costs of production will be increased.

Lastly, among the technical difficulties caused by absence of an industrial complex, any industrial firm has occasional need for scientific, technical, legal, accounting, or economic talent not available within its own staff. In an industrial country, it will obtain any such talent quickly when needed. In a non-industrial country, an expert must be flown in from three thousand miles away, rather than brought a few miles by taxi.

Multiply these elementary examples by ten, and one may obtain a suggestion of the importance of an industrial complex.

So important is the immediate industrial environment to a firm that in spite of rather generous financial incentives and the provision

of transport and power facilities, the government of Italy has had great difficulty in attracting firms to the region in and near the "heel" of Italy's "boot," simply because many little but vitally important auxiliary firms do not exist there.

However, important though the technical difficulties resulting from absence of an industrial complex are for some factories at all times and for all factories at some times, far more serious are certain difficulties of interpersonal relations not experienced except in minor degree in industrial countries.

The Socio-psychological Problems

One of these is a certain type of difficulty in obtaining careful work by factory operatives. The difficulty is not merely lack of familiarity with the characteristics of machines. That difficulty is rather quickly remedied. Workers in any society learn with great speed when motivated to do so, as for example, in driving and caring for a truck or tractor of which they are proud. The difficulty which is unique, at least in degree, seems to be due to the sense of isolation and alienation felt by workers coming from a traditional social environment into the impersonal social structure of a factory.

A craftsman or cultivator who becomes a factory worker suffers a considerable measure of loss of both his sense of independence and his sense of productiveness. The cultivator worked with a rhythm set partly by nature but in detail by his own body. He also saw the seed push through the soil, the stalk grow, and the grain appear, and knew that he was productive. The craftsman had a sense of productive workmanship. In moving to the factory, the cultivator or the craftsman must subject himself to the performance of a repetitive task having little meaning in itself, at a rhythm forced by a machine.

In losing his individual productivity he also loses in social status. Performance of a craft has its modest status in a traditional society. So also does proprietorship of land, even as a renter, and ownership of cattle. Compared with these positions, a position as a factory operative, in spite of its possible higher income, is that of a menial.

The cultivator or craftsman suffers a considerable loss of emotional security in other ways as well, and even of economic security. He is no longer able to provide the non-market types of production of family needs which he used to provide in off-seasons.

A cultivator also is a party to a carefully institutionalized exchange of services in peasant production.[1] In moving to the factory he separates himself from it. He partially separates himself also from the recreational and ritual community life of the off-season. The exchange of services had provided some economic security; these plus the recreational and ritual activity had provided the much more important reassurance of membership in a group. He can accept a job in a factory only at the sacrifice of this sense of community fellowship.

Equally important, he cuts himself off from a personal relationship with a member of the lesser elite. Before the traditional life of non-industrial societies became disrupted by the impact of the West, almost every non-elite individual, and especially every menial, had a relationship of personal dependence on a social superior. The menial depended on a patron in the village or town to whom he provided services, the cultivator on his landlord, the cottage industry worker or craftsman on his employer or an important client.[2] The subordinate provided economic services to the superior; the superior provided ritual leadership in times of emotional stress, some economic security in times of petty crisis, and guidance concerning affairs outside of the narrow range within which the inferior has competence--concerning voting, arranging that an unusually gifted son might go to school, and so on. The life environment of the simple folk in a traditional society, including not merely the larger social environment but also the nature of their infancy and childhood, gives them a need for the emotional security derived from dependence on a superior. This subordinate-superior relationship, apparently universal in non-industrial societies, thus yields a satisfaction beyond the overt exchanges involved.[3] Even when the relationship is somewhat corrupted, as it

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[1] *This exchange is recorded in many studies of traditional village life. See almost any of the community studies listed in the bibliography on "Traditional Society" in ON THE THEORY OF SOCIAL CHANGE, pp. 525-528. For example, the following studies show such relationships in each of the four major societies of Asia: J.F. Embree, SUYE MURA: A JAPANESE VILLAGE (Chicago, 1939), Clifford Geertz, "Form and Variation in Balinese Village Structure," AMERICAN ANTHROPOLOGIST, 61 (December, 1959), 991-1012, McKim Marriott ed., VILLAGE INDIA: STUDIES IN THE LITTLE COMMUNITY (Chicago, 1955); or Martin C. Yang, A CHINESE VILLAGE, TAITOU, SHANTUNG PROVINCE (London, 1948).*

[2] *See the sources cited in the preceding footnote.*

[3] *For hypotheses concerning the sources of the sense of powerlessness of the simple folk in traditional societies, the attractions for them of traditional life in general, and especially the attraction of this superior-subordinate relationship, see ON THE THEORY OF SOCIAL CHANGE, Chapters 4-8.*

commonly has been under the pressures of modern life, so that the superior more nearly exploits than supports the subordinate, still the perception of dependence on a social superior seems to have remarkably high value. Somewhere out of the world view which makes this dependence on human superiors yield relief from anxiety, the non-elites of traditional societies had also learned to gain relief from anxiety by homage or propitiation of the unseen powers by whose intervention they explained the calamities or the good fortunes which befell them which could not be accounted for by their own exertions. In part, this homage or propitiation was associated with their traditional functions. When an individual moves to a job in a factory, he not only sacrifies a tie of emotional significance to a human superior (or recognizes bitterly that the superior has already cut the tie). In addition, in some degree he abandons his gods, and expects to be abandoned by them.

Because of these implications of a shift to factory work, individuals whose lives as cultivators or craftsmen or menials is proceeding satisfactorily do not leave them for the factory. Rather, factory workers are drawn from the most unfortunate and the least capable individuals in the community. As Wilbert Moore has said in a classic study, "It is among the landless, the hungry, the politically powerless, and the socially disaffected that the first industrial recruits are most likely to be found."[1]

It is not surprising that these recruits feel humiliation and bitterness at the circumstances which have forced them into the factory--at the cost at which they are buying a wage income; and that this bitterness is transferred to the machines which dominate them in the factory, and to their employers. This underlying bed of frustration predisposes them to find innumerable causes for dissatisfaction with their working environment, to lack interest in their work, and even, within the limits of what is required to keep their jobs, to use slipshod work as an (unconscious) means of attack upon their employer.[2]

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[1] *Wilbert E. Moore, INDUSTRIALIZATION AND LABOR (Cornell, 1951), p. 307. Concerning the phenomenon summarized in this quotation, see ibid., passim.*

[2] *Having lost their old community group, they are likely to seek a sense of belonging to a group in labor union membership, but since their employer is seen as an enemy (they have transferred their sense of abandonment against him), the union will not join him in working out procedures to handle grievances or procedures for effective employer-employee communications. Rather, it is likely to find in political officials of the country substitutes for the former patron, and gain its ends by political rather than industrial action. For that matter, the employer, being also traditional in background, is likely to be little more inclined than the workers to work out procedures for mutual accommodation.*

Such attitudes are not unknown in industrial societies. Industrial relations experts have often observed that the purported causes of industrial disputes are sometimes mainly rationalizations, and that the underlying cause is a general sense of frustration and alienation. However, the problem arises in far greater degree in newly industrializing societies.

In these circumstances, to operate a factory with a reasonable degree of efficiency would require unusually capable foremanship. The foreman is the immediate supervisor of the operatives; if it were not that as a representative of the employer he is an enemy, he might be a person through whom the worker could satisfy his need to depend on a superior. Moreover, if the foreman is technically competent and interested in his function, he might conceivably restore, in part, the worker's sense of craftsmanship. Unfortunately, however, being a foreman presents almost as great difficulties to an individual in a non-industrial society as does being a factory operative, and almost universally the efficiency of factories suffer from low quality foremanship.

In function, a foreman is not merely a supervisor; he is also a helper. He is of course responsible for directing the workers to perform the tasks assigned to them, but he should also know more about the petty technical problems and sources of difficulty in each worker's job than does the worker, and through that knowledge help each worker to meet the day to day mishaps and unforeseen contingencies in production, and to maintain the flow of output. He should on occasion be a spare workman, pitching in to break bottlenecks.

However, since the foreman has the authority to direct a group of subordinates, he is on the verge of becoming one of the lesser elites. As is noted above, the sign of eliteness in traditional society, almost literally one of the necessary qualifications of being one of the elite, is that the individual does not demean himself by concerning himself with the details of manual labor. Moreover, by virtue of his elite position itself, the elite individual has authority. In exerting it, he is demonstrating his eliteness. Whether he performs a function effectively is largely irrelevant.

The non-elite individual who has become a foreman does not have the sense, found ideally among the true elite, of obligation toward those who depend on him, but he is likely to have in exaggerated form the sense that an elite (a) gives orders and (b) is above concern with menial tasks. Concern with menial tasks would negate his petty eliteness, would make it almost useless for him to have become a foreman.

Consequently, if, for convenience, workers in a spinning mill discard bobbins on which, say, one fourth of the yarn remains when a break occurs, rather than tieing the yarn, and subsequently ruin the bobbins by slashing carelessly with a knife to cut off the remaining

yarn, a foreman with traditional attitudes may give stern orders that the damage must cease. But he is not likely to supervise the workers consistently enough to ensure that they do, in fact, exercise greater care. Neither is he likely to relieve the time pressure on them by helping them tie broken yarn, if the breakage rate is temporarily above their capacity (or zeal) to cope with. These are examples of likely deficiencies in every area of his work.

To put the matter in another way, effective foremanship requires, in combination, attitudes of eliteness and alert concern with grubby tasks. These attitudes are antithetical in a traditional society, and an individual attempting to combine them is likely to be so conflicted within himself that he is not able to function with high efficiency.

This explanation is of course only hypothetical. However, the problem of foremanship is so ubiquitous in early industry that some forces as deep-seated as these must cause it.

In marketing, still another difficulty unique to early industrialization, or at least unique in degree, is faced. In industrial societies, one sells one's products in well organized markets, by means of contracts, and with financial and trading relationships protected by law and, more importantly, by institutionalized practices. In apparently every traditional society, however, the ethical rules concerning interpersonal transactions apply only to transactions with members of one's community or properly sponsored others.[1] This is also true in a degree in modern societies, but the concept of who is a member of one's community has greatly broadened, and in addition, the convention of the obligation imposed by a contract, even if not with a member of one's own social group, has developed.

The contrasting situation in traditional societies is illustrated in Professor Levy's statement of the ethics of interpersonal dealings in traditional China. His statement is widely applicable elsewhere, and the past tense in which he couches it might appropriately be altered to the present tense with reference to non-industrial countries. "One was adequately protected in private dealings," he states, "if one had established either directly or through a carefully chosen go-between a personal bond with those with whom one dealt. Strangers, however, were fair game in a radically *caveat emptor* fashion that would horrify the most rapt laissez-faire idealists of the modern West."[2]

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[1] *In the concepts of Professor Parsons, particularism rather than universalism prevails. See the discussion of patterns of value-orientation in Talcott A. Parsons, THE SOCIAL SYSTEM (Glencoe, Illinois, 1951) and Talcott Parsons and Edward A. Shils, eds., TOWARD A GENERAL THEORY OF ACTION (Cambridge, Mass.), 1952).*

[2] *Levy, Marion J., Jr., in CAPITAL FORMATION AND ECONOMIC GROWTH, M. Abramovitz, S. Kuznets, et al., eds. (Princeton, 1956), p. 463.*

As a result of these ethical rules, the factory manager faces difficulties in his trading relationships which add to the inefficiencies already noted. The persistence, even in some countries well along in industrialization, of the tendency to seek security in personal relationships indicates how great the need previously must have been. In present-day Japan, in commerce within the country there is still a marked degree of reliance on personal relationships between manufacturer and distributor. In unique Japanese fashion, there is also a considerable degree of obligation to maintain such a relationship, once it has been established firmly, because of personal loyalty.[1]

Nor is the need for personal contact one which is merely Japanese or Asian. In the industrial city of Medellin, Colombia, a leading businessman, generalizing about business practices in the region, said to the writer: "In our contractual relationships we do not depend on enforcement in the courts. Court processes are too cumbersome to be effective. If we have not gained confidence in a man through personal contacts or recommendations, we do not deal with him."

Put negatively, the ethical rule that forces businessmen to take these precautions is: "Strangers are fair game." The positive side of this rule is the overriding obligation to take care of one's family, broadly defined, and the members of one's group. It is overriding in the sense that it takes precedence over the requirement of honesty to others. (This also is true in the West, though we do not usually admit it freely, but the definition of the group within which honesty is required has broadened so greatly that the difference is one in kind rather than merely in degree.) Because the obligation to take care of one's family and the members of one's group has such high priority, in forming his management staff an enterpriser cannot appoint the most competent available persons from his entire society; he must also consider whether he can trust them, and also whether he himself has an obligation to a relative even though that relative is not extremely competent.[2]

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[1] *Incidents related to the writer in conversation by J. C. Abegglen.*

[2] *His decisions are not necessarily conscious ones. He "instinctively" distrusts strangers and is unwilling to entrust policy decisions, the hiring of staff members, the firm's financial secrets, or the handling of money, to persons not members of his group. (The meaning of "a group" is a complex matter, varying for different purposes. The nature of the ties which bind and form groups varies among societies.*

Western managers also act on a combination of rational and unconscious bases. Thus a Western firm may decide against appointment of a Negro to a managerial position for no specific reason, i.e., on prejudice; or a firm with a plant in a low-income country may refrain from appointing an indigenous individual to a managerial post because the officials of the firm believe that they cannot trust him to place the financial welfare of the firm above the welfare of his country as he interprets it.

The tendency to employ only relatives or members of one's group, narrowly defined, to managerial positions, and so far as possible to deal only with personal acquaintances or well-sponsored persons is thus due not merely to non-rational considerations. Rather, it is in part an entirely rational and optimum defense against problems peculiar to non-industrial societies. But though the indigenous enterpriser knows how to deal with these problems, they nevertheless add to the complexity and the possibility of failure in establishing a factory.

One final point. In the main, in the analysis above, it has been assumed that the enterpriser attempting industrial advance is himself the possessor of attitudes and values conductive to effective innovation. It has been assumed, that is, that the problems involved lie outside him, not within him. However, the typical business proprietor (other than a trader-financier) in a non-industrial society is himself largely traditional in outlook, like the workers he employs. He is inhibited in his desire to attack the problems of technical change by his own lack of interest in manual-technical problems; his view of the proper relationships between members of the elite (which he may be struggling to join) and the classes beneath them; and probably also by the fact that, in a society where so many decisions are validated by the authority of the person deciding, he feels anxiety at facing major new problems in which authority is irrelevant.

In private enterprise, these personality traits simply reduce the number of attempts at technical change. Individuals with these traits are not likely to attempt to organize industrial ventures. However, where a government seeking to remove rapidly the stigma of "backwardness" establishes a factory with a rather naive idea of the requirements for its successful operation, in appointing directors and managers the government officials may give predominant weight to the possession of the proper socio-political credentials, and may therefore choose individuals with precisely such traditional attitudes. These individuals are likely to accept the posts because of their own need for symbols of eliteness, and because, not understanding the requirements for effective factory operation, they do not understand their own incompetence.

They will not manage the factory well. Not only will they not concern themselves with the grubby technical problems of the factory; they will not even be aware that it is the function of the general manager and directors to do so. An additional factor tending to cause mismanagement is that they are likely to regard their eliteness as requiring them to retain authority in their own hands. They are likely to feel that if they delegate authority to subordinates, they are giving away part of that eliteness, are lowering themselves to the level of their subordinates, so to speak, and thus demeaning themselves. If they are not of the true elite, but are rather "nouveau elite" who have gained authority during a national fight for independence, they may, curiously enough, hold this attitude all the more compulsively.

The possible results may perhaps be indicated more vividly by an extreme example than by a theoretical discussion. Burma is an economy without industry, an economy such as has been discussed above. In Burma, in 1951, a State Cotton Spinning and Weaving Factory began to operate. The board of directors consisted of high government officials plus other individuals with the proper socio-political credentials. Though the board showed much concern with its procedures and prerogatives, it showed rather little with the operating efficiency of the factory. One minor incident will illustrate how its attitudes plagued the factory. During the second year of operation, one unit of the factory was idle for some two or three weeks because a special type of belting had broken and no spare belting was on hand. For a long previous period, a request for authority to order had lain before the board of directors, but the board had neither delegated authority for this very minor purchase to an operating official nor found time, amid the other decisions which it retained to itself and with which it occupied itself, to vote the order itself, and so when the belting finally wore out no replacement was on hand.

It is worthwhile to emphasize that such behavior implies neither irresponsibility nor stupidity. It does imply both a tremendous compulsion that one's country shall have the *symbols* of modernity and a tremendous compulsion to manifest one's own eliteness. Both of these are quite understandable results of the great social tensions of colonial rule, in which indigenous individuals were treated as persons of inferior worth. Individuals in industrial societies who have been subjected to the same intense social derogation from birth onward act as adults in analogous if not precisely similar ways. However, even though the behavior is understandable, it is a technical fact, not a value judgment, that it prevents the efficient operation of an industrial enterprise. Moreover, the emergence of such personality out of the tensions of colonial rule is not uncommon, and any analysis of the problems of economic development in present low-income countries must take the likelihood of resulting failures in industrialization into account.

3. *SUMMARY: A SOCIETY IS A SYSTEM*

In summary, then, the difficulties of moving directly to modern factory production in a non-industrial society are not merely economic and technical, but also socio-psychological. The economic problems are the economic inappropriateness of much modern machinery for use in a low income society, and the fact that most moneyed men in such a society have a distaste for entering industry. The purely technical problems are the complex problems of machine management and, much more important, the absence of an industrial and related institutional complex. The psycho-social problems are the reaction of workers to the partial destruction of their world, involved in their shift to factory work, the psychological contradictions of foremanship, and the narrowness of the group whose members are

members of one's community and hence are trustworthy in economic transactions.

If space permitted, these examples of the resistances to change in trade or industry caused by the interrelations of the social system could be paralleled by a discussion of the difficulties in agriculture. A fairly common conception, that the difficulties in agriculture consist of the inertness of the peasant and the disdain for plebian matters of the land-owner, is at best a partial truth. These elements exist (if the figurative term "inertness" is interpreted appropriately in analyzing peasant attitudes), but the problem is far more complex than mere reference to these two sets of attitudes implies.

By way of exception, certain isolated technical advances in any of these three fields or in services may require no important change in economic role, and can therefore be brought about fairly readily. These cases, however, are exceptional ones. A continuing process of economic growth requires continuing important changes in economic roles in agriculture, trade industry, services, and also in the functioning of economic institutions, and runs into the difficulties illustrated above. In the most general terms, the difficulty is that a society is a system. In a non-industrial society the social relationships, the attitudes and values bred into members of the society, and the techniques used in production are interrelated. A system of many elements, not merely three, should be visualized; there are many elements of each type. These elements and the interrelationships among them are such that the entire system has many satisfying elements, and change in elements of any of the three types causes dissatisfying changes in other elements.[1] This, in the most general terms, is the fundamental problem of economic growth.

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[1] *A traditional society in its ideal form (in Weber's sense of the term ideal), and many historical traditional societies must have been fairly good approximations to the ideal type, is highly satisfying as a whole. In the terms a physical scientist, mathematician, or economist would use, a model of traditional society as a system in stable equilibrium has empirical relevance. In ON THE THEORY OF SOCIAL CHANGE, Chapters 4-8, I argue this at length. Even when the stability has been disrupted by powerful disruptive factors, many relationships remain such that further change in one element may cause dissatisfying changes in others, and therefore resistances.*

4. CONCLUDING COMMENTS

There follows a near-decalogue of comments, some of them analytical, some hortatory. Not all follow directly from the discussion above, though perhaps all are implicit in it, and all are certainly consistent with it. For lack of space, some are presented without supporting argument except insofar, as suggested, they are implicitly supported above. These must be considered hypotheses offered for discussion.

1. Since economic progress involves an interwoven set of changes throughout the social system, and since the system in question is large and complex enough, namely a whole society, so that all of its elements cannot be replaced at a stroke,[1] it follows that economics is in a sense an evolutionary or epigenetic process. The concept of replacing traditional methods with "efficient" modern methods at a stroke is a fantasy.

   There is no historical record of abrupt industrialization or other abrupt economic modernization. Russia is not an example; Russia had had a century of gradual industrialization before the Bolshevik Revolution of 1917.[2]

   The example most favorable to the claim that an abrupt transition from pre-factory to factory production is possible is that of Japan, whose transition, from an historical viewpoint, was indeed abrupt. However, social scientists suggest that the Japanese society has been unique throughout the historical period in its tendency to absorb and to adapt advantageously items of culture from other societies. Moreover, though Japan's industrial experience was not great at the time of the Meiji restoration in 1868, she already had a long history of highly effective economic innovation. She was at least two

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[1] *The story is told of the anthropologist who, after studying the problems of a certain traditional village, said, "The thing to do with this community is to jack it up and put a new culture under it," but the advice did not go on to explain the method to be pursued.*

[2] *Around 1900, after fifteen years of especially rapid advance in Russia, her average rank among the countries of the world in various indices of industrialization--production of steel, generation of electricity, etc.--was about fifth. That is, she was already highly industrialized. See V. K. Yatsunsky, "Main Features of Industrialization in Russia before 1917," PROCEEDINGS of the First International Congress of Economic History (held at Stockholm in 1960), p. 306. I owe this reference to Mr. David M. Joslin.*

centuries (perhaps one should say five centuries) away from a "traditional" state. Finally, one of the crucial secrets of Japan's success is that she did not imitate the West, except technically, and even technically only in part. Western methods of factory management would have been even more immoral in Japan than in other non-industrial societies, because of the nature of her traditions. She accomplished her rapid transition to industry by abjuring Western management methods, and instead maintaining management organization and management-worker relationships consistent with her cultural imperatives. They are methods which violate the Western textbook rules of management, and ones under which any Western executive would expect every Japanese factory to become bankrupt within a year; but in Japan they brought the world's fastest industrialization. The lesson of Japan is that unless some other country manifests the genius (in this field) of Japan, it need not expect to be able to match Japan's record. The evidence of Japan's innovational genius is her two centuries of pre-industrial economic innovation. It is arguable that that record was caused not by something which in some mysterious way is uniquely Japanese, but by certain social tensions and certain relationships with the outside world which brought about certain changes in personality and in intangible elements of social structure. Even if this is correct (I believe that it is, though as suggested above there were probably also some pre-existing cultural and personality differences), since no other country has experienced the same favorable complex of tensions or has manifested the same innovational talent during past centuries, one may reasonably expect that Japan presents the limiting case, which will neither be matched nor approached, even though the Chinese manifest traits parallel to the Japanese in some degree and the Chinese community on Taiwan may establish a highly enviable record of economic progress.[1]

Abrupt modernization, even in the small, will often be sterile. Even a single modern factory, set down and operated in a predominantly non-industrial society--at considerable net cost to the society because of the costs of meeting the inefficiencies caused by absence of an industrial complex--is not likely to cause any sequence

[1] *These comments imply no judgment about Japan's future record. Japan is running into management-labor tensions now which are probably the inevitable outcome of the factors which brought her past very rapid progress. On general belief in her capacity in this field, one might assume that she will solve the difficulties, but there are no specific reasons to conclude that she will.*

of technical advance to occur elsewhere in the society, or indeed to have appreciable influence on techniques elsewhere except for some slight transferrable training in crafts which it may provide. Its techniques are so far removed from those elsewhere in the society that it does not provide a useful model.

2. Only if change in social structure and in personality are proceeding in places in the society (or, perhaps, if the latter is present and the former is imminent) will economic progress proceed. Then, alongside a few large "lumps" of "modernity" which may be imported, it will proceed by fairly small increments, at first technically distinct ("One technical problem at a time is enough"), then becoming gradually technically interrelated.

   Change in small steps is also difficult. It almost certainly involves some increase in technical complexity and in the amount of capital required. It may involve some new dependence on other industrial enterprises or on foreign sources of supply of main or auxiliary inputs. There is likely to be some increase in managerial complexity, in the psychological distance between employer and workers, in the need for foremanship, and in the "social distance" over which buying and selling must be done.

   And there is always the technical problem. In deciding what moderate step in mechanization and development toward a factory will be economic, the enterpriser must find a niche somewhat on the modern side of traditional methods of production. While he will adopt technical elements from the West, he will find no Western model to imitate; he must select, simplify, and adapt. He is a technical innovator in the fullest sense, and he must also be a sufficiently good judge of the economic results so that the reduction in labor costs in spite of the added management tensions, or the improvement in quality, will justify the added overhead or machinery costs. This does not always happen. There are many failures. But it is only by a large number of such small innovations, alongside the establishment of a few factories whole, that industrializations proceeds.

   If the social and psychological ferment which underlay these initial steps persists, the process will proceed. Some workers will adapt fairly well to the loneliness of factory work, or will find ways of protecting themselves partially against it. If the ways which evolve constitute too great barriers, industrialization may come to a halt. But if managers or the government can help to find ways which are not such barriers, the social derogation of factory work

will lessen somewhat, and the commitment of workers to industry will proceed.

Some men will adapt successfully to foremanship, and will gain experience in it. More elaborate management structures will become possible. Management will gain experience in the management of machines. Control of quality and of specifications will improve, and precision will increase. More complex enterprises will evolve. Industrial plants will begin to feed industrial plants, and gradually an industrial complex will develop.

Parallel change will go on in trade and agriculture, and in economic institutions. Technical progress in agriculture often does not begin until technical progress in industry has proceeded some distance and the successful industrial innovators look around for new fields to conquer. While there is no reason to think of the process of overall technical advance as *self*-sustaining, modern history indicates that the interwoven process of fairly rapid change in personality, social (including political) structure, techniques, and economic structure may continue for at least several centuries.

Change in the small for many decades is likely to be required before the process becomes conspicuous--whereafter some Western observer, finally noting that change is occurring, may take the date of his observation as the date when industrialization began, and observe that once industrialization begins, it proceeds rapidly.

The process is not irreversible or inevitable. Perhaps Mexico in the 1820's and 1830's and Indonesia in the 1950's and 1960's provide examples of early economic growth being brought to a halt by resistances within the social structure. Argentina in the postwar period and possibly some other Latin American countries illustrate that the pace of progress may at least be sharply slowed down even at later stages. And it is not yet certain that the present extreme disruption of the Argentinian social structure may not bring the process to a complete halt. But in general, if the forces tending toward growth are powerful enough to cause it to go forward for several decades they seem also to be persistent enough to cause it to continue for a much longer time.

3. There is no reason whatever, either in experience or in the theoretical considerations involved, to assume that if a degree of economic modernization or knowledge of it is imported from the outside, its attraction will predominate over other factors and bring social and political modernization (whatever those terms are taken to mean) and

continuing economic growth. That is, there is no prior causal importance to the economic.

4. The theories of purely economic barriers sufficient to prevent economic progress, and thus in themselves sufficient explanations of lack of progress, are misplaced. They are empirically unfounded; thus the markets in non-industrial countries, accessible to producers from central points of production, are in fact not so small as to discourage investment; there are individuals with enough funds to finance investment; large "infrastructure" projects are not initially necessary, and so on.

5. One ingredient of personality which must exist in an occasional individual in the society if economic growth is to proceed is creativity, or, more specifically, a reaction on balance of pleasurable anticipation rather than anxiety at facing a problem.[1] Pleasurable anticipation when facing a problem implies confidence in one's judgment. (In technical terms, need autonomy is an ingredient essential to need achievement.) In the general case, individuals who feel such confidence in their own judgment in technical or economic affairs will also feel it with respect to social-political affairs, and will be dissatisfied with authoritarian government. There will therefore tend to be correlation between the presence of economic progress and movement from authoritarian to democratic or "competitive" political structure. Professor Lipset was the first to present the empirical evidence of such a correlation. Coleman and the present writer, among others, have followed him.[2]

6. However, there is also a tendency for an individual to concentrate his creativity in the area of greatest interest to him, and to solve the problem of decisions in other fields by accepting the conventional decisions. So to speak, he saves time and energy in that way. Another

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[1] *Another is values which channel creativity into solving the technical and institutional problems involved in economic progress, rather than into warfare, political organization, philosophy, art, etc.*

[2] *See S. Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," THE AMERICAN POLITICAL SCIENCE REVIEW, LIII, No. 1 (March, 1959); G. A. Almond, J. S. Coleman, et al., THE POLITICS OF THE DEVELOPING AREAS (Princeton, N. J.: Princeton University Press, 1960), final chapter; and E. E. Hagen, "A General Framework for Analyzing Economic and Political Change," in R. E. Asher, E. E. Hagen, A. O. Hirschman, et al., DEVELOPMENT OF THE EMERGING COUNTRIES (Washington, D.C.: The Brookings Institution, 1962).*

way of explaining the matter is to say that by being conventional in most fields of activity, he gains enough emotional security to be bold in the field of greatest interest to him. In some societies this bifurcation occur widely, and the phenomenon of continuing technical progres under authoritarian government occurs, as in the Soviet Union and Japan and in less extreme degree in some other societies. Some discussion of the circumstances in which it occurs is presented in the essays referred to in the footnote just above. Little is known about the precise mechanisms by which this type of personality is bred in these circumstances.

7. There is no reason to assume a universal human preference for more freedom, more self-government, more opportunity to solve problems, rather than less. I have argued at length elsewhere that traditional authoritarian socio-political systems have persisted as long as they have, not because by instruments of brute force a small elite was able to hold 95 percent or more of the population in subjection for centuries, but because the authoritarian hierarchy, in which even the lowliest peasant had a place of increasing authority as his life progressed, was consistent with the personalities of the members of those societies. Facing problems outside a narrow area of traditional craft, I have suggested, caused a net balance of anxiety rather than pleasant anticipation; the personality of which this is true is also one to which the exercise of authority over others yields satisfaction; and the hierarchy of authority, in which each individual escaped anxiety by resting on the decisions of superiors, and gained satisfaction by exercising his own authority and by the anticipation of greater authority as he grew older, was far more satisfying than a system in which oneself had to make political, economic, and other choices.[1]

   Consistent with this analysis, I believe that Professor Lasswell's dictum that "the preferred model requires an ideology of progress and commitment to wide participation in power as a long-run goal"[2] is not wholly tenable. I would add, "insofar as the people of the society prefer it."

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[1] *See my book, ON THE THEORY OF SOCIAL CHANGE, Chapters 4-8.*

[2] *"The Political Sciences of Development," WORLD POLITICS, XVII, No. 2 (January, 1965, p. 290).*

8. An individual's degree of pleasurable anticipation rather than anxiety at facing a problem does not seem much affected by formal education. It is affected far more by the environment in the home from earliest infancy to school days--by what the parents *are* and believe and automatically do, rather than by any deliberate child-training methods--and by the models which the child and adolescent later sees around him, and the emotional tone associated with them, in the home, in school and in the wider community.

   Education, in short, does not make innovators. The statement needs slight qualification. A strongly innovational individual, if he faces a problem which is important to him, will seek out the tools necessary to face it most effectively. However, a person who is, so to speak, in the middle of the continuum with respect to problem-solving, or who is ambivalent about facing problems--both drawn to them and made anxious by them, with about equal forces--will feel somewhat greater confidence, and be a somewhat better solver of minor problem, if he has information which is applicable. Education *may* make *him* somewhat more innovational. Beyond this, education is of importance, not in that it gives individuals a more innovational bent of mind but in that it gives them useful tools of knowledge.

   Similarly, I judge that education does not do much to increase a people's desire for self-government. Some individuals find making political decisions satisfying; in others it creates anxiety, and they prefer merely to choose a leader, or to let the man who in their view of the world is the "right" leader assume power. I judge that education does not much affect these attitudes. It may cause the introduction or maintenance of Western forms, if these seem "proper," but not the introduction or maintenance of the substance of self-government.

   Consequently, in educational policy I would stress the (extremely important) instrumental aspects of education, rather than think of it as an agent for general social change.

9. Lastly, what does this set of assumptions and conclusions suggest about research?

   a. First, a technical matter. If I am correct, on purely technical grounds of managerial capability there are fairly uniform necessary general sequences of technical and especially industrial advance, even though the specific industries which will arise, as defined by the materials they work or the products they produce, will depend on the natural resources and other cir-

cumstances of the economy. Projects which are otherwise economically justified are burdensome if the economy does not yet have the necessary technical base for them. Economic aid to such projects is wasteful. I suggest that research into sequences of industrial development would be much worthwhile. The country staffs of the United States Agency for International Development are, of course, excellently situated to do the necessary field work.

b. Secondly, further research into the relationships between economic and socio-political change may be illuminating. Interrelations much more complex than those mentioned briefly above are suggested in the writings mentioned above. A combination of field and reflective research might be worth investing a considerable amount of resources on. The complexity of the research should not be underestimated. A great deal of formulation of concepts would be needed. They could not be formulated by arbitrarily deciding on them. In some aspects of the study needed, we do not yet know what to measure, and we must improve our understanding of the elements at work and the relationships among them before we will know what to measure. The research problem is much more complicated than that suggested in the paragraph above. But perhaps political scientists can carve out manageable areas within this general field.

c. Third, a critical look at some of the asserted effects of formal education is worthwhile. Some, at least, of the articles by individuals who believe that education is important in shaping personality present evidence which is merely *post hoc propter hoc*. Schools have taught new attitudes or given wider information; new attitudes or changed behavior have appeared; hence it is assumed that the education was the cause. But the change in education occurred in the midst of great ferment in social structure and home environment, and analysis which was more dispassionate and critical might suggest half a dozen other plausible causes with which the empirical correlation is as high. An attempt at de-bunking would either cause one to be more skeptical of the results of education, or if in some cases no plausible alternative cause is apparent, would suggest limitations on the skeptical view expressed above. In either event, the implications for the nature (rather than the amount) of educational projects supported by the United States Agency for International Development might be important.

Discussion

1. DIFFERENT VALUES IN TRADITIONAL SOCIETIES

Stein felt that the paper makes implicit assumptions about the nature of man that should be questioned. People in the less developed areas may prefer non-economic satisfactions to economic. Hagen agreed that when traditional societies are satisfied, it is all right to leave them alone. But if they are dissatisfied as many seem to be, then trying to give help is desirable. The motives and values *are* different, however, which Western social scientists often fail to recognize. Most people want more wealth, but if this has to be obtained at a cost to respect or some other preferred value, no trade-off may be desired. Traditional societies are characterized by people with a much higher dependency need and anxiety at facing new problems. This is associated with being non-innovational, and high dependency needs also means low empathy. There is, in addition, the familiar but real repugnance of elites in traditional societies to engage in manual work. Even industrial activity may be considered distasteful, so that savers with money to invest may find the social cost too great to justify the increased wealth.

2. PRE-DISPOSITION FOR CHANGE THROUGH PERSONALITY CHANGE

Hagen emphasized again that home environment perpetuates personality types. He referred to Lerner's statement that the peasant becomes urban, then literate, then a media participant and finally becomes a political participant. Is this the causal chain? Hagen suggested that empathy comes first, even before communication reaches the peasants, and that the first force is the circumstances in the home environment, caused by tensions in the social structure. Only if there is a personality change which is a pre-disposition for change, he believed, can changes be brought about by mass communication or foreign aid.

3. CHALLENGE FOR ELITES

Hagen doubted that outside culture contacts with traditional societies change traditional values any more than those of more modern societies. Moreover, the existing elites in traditional societies may satisfy the

lower classes quite well. A breakdown of these elites can be a major trigger for change, when they can no longer provide ritual, support, guidance or leadership to the lower classes. He also questioned the assumption (made in the Esman-Bruhns paper) that leaders in traditional societies want modernization and national unity; the leaders may indeed want the fruits of modernity, but at what cost?

Humphrey felt that the leaders in traditional societies should focus on creating the best conditions for capital accumulation and inflow from outside, and commented that tensions do not necessarily mean, or lead to, modernity.

4. *NEED FOR SYSTEMS APPROACH WITH CHANGE RATES*

Hughes said that there was a strong need for more of a general systems approach in Hagen's, and other models, such as he had attempted in the ecological model. A systems model provides a statement of functional relationships for each part, showing how mutual variation among factors occurs (as with the temperature and pressure of gas). A set of such relationships then provides a working explanation of the system as a whole. If continuities are found, then it means we didn't understand the system.

Deutsch suggested that in addition to a systems model, one needs a time dimension and change rates. In considering economic models of growth in relation to actual events, one observes that much of what Karl Marx called "superstructure" turns out to be essential "infrastructure." Also needed is at least a Calvinist level of life expectancy. How long is long, when literacy increases, on the average, by one percent of the population per year and in urban centers by 0.7 percent annually? What do the trends add up to in the prospects for the future, when in the next 30 years of the average developing country (a) population will double, (b) per capita income will be up 50 percent, (c) the urban-industrial sector will grow by 15-20 percent, and (d) school enrollment will go from its present 30 percent to 60 percent? Indicating change rates whould help to show what crises are in the pipeline.

5. *INCREASING INNOVATION*

The discussion turned to possible ways of increasing the supply of innovation and high need achievers. There seemed general agreement that the basic social orientation of children (in Western society) is set by about the age of six when they enter school, but that a good deal could be done to train or educate young people to be higher need achievers. Children grow from normal infantile dependency either to adult dependency or to mature independence and inter-dependence as a result of many factors not yet thoroughly understood. Mention was made of the work David McClelland, John Atkinson and

others on increasing the need achievement of adults through specific training. Hagen also pointed out that effective innovation can also be increased without any personality change, by providing capital on good terms so that a moderate innovator has a lessened risk. Economic progress means people talking new economic roles.

Deutsch suggested that a study of returning servicemen from traditional societies would be worthy of research, and might yield useful insights on how increased innovation and need achievement motivation could be enhanced.

6. ECONOMIC VARIABLES LINKED TO OTHERS

There was strong agreement with a number of the points which Hagen made in summarizing his paper, including the following: (1) The central feature of the process of economic growth is technical change, which involves acceptance of new economic roles by individuals; (2) the difficulties of moving directly to factory production in a non-industrial society are not merely economic and technical, but also socio-psychological; (3) a society is a system of many inter-related elements which are satisfying to its members. Changes in the system, to enhance certain values, may cause dissatisfying changes in others.

5

HEALTH AND WELL-BEING VALUES IN THE PERSPECTIVE OF SOCIOCULTURAL CHANGE

by

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INTRODUCTION

Let me first review terms of reference. We are to consider the institutional area or sector with which we are individually concerned as a heuristic point of focus in a complex of empirically related processes. One task is therefore to trace out some of those empirical relationships of one institutional area to another, in an effort to discern ramifying patterns of mutual influence. This is to be done expecially with reference to a dynamic dimension of such relationships, i.e., causative and consequent factors of social change. More specifically, we are to consider whether the type of conceptual framework developed in one institutional area to account for change and development--that of economics--can be applied to the course of social transformation in others such that universal characteristics of the change process can be better understood.

In attempting to discharge these tasks, I will initially consider at some length the values and institutional practices related to health, and then express some thoughts on the applicability of the value-analytic framework proposed by Professors Lasswell and Holmberg as a background for this conference.

At the most introductory level, I would first of all remark parenthetically that what we are asked to do is, in effect, so to shape our considerations that they conform to the mainstream strategies for developing scientific knowledge about any sector of nature (cf., e.g., Bronowski, 1955). In contrast to the search for the isolated object or event, such a strategy focuses, by successive approximations, on the network of contingent relations of the object of interest, and is a process of what may be called "progressive contextualization" of the problem area.

I would also observe that when we do begin to view human phenomena in a comprehensive framework of this nature, we are, in fact, approaching our subject *ecologically*. Indeed, I would go further and suggest that we *must* act in such a fashion and develop research frameworks accordingly if we are to advance understanding of the many-sided thing which is human life. With anticipation of a general paper on ecology from Professor Isard, I will not at this point develop discussion of the background and definition of the field. But I must intrude on the subject matter of his paper to a certain extent, at least, in unfolding the focus of my own; for it is simply impossible

to discuss health and well being in either an organic or psychosocial sense without taking a thoroughly ecological point of view, in the *dynamic*, not the merely cartographic sense in which it is sometimes used in the social sciences.

I will therefore repeatedly stress the *relevance* of, if not the formal definition and development of, the ecological framework. For insofar as ecology considers the multiple patterns of functional interrelations among populations, and between populations and their habitats more generally conceived, then much of what we attempt to do in the behavioral sciences may be considered as in the spirit and intent of a general ecology. When, for example, we speak of "multi-factorial" causation; of the holistic approach which stresses the importance of gestalt or of context in interpretation of the meaning of an analytically isolated event or object; of the balances and equilibria (both endogenous and exogenous) maintained by living things; of the essential populational or social character of most phenomena; or of the need for close, inductive attention to empirical data as the basis for further, guided search--when we do this, then (maybe like Monsieur Jourdain, with his discovery of the meaning of "prose") we are, in fact, speaking at least a dialect of the language of ecology.

In this paper, I shall also argue that sociocultural change of the type we are concerned with here is *predispositional* to increased incidence of disease, insofar as it usually disrupts established patterns of adaptation, of homeostasis; that whether sickness does, in fact, consequently ensue as a result of such disrupted conditions of life depends upon the compensatory resources of an organic and psychological nature to be found in the newly-created situation of action, and that adequate compensatory mechanisms are usually lacking in times of pervasive and rapid change; that it may be helpful to separate the concept of *disease* as a pathological process defined by tissue alteration or behavioral malfunction, from *illness*, viewed as the subjective or phenomenological perception of disturbed functioning; that, in this light, definitions of "normality" are largely a function of a group's culturally-structured level of health aspiration, and that the latter, in turn, is dependent upon historical and experiential factors, both those of an "informational" or cognitive character and those of stress and threat. It will be also argued that one of the main concomitants of sociocultural change is the "conjunction of alternatives" in a cognitive sense, which creates a situation of conflict in reference cultures, in values and belief systems, and may well redefine standards of "normality" to such an extent that the same phenomenon may be viewed as a "normal" occurrence at one time and as a pathological condition at another. Such cognitive conjunction of alternatives frequently also leads to sustained and ingrained feelings of relative deprivation, change in the basis of self-esteem, perhaps alienation from self and from others, psychoneurotic and psychophysiologic complaints or other more serious indicators of disturbance of the psychosocial homeostasis achieved under pre-change conditions of life.

One implication from the foregoing is very clear: the principal and most vital questions facing policy makers of directed developments are therefore those of building into the structure of the change process the compensatory and ameliorative mechanisms called for by the disruption in adaptational patterns, and by the specific nature and scope of new adaptive threats.

THE NATURE AND NORMALITY OF DISEASE

Discussion of the functional role of health and well-being values in a context of sociocultural change will be enhanced by prior consideration, however brief, of health and disease in the more general context of life and adaptational activities. In such a discussion I shall hope to bring out the principal premises, mainly of an ecologic nature, which guide both basic and applied activities in institutions dealing with health and well-being values.

In speaking of "health and well being" we are, essentially, confronting one aspect of the ancient and persistent conceptual problem of adaptation, adjustment, and equilibrium. Dislike it as we may because of the methodological and operational snares involved in use of these terms, we cannot avoid them[1]; for health and well being are but indicators or phases of the more comprehensive phenomenon, life itself; and life is rooted in processes of adaptational efforts directed at specific environments, either internal or external.

In the sub-title to this section I have used the phrase "normality of disease" to stress the point that the pathological is largely an extension of the "normal," is best considered an inappropriate, excessive, or deficient version of "normal" transactive processes.

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[1] *Despite efforts to deny them. It is curious how some behavioral scientists dealing with the phenomena of life and the organization of social forms at various levels of complexity eschew all discussion of adaptation and, in effect, take leave of the obvious in an attempt to be rigorous. As an example, Zollschan has recently remarked in a discussion dealing with social change and its psychological involvements: "Concepts such as ADAPTATION, ADJUSTMENT, and FUNCTION have exercised a truly pernicious influence in the study of behavior. They appear to be hanging on in psychology and sociology, although biology is on the verge of abandoning them." (1964: p. 187n) It is surely unarguable that any science purporting to deal with the central phenomenon of life must straight-forwardly confront the concept of adaptation and somehow find techniques to deal with it--and not simply, ex cathedra, dismiss this quintessential characteristic as "pernicious"! A much more sophisticated and, to my mind, acceptable criticism of naive functionalism in the group sciences than Zollschan's is that by Homans in his recent Presidential Address to the American Sociological Association (1964).*

Such a "physiological" as opposed to an "ontological" view of the pathological process was well expressed decades ago by the noted pathologist, Virchow:

> ...The discovery of some parasitical plants and animals which take the human body as their host was in no way whatsoever proof of the general parasitism of diseases .... For our part, we distinguish, neither in sickness in general nor in its particular effects, anything which is distinctive from life and its performance. Everywhere, it is a question either of the obstruction of normal physiological processes or of the stimulation of the same in unusual locations or at unusual times... yet in such a way that the pathological process differs from the physiological process by *the character of danger* which it entails for the continuance of life in general or of individual living components. (In Leighton, D.C., et al., 1963, p. xv)

Life and adaptation (and therefore health) is, then, a *contingent* phenomenon, not to be discussed except with reference to the specific *conditions* of life. One must ask *what* is adjusting, is attempting to adapt, and *to what*?

In the same light, in introducing the question of change, we must ask whether consideration of it can fall outside the conceptual framework of adaptation, of maintenance processes. For insofar as all theoretical considerations of the empirical world must at least implicitly be rooted in factors of change, of flow and dynamic interaction, then change, too, must be analyzed only under the aegis of adaptation. "Change" simply cannot be set aside as another variable any more than can "adaptation." Rather, a change *dimension* must be included in any consideration of the contingent nature of the organism's attempts at adaptation. Put most simply, in addition to the phylogenetically acquired patterns, the organism in the course of life (especially the relatively instinct-free human organism) develops a repertory of adaptational techniques based on the premise of approximate continuity and stability of environmental conditions. Yet the environment is always changing to some degree. Hence continuity of life consists in success in, as it were, adapting the *adaptational techniques* to the new situations, in attaining and maintaining preferred patterns of energy interchange with the environment. *Adaptability* is thus the key operational feature of the continuity of life, and perhaps the diagnostic or defining criterion of health and well being.

Putting the matter at the most abstract level, the essential quality of life has been discussed in terms of *organizational capacity*, and of adaptation as organization. Life is an "un-natural" phenomenon in that it defies the second law of thermodynamics, which is that all organization, all energy, tends toward a state of randomness, of maximum *un*-organization and disorder, of "entropy." It has been said

that "life feeds on 'negative entropy'" (Schrodinger, 1956); it is a process during which there is sustained or even increased capture and incorporation of energy from outside the system such that for a time the organism is an energy system *organizing* energy in the attempt to compensate for the inevitable loss of internal organization through the wear and tear of living. One way of operationalizing the process of adaptation, in fact, is that of considering it as optimal *organization* of energy flow toward particular ends (e.g., Pittendrigh, 1958); or as a state of equilibrium (e.g., Ashby, 1940).

Health and disease are thus concepts which inherently imply the necessity of considering context, both in terms of definition and of causation. For "health" is, first of all, rooted in transaction, in the continuous activity on the part of the organism to establish and maintain patterns of relative adaptive success in dealing with its environment, both its "external" environment and its "internal" milieu. In this light health is, then, an ecological phenomenon, always to be considered in terms of contextual relations.

The definition of health offered by the World Health Organization may be cited as a curiously abstruse and unfruitful contrast to the above discussion: "Health is a state of complete physical, mental, and social well being and not merely the absence of disease or infirmity" (in Brockington, 1958, p. 19). Such a definition posits an ideal condition, a state of "perfection" devoid of reference to mundane circumstances. Moreover, by saying that health is a "state," it seems to imply a static, an inert quality to health, makes health a "thing," an acquired attribute associated with life and not a process inherently constitutive and definitive of the entire life process. It makes no reference to the *potential* mode, to the *capacity for performance*, adjustment, mastery which are stressed by numerous authors in medical literature. For life (and therefore health or non-health) is pre-eminently a conditional phenomenon rooted in activity, in process--is contingent upon the maintenance of particular patterns of relationship to particular environmental factors, particular ranges and magnitudes in the constellation of processes comprising the homeostatic balance by which life is maintained. "Health" once attained provides no guarantee for the future. Thus the specific qualities and attributes of the environment become determining factors regarding the type of life that can be maintained therein; as we have recently been told, we should not expect to find "life as we know it" on the planet Mars, given the nature of its atmosphere. Dubos and Pines have remarked:

> ...(It) is clear that the real measure of health is not the Utopian absence of all disease, but the ability to function effectively within a given environment. And since the environment keeps changing, good health is a process of continuous adaptation to the myriad microbes, irritants, pressures and problems which daily challenge man. (Dubos and Pines, 1965, p. 10)

And continuing:

> Darwinism holds that only those individuals and species survive and multiply which are fitted to their external environments. Bernard went one step further, describing this fitness as the ability to adapt to external changes while maintaining a constant internal environment. In this sense, fitness depends on the existence of control mechanisms which permit the organism to maintain its individuality in the face of all challenges. In Bernard's famous phrase, "The fixity of the internal environment is the essential requirement for a free life." (ibid, p. 11)

Life is therefore an expression of a stable, continuing constellation of *adaptive processes*, and disease represents an exaggerated or abnormal use of defense reactions or mechanisms on the part of the organism in its attempts at adaptation to threatening circumstances, either internal or external. Dubos's recent book, Man Adapting, comprehensively discusses this framework from the bio-chemical through the socioculturual levels of phenomena (1965). Any discussion of health must, in this light, therefore somehow involve consideration of adaptation of the organism as a whole or of its subsystems, in the manner, for example, of Engle (1963), who discusses "unified concept of health and disease," or Brosin (1960), who enlarges the meaning of pathogenic environment to include socially and culturally relevant factors, viz.:

> If "disease" is considered as a relative failure in adaptation to existing life-circumstances, including gaseous, fluid, and mineral intake and output, nutrition, family and job activities, aims, hopes, fears, and talents, we can begin to describe more concretely the physical, psychosocial, and sociocultural interactions in the cultural setting. (p. 386)
> ...Disease will be understood as an aspect of continuing processes both in a biological organism and in the ongoing culture of which the disease is an intimate part. This process of disordered adaptation may be more or less reversible under appropriate conditions....Disease is not an entity but the name given to adaptive failures of already existing and operating processes which are themselves always in an unstable state of change....(p. 387)

The principal propositions from the medical field which appear to summarize my discussion thus far are these:

a. Maintenance of life (and therefore of health) is based on successful adaptations of the organism to its environment at many levels of system organization.

b. The organism is a psychobiological whole, to be considered with reference to problems of adapting both to bio-geo-chemical parameters, as well as to a psychosocial, cultural world.

c. Health and disease are but points along a continum of adaptive patterns and processes.

d. Disease represents a defense mechanism, an attempt at adaptation and return of the psychobiological organism to the *status quo ante*, or to a new pattern of homeostasis, or "steady state."

e. Disease is, however, often a maladaptive pattern of reaction, self-destructive of the system integrity of the organism, or conductive to short-term, circumscribed results rather than fruitful of growth, expansion, extended function.

f. If life is based in establishment of a balance in interaction with the environment, change in that environment (or in the milieu interieur) disrupts such a pattern of adaptation, or of equilibrium.

g. Change is therefore predispositional to disease (or alternatively, to different or enhanced patterns of health), in the sense that a new pattern must be established in the context of the new conditions.

h. Whether illness (or, conversely, capacity for expanded functioning) ensues from conditions of disruption depends upon the particulars of the situation as these are related to capacity of the organism to meet the challenges of the changed ecological niches in which it is now functioning.

i. Health--and therefore disease--must consequently always be considered contextually, in terms of causation, manifestation, and prevention.

THE DEFINITION AND DYNAMICS OF DISEASE IN HUMAN SOCIETY

From the point of view of functional requirements for the social system, Parsons, among others, has commented on the existential basis for health values. A brief extract will serve to illustrate this type of conceptual linkage:

> (The) problem of health is intimately involved in the functional prerequisites of the social system.... Certainly by almost any definition health is included in the functional needs of the individual member of the

> society so that from the point of view of functioning of the social system, too low a general level of health, too high an incidence of illness, is dysfunctional. This is in the first instance because illness incapacitates for the effective performance of social roles. It could of course be that this incidence was completely uncontrollable by social action, an independently given condition of social life. But in so far as it is controllable, through rational action or otherwise, it is clear that there is a functional interest of the society in its control, broadly in the minimization of illness. As one special aspect of this, attention may be called to premature death. From a variety of points of view, the birth and rearing of a child constitute a "cost" to the society, through pregnancy, child care, socialization, formal training and many other channels. Premature death, before the individual has had the opportunity to play out his full quota of social roles, means that only a partial "return" for this cost has been received. (1951: 430)

Whatever the degree of conscious *social* function in the pursuit of health, individuals in any group are acutely involved in the personally-motivated pursuit of health and well being--in the search for relief and respite from bodily and emotional pain--and the health values of any group are undoubtedly a reflection of these twin origins. Throughout human history, health and well being have been lodestones by which much of man's "social" and "individual" activity has been guided, by which many of his deepest longings and most profound fears are to be explained. Man pursues health both singly and through group action; defines disease in a framework of social experience, and explains it both by idiosyncratic speculation and by group philosophico-religious sanction; heals both through the body's own efforts, and through the instrumentality of social knowledge and practice.

Judging from paleopathological evidence, diseases of one kind or another have always afflicted humankind. Indeed, given the nature of life and the nature of disease, it could scarcely be otherwise. And even as there has always been sickness, accident, deformity, and anxiety to trouble man, so, too, has there been an organized, purposeful response by society to such threats. In all human groups, no matter how technologically primitive or how small, there exists a body of belief about the nature of disease, its causation and cure, and its relations to other aspects of group life. The variability of societies and cultural systems precludes easy generalization about the role of health in society, but one characteristic does stand out apropos of medicine in the predominantly nonliterate (or "underdeveloped") societies of the world: its close integration with other institutions of the society. "Religion," "medicine," and "morality" often meet in the concrete behavioral act or event, and, to an extent not found in highly industrialized societies, "folk medicine" is "social medicine."

But while the image of unbounded health and release from anxiety has long haunted man, the attainment and enjoyment of perfect health has eluded his earthly grasp and has consequently usually been projected distant in time and place. Either there has been a golden age in the past from which man fell to his present pitiable state, or else the time of respite from ills lies in the future, in either this world or another. But whatever the mythological reckoning, "health" seems always to have been one human desire inherently transcendent from contemporary circumstances and conditions. It is always a statement of the imagined ideal which enlarges upon, goes beyond, improves or modifies what presently exists. The values of health or well being partake, then, of the Utopian conception; and, given the existential characteristics of the human condition, never will be reached although perhaps approximated to a greater degree than now found in non-developed nations of the world (cf. Dubos, 1959; Burnet, 1959). For, far from being unitary or simple goals, health and well being are in actuality rooted in multidimensional relationships of the organism--and society--to its environment. Moreover, the phenomenological evaluation of acceptable health levels is a relative, an evolutionary matter. The "nagging back pain" which prevents work in normal times is forgotten in the panic of wartime disaster, or the sub-clinical chronic cough which was tolerated in the busy, active life becomes the presenting complaint in the idleness of retirement.

Health must, then, pre-eminently be considered contextually in a social as well as organic sense (as the noted medical historian, Henry Sigerist, insisted in his many works - for example in his Civilization and Disease, 1945). The presence of the bacillus or the threat may be a necessary but is not a sufficient cause for the triggering of the symptom; for the threats to health--and they are co-existent with life itself--always operate in a context, and it is the particular quality of relationship between threat, host, and total environmental factors which is responsible for the incidence of most illness. No doubt everyone in this room harbors the *tubercle bacillus*, yet increasingly fewer people in modern Euro-American society show clinical symptoms, a very different picture from that prevailing even a generation ago. The reasons, of course, lie in the operation of factors associated with the presence of the disease agent--stress thresholds, defense mechanisms, factors of nutrition, housing, sanitation, general bodily well being--in other words, in the scope and variety of the body's adaptive capacities to resist incursions of this microbial threat, and such adaptive capacities can very generally be associated with distinctive qualities of social experience.

In the same vein, *solution* of one health problem of itself may well create further problems. For example, lowering the infant death rate increases population pressure on available food supply and may thereby fosters diseases of malnutrition or overcrowding in housing, with the latter's demonstrated increases in morbidity incidence of many types. Conversely, an overly hygienic environment in his child-

hood years many render the adult more susceptible to the virulence of "childhood" diseases through lack of immunity developed by early exposure to the disease (e.g., Dubos, 1959). In another illustration, perhaps one of the clearest expressions of the cyclic, contingent nature of the relational matrix in which all life is enmeshed would be the hordes of people in Southern California (or other thickly populated parts of this country) who crowd the highways, bumper to bumper, to get away from a smog-polluted atmosphere on a warm summer weekend and, because of their very numbers and their mode of attempted solution, simply increase and slow down the traffic flow, in effect, further befouling the very atmosphere they are attempting to flee.

Against an ethnographic background, let us examine some of the contextual relations of beliefs and practices related to health and disease in society.

THEORY OF DISEASE. Everywhere man devises or divines causes for the significant events in his life. The afflictions which beset body and mind are explained in both naturalistic and supernaturalistic terms. A cut finger, a broken limb, a snake bite, a fever, the halting speech and wandering mind of senility--all may be regarded as sometime hazards in the process of living. For explaining such events there is always some type of conceptual framework rooted in commonsense empiricism. But often a wound does not heal, a sickness does not respond to treatment, and the normally expected and empirically predictable does not happen. In such cases another order of explanation is employed, one which attempts to come to terms with the more basic meaning of the event seen in metaphysical perspective. For most non-western societies this transcendental explanation for the occurrence of disease tends to figure more pervasively in the total body of medical lore and practice than does the empirical framework. Seen in functional terms, reasons for this degree of influence no doubt lie in the far greater morbidity from many diseases in the underdeveloped world than in industrialized societies, coupled with the comparative inadequacy of ethnomedical knowledge and techniques for dealing with these common threats to group and personal existence.

Widespread throughout the world are five basic categories of events or situations which, in folk etiology, are believed responsible for illness: (1) sorcery; (2) breach of taboo; (3) intrusion of a disease-object; (4) intrusion of a disease-causing spirit; and (5) loss of soul (Clements, 1932). Not every society employs all five explanations to an equal degree; indeed, many groups are selective in the emphasis placed upon one or a combination of causes from this categorization. For example, soul loss and breach of taboo are particularly important as reputed causes of disease among the Eskimos, while the malevolence of a sorcerers or witches is especially emphasized in many African societies. Sometimes, however, such categories are more useful analytically than descriptively in characterizing the etiological beliefs of a particular group; for instance, in some societies disease is conceived to be brought about

by intrusion of an object which *contains* a spirit, and it is the latter to which primary causative influence is attributed (e.g., Hallowell, 1939).

Among the world's peoples, health is rarely, if ever, a narrowly restricted conception having its locus only in the well being of the individual body. They do not, in other words, fall prey to the "fallacy of the separate capsule," in thinking about the relations of health to other aspects of life, as Polgar (1962) recently put it. The Greeks were not alone in viewing disease as a manifestation of disharmony in man's overall relation to the universe. In discussing conceptions of illness among a West African people, for example, Price-Williams gives a modern illustration stating that while diseases are recognized and conceptually distinguished,"...in common with a great many other people, Tiv do not regard illness or disease as a completely separate category distinct from misfortunes to compound and farm, from relationship between kin, and from more complicated matters relating to the control of land. But it would be completely erroneous to say that Tiv are not able, in a cognitive sense, to recognize disease.... What is meant is that disease is seldom viewed in isolation" (Price-Williams, 1962: 125).

Such a notion is widely found elsewhere, as in certain American Indian groups (examples are the Navaho and Ojibwa), where bodily or mental affliction is often viewed as an indicator of moral transgression, in thought or in deed, against the norms of society. Thus in many groups man is conceived to be continuous with both the social and non-social aspects of his environment, and what happens in his surroundings affects his bodily well being. Not only a person's own actions, therefore, but also those of kinsmen or neighbors, can cause sickness. Such an etiological conception has obvious implications for treatment. A widely employed curative technique, for instance, is magically-based dietary restrictions. Among some South American Indian groups such restrictions apply to all members of the patient's family, and offenses of the latter, no less than those of the patient, will undermine his health. Similarly, among the Thonga of South Africa sexual relations between inhabitants of the patient's village can aggravate his condition, and some Eskimo groups believe that the patient's family should do no work during the period of convalescence for fear of giving offense to the spirit causing the sickness.

The belief that by his own actions a man can influence the state of his fellow's health also has malevolent implications, as in the institutions of witchcraft and sorcery, and often this underlying belief structure may be an important factor deciding the success or failure of attempts at introducing new medical programs in underdeveloped societies. Cassell (1955) cites an illustration to this end. The Zulus believe that only sorcerers and witches have the ability to transmit disease, particularly diseases which show themselves in symptoms normally associated with pulmonary tuberculosis. Progress in community acceptance of a health program in a particular area was brought to an abrupt halt at one point when a physician,

thinking the time apt for introduction of the view of contagion held by western medicine, traced the course of tuberculosis through the family, showing how one member had been the original source of the disease in the group and had therefore been the agent responsible for sickness in all others. But upon this revelation, what had been up to that point cautious cooperation with the physician on the part of the family elder turned immediately into a hostile rejection, which was assuaged only after the doctor retracted his (in Zulu belief) *de facto* accusation that the daughter of the family was a witch.

A theory of disease implies a theory of normality. Yet the "normal" is in no way easy to define for all time and circumstances. Aside from abstract questions of a "statistical" versus "functional" basis for normality (cf. Wegrocki, 1953), there is the cultural definition. Afflictions common enough in a group to be considered endemic, though they be clinical deformities, may by virtue of their very incidence be accepted simply as part of man's natural condition. Ackerknecht (1946) has commented in this vein, noting that the Thonga, for instance, believe intestinal worms, which are very common, to be necessary for digestion; the Manos, also of Africa, feel that primary and secondary yaws are so common that they say "that is no sickness, everybody has that"; or that North Amazonian Indians, among whom dyschronic spirochetosis is widely prevalent, accept its endemicity to such an extent that its victims are thought to be normal, and individuals who have not had the disfiguring disease are said to be looked upon as pathological and consequently unable to contract marriage. It is culture, not nature, that principally defines illness, although it is usually culture *and* nature which foster disease and illness.

Theories of disease developed by non-developed peoples in the absence of scientific medicine generally have major relevance to the moral order, to the normative control of man's behavior in society; for frequently disease is seen as a warning sign, a visitation from punishing agents for a broken taboo or hostile impulse, an aberrant urge to depart from the approved way. In a series of outstanding analytic papers, Hallowell (e.g. 1963) has analyzed the function of anxieties over sickness among the Ojibwa Indians of North America, and other investigators have looked at the same problem in different cultural settings (e.g., Lieban, 1962). Both to the ill person and to his fellows, sickness is often interpreted as the supernaturals' way of indicating an act or intention of socially disruptive behavior. Especially in societies which lack strong, centralized sociopolitical organizations the occurrence and imminence of disease--with the belief that it represents punishment for aberrant, dyssocial impulse or action--can be functionally of great importance in maintaining group cohesion and restraining disruptive tendencies.

The therapeutic practices attendant upon occurrence of disease may also have socially cohesive results and, though often empirically effective in a medical framework, they may be more vital in the total

fabric of society for reasons other than their organic outcomes. Typically, the curative session (and often the diagnostic occasion as well) includes not only the patient and healer, but also the patient's family and neighbors. Often the therapy involves confession by the patient, and under such conditions the confession may well relieve him of diffuse as well as focussed anxieties and guilt. When followed by concrete expiatory acts (as such a session usually is), it may also give him a chance to participate in his own treatment through action. (It is doubtful whether most of such curative rites do more than provide temporary symptomatic relief--but the same can be said of much modern psychotherapy.) At the same time group cohesion is often enhanced, for such confessions dramatize fundamental social values through illustrating the harm that can come from social deviance. They provide a setting in which all participants are enveloped in the aura of forgiveness and, through stress on the protection afforded by adherence to group values, assurance of good health. In short, the therapeutic context is usually a social context and during the course of the therapy the reciprocal psychosocial involvement of the patient with his fellows is ritually underscored. As noted above, if therapeutic directives for behavior are issued, they frequently apply to the group, or selected members of the group, as well as to the patient; and if successful recovery is as dependent upon good thoughts as upon effective techniques--as frequently happens--then the assembled company must be devoid of ill wishes and hostilities toward not only the patient but also each other. The curative rite may thus serve in multiple ways as an occasion for reintegration of the group around common social values.

THE SOCIAL "CONTEXTUALIZATION" OF HEALTH AND DISEASE. A great part of the task of indigenous medical institutions, especially of preventive medicine, is borne not by "medicine" as such but by cultural practices which, while oriented to different social purposes, have important functional implications for health--representing another area in which a thorough-going ecological framework must be applied to the analysis of health in society. In this connection, for example, may be mentioned many religious and magical practices, such as avoidance of the house in which a death has occurred; theories of "bad body humors" as agents of contagion which, in actuality, encourage daily bathing (e.g., Erasmus, 1952); "hot" versus "cold" distinctions in regard to food and water which require boiling or cooking before consumption; hiding of fecal and other bodily waste through fear of their use by sorcerers or witches, and numerous others.

Other cultural practices inadvertently relevant to health have not a primarily religious or philosophical basis but a more general ecological one. Cosmetic and clothing customs or housing styles and settlement patterns may be cited in this connection. Regardless of their value to the archeologist, the midden heaps of sedentary communities have rather more baleful implications for the public health of the group than do the less cumulative waste disposal patterns characteristic of nomadic groups. Changing economic incentives and circumstances which disrupt the adaptive harmonies between

a cultural form and its environment frequently also create health hazards. May (1960) provides a striking illustration of the intersection between cultural and ecological factors in North Vietnam. Dwellers on the plains lived in low, squat houses in which they sheltered their cattle on one side of the structure and did their cooking on the other. When these rice-growers moved into the hills in search of better economic opportunities, they continued constructing their houses according to the same general plan. In the hills, however, the incidence of malaria among them became so high as to discourage further such movement, despite governmental urging. The people themselves ascribed the calamitous disease to the ill-will of the hill deities. In fact, however, the gods of ecology are more likely responsible, since the incidence of malaria was low among the indigenous hill people, who constructed their houses on stilts, sheltered their animals underneath, and did their cooking inside the house. In May's view these several factors were functionally instrumental in keeping down the spread of malaria from the fierce mosquito vector found in the hills; for the flight ceiling of the *Anopheles minimus* is restricted to about ten feet above the ground, and, despite its preference for human blood, the presence of animals underneath the house and of smoke inside the house (where the cooking was done) created an unrealized protection for the human inhabitants.

Highly graphic, May's analytic insights by no means stand alone. Increasingly, in fact, modern medicine is adopting an operating model in terms of an ecological view of the disease process (cf., for example, Gordon, 1958; Dubos, 1959, 1965; Burnet, 1959; Brosin, 1959 and many others). The successes of experimental laboratory medicine in the last century in isolating the transmittal agent of so many of the major communicable diseases resulted in a long period of apotheosis of the "doctrine of specific etiology," which focussed on the infective agent as the necessary (and, by implication, also the sufficient) cause in predicting and controlling the incidence of disease. Environing circumstances were disregarded as largely irrelevant.

But the study of disease has gone outside the experimental laboratory, into the real world, where the causative relevance of context can clearly be seen; and the significant unit of analysis is more generally viewed as a syndrome of agent plus vector or host plus environmental situation. The "disease unit" is, then, contextually conceived. And this is true not only for organic diseases *per se*, but also for psychogenic disorders. Stainbrook has well stated this newer theoretical perspective, especially apropos of the sociocultural environment:

> A field theory of human action in a far more complicated sense than that envisioned by the early 20th century Gestalt and topological psychologists underlies the modern medical and public health concerns with the social and cultural environment. For not only is each individual a highly differentiated and organized living system

> integrated into an organized and differentiated world, but much of the here-and-now behavior of the person is dependent upon the life history of the encounter with his society and culture which has already transformed him.
>
> Since there are concomitant physiological processes associated with every individual behavioral event, and since probably no act of individual behavior is unrelated to the social space in which it is occurring, body and society are in a constant transaction across a total field of reciprocal determination. In many constantly shifting patterns, body and person are the environment of society as society becomes the environment of person and body.
>
> Moreover a comprehensive theory of disease, interrelating body, person, human group, and the physical environment, signifies, diagnostically, an insistence upon etiologic patterns or fields even if the major search for structural defect or dysfunction is confined to the body. Hence, every disease, in some balance of etiologic patterning, is a psychosomatic, a psychosocial and a bio-social ill-at-easeness.
>
> All these statements are a theoretical prelude to an insistence that much of what goes on inside bodies is intimately related to what goes on between bodies. The understanding of the structures, functions, and values of social organization is not optional and elective for medicine and the public health, but imperative. The sciences of social man and of individual behavior, the behavioral sciences if you will, are an integral part of basic medical science. (1961, pp. 1005ff.)

Some of the ways in which the sociocultural environment structures the ecological relationships of a group, so far as susceptibility to or protection from disease are concerned, may be summarized by a synoptic paradigm. Though necessarily sketchy and illustrative, the following table may be useful in indicating the wide range of threatening pathogens and pathogenic situations to which research must be inductively sensitive if it is to localize the significant sociocultural parameters of disease and well being.

The following table is taken from a more extensive discussion elsewhere of some of the functional interrelationships between categories of cultural behavior and types of diseases (Hughes, 1963), and is obviously suggestive rather than exhaustive of patterns of relationship:

Illustration 1

HEALTH-RELEVANT ASPECTS OF THE CULTURAL PATTERNING OF BEHAVIOR

Source of Threat To Health	Food and Consumables		Clothing, Bodily Adornment, And Mutilation	
	Protective	Injurious	Protective	Injurious
Animal-borne diseases	taboos on eating diseased animals	eating flesh of diseased animals	use of mittens, boots, etc., in handling animals	putting harnesses, etc., into mouth
Geophysical and chemical factors				magical or esthetic use of injurious ointments
Disease of indirect human contact	cultural preference for drinking tea, chicha, wine, etc. in place of water; "hot" vs. "cold" beliefs requiring boiling of water	drinking polluted water; folk medical beliefs excluding germ theory of disease transmission		clothing harboring of parasites
Diseases of direct human contact		pre-mastication of food; drinking bouts with sharing of vessel	magical beliefs about discarding clothing of deceased	
Diseases of physical malfunction (incl. nutritional)	efficient agricultural, cooking techniques	some food taboos; cultural change	adequate protection against cold, heat, etc.	constriction of movement; poor ventilation; cliterodectomy
Degenerative diseases and neoplasms	situational or cultural low cholesterol dietary patterns	smoking; inhalation of house smoke, use of some types of stimulants, etc.		esthetic or magical cicatrization
Stress and behavioral disorders		some food taboos, especially if inadvertently violated; low socioeconomic status	lack of SES importance in clothing	low SES

Illustration 1 (Contd)

HEALTH-RELEVANT ASPECTS OF THE CULTURAL PATTERNING OF BEHAVIOR

Source of Threat To Health	Shelter		Technological Behavior	
	Protective	Injurious	Protective	Injurious
Animal-borne diseases	segregation of animal stables	stabling of animals in living quarters		
Geophysical and chemical factors		unsafe location of house sites (e.g., wet ground)	empirical knowledge of plant characteristics ("ethnobotany") techniques to extract poisons from food plants, etc.	failure to control smog, industrial gases
Disease of indirect human contact		faulty household sanitation		
Diseases of direct human contact	some housing styles	overcrowding in living quarters	isolated working tasks; dispersal of group	mixing of populations (e.g., markets)
Diseases of physical malfunction (incl. nutritional)			work roles requiring bodily exercise	dangerous subsistence roles (e.g., Eskimo hunter); certain work postures
Degenerative diseases and neoplasms				
Stress and behavioral disorders		overcrowding, especially with conflicting role relationships; low SES	adequate technology (in absence of relative deprivation)	technological changes creating frustrations, sense of deprivation

Illustration I (Contd)

HEALTH-RELEVANT ASPECTS OF THE CULTURAL PATTERNING OF BEHAVIOR

Source of Threat To Health	Material Culture		Bodily Habits, Hygiene Medical Lore	
	Protective	Injurious	Protective	Injurious
Animal-borne diseases			innoculation against snake-bite	coprophagic dogs
Geophysical and chemical factors	sanitary, spacious housing	unsanitary and cramped housing		
Diseases of indirect human contact		sharing of utensils, tools, etc.	hiding of feces from witch-fear; nomadism; sweat baths; cleanliness	unsanitary habits of waste disposal; night soil as fertilizer
Diseases of direct human contact	nomadism	passing eating utensils from mouth to mouth	segregation of ill person; empirical medicine; some theories of disease transmission	some theories of disease transmission
Diseases of physical malfunction (incl. nutritional)	efficient agricultural techniques and tools	inadequate unsafe technology	regimes of hardihood and physical training	certain working, resting, sitting postures; use of cradleboard
Degenerative diseases and neoplasms				
Stress and behavioral disorders	tradition-oriented culture	sense of relative deprivation (esp. evident in culture change)		

Illustration 1 (Contd)

HEALTH-RELEVANT ASPECTS OF THE CULTURAL PATTERNING OF BEHAVIOR

Source of Threat To Health	Religion-Magic		Social Relationships And Social Position	
	Protective	Injurious	Protective	Injurious
Animal-borne diseases	avoidance of dangerous animals or reptiles	worship and permissive treatment of animals (e.g., cattle)		
Geophysical and chemical factors		magical use of harmful drugs, decoctions, etc.		
Diseases of indirect human contact	some taboos, e.g., waste disposal from witch-fear	ritual sharing of objects, utensils		
Diseases of direct human contact	taboos on handling corpses or contact with belongings	curing rituals bringing other people into presence of infectious patient		
Diseases of physical malfunction (incl. nutritional)	some food or behavior taboos (e.g., on menstruating women)	some food taboos; cliterodectomy	privileged SES; food taboos (e.g., on kinship basis)	differential food or task distribution on basis of SES
Degenerative diseases and neoplasms	religiously based practice of circumcision	cicatrization	privileged SES	
Stress and behavioral disorders	psychological support of sick person through group participation in ritual, etc.	witchcraft beliefs	guided, planned social change; permissive culture or socialization; supportive social network	occupational or social roles (e.g., class situation) creating frustrations, sense of deprivation

A second exercise in synoptic "contextualization is the following table (Illustration) with the same purpose as the preceding paradigm--that of exploring the multiple ecological and etiological relations of health (from Freeman, 1960, p. 10). The distinction drawn between "stress" (or stressful factors) and "strain" follows generally from traditional "stress-strain" connotations in engineering. In this sense, *stress* is "any force that would injure the body if the latter did not bring appropriate counterforce to bear"; while *strain* is "the result of 'stress' and manifests itself in the form of (tissue) injury, or compensating body mechanism." The applications to sociocultural situations are obvious.

THE STRATEGIES OF SOCIOMEDICAL RESEARCH

If the environmental concomitants are becoming increasingly important in the conceptualization of disease processes, they have also become important from a methodological perspective and serve as the guiding framework for the science of *epidemiology*, which is distinctively associated with research on the distributional and etiological aspects of disease. In some ways a new name for an old approach, epidemiology has been defined as "the study of the distribution and determinants of disease prevalence in man" (MacMahon et al., 1960, p. 3). Beginning with a concern for the mass communicable diseases, epidemiology now has been applied to the study of chronic degenerative diseases, nutritional disorders, accidents, and psychiatric disorders--in other words, any disease or illness which is significantly populational in character. In this light, epidemiology is a direct expression of the "natural history stage of inquiry," (Northrop, 1947), in which the necessary background data for subsequent more refined approximations are gathered. Thus, initially inductive in approach, an epidemiological investigation starts from the simple question--what sicknesses are there and where are they found?--and goes beyond this to successive levels of refinement both in analysis, data-gathering, and hypothesis formulation to guide subsequent field investigation. Distinctive characteristics of epidemiology are, then, its inductive, *then* deductive nature; its focus on populations; its multi-factorial approach to causation; and its consequent concern with a wide range of environmental factors.

But epidemiology is not simply the descriptive cataloging of empirical events. Depending upon the stage of data-gathering and analysis reached, other approaches toward conceptual and empirical control of the problem may be employed. Thus, beyond "descriptive epidemiology," MacMahon and his colleagues would see two successive stages, "analytic epidemiology" (the testing of an inductively-derived hypothesis against new descriptive obervations gathered in the field) and "experimental epidemiology" (studies of disease incidence either in the laboratory or under controlled field conditions).

Put in this way, epidemiology might well be viewed as the ecologic framework applied to a particular problem area. Indeed, the close

Illustration 2

ENVIRONMENTAL SOURCES OF HUMAN "STRESSES" AND ASSOCIATED "STRAINS"

"Stress" Categories	Inorganic Environment (physical)		Organic Nonhuman Environment (biologic)		Organic Human Environment (social)	
	"Stresses"	"Strains"	"Stresses"	"Strains"	"Stresses"	"Strains"
Deprivation	Lack of water, e.g., as in a desert experience, drought Oxygen deprivation	Pathologic thirst Asphyxiation	Vitamin deficiency Food deficiency	Beri beri, scurvy Inanition, starvation	"Sensory" deprivation Interpersonal deprivation Loss of role and status Cultural deprivation	Marooned and solitary confinement syndromes Grief, clinical depression, peptic ulcer? tuberculosis? Suicide? Anomie? Crime? Delinquency?
Excess	Excessive cold Excessive snow shoveling Atmospheric pollution, radioactivity	Freezing Coronary heart disease? Cancer, congenital deformity	Vitamin and drug excess Food excess	Poisonings, addictions Obesity, atherosclerosis	Excessive interpersonal conflict	Neuroses? rheumatoid arthritis? tuberculosis? psychoses? "accidents"? coronary heart disease? alcoholism?
Turbulent and virulent change	Inorganic turbulence:floods, tornadoes,earthquakes, volcanos, etc.	Various kinds of shocks, traumas	Virulent microbes, epidemics	Smallpox, diptheria tuberculosis typhoid polio	Turbulent social change Rapid disruption of norms and functions	Wars, pathologic leaders, e.g.,Hitler, Napoleon Lawless,behavior, suicide?
Intolerance-deviance	Intolerance of sunlight, cold	Exhaustion, shock	Of allergens Of fermented products	Hayfever, food allergies Some types alcoholism?	In interpersonal relations	Some types of schizophrenia and other psychoses?

relationships in spirit and method between ecology and epidemiology have been pointed out, among others, by the epidemiologist, Gordon, who discusses the "sameness of epidemiology and medical ecology" in his thorough review of the ecological basis of health and disease (1958):

> If morbid conditions of man are the result of a reaction between man and his environment, then all disease conditions can be interpreted in terms of three principal factors: an agent, separated from environment for convenience of interpretation and understanding; a host, the injured or affected organism; and the broadly defined environment, in which both host and agent exist, itself entering strongly into the interaction between the two. In the absence of a known or definable agent, the basic system of man opposed to environment serves usefully. Thus looked upon, all disease and injury in their group manifestations are interpreted as ecologic phenomena and amendable to the methods of epidemiology. (p. 352)

In the same vein are the early classic works in epidemiology such as Panum's investigations of measles (1940) and Snow's studies of cholera (1936). More recently, Burnet's compendium of infectious disease (1959) clearly is in an ecological-epidemiological framework. The review article on epidemiology and anthropology by Fleck and Iannı (1958) may also be cited as illustrative of affinities in concept and strategies between those two fields; and the recent impressive series of volumes by May (1958, 1961, 1963, 1965) demonstrate both the extent of epidemiological knowledge concerning disease patterns in the world that does exist, as well as the large gaps remaining until more adequate control and preventive programs can be implemented. Of particular interest in May's studies is the systematic discussion of the influence of sociocultural factors in the causation and prevention of disease.

In studying disease and sociocultural change, epidemiology is clearly the technique and methodological approach of choice, for so little is generally known of the relevant background data necessary for utilizing more specific, deductive approaches.

SOCIOCULTURAL CHANGE AND THE PUBLIC HEALTH

DISEASE AS THE STIMULUS FOR SOCIOCULTURAL CHANGE. Medicine in society, especially, perhaps, in underdeveloped societies, does not easily change under the impact of sustained contact with the industrialized world, nor even as a result of deliberate attempts at change in conceptions of disease or health-oriented practices. Paul (1955), Foster (1962), and others have documented the variety of institutional and non-social factors that may impede or altogether prevent successful introduction of a modern health program, even of so simple a custom as boiling drinking water. Such factors span the

range from usual ecological considerations to those of functional efficiency in domestic tasks, social structural pressures, esteem and prestige of the innovator, and perception of threat or advantage to the recipient. The proper role of the healer may be differently defined; in parts of India, for example, the medical practitioner must assure the patient of recovery, and any admission of uncertainty (even one couched in the form of probability) is not allowed. The giving of rudimentary physical tests may be impossible or difficult in a non-western context. Or in societies where blood, for instance, is conceived to be a non-regenerative substance (as it is in a number of societies), extracting of samples for testing is tantamount to deliberate harm.

It has been found easier to introduce changes in behavioral practice than changes in belief about the nature of illness, its cause, and prevention. Domestic hygiene and community health thus may be bettered through sustained attention by the public health worker to change in habits, while the underlying belief system about the cause of illness may be unaltered. One cogent reason for this is that belief systems, particularly those centered on critical areas of social value such as health, serve much more than a simple cognitive function. Being very largely tied in with religious and magical systems of belief, as well as with the moral order of the society, they impart a deeper sense of resigned acceptance of what happens than does an alien concept treating of a germ theory of sickness causation. More adequately do they address themselves to the question "Why did I and not my neighbor get sick?" than does an explanation phrased in terms of communicability of a disease, thresholds of resistance, host, agent, and environment.

Yet in many instances modern medicine does get accepted. One of the chief reasons is its demonstrably greater effectiveness in the treatment and prevention of many diseases. But even such acceptance as this is often compromised by the existence of alternative diagnostic and therapeutic frameworks: one relating to those diseases for which it is felt modern medicine is more effective, and the second to diseases conceived to be unamenable to modern medical treatment. The first framework is often that applied to diseases introduced by the European (such as tuberculosis, measles, smallpox, and others of a similar highly communicable nature), while in the second group are traditionally endemic diseases and, especially, ailments having a large component of psychological or psychophysiologic involvement.

But in the extremity of fear for a patient's life even such distinctions as these are often disregarded, and the ill person may be taken to a modern medical facility after indigenous healers have done their best, taken either to be cured or left to die. Every hospital--and not just those in non-western, "underdeveloped" groups--has admitted patients brought too late for the course of disease to be halted even by the most advanced techniques of scientific medicine. Disease being an unequivocal threat to life, adaptive responses are

many and sometimes override ingrained belief, either of folk medicine on the one hand, or modern medicine on the other. In this light, given the avowedly limited role of scientific medicine in society--together with the inevitability of disease--elements of folk medicine will no doubt everywhere persist, even as they do in Europe and the United States, so long as there is uncertainty of outcome, or technical ineffectiveness in alleviating pain, prolonging life and guaranteeing cure.

DISEASE AS THE RESULT OF SOCIOCULTURAL CHANGE. Much can be predicted about the relationship between sociocultural change and disease (or health) by even a cursory review of the historical and epidemiologic evidence concerning recurrent, generic features of the change situation, which features are both of a non-cultural and, in human populations, especially of a symbolic and phenomenological nature. In combination, however, they comprise a syndrome of pathogenic conditions which presents a formidable challenge to the organism's (and to a group's) adaptive capacities. This is not, of course, to say that a simple theoretical equation exists between social change and the appearance of clinical symptoms of disease. But it is to emphasize again that disrupted patterns of adaptation are *predispositional* to disease. And prevalence data would strongly support the use of conditions of change as useful short-hand predictive indicators of high morbidity (as Hippocrates insisted centuries ago).

Throughout history there has been an invariable association between pericds of great social turmoil, such as war, and high disease incidence. This is especially true in those periods when the early, exploitative phases of industrialization are accomplished--which is happening now in so many parts of the world, and which is the explicit focus of our concern at this conference.

In the matter of population growth for example:

> Overpopulation affects the health of the community, physically and mentally. It undermines physical health by increasing the risks of infection and by the more subtle, but powerful, influence of malnutrition; by shortening life; by disrupting the family through deaths of its younger members; by damaging the health of the childbearing population through frequent pregnancies without any corresponding gain; by denying the community many of the essentials of health. Mental health suffers because of the hopelessness of life in circumstances where there exist neither houseroom, food, well being nor any of the essentials which make a life of fulfillment and purpose possible. (Brockington, 1958: p. 95)

Or migration:

> The migration of peoples from their homelands, which tears up the family by its roots or disrupts it by the removal of cherished members, although age-old, has in recent centuries added enormously to the problem of public health. As a by-product of so many human activities--war, famine, disease, industrialization, religious persecution, overpopulation, and exploration--it has taken millions far over the high seas and across land masses, or perhaps no further than to the newly built industrial areas, but also to a new environment, where customs and cultural ties differ and new hazards have to be met. (ibid., p. 103)

Or of another effect of migration (and of the lack of it), illustrated by a specific and highly devastating disease, smallpox:

> Regardless of where they came from or how they spread, most of the major infectious diseases of history have had one characteristic in common: they have done their greatest damage among populations which were suddenly exposed to them for the first time. The inhabitants of 18th Century England, where smallpox was common, considered it a childhood disease. And in fact it was: one out of three English children died of it before his third birthday. Many others were blinded by it, and most were pockmarked for life--but those who survived were immune to smallpox forever. The Indians of the New World, on the other hand, had never been exposed to the disease, and were particularly vulnerable to it. Shortly after Cortez arrived in Mexico in 1520, smallpox ravaged the Indians there, killing at least half of them, children and adults alike, and so demoralizing the rest that it hastened their defeat. When the English came to fight the Indians of North America a century later, they did not hesitate to take advantage of this susceptibility. By giving away contaminated blankets, they willfully spread smallpox among their foes, while rejoicing that the Lord had sent His "avenging angels to destroy the heathen."
>
> The Europeans soon lost their advantage, however. In the New World, their way of life changed sufficiently to prevent constant exposure to smallpox. The scattered settlements in which they lived had little contact with one another. While they remained isolated, the colonists stayed generally healthy; smallpox infection was often unknown for a whole generation. But meanwhile a large nonimmune population grew up. As a result, whenever a ship brought fresh infections from Europe, smallpox, as well as measles, struck with

> ferocity. Throughout the 17th Century, smallpox remained the major epidemic disease in the colonies. (Dubos and Pines, 1965, p. 37)

Or urbanization, which traditionally has been associated with low populational fertility and high incidence of all types of diseases:

> The growth of towns in many parts of the world is now proceeding fast.... Outside the developed world, people are crowding into the towns, often to live in circumstances of great discomfort and dangerous congestion, and adding to the problems of public health in countries that already have too many. Here they are reproducing again the effects of industrialization from which Europe and the New World have only recently escaped. What can be said of the cities and towns that now abound where it is not a question of one person or even one family to a room, but of many families and even a family per bed space, without water or sanitation? As Hammonds said of England when the Industrial Revolution had done its worst, 'the idea of the town as a focus for civilization, a centre where the emancipating and enlightening influences of the time can act rapidly and with effect, the school of social arts, the nursery of social enterprise, the witness to beauty and order and freedom that men can bring into their lives, had vanished from all minds.'
>
> The Industrial Revolution has left the world with a legacy of outworn towns, sprawling suburbs and disfigured countryside. (Brockington, 1958: p. 129)

And with reference to one specific, and highly diffused disease, tuberculosis, which bears a close relationship to social change, especially urbanization and industrialization:

> There is an undoubted correlation between low economic conditions, such as poor nutrition, stress, and close contacts, and tuberculosis prevalence. It is also accepted that poor housing is a contributing factor to tuberculosis transmission,.... The effective factor seems to be repeated infective contacts between people suffering from malnutrition. Industrialization has been and continues to be one of the most important social factors that contribute to these conditions. This is especially true in areas that draw their labor strength from underpaid people crowding in the slums of newly created cities under conditions remote from their original culture, such as are found in South Africa and other countries where western industrialization has been imposed upon native labor. Another effect of industrialization on the map of tuberculosis is the development of professions and occupations that tax

> the integrity of the respiratory apparatus... such as the inhalation of dust, coal, silicon and asbestos. The migration of newly infected populations should also be listed among the important factors resulting in multiplicity of contacts.
>
> War conditions sum up all these factors because they result in poor nutrition, the concentration of people in housing areas that are constantly reduced by further destruction, and in the migration of people from war areas to the crowded places where they think they can find shelter. Innumerable statistics, culled from many countries following two world wars, have substantiated this statement. Even in the United States where the migration of populations to crowded cities was the only factor present (to the exclusion of malnutrition), the downward trend of tuberculosis mortality was interrupted during the war. (May, 1958: p. 133)

Another predictable effect of unplanned social change, especially change of a socioeconomic nature, is dietary deficiency. It may be argued that in underdeveloped areas of the world this is only an exchange of one type of malnutrition for another; but frequently under indigenous conditions, some type of compensatory nutritional balance has been achieved even with a paucity of foodstuff resources. Thus, for example, necessary calcium in the Mexican peasant's diet is obtained through the lime-water in which the maize for tortillas is soaked--and usually not replaced when the family migrates to the city and uses commercial foods. But more generally, in the course of development the direction of movement is clearly away from subsistence activities. This means that traditional diets are upset, replaced irregularly and erratically with commercial food products, and the resultant dietary intake is not nutritionally satisfactory either by comparison with traditional diets or by those of the industrialized countries (cf. Heller, 1949; Dubos, 1959; Foster, 1962). Mead summarizes the situation commonly found:

> In general, the effect of a cash-crop or wage economy on nutrition has been one of lowering the level by disturbing the balance achieved under subsistence economy, introducing processed foods as prestige foods, limiting the amount and quality of subsistence crops in favour of cash crops, or the amount of time spent in preparation and preservation of food for home consumption. (1955, p. 244)

Another illustration of some of these linked ecologic problems as they relate to social change in one area of the world is given by May in his The Ecology of Malnutrition in Middle Africa:

> As a result of the control the colonial powers had established over endemic diseases, the growth rate of the

> population has been steadily increasing in past decades. Ghana, Nigeria, and Chad were probably growing at a rate of 2.5 percent a year. While the two Congos, Gabon, and the Central African Republic were growing at the lower rate of 1.8 or 2 percent. Rwanda and Burundi, however, are among the fastest growing countries of Africa, with a possible rate of 3 percent annually. The population under 15 probably represents about 40 percent of the total. This implies that if the death rate can be kept at its present level or lower, an increase of about 60 percent is to be expected within 20 to 25 years. Unless considerable economic improvements takes place, unemployment, malnutrition, and social unrest are to be expected. An indication of things to come is found in the cities of Leopoldville, Brazzaville, and even Bangui. They give an inkling of what can become of a destitute group of detribalized people seeking to play a role in the money economy....As it is, there is an overgrowth of petty traders and government officials, a distressing pool of totally unemployed men separated from their tribe, and women whose meager resources do not meet the cost of living in cities. Urban diets have lost their tribal character, and the workers try to round up enough money to feed themselves white bread, canned foods, and imported spirits. It has been said that Nigeria will be confronted with 800,000 unemployed school graduates by 1966. It can only be hoped that other factors will develop soon that will allow the absorption of this literate group into some productive enterprise. (1965: p. xv)

THE PSYCHOCULTURAL ENVIRONMENT. So far as environment is concerned, non-cultural and material-cultural factors have traditionally been the initial and most obvious features to be investigated in public health research--demographic characteristics, housing, clothing, nutritional patterns, air and water pollutants, biochemical hazards, etc. But many *psychocultural* factors loom equally large in the total ecological adjustments of the human organism, especially in their implications for both psychogenic and psychophysiologic types of disorder. This arises, in the first instance, because of the extent to which the encompassing environment, for humans, is significantly structured by cognitive and, especially, emotionally-charged symbols and symbol-sets. More, surely, than is true for any other species, man confronts the natural environment through a perceptual screen thickly encrusted with the opinions of generations. Secondly, however, explicit attention to psychocultural characteristics of the environment is important, because of the function and role of cultural factors in both the conduct of orderly social life and in the structuralization of the self. For culture serves a profound *orientational* purpose, channelling the energies of individual persons into coordinated activity through the instrumentality of shared (or complementary) values and sentiments, at the same time providing much of the directive structure for the individual personality.

It is in this sense--that of direction, of channelling activity--that the "orientational function" enters importantly into a dynamic system of energy acquisition and expenditure, goal-striving, evaluating of alternatives. It is also in this sense that the orientational functions of culture may be seen to have many congruent concerns with the concepts of *communication* and *information*. In recent years, authors from diverse fields have converged in their thinking about the importance and pervasiveness of information and communication as basic concepts in understanding activity, energy flows--indeed, in understanding order, predictability, and recurrent structure in nature. The vast literature on the subject need not be more than alluded to here. I would, however, make reference to the extent to which orderly human social behavior (with its concomitant psychological dimensions) may profitably be viewed in terms of an information paradigm, especially when the environment is conceived to include, as ecological parameters, such features as cultural symbols, values, beliefs, etc. Numerous authors, for example, have seen the concept of culture as providing the informational framework necessary to bring a degree of coordination and common purpose into the otherwise randomly-oriented behavior of individual men. Insofar as, in one of its aspects, information is based on selectivity from a range of theoretically possible alternatives, on a restriction of randomness, much of culture can be at least functionally equated with information, with the symbolizing, coding, transmissing, decoding, interpreting processes involved in the implementation of such information into empirical patterns of energy expenditure.

A decade ago the political scientist, Deutsch, saw this straightforward translation of "culture" into "information" in the following terms:

> A common culture, then, is a common set of stable, habitual preferences and priorities in men's attention and behavior, as well as in their thoughts and feelings. Many of these preferences may involve communication.... (1953, p. 62)
>
> A concept for that which knowledge, values, traditions, news, gossip and commands all have in common has been developed by communications engineers. They have called it information. (1963, p. 64)
>
> Societies produce, select, and channel goods and services. *Cultures produce, select, and channel information.* A railroad or a printing press is a matter of society. A traffic code or an alphabet is a matter of culture. Society can build walls, culture can impose tabus. Society communicates tangible goods or inputs of energy called work; culture communicates patterns. These may be patterns of the arrangement of objects in space, from pottery and ornaments to tools and buildings. They may be patterns of action, such as games, dances,

> or models of graceful behavior. Or they may be patterns of preference, of do's and don'ts, such as standards of morality or taste. Or, finally, they may be codes and symbols, that is, patterns so arranged as to convey information about other patterns, up to the vast extent of what the biologist J. S. Huxley called "man's unique biological characteristic of tradition..." (1953, p.66)

Others, to mention but a few, who have employed the concept of culture in a similar way are Ruesch and Bateson (1951), Roberts (1964), d'Andrade and Romney (1964), Boulding (1956, 1964), or, of course, Parsons (1951; and Parsons and Shils, 1951).

In a recent formulation of the ecological frame of reference and its relevance to social theory, Duncan discusses the concept of information as one of the three elemental dimensions of the flow patterns which constitute the empirical world. He sees the fundamental parameters of social existence in terms of a dynamic framework of the flow of materials, energy, and information, arguing the case, in part, in these terms:

> ...we may begin by characterizing the ecosystem as a "natural unit...in which the exchange of materials between the living and non-living parts follows circular paths," which are called "biogeochemical cycles". ...This statement needs amplification, first, to call attention to the exchanges between diverse living units as well as between such units and the non-living surroundings. Second, the dependence of life upon environment involves not only the materials that follow circular paths, but also the noncircular flows of two other "commodities," energy and information. (1964: p. 37)
>
> Living systems, at whatever level of integration--cell, individual, association or society, species population, interspecies aggregation--are complex structures of matter maintained by energy inputs. These inputs, however, must be not merely random but rather patterned or directed. The maintenance of structure calls for *information* or "instructions" on how the energy is to be expended. "Even the simplest living creature is an information-gathering and information-organizing structure"....(ibid., p. 39)
>
> Admittedly, it may be quite premature to claim that a variety of phenomena diverse in form and level may usefully be subsumed under the concept "information." Yet one is impressed by the multiplicity of investigations in which some recognition is given to generic aspects of information. More than one observer has noted that "'information'...is increasingly being

> recognized as a fundamental economic and technological "stuff" comparable to matter and energy".... To give but one example, the general science periodicals bring almost monthly news of progress in cracking the "code"of the genetic "messages" which convey the "instructions" on which the whole organization of life in each new generation depends. Today's effort to generalize the information concept is perhaps no more radical for its time than were the hypotheses of energy conservation and interconvertibility of forms of energy a little more than a century ago. (ibid., p. 40)

THE SELF IN PSYCHOCULTURAL CHANGE. Much of what happens to an individual person in a context of social change may be elucidated by an information paradigm of the type discussed above. For insofar as a basic structural element in the psychosocial life of any individual is *adaptational striving*; and insofar as a large part of the psychocultural environment in which such striving occurs is structured *informationally*--i.e., constituted in terms of symbolic patterns, images, values and belief systems, etc.; and insofar as one of the intents of continued enculturation in any group is to make the personality "fit" into or be complementary to that symbolic, informational environment, then habitat changes which effect alterations in the informational environment are likely to be disruptive, at least in the short-run. For such informational signs are not mere cognitive guides; they become, concomitantly, invested with affect, the objects of emotional apprehension. Put illustratively, the tribal Nigerian who, as a subsistence farmer, has learned the cues and signs of nature which enable him to be highly effective (although illiterate), whose sense of self-esteem is rooted in skilled manual activity, and whose feeling of continuity with history and with his fellows inheres in work with the soil, is bound to suffer marked feelings of inadequacy and deprivation if suddenly he has to learn adaptational techniques directed at a very different psychosocially and psychoculturally structured environment. If now he must read, and cannot; must know how to speak effectively, yet is unskilled in this activity; must use different mechanisms for relating to other people, yet has few such interpersonal skills in his repertory, then there is a rise, perhaps to a pathological level, of anxiety and stresses.

It is in exactly this sense that health is to be seen as appropriate social functioning in the interests of psychobiological adaptation, and the sense in which Parsons (among others) has defined health with reference to social matrix--e.g.,

> Health may be defined as the state of optimum *capacity* of an individual for the effective performance of the roles and tasks for which he has been socialized. It is thus defined with reference to the individual's participation in the social system. It is also defined

> as *relative* to his "status" in the society, i.e., to differentiated type of role and corresponding task structure, *e.g.*, by sex or age, and by level of education which he has attained and the like. (1964: p. 274)

If the person is now forced to perform roles for which he has been inadequately socialized and trained, then there will be psychodynamic repercussions which may well result in psychological, psychophysiologic, and even behavioral symptoms of disorder. Man is simply not infinitely plastic in a psychological and psychosocial sense, any more than in a physiological sense. People vary in their capacities for adaptation, of course, and such capacities for defensive mobilization are truly impressive (cf. Selye, 1956), but there are limits. The appearance of what has been called a "disadaptation syndrome" among Highland Indians in Peru who migrate to the culturally alien urban slums of Lima--and there develop psychological and psychophysiological pathological reactions--dramatically portrays such limitations (cf. Fried, 1959).

But the idea of adapting to specific requirements of a role serve only as an example of broader environmental changes which often require new techniques of adaptation. One of the common manifestations of social change is that of increase in and proliferation of *cultural standards* contending in the same social arena, in other words, of *information*, and of conflict in informational input. Since one of the chief qualities of information (and of culture, seen in informational terms) is its largely arbitrary nature, a burden is placed on the individual caught up in change situations to sort out what is arbitrary, adventitious so far as his interests are concerned, from what is relevant. One of the chief psychodynamic tasks for the individual, then, in a situation of sociocultural change is that of *establishing for himself standards of relevance* by which he can make sense out of the conflictful information he perceives. It is in this sense that the notion of "reference group" or, more adequately "reference culture," (cf. Hughes, 1957) becomes important for understanding much of the psychopathology of sociocultural change. Some people by design or by social accident can ally themselves with voluntary mutual-aid groups in an urban setting (as happens in many towns of West Africa). But many others are prompted to internalize standards of and for behavior (and groups which embody these standards) which are unrealistic, inappropriate, and dysfunctional. The basic psychodynamic process of "self-other comparisons," which within the confines of a traditional culture results in some type of homeostatic balance between what a person can become and what he wants to become (with a relative lack of invidious contrast in most "pre-development" societies), is often heightened in a context of sociocultural change, with its usual increase in array of cultural symbols, information sets, values, images, etc. And if the emotional bonding to the traditional set of cultural symbols has suffered the erosions of stress and conflict, the juxtaposition of mere cognitive alternatives may well result in behavioral shift. In

such a drastic move a common "anchorage," then, or base point often used as the essential justifying criterion in such a reformulation of values is an extreme ideological or sociopolitical movement--nationalism, tribalism, ethnicism, etc.

It is not that, in a traditional culture, people are not challenged and threatened in terms of self-esteem, concepts of the worthy self, etc., for they are challenged in this manner. And such threat may well result in the development of psychiatric disorders even in nonliterate groups (cf. Leighton et al. 1963; Wittkower, 1965). But one of the hallmarks of "the traditional culture" which so frequently marks it off from the change situation, especially the change to mass industrial society, is that the individual is provided with a set of appropriate *defense mechanisms* to cope with the culturally-structured dilemmas. In a change situation, very often the affected individuals are stripped of such defenses or else find what they have ill-adapted to the new setting. They are left with little competence, then, to cope with the changed conditions of interpersonal involvement and personal threat. What culture and society have given them as the armamentarium of the interpersonal life, what social experience has built them into, may not be appropriate, in a new interpersonal situation, and there will be a heightened sense of threat. The case study by Jewell (1960) of the presumably "psychotic" Navaho Indian, who was simply reacting with typically "Navaho" defense mechanisms in an Anglo environmental setting, vividly illustrates this in a specific instance. And the discussion by Eric Hoffer of what he calls "The Ordeal of Change" makes much the same point in less technical language in the broad perspective on social upheaval in the modern world:

> The change I have in mind is of a specific nature--the weakening and cracking of the communal framework. Everywhere in Asia before the advent of Western influence the individual was integrated into a more or less compact group--a patriarchal family, a clan or a tribe, a cohesive rural or urban unit, a compact religious or political body. From birth to death the individual felt himself part of a continuous eternal whole. He never felt alone, never felt lost, and never saw himself as a speck of life floating in an eternity of nothingness. Western influence invariably tended to weaken or even destroy this corporate pattern. By trade, legislation, education, industrialization, and by example, it cracked and corroded the traditional way of life, and drained existing communal structures of their prestige and effectiveness. The Western colonial powers offered individual freedom. They tried to shake the Oriental out of his lethargy, rid him of his ossified traditionalism, and infect him with a craving for self-advancement. The result was not emancipation but isolation and exposure. An immature individual was torn from the warmth and security of a corporate

> existence and left orphaned and empty in a cold world. It was this shock of abandonment and exposure which brought about the awakening in Asia. The crumbling of a corporate body, with the abandonment of the individual to his own devices, is always a critical phase in social development. The newly emerging individual can attain some degree of stability and eventually become inured to the burdens and strains of an autonomous existence only when he is offered abundant opportunities for self-assertion or self-realization. He needs an environment in which achievement, acquisition, sheer action, or the development of his capacities and talents seems within easy reach. It is only thus that he can acquire the self-confidence and self-esteem that make an individual existence bearable or even exhilarating.
>
> Where self-confidence and self-esteem seem unattainable, the emerging individual becomes a highly explosive entity. He tries to derive a sense of confidence and of worth by embracing some absolute truth and by identifying himself with the spectacular doings of a leader or some collective body--be it a nation, congregation, a party, or a mass movement. He and his like become a breeding ground of convulsions and upheavals that shake a society to its foundations. It needs a rare constellation of circumstances if the transition from a communal to an individual existence is to run its course without being diverted or reversed by catastrophic complications. (1964, pp. 8-9)

The cultural framework of any group thus has many functions, but one of the most important is the manner and extent in which it provides for its adherents a set of psychological mechanisms and structures more or less appropriate to the interpersonal matrix in which it operates. When that context of action changes, such orientational mechanisms may well be inappropriate, thereby fostering the emergence of clinical symptoms of disturbance (cf. Leighton, 1959). Social psychiatric epidemiological studies have documented such higher prevalence rates of psychiatric symptoms in a variety of situations of sociocultural change (e.g., Scotch and Geiger, 1963; Wittkower, 1965; or the several volumes of the Transcultural Psychiatric Newsletter.)

A recurrent theme in many discussions of the plight of modern man in mass society is that of his relative defenselessness, his ineffectiveness, his inability to control--or to have a voice in helping determine--what happens to him. Much the same type of psychological consequence ensues in situations of sociocultural change in a developing society, by which the activities which provide the individual with a sense of effectiveness, of competence in regard to events in his environment, are changed. As one aspect

of the problem of "defense mechanisms" discussed above, such a psychological concept of *competence*, or "effectance motivation" has been discussed in recent papers by the psychologist, White, and it seems particularly appropriate for understanding many of the psychopathological implications of sociocultural change. Growing out of reconsiderations of ego psychology as elaborated in the psychoanalytic framework, the concept of competence elaborates one key element of psychosocial adaptation in situations of change. It is particularly enlightening in offering an explanation for those sudden shifts in sentiment, mood, sense of control, and perhaps even in sense of psychodynamic balance that ensue from the culture contact situations which juxtapose, in the same perceptual arena, alternative styles of life, standards, and life-goals. For the sense of achievement is a function of internalized goal; and hence sense of frustration is associated with scope and magnitude of blockages in strivings toward that goal. Blockages either endogenous or exogenous (cf. Leighton, 1959, for an illustration of a dynamic psychiatric framework of this nature). The fluidity of cultural symbols and cultural information makes it possible for what was once acceptable to be, suddenly, rejected as demeaning; for what was the highest goal in life to be relegated to one among several. Moreover, goals and activities constitutive of the self and the basis of self-esteem may be involved in such a disparaging comparison; and, given the wide range of cultural alternatives present in most situations of sociocultural change, the opportunities are legion for the sentiment of personal inadequacy, personal incompetence, and lack of effectiveness in dealing with the now more complex symbolic and informational environment. Much of the effect of increase in information and images in a sociocultural change situation focuses on the perceiving individual who is exhorted to new standards and forms of personal appearance and manner, performance, belief and attitude. Such new goals become emotionally charged, not simply cognitive alternatives. And when the individual fails to measure up in every respect--and fail he must, given the variety of things he is to aspire toward--he inevitably suffers in his sense of competence, adequacy, worthwhileness. Sometimes there are defenses against such self-disparagement (compartmentalization, rationalization, repression, etc.), but often not.

Many sociocultural changes are accomplished with a degree of rapidity out of keeping with the strength of the stimulus, suggesting that the course of change, sometimes at least, is discontinuous and is composed of thresholds rather than evenly graduated steps on continua of knowledge, resources, even emotional capacity. In this light, a recent article by Boulding is highly useful in suggesting some lines of applicability of an informational framework to the study of social dynamics. In the article "The Place of the Image in the Dynamics of Society," he carries further some arguments first expressed in his book, The Image (1956). In the latter book, of course, he was concerned with the role of communication and control functions in empirical systems at different levels of complexity and phenomenal organization. He uses the term "image" to refer to the organizing

and control structures, the informational pattern, which guides empirical processes of energy expenditure, whether in the genetic code, electronic aiming devices, behavior, or any other system. In the more recent statement, Boulding (1964) discusses two characteristics of human social systems in communications theory terms which both differentiate them from physical systems and at the same time point directly into the heart of the problem of psychocultural dimensions of social change. He notes:

> The difference between social and physical systems is not confined to the complexity and order of the difference of differential equations which govern them. Social systems are characterized by at least two other peculiarites which differentiate them very sharply from simple physical systems, such as celestial mechanics. The first characteristic is the predominance of "threshold" systems in which small causes can sometimes produce very large consequences. The second characeristic is that social systems are what I call "image-directed," that is, they are systems in which the knowledge of the systems themselves is a significant part of the system's own dynamics and in which, therefore, knowledge about the system changes the system. (p. 7)

The idea of "threshold" is a key one in understanding social transformation; for it contains within it implications of discontinuity, rapid reorganization of gestalts, acquisition of insight, sudden and catalytic effects of an ideology which gives purpose to random activity, and the drastic change in behavioral expression which seems out of keeping with the magnitude of the stimulus--the "I've had enough" reaction. Anthropologists often speak of the patterned qualities of culture; and, in studies of culture change, point to the frequent quantum-like nature of cultural processes, in which, up to a point, addition of new cultural elements and social patterns are absorbed, assimilated into the pre-existing value configuration. After that critical point is reached, however, it is no longer a substitution of content, but a change in overall form, in gestalt, directing the activity.

Such critical thresholds exist along several parameters of social behavior. The cognitive-informational element is surely one. It is simply not possible to induce certain types of social changes until requisite levels of education, for example, are widespread throughout the society--witness the complex difficulties of national "development" in Africa and elsewhere.

But perhaps even more important in determining social transformation is the threshold which relates to stress, to defenses against stress, and to tolerable levels of stress before the organism shifts to alternative courses of action to ameliorate the perceived threat. Such threats come in various disguises; and, indeed, the wide scope of stress affecting human behavior--"real" and symbolic--makes the

analysis of stress in human populations a highly complex affair. Beyond the straightforward physiological threats to survival--which, of course in the affluent West, we tend to relegate to relative unimportance but which are daily companions to much of the world--the threats to self-esteem, to social acceptance and acceptability, to strivings for cultural "success," to worldly security all create continual problems for man in modern society. Indeed, given the widespread inducement of "un-needed" needs yet "wanted" wants by the power of modern advertising, the proliferation of transportation systems, and the circulation of populations--in short, the diffusion of images and information--it is difficult to say that there is a stable "environment" to which the human organism is adapting. For the environment conceived in information and image terms is now ineffably greater than has ever been the case in human history. And, with such information comes the presentation of alternative courses of action and the need for decision, for evaluation, for reconciliation of such possibilities, reconciliation either by rejection and repression, by finding means of compromise among diverse possibilities, by compartmentalization, or any number of other ego defense mechanisms. But in the background is the haunting theme of *relative deprivation* along any of several dimensions; for the groups and cultural images available for an individual to compare himself with are now vastly increased. And the means available to cope with these new goals and new crises in decision-making are relatively fewer. Unquestionably White's concept of "effectance motivation" and the stresses arising from its frustration along so many fronts has much to say about the etiology of behavioral disorders. In many areas of life, the condition of modern man is indeed that of being "one-down," to use Stephen Potter's phrase from another context.

Stress--incipient disorganizational processes--may also arise from sheer informational overload, as Miller (1960) suggests. The multiple possibilities open, the variety of commitments and role involvements, the dispersed allegiances, the irritations of incongruent demands all add up to a rising tide of stress and threat to the viability of the psychobiological system.

Often, quite aside from overload, the stress is induced by straightforward conflict in content of images confronting the individual. "Cognitive dissonance" and conflict may itself lead to pressures toward stabilization of the perceived environment. The Spindlers discuss the implications, for studies of psychocultural factors in social change, of some propositions of this nature developed by Osgood. The first proposition is that "Cognitive modification results from the psychological stress produced by cognitive inconsistencies." Regarding this proposition, the Spindlers comment in a vein that makes understandable much activity seen in a situation of culture change:

> This postulate makes it explicit that the search for and maintenance of symmetry, or consonance, in cognitive elements can be included among the significant human

> drives, e.g., it is cognitively inconsistent to believe one way and behave another. Incongruity may be reduced by changing belief to the point where the psychological stress becomes tolerable. (1963: p. 546)

The second proposition is: "If cognitive elements are to interact, they must be brought into some relation with one another." Noting that the culture-change situation is one of interpersonal contacts, they remark that "Acculturation brings potentially inconsistent cognitive elements together in the framework of individual experience" and that one protective device often employed in such a situation is the familiar one of psychic compartmentalization.

The third proposition illustrates again the value of a notion such as "threshold," as discussed by Boulding in information theory or cybernetics terms, and the value of considering this with reference to stress as the input, a small degree of which can effect much larger changes in the direction of behavior. The proposition is: "The magnitude of stress toward modification increases with the degree of cognitive inconsistency." The Spindlers note:

> In rapid and disjunctive culture-change situations, the degree of cognitive inconsistency may become so great that the stress induced cannot be coped with and the individual stops trying to reduce inconsistency. He withdraws and becomes almost totally passive, or he escapes to a regressive reaffirmation of nonfunctional traditional cognitive consistencies. It seems probable that native-oriented groups on American Indian reservations recruit new members largely through this process. (p. 547)

Pointing again to the influences of an organizing image, and to the need for incorporating both stress level and quality of information into the research paradigm, they refer to some of the recent studies which have illustrated the point:

> On the other hand, a point can be reached rather quickly in culture-change situations where inconsistencies become radical and stress intense, and the traditional forms of belief and behavior (the cognitive congruities stabilized in the traditional culture) are discarded in a rapid reformulation of belief and behavior, resulting in a new stabilization of cognitive congruities. It is possible to interpret what happened in the case of the Manus studied by Mead...and the Seneca Iroquois studied by Wallace...in this way. (p. 547)

A summarizing proposition which I have found useful elsewhere in outlining the comprehensive ecological background for major social change (1960, 1965) can easily be translated into Boulding's terms,

especially those concerned with thresholds and with the influence of information expressed in the form of competing images. The proposition is:

> The things which alter the systems of belief that people hold are:
>
> a. Observation of fact and reasoned thinking.
>
> b. Contact with other systems of belief.
>
> c. All types of stress.
>
> d. New opportunities for achieving security and satisfying aspirations.

In this formulation, the first two factors (a and b) relate most directly to the notion of cognitive information. Items c and d, while also referring to conflict in information or image, point to stress thresholds.

A number of important psychological principles (not explicitly although implicitly including the concept of competence and affectance motivation), as these bear on a sociocultural change situation, were summarized a decade ago in a highly useful compendium on cultural patterns and technological change, edited by Margaret Mead,[1] for analyzing the psychosocial patterning of change and development.

THE LASSWELL-HOLMBERG PARADIGM

But what does all this have to say with reference to the Lasswell-Holmberg framework? Let me return briefly to the analytic scheme suggested for this conference, that by Professors Lasswell and Holmberg--the "generalized model of value shaping and sharing"--for there are a number of points at which its applicability to the foregoing conceptualization of health and well-being values is manifestly clear. There are also, however, some other points which require critical comment.

The model is based in process, activity, purpose, rather than inert structure; it is functional, ramifying, contextual. It uses institutional categories heuristically, as ways of ordering the data of concrete, complex social behavior into eight value areas. In pursuit of these value-ends, man (and, by extension, society) acts through the instrumentality of institutions conceived in value terms, and values themselves seem to be viewed more as "accumulatable" items than as "substitutable" elements of social behavior. Action is

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[1] *CULTURAL PATTERNS AND TECHNICAL CHANGE, Margaret Mead (Ed.), New York, Mentor Books, 1955, pp. 170-175.*

analyzed into two principal components: the phenomenological (including "perspectives," images, values, beliefs, attitudes, etc.) and the behavioral ("action," institution, practice, etc.). As an expression of contextual interest, social change is conceived multifactorially rather than in terms of unitary determinants.

Although applied to all eight value areas, the model is derivatively based on an economic paradigm, one that speaks in terms of gain, accumulation, decrement, resource potential, etc. The model seems, therefore, primarily to take magnitude and not quality or pattern as the basic essential of the value-building process. The latter point can be seen in a succinct summary of the framework:

> It begins by conceiving any social process, whatever the scale, as "*man* seeking to maximize *value* outcomes through *institutions* utilizing *resources*." During any period the flow of interaction is characterized as value *shaping* and *sharing*. Hence it is possible to summarize the aggregate result in terms of *gross value outcome* and of *net*, and therefore to arrive at a figure for *net value* accumulation (or disaccumulation). The pattern of aggregate *value participation* can be described as general or narrow. This mode of analysis can be applied to any social process. The model is contextualized in terms of eight possible value shaping and sharing sectors, with their specialized institutions.

What concerns me most about this analytic paradigm is how the conception of "value" is used, and the difficulties one can get into in thinking of values in purely a pseudo-economic framework. Using the term "value" in its most general sense as, for example, an abstract *standard* of what is desirable, by which concrete events or objects are evaluated (e.g., Kluckhohn, 1951), we are here confronted with the implication that there can be value "loss" and "accumulation," "depreciation" and "enjoyment," etc. To use values in the latter way in analysis of the change process may well imply that the group being discussed *has* no values prior to the period of development and change. If such is a proper interpretation of the use of "value," we are confronted with a highly contentious conclusion. Take, for example, the concepts of value "shaping" and value "sharing." Something has to be shaped, something shared. And who is to establish *what* types of values are "shaped" and "shared"? Implicit in the general statement that development consists in value shaping and sharing are hidden assumptions as to *particular kinds* of values as against others which are "shaped" and "shared." Assumptions as to *content* of value areas must therefore be spelled out, for it is difference in content, not the presence or absence of values as orientational frameworks for the conduct of social life, that makes the difference in processes of development. Wherever there are values (and they are co-existent with organized society) there is value shaping and sharing. Thus if the distinctive feature of development is to be found in the general process of value shaping

and sharing (without reference to *content*), then there is no way of differentiating development from non-development.

Another reference in the Lasswell-Holmberg framework is to "value accumulation." Again, I think that there is an implicit assumption which should be spelled out, an assumption about accumulation of values of *particular kinds*. If values be, in some sense, abstract, general standards for evaluating empirical events, then "value accumulation" must be the accumulation and proliferation of such standards. But the critical question is the functional outcome of accumulation for the integration of society. Whether accumulation as such would then lead to greater convergence of value standards ("sharing" or "participation")--which seems to be the implicit assumption behind the discussion of development as a process of value accumulation--is, it seems to me, an empirical question. Certainly another conceivable outcome different from convergence is that of *conflict* arising out of different value orientations held by different sectors of the society with respect to the same social issues. Does the crystallization of economic class boundaries, as between management and labor, represent value "sharing" and "accumulation," except at a very general level?

The rather more important question is not that of value *accumulation*, but rather that of *hierarchies of value complementarity* so far as the unity and organization of the society as a whole is concerned. A labor dispute may be cited as an example. Management operates in terms of one value-definition of the situation, labor in terms of another. Certainly there is no exact congruence between the two sets of value orientations as they pertain to the question at issue. The behavioral indicators of what is considered as appropriate and legitimate differ from one side of the table to the other. Only at the level of the *legitimacy of the arbitration process* do these two sets of value-orientation merge, fit together, become adapted to each other; only at such an abstract level would there be overlap and approximate identity of value-evaluations (e.g., statements concerning the dignity of work, the need for orderly, lawful procedure, etc.). Below that level it would be, rather, a question of *complementarity* and interdigitation of specific value-sets. And insofar as agreements are reached which provide the basis for continuance of orderly social action, then we must say that there has not been value *accumulation* through this action, but, actually, value reduction or "hierarchization."

It is something of this conception, it seems to me, that lies behind the distinction made years ago by Durkheim, in his contrast between "mechanical" and "organic" solidarity. The process of development of a nation-state, as for example the growth from tribalism to nationalism, is therefore more one of the *reduction* and successive hierarchical incorporation of socially and psychologically relevant standards for guiding concrete sequences of behavior, than it is that of the proliferation of such standards. This is much the same point made by Wallace in his recent overview of the field of culture and

personality, when he speaks of the value basis of society as being, not the "replication of uniformity," but rather the "organization of diversity" (Wallace, 1961). The critical research questions, so far as this matter is concerned, are, then, to discern the structural and the psychological processes of progressive value incorporation and redefinition in the cauldrons of sociocultural and national development. For this I suggest that the economic paradigm, if it be simply metrically and not configurationally conceived, may not be the most useful model.

To what extent can the nature of health and well-being values be elucidated by the Lasswell-Holmberg paradigm? In terms of the principal thrust of that paradigm, can there be "self-sustaining" and cumulative health and well-being values, wider participation and sharing? The answers seem apparent from the review presented above, especially that part of the review which stresses the high association between, on the one hand, conditions of poverty and low socioeconomic status, and high morbidity and mortality on the other. Certainly, except in extremely rare and isolated cases, "underdevelopment" may be equated with "pathogenic" so far as healthful implications of ways of life are concerned. To the extent, then, that socioeconomic development occurs, it may be said to offer the chance of maximizing the sharing and participation in manifestations of health values for greater numbers of the population. At least this is true after a certain threshold of development has been reached; some early stages of development--such as uncontrolled, rampant urbanization coincident with industrialization--may well raise disease incidence over levels found under pre-development conditions.

But even the association between later stages of development and low disease prevalence is not an exponential one, and once again the question of pattern, of gestalt, must be considered. For the existential conditions of human life recurrently present ecological crises which must be confronted and mastered. There are plateaus, discontinuities in the evolution of health values, each of which represents the solution of one set of problems but, as a consequence of that, may well entail creation of others. The well-fed, well-housed western world has at least temporarily curbed and contained the mass infectious diseases; but in exchange it is prey to the diseases of surfeit, affluence, abundance and longevity. More and more, as a distinguished medical colleague of mine recently remarked, the principal task of medical institutions in the United States is changing. Formerly it was to prevent early and "unnecessary" death; that task largely accomplished, the main problems now are those of maintaining and enlarging the capacity for *living*, living in all its dimensions, those of psychological exhilaration and meaningful social purpose as well as those of sheer bodily virtuosity. In this light, one may well ask what good it will do to expand enormously the length of life in medical terms (as it is said will soon be possible), if this will only mean that large numbers of people can simply be bored with life for that much longer, or that

others will suffer the sentiments of alienation and humiliation for more than the "three score and ten"?

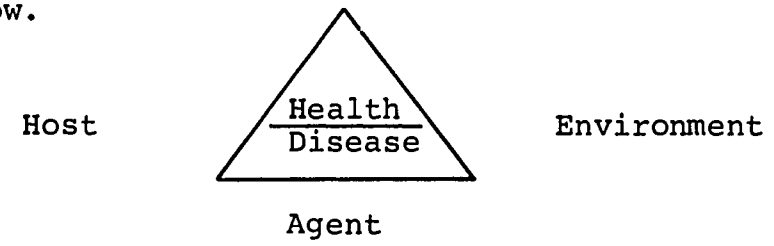
The inexorable parameters of life remain: gradual incapacitation and death. The principal value questions become which of the afflictions that can trouble man shall the society choose as the *least* threatening, troublesome, annoying, and which will delay as long as possible the inevitable conjunction with death?

The salient research areas immediately implied by such statements would have to do with refining the phenomenological aspects of changing sociocultural environments, with sharpening and further operationalizing the concepts of adaptation and equilibrium as they are manifested in a psychocultural and psychosocial framework, with intensive longitudinal case studies of individuals who are undergoing the transitions of changing environments. As a background for such more highly focussed studies, there should of course be thorough coverage of the prevalence and incidence data for the widest variety of disease manifestations in conditions of change. In the latter task the technique and methodological approach of choice is, of course, epidemiology--literally the study of disease "on a population," a figure suggestive of the mantle, the burden which disease imposes on the free value choices of men.

Discussion

1. CONCEPTS OF HEALTH AND DISEASE

Deuschle commented that health and disease must be seen as a complex interation between host, agent and environment, as illustrated in the diagram below.



Health and disease can also be viewed as the ends of a continuum, with a grey area rather than a distinct boundary between the two.

Ratinoff noted that the theory of empathy, as described in Lerner's paper, seemed based on an ecological model. The Economic Commission for Latin America (ECLA) also has a model of economic development based on a world-wide ecological image. One can readily imagine that "economic or social development is disease," and then explore how it spreads. Or conversely, one can imagine disease is stagnation, and determine how to prevent this happening. But except for demographic change, where the ecological model fits well, one does not know how to carry the model beyond description into explanation of social change - the critical variables are not understood.

2. HOMEOSTASIS AND FRUSTRATION

How to use the concept of psychosocial homeostasis presented some difficulty to the group. Lerner observed that it is easy to find examples of economic development associated with disease (e.g. dams and bilharzia), but very difficult to find good examples of positive psycho-social development. He felt that poverty is the main disease of the developing countries, well illustrated by examples in the paper. Hughes explained that homeostasis was not a notion readily applied to society, but only to individuals, who are constantly striving for balance and for an adaptation which is difficult for

the scientific observer to operationalize and quantify. The problem of cutting points, or threshholds, for example, is difficult to solve both in theory and in practice. Health for "society" is metaphorical, a state of social relationships which influences the state of health of individuals. Peter suggested that homeostasis might be thought of as balanced growth (a preferred pattern) in an individual's value accumulation, and that frustration comes from achieved value changes less than expected.

We are living in a Toynebeean world, suggested Bennis, in which no frustration at all is dysfunctional, while massive frustration is debilitating. He wondered if we should be trying to get indicators of adaptability, to identify the "variant sensors," people who sense and feel frustrated by the discrepancy between aspiration and achievement, but who are still future-oriented. According to Herbert Simon, about a ten percent discrepancy between aspiration and achievement seems optimal for most people. Lerner added that in discussing social frustration, frequency is also a useful concept.

In some traditional societies, like the Ibo in Nigeria, the supportive clan group helps to provide a bridge to new reality for the individual who feels frustration and anxieties, Hughes explained. There are, of course, other coping mechanisms like xenophobia, which are dysfunctional projections of group frustration.

Discussants felt that while the concept of open systems was a very powerful one, it was neither an equivalent nor a substitute for homeostasis, and that both concepts are needed. In the ecological model, equilibrium can be achieved through homeostasis after heterostasis; in the systems model equilibrium is the result of adjustments in sub-systems. Some tension is necessary for growth and differentiation using either concept.

3. *OPTIMIZING MODEL WITH TIME PATHS*

Regarding goals, Bennis stated that the absence of disease was clearly not enough. Hughes agreed, adding that some relationships expressed in quantitative terms are also needed. Lasswell pointed out that an optimizing model is called for, and that this requires an appraisal function. Lerner expressed this as option or choice among known and evaluated alternatives. According to Stein, the social scientist must show what the available choices are and must also specify the social science choices and the reasons for them. Bennis felt that more than enlightenment would be necessary to overcome the anxiety of individuals, and that skills, well-being and affection might be needed.

Deutsch felt there was need for a feedback loop in the model, and suggested that a time path concept provided more room for maneuvre than either optimizing or maximizing concepts. One should try to develop a family of viable time paths versus a family of non-viable time paths to the expressed goals. Time paths are viable only if they are seen as legitimate by those involved, and if they do not impose an intolerable barrier to the achievement of other values.

6

SOCIAL CHANGE SKILLS AND CREATIVITY

by

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This paper is divided into four parts. The first concerns itself with several general parameters that may be used to characterize a culture and which contain within them some of the necessary conditions that may affect the development and survival of creative ideas, products or processes. These parameters are quite broad and indeed volumes have been written about each of them. In presenting them here in a condensed form, one runs the risk of being superficial and of stating the obvious and well-known. This risk has been taken, since the obvious should not be overlooked, and attention needs to be called to how these parameters and conditions may affect creativity as one of the factors making for social change.

The second part of this paper deals with a specific organization within our own society that is charged with developing change -- the industrial research organization. Our intent is not to discuss all of the organizational factors related to change but to concentrate on the roles of individuals within the organization, for the technique of role analysis may be useful in other studies as well.

In the third part of the paper there will be a discussion of a group of individuals called "intermediaries" who exist somewhere between the creative individual and the broader society. They serve critical functions in either stimulating or inhibiting the acceptance or rejection of creative works, but they have not all come under careful research scrutiny.

The fourth and last part of this paper is not concerned with change brought about as a result of creativity, but through a process that involved the use of change agents brought in from another country who helped individuals in a newly developing country obtain significant change through the use of Community Development procedures. It is a study of one of the villages in Colombia where Peace Corps volunteers worked. It is admittedly one of the most successful experiences in the group studied. Although the story is not typical, it does illustrate some of the factors that may affect change brought about from within a group of people itself.

Part I: General Parameters

Creativity is a function of the transactional relationships between the individual and his environment. This assumption underlies my discussion of the general parameters to be considered. My purpose here, however, is not to discuss the characteristics of the individual that may predispose him to undertake creative developments nor is it to discuss those characteristics that differentiate the "more" from the "less" creative person (although these might be cited to illustrate a certain point). Rather, my purpose is to discuss some of the environment conditions that may either stimulate or focus the activities of the creative individual and result in change, or which inhibit and restrict the individual's activities so that no change or only minimal change is possible. Some of these same conditions are also critical in affecting the public's acceptance of whatever change is introduced.

PHYSICAL ENVIRONMENT

Man works with what is available. The variety and quantity of natural resources will affect both the processes necessary to obtain the raw materials as well as the final products that can be produced. Man's physical environment also provides him with sense impression which may be utilized in his creative pursuits. In the Paleolithic period, man was a parasite living off nature as he found it. His life was dynamic and his art forms naturalistic and expansionistic. During the Neolithic period, however, man began producing food for himself and began to preserve the means of production. He also began to congregate in more stable communities. Life, therefore, shifted from a more "anarchistic" to a more "static and traditionalistic" form. And, the art of the period took on a geometric stylization. The changes involved in both economy and community living from Paleolithic to Neolithic times obviously altered the stimuli to which men were exposed, and these changes became manifest in their art (Hauser, 1951).

Physical or geographic factors also affect the communication between societies, cultures, lands and individuals. Where there are few or no geographical barriers (and where the culture tolerates differences), communication between people is enhanced and they have an opportunity to become aware of new objects, ideas and ways of life.

The exchange of points of view and material objects may be a stimulus to curiosity and thinking. People may imitate their neighbors, improve upon what they see, or develop novel ideas and products from that which existed. Change occurs on both the cultural and individual level where differences exist and are tolerated. It is, therefore, no surprise that "The outstanding cultural patterns coalesced in the valleys of great rivers in northern subtropical regions. It is clear that a culture of great complexity could develop only where a sufficient number of people were able to come together in relative peace and comfort, share their many tasks and the fruits thereof, and stimulate one another" (Sarton, 1952). On the individual level, we also find that exposure to different points of view is also an important ingredient in performance. Pelz (1956) found that among the factors that affected the level of an individual's scientific performance were: (a) frequent (daily) contact with several scientific colleagues who on the average have been employed in settings different from one's own, who stress values different from one's own, and who tend to work in scientific fields, different from one's own," (b) at the same time, frequent contact with at least one important colleague who has similar professional values," and (c) "a chief and a major colleague one of whom is in the same scientific discipline and the other in a different one, rather than both similar or both dissimilar."

It is apparent from this discussion that the physical environment is not to be regarded in any static sense but rather as a dynamic force that, among other factors, may affect the raw materials and sense impressions available to individuals in the society. It may also serve as a critical factor in communication which may allow for the accessibility of different points of view and materials. It is also apparent that the physical environment cannot be considered in isolation from other social and cultural factors. Where the physical environment is no barrier to communication between people, the value system of the society has to be such as to tolerate and be willing to accept the differences to which one is exposed.

PHILOSOPHICAL ORIENTATION

"Philosophical orientation" is used here broadly to refer to societies' philosophical and religious formulations regarding their conceptualizations of man, the meaning of his behavior, his relationship to God, the universe and his fellow men. The term also refers to specific values (which are elements of a broader *Weltanschauung*) attributed to specific activities.

Philosophies help structure man's environment so that he can find his place and feel secure in it. They provide for consistency to life as well as a frame of reference for selecting and evaluating new data. Although creativity may well occur within the framework of any philosophical system, the specific approach one adopts will influence the source to which he turns for his data and his conception

of the reality with which he works. Contrast Western and Eastern philosophies in respect to the relationship between man and God, and with their concomitant differences in creative endeavor. In the West, "the divine is external to man" and there is emphasis on the distinction between man and nature. Ego and non-ego are differentiated. Having made this distinction between himself and all else, Western man continues to distinguish between one object and another in his environment. The sources of his data are "out there," and Western man makes progress by seeking new ideas, inventions or discoveries which put nature at his service.

In the East, however, "the divine element is immanent from the first in Man, and true human growth is precisely the development of this element" (von Glasenapp,1953). Eastern man does not seek to subdue nature but "to find his place in, and to develop more fully his close communion with, nature..." He also regards "all things as the manifestation of a fundamental reality which could only be distorted by analysis." He strives for "spiritual elevation in which the mundane world is abandoned." His sources for data are in himself; "he seeks his real being by the repudiation of the apparent self, cheerfully despising the material goods of this world" (von Glasenapp, 1953). In the East, there never developed a realistic, perspective-conscious form of art such as occurred in Europe and post-Renaissance times in the nineteenth century. Even the Greek and Roman artists presented their gods as idealized human beings, in contrast to the Indian artists, whose representations of gods were based on canon and symbol. "While Western art sought to make an aesthetically beautiful form by portraying human figures which were models of physical perfection and athletic vigor, Indian art started with abstract spiritual concepts which had to be translated into physical shape" (Rowland, 1953). For the Muslim artist, "abstract art was and is...not an escape but an acknowledgement of his unquestioning submission to God. He does not presume to think he can compete with God in fashioning human images...." (Landau, 1955).

While variations in the perceptions of reality may well produce creative approaches which are consistent with them, they can become so well-ingrained and so limiting in terms of what is regarded as real that unless other approaches to "reality" are undertaken, creativity may be impeded. Einstein, for example, reported to Northrop that "it was his reading of David Hume that made him aware that he did not have to account for the experimental facts of mechanics by Newton's concepts and laws." From a knowledge of Hume's and Bishop Berkeley's work, Einstein is said to have learned "what he would be restricted to in his knowledge if he had admitted into that knowledge only immediately sensed facts. Berkeley pointed out that if knowledge be restricted to immediately sensed facts, we could not believe that there is a solid material, three-dimensional stand here before me now" (Northrop, 1952).

Philosophical orientations often include within them implicit or explicit statements regarding highly valued activities -- those which

man is encouraged to engage in because they may either lead to or they are in and of themselves manifestations of leading the "good life" -- as well as statements regarding less valued and/or tabooed activities. This hierarchy is reinforced by a variety of social pressures. The value differences attributed to various activities are likely to affect the areas open to creativity, as well as the individuals who engage in different kinds of endeavor. Among the Greeks, the philosophers and nobility "had contempt for every form of manual labor." The knowledge of the craftsman and engineer acquired through physical work had low status, while "philosophical knowledge was cultivated and promoted by men of high social status, in particular, priests and statesmen" (Frank, 1952). In his time, Archimedes incurred the disapproval of the scientists and philosophers, among whom he counted himself, when he served as scientific advisor to the armed forces of Syracuse and instructed them in building machines which would make enemy vessels ineffectual (Usher, 1954). Among the Romans, however, the very opposite was true. The Romans were disinterested in research which did not have utilitarian value. The Dark and Middle Ages in Europe showed almost complete ignorance of natural phenomena and lack of originality in science because "the informed men of the day were scholastics; they were dedicated to the study of books, not nature. They were given to metaphysics and logic, not observation: They valued niceties and subtleties of reasoning rather than the testimony of the senses" (Barnett, 1953).

In our own culture, the relative absence of Protestant church art has been related to Locke's philosophy in which emotions and aesthetics are given second rate status. The important things are the material objects of the work week or the "mental substances" with which man communes on the Sabbath through introspection. Within such a framework, ritual or aesthetic objects would "get in the way and give rise to idolatry, drawing one's attention away from the supposedly real religious object which is within one's own private, introspective self beneath the sensuous appearances. It is not an accident that the early Protestants in England took the color out of the church windows and attacked the theater" (Northrop, 1950). In our time, the greater relative emphasis that is placed on rationalism and science as against the arts and humanities may well operate to the detriment of the latter. On the other hand, the value placed on the accumulation of material wealth and goods in our own society, in contrast to the value placed on scientific endeavors, no doubt has had a significant effect on the number of young people who select professions or occupations in which they can make more money than in the sciences.

Even if the same area of inquiry is studied in two different cultures, the specific emphasis that occurs within that area varies and may be related to the philosophical orientations of the society. This is illustrated in Western and Eastern approaches to history. In the former, based on the conceptions of Hegelian philosophy with its belief that an "absolute" can be reached, every event is a unique

event, and its date must be fixed. Among the Hindus and Buddhists, however, there is no such belief in a period of absolute perfection on earth, enduring for eternity. Everything existed and will continue to exist. There is an "endless succession of reincarnations... (and) it is quite meaningless to know when something occurred; only the fact itself and its moral implications are important" (von Glasenapp, 1953).

Also related to the philosophical orientation of the culture is the culture's time perspective. Cultures have a past, present and future, but they vary in how they regard each of these time periods and consequently in how they value change. Some people are steeped in the past; they solve their present problems in the same manner in which their forefathers did. For them, tradition has the force of authority, and deviations from authority are not permitted. Other people may emphasize the present, and the significant data for them are those which occur in their own lifetime. Finally, a third group of people study history to understand its meaning and to orient themselves to the future. Individuals in the first two types of cultures, in contrast to the third, are not prepared for change. They do not expect change and do not accept novelty even if it is available to them, while the third group may not only anticipate change and accept it, but change and creativity become values in and of themselves. For example, the Zuni Indians of New Mexico "neither hope for nor anticipate changes in any part of their culture, and they are resolute against any suggestion of the idea. They are extremely ethnocentric and are uninterested in the world around them; they, in fact, regard their village as the center of the world.... The Navajo, who live close to the Zuni, take another view. They expect new developments in their culture; and their history, insofar as it is known, reveals that they have been receivers and adapters of alien customs throughout the period of their occupation of their present habitat. They welcome change, accepting it as a realistic adjustment to the world around them. The Samoans are also anticipators of change, but in a way different from that of the Navajo. They expect each individual among them to be unique in everything that he does. Imitation is deplored. Every woman has her own design for tapa cloth, even different designs for each piece and the opposite ends of the same piece. Each person is expected to improvise songs and dance steps for himself. It is the same for house builders, tattooers, and other specialists. The expectation of deviation even extends to religion and political organization, both for individuals and villages. Innovation is the rule, and in consequence the innovator receives only passing recognition. He is merely doing what is expected of him" (Barnett, 1953).

Even when a culture has a specific value that favors change, there are limits within which the change may occur. "If it falls below the minimum, it is regarded as nothing new, as a mere variant, even though to the objective observer this pronouncement may seem entirely arbitrary. On the other hand, if it goes beyond the limits of

expectation it will be greeted with varying degrees of resistance, as happens when someone suggests a significant change in our social or political structure" (Barnett, 1953). Thus, the limits of change coincide with the values that the people have toward the area that is being changed. We may anticipate it "in our technology, in our art forms, in our women's fashions, and to some extent (slang) in our language. We do not anticipate it in our religion, in our political structure, or in our family organization" (Barnett, 1953).

LANGUAGE

"Language is a guide to 'social reality'" (Mandlebaum, 1949). If a society's language system lacks certain concepts, it may well limit the possibilities for change in certain areas. Whorf points out that although it is possible to develop the idea of absolute simultaneity from our concept of time and use it for a variety of theoretical developments, it is impossible to do the same from the Hopi concept which is most appropriately translated as "duration." Our "time" is conceptualized as "a space of strictly limited dimensions, or sometimes as a motion upon such a space, and employed as an intellectual tool, accordingly. Hopi 'duration'...(is)...the mode in which life differs from form, and consciousness *in toto* from the spatial elements of consciousness" (Hoijer, 1954). Whorf also observed "that a cultural resultant of the Western European view of time is our linguistically conditioned interest in record-keeping, diaries, histories, and the concern with the 'past' generally, as well as our emphasis on devices such as clocks, calendars, and time graphs for exact quantification of time" (Hoijer, 1954).

Language serves not only as a means for recording experience but also as a means of defining and refining it. Creative ideas and products are related not only to environmental stimuli but to the concepts that are available for dealing with them.

DEVELOPMENTAL LEVEL OF THE CULTURE

Cultures go through wave-like patterns of growth and decline (Kroeber, 1944). The shape of the curves as well as their durations vary. Consequently, at certain points in the development of a culture change might be most difficult, while on other occasions it would be a relatively simple matter. Where a culture is moving up on a developmental slope, change and creativity might almost be regarded as part of the demand characteristics of the environment, and individuals who bring novelty to fruition are regarded by some as interchangeable with each other. Ogburn and Thomas (1922), for example, omitting developments prior to 1605, name some twelve individuals who had contributed to the development of the steam engine between 1605 and 1785, when Watt gave the engine its distinctive form. These authors then argue that "contrary to popular impression, Watt, great man

though he was, does not seem to have been indispensable to the perfection of the steam engine. It would be an absurdity to conclude that, even if he had died in infancy, the Industrial Revolution would not have occurred." When a culture is in a developmental trough, few individuals in the society may be able to rise above the restricting cultural influences. Kroeber (1944) mentions only five men -- Kepler, Leibnitz, Copernicus, Tycho and Goya -- who "were able to rise to full greatness over an environment which long paralyzed all others."

When a culture is in a developmental trough and any expected change from individuals within it may be limited, new developments might occur when change agents are imported from other societies. A contemporary example is Peace Corps volunteers, who have served important functions of restimulating and revitalizing communities, as will be indicated in the last part of this paper. Where the efforts of such change agents or cultural diffusors do not result in immediate accomplishments, they at least serve the function of planting the seeds of ideas for future accomplishments, or they lay the groundwork, by exposing the people to some discussion of change, for others who follow.

CHILD REARING PRACTICES AND PARENT-CHILD RELATIONSHIPS

Child rearing practices may affect how an individual will regard himself, and consequently, his attitude toward his own capability to affect and accept change. The rules and regulations to which the child has been exposed, and the rewards and punishments he has experienced in childhood, may be at the roots of the adult's self-concept. He may have learned that he is good and capable, that he can master his functions and is competent, and thus seek new experiences. Or, he may have internalized an image that he is bad, and consequently develop feelings of anxiety and guilt that restrict his future development.

Parent-child relationships represent in microcosm the prototypes of interpersonal experiences to be encountered later in life. And, attitudes and patterns developed early in life may affect future interpersonal relationships. In interaction with parents, the individual develops attitudes toward future authority -- both specific authority figures such as teachers, managers, supervisors, etc., as well as dogmatic principles and authoritarian modes of behavior. Adorno and associates (1950) found that children who had been submissive to their parents were likewise acceptant of authoritarian ideologies, and one would therefore also expect them to avoid deviating from the *status quo*, to stay with the tried and the true rather than experience the novel and the new.

The character of parent-child relationships has also been related to an individual's interest patterns, and hence, to the occupations he may select later in life (Roe, 1957). Interests for Roe "arise out

of the child's earliest experiences in the family. They are determined primarily by the areas in which his attention is given free flow in the family structure and the way in which he is handled in particular situations." As a framework for dealing with the various ways in which the child may be handled in the family, Roe presents a series of critical variables that she represents diagrammatically by a series of concentric circles. At the center is the basic attitude of the family toward children, which may be classified on a continuum ranging from warm to cold. This basic attitude may be subdivided into three attitudes toward handling children: (1)"emotional concentration on the child [that is, where the child is the primary focus of the parents' concern] can be expressed in various ways ranging from 'overprotection of the child' to 'overdemanding' of the child; (2) 'avoidance' which may be subdivided into 'rejection and neglect'; and (3) 'acceptance' which may be subdivided into 'casual acceptance' and 'loving acceptance.'"

Roe then hypothesizes that, "the first distinction in basic attitudes which later develops into interests is whether or not your basic orientation is toward persons, while the others have a basic orientation 'not toward persons.'"

The major orientation toward persons can be subdivided into an orientation toward the self as a person or toward other persons, and it may be defensive or nondefensive. From this group of individuals, Roe suggests, come those individuals who are "suited to occupations in which the most important element is the relationship of one individual to another. For example, at the upper level of occupations will be personal therapists, vocational guidance people, welfare workers -- of one sort or another -- social workers and so on. At the lower level of occupations there will be barbers, beauticians, etc., in which there is a direct personal relationship. You will also get what I call the arts and entertainment group of occupations, where I think a major element is a form of narcissism which derives out of this framework. I do not separate music and painting and other arts, because I think the essential element is the same in them, and I would include big league baseball players, for example, in the same group. Here the narcissism refers to a different sort of body structure than it would in terms of the artist.

"In groups with basic orientation *not toward persons*, there can be an orientation toward things or objects in the environment which may be animate or inanimate, or perhaps toward the ideas, although you will get some orientation of a very limited sort toward ideas in the other previous group. Primarily many scientists -- except social scientists -- will come out of this latter group. Obviously, I am generalizing very broadly, and there may be some exceptions.

"In the neglected group and in the casual acceptance group, you will get persons whose basic orientation is not toward persons -- in a nondefensive way. I do not agree with the analysts that if you are

not basically oriented toward persons it is because of defense against them. I know too many scientists who do not show this, but in whom the primary interest -- the thing they think about most easily, the thing they attend to most easily -- is a thing or object or animal, not persons. These persons will develop into a technological group, i.e., a biological sciences group, a physical sciences group, etc."

With regard to creativity, Roe says that among individuals with a major orientation toward persons, it is more difficult to get free flowing creativity than from individuals whose major orientation is not toward persons. Among the former, creativity is likely to occur on a defensive basis. "I was rather surprised to find," she says, "in some of my studies of physical scientists particularly, a freedom and ease of working creatively, much more than I found in the social scientists, rather more than I found in the biological scientists, and I think considerably more than I found in the artists I studied. The artists usually got themselves into a terrific stew just before they were about to create something. To some extent this stirred-up condition happens in scientists, but I think it occurs to a lesser extent and has a different quality."

Parents may serve as models for their children, and their interests may also prove to be those followed by their children. Similarly, parents may provide direction for their children's activities through the goals that they set up for them. Stein and his co-workers (unpublished) provide some evidence for how both these factors may be related to creativity. The subjects in this study were more and less creative Ph.D. chemists employed in industrial research organizations. In a biographical questionnaire, both groups of subjects were asked to indicate their parents interests by checking a list with which they were provided. The results indicated that, on the average, the fathers of the more creative men had more interests than did those of the less creative men. The mothers of both groups had the same number of interests. The one interest which distinguished the fathers of the more creative men was their interest in science. While 18% of the fathers of the less creative men were said to be interested in science, this was true of 45% of the fathers of the more creative men (and by no means were 45% of the fathers of the more creative men scientists). The mothers, on the other hand, were differentiated only by their interest in business. While only 12% of the mothers of the less creative men were said to be interested in business, this was true of 35% of the mothers of the more creative men.

Stein and his associates also sought data on the types of goals that the parents of their subjects had for their sons. The men were presented with six types of goals and asked to indicate which of them were held by the father and which were held by the mother. Some of the results obtained were: in 94% of the cases of the more creative group, both parents *did* hold goals for their sons compared to 70% of the less creative men. Both parents had *no* goals in one

case of the more creative group and in 21% of the less creative group.

EDUCATIONAL OPPORTUNITIES AND EDUCATIONAL EXPERIENCES

The educational institutions in a society not only prepare individuals in the cultural heritage, but also predispose them to the acceptance and rejection of new information (and, hence, possibly change), depending on the nature of the content that is taught, the character of the learning process and the teaching models with which the student is presented. Some educational systems emphasize the need for demonstrating mastery and perfection in memorizing all that is taught, while in others, the individual is taught the past as a stepping stone to the future. The student is encouraged to demonstrate his originality, and he is rewarded for developing an individualized program. In some cultures, the faculty is highly regarded and is made up of persons with whom the student can identify. In others, however, the faculty may be composed of individuals who are likely to be inadequate or unsuccessful in other societal pursuits or whose general status is rather low.

Educational opportunities may be limited only to those who have the necessary economic resources or social status. Therefore, if change is dependent on the sophistication of the public, the probability of change occurring under these circumstances is limited. If admission to educational institutions is not a function of finances or social status, then the criteria that are used are not necessarily always the best for encouraging or stimulating creativity or change, despite all public pronouncements to the contrary. In our own society, for example, there is much hope, and even intent, that our educational system shall produce creative individuals. Evidence of scholastic achievement (grades) at the lower levels is usually regarded as a criterion for acceptance into college. And, evidence for achievement in the latter is usually regarded as a criterion for acceptance into universities or for providing the individual with a job opportunity in which he can manifest his creativity. If the psychological characteristics associated with these achievements were indeed those that have been associated with creativity, then we might be close to achieving the goals of our educational institutions. Available evidence suggests that this is not the case. Holland (1960) studied the personality characteristics of students with high high school rank and the personality characteristics associated with college freshmen grades. He then compared the personality characteristics related to both variables with the data that Cattell and his co-workers (Cattell and Drevdahl, 1955; Drevdahl, 1956; Drevdahl and Cattell, 1958) found to be associated with creative individuals. Although Cattell's subjects are not comparable to Holland's students in terms of age and other factors, it is nevertheless tenable, at least as a first hypothesis, that if high schools were rewarding creativity, the personality characteristics associated with high grades in high school or the first

year of college might be similar to or the same as those obtained by Cattell. A comparison of the personality characteristics found by Holland and those found by Cattell are quite different. Holland (1960) says, "Only two of the 16 PF (the test used) scales indicative of creative potential are correlated with grades in the expected direction -- emotionally sensitive and feminine -- while five scales are significantly correlated with grades in directions which suggest a lack of creative potential, and the remaining five scales characteristic of 'more creative' people are not significantly related to grades. The implication that the college achiever has less potential for creative activity is supported by our findings about the correlates of HSR (high school rank)." This finding is further supported by another of Holland's studies (1959) in which he investigated the personality correlates of teachers' ratings of maturity, and also found "that students with high HSR (high school rank) may have less creative potential than students with low HSR, assuming that the latter also have other attributes associated with creative behavior." And then there is MacKinnon's (1959) study in which he reports that creative research scientists and architects had undistinguished college grades. The point of this discussion cannot be made better than Holland (1960) himself does, "The implications of the present investigation, which are consistent with our growing knowledge of creativity, argue against the uncritical use of high school and college grades as predictors of post-college achievement and as unqualified criteria for selecting persons for admissions, scholarships, fellowships, or jobs." Thus, in studying the effectiveness of a society's educational institutions as possible sources of change, one needs to attend to both the verbalized and unverbalized goals of the institution. On the verbal level, there may be much talk of the desire for creativity, but in actuality, taking many institutions in our own society as an example, the goal is to continue the socialization process.

POLITICAL FACTORS

Political systems that protect men's rights and insure his freedom provide man with a sense of security. The security felt in the political area may well extend to other areas, so that self-expression is enhanced and free, and autonomous development may occur in a variety of other areas. Restrictive political systems are not, however, without capacity for change. They may select specific areas in which change is desired while they limit and even curtail activities in other areas.

In general, the relationship between political factors and change is such that where the political power figures feel that their status, position and power will be threatened by the change, they will set up barriers or try to block the possibility of change. "Thus in ancient Rome, the hand and stone mill was never displaced by the water mill, despite the fact that the water mill had been described by Strabo. The risk of slave labor on the plantations,

the constant danger of rebellion and sabotage, made more complicated and costly machinery unprofitable" (Gerth and Mills, 1953). On the other hand, where political power figures feel that their position is likely to be maintained or enhanced by the encouragement of change, they will likely reinforce and support it -- witness the sums spent for defense and the development of the atomic bomb, rocketry and jet aircraft.

The relationship between the political power figures and change also has another dimension. It involves the relationship between the change agents and the political authorities. Specifically, political power figures may foster the efforts of change agents whose political views they approve of, while they may obstruct the efforts of those whose views are counter to their own. Either when it is a matter of approval or disapproval or when it is only a matter of scrutiny, it may have a selective effect on those individuals who are willing to undertake work that might possibly lead to change (Shils, 1956).

ECONOMIC FACTORS

Economic factors, in the sense of trade and commerce, increase the frequency and type of communication between cultures, and thus change may come about as a result of cultural diffusion and from the matrix of differences from which new combinations and new developments may be formed. Economic factors, however, have their greatest effect on change in terms of the profit motive and the amount of capital available for investment purposes. Where there is a possibility of increased profit or more economical ways of performing old processes, change may be encouraged. Where new developments are not likely to result in the desired level of profits, or where new developments are likely to result in much economic displacement, they may be discouraged. Thus, economic factors may affect the kinds of areas in which one might expect change by focusing attention upon them and thus drawing persons to these areas either with the prospect and opportunity for developing or inducing change or with the prospect of high economic rewards.

SOCIAL FACTORS

People of different classes enjoy different privileges. Being a member of a certain group, therefore, may entitle the individual to certain opportunities for gaining the background and training necessary to initiate change. Depending on his social status, an individual may or may not be limited in his exposure to the new developments in the society. He may or may not also be limited in terms of the individuals representing the different levels of the society with whom he can communicate and so share different points of view.

The acceptance of change in different fields of endeavor is often associated with different social classes. The fact that a new development has been accepted by a certain prestige group may encourage others to follow and so indicate that they "belong" or wish to belong.

In societies that are characterized by social mobility, individuals may try to become change agents, creators or innovators so that they may gain entree into the groups they desire. However, as Tumin (1954) points out, "Creativity, as a search for and capacity to enjoy self-consummating experiences, comes subsequent to status-striving for the average man. For those individuals -- the rare few -- who break through to individuality and creativity without status-assurance, the creative life serves as the compensation for, the equilibrator, if you wish, of the imbalance presented in the status-life. Most individuals, however, cannot and will not dare take the challenge of the creative life until they reach a considerable amount of status safety and assurance."

Social factors are also related to the change process in the sense that interpersonal trust is necessary if change is to come about. Change, and its consequent deviation from that which has existed, and is bound to stimulate anxiety in some individuals. The level and extent of anxiety will be a function of the area in which change occurs. If the level of anxiety is high, then change may be obstructed, but the effects of the anxiety may be counteracted under conditions of interpersonal trust which limit the possibilities of threat and provide a security system until the change has been integrated into the social matrix.

The physical environment, the philosophical orientation of the culture, the language system, the developmental level of the culture, child rearing practices and parent-child relationships, educational opportunities and experiences, political, economic and social factors, are some of the parameters that may affect both the development and survival of creative ideas, products or processes. In some ways, each of the parameters contributes some uniqueness, but in most instances they overlap. My treatment of the various parameters has, no doubt, been too brief, but hopefully, what has been presented will serve to illustrate the various areas that require study as one desires to effect change.

Part II: Organization and Roles

Within a society, there are often organizations charged with responsibility for developing or stimulating change. These organizations have their own processes for selecting their members, their specific goals, prescribed status system, value system, communication network and system of rewards and punishments. They also have prescribed roles[1] that their members are expected to fulfill.

One such organization in our own society is the industrial research organization. My intent in what follows is not to discuss all the characteristics of this organization and how they may be related to change, but rather to limit myself to a discussion of the roles that industrial researchers are expected to fulfill, and how conflict between roles may develop and possibly affect creativity. The discussion, therefore, is an example of the application of role analysis which may prove of value in studying organizations in other societies.

The industrial researcher is expected to fulfill five major roles:[2] Scientist, Professional, Administrative, Employee and Social.

THE SCIENTIST ROLE

As the "scientist," the industrial researcher, like all scientists, is expected "to discover, systematize and communicate knowledge about some order of phenomena" (Hughes, 1952). In his role as scientist, the researcher undertakes activities not because they will be of benefit to anyone who may be considered his client but because they will result in more knowledge. "Scientists, in the purest case, do not have clients" (Hughes, 1952).

In fulfilling his role as scientist, the individual conforms to the ethos of modern science, which, as described by Merton (1949), involves the following four institutional imperatives or constraints:

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[1] *A summary of the psychological characteristics of creative individuals may be found in Stein and Heinze, 1960.*

[2] *What follows is based on the author's study on creativity among industrial research chemists.*

1. *Universalism.* The source and claims for truth are to be subjected to "pre-established impersonal criteria."

2. *Communism.* This refers to the fact that "the substantive findings of science are a product of social collaboration and are assigned to the community. They constitute a common heritage in which the equity of the individual producer is severely limited....(Furthermore) secrecy is the antithesis of this norm; full and open communication its enactment."

3. *Disinterestedness.* Science demands objectivity and has no place for the personal and subjective motivations of the individual.

4. *Organized Skepticism.* This last institutional imperative involves "the suspension of judgment until 'the facts are at hand' and the detached scrutiny of beliefs in terms of empirical and logical criteria...."

THE PROFESSIONAL ROLE

Overlapping with the scientist role is the professional role. As a professional, the industrial researcher earns his livelihood by providing what Hughes (1952) has called "esoteric service" to a client. The client for the industrial researcher is "the company." By accepting a position with a company, a researcher both implicitly and explicitly accepts the task of working on problems related to the products that the company produces. But the company is not only the researcher's client, it is also his patron in that it provides him with the financial security, the equipment, the personnel, etc., to carry out his work. It is this client-patron role, the company vis a vis the researcher, that puts certain restraints on the fulfillment of the scientist's role for the industrial researcher, and is manifest in the following:

1. *Limited Communism.* While the scientist role demands that procedures and results should be shared with the scientific fraternity, the professional role demands that they are to be shared only with certain selected individuals, whose number may vary from none to many, but never outside the company. To be sure, this is a function of time, since once a company has secured the patent rights to a process or product, it may then permit its employees to discuss it. Until such a time, even papers to be presented at scientific meetings often have to be "cleared" by the company's patent office, to protect the company's interests.

2. *Focused Truth.* Following the institutional imperatives of the scientist role, the individual is free as well as obligated to pursue the problems and unknowns that arise in the course of his work. He need not encumber himself with the artificialities or practicalities of the differentiation between pure and applied

research. In the industrial system, however, the goal of each man's work is to be focused on the product or products that can be produced and sold by the company to the consumer. Furthermore, the best possible product need not be developed at one time, since there are always possibilities for "new and improved" products.

3. *Selflessness.* The researcher who has many ideas has to be capable of yielding them to others. This decision is often arrived at by both the administrator of research and the researcher himself, although it is possible that the administrator alone may assume such responsibility. At such times, it is often necessary that the researcher withdraw any self-involvement in his ideas, even though, if they do not work out, his reputation may suffer when the people to whom his ideas are assigned make mistakes that he might not have made and invalidate his ideas. The need for selflessness also exists when a project or problem has been completed. At such time, the products of a man's labor are sent to the pilot plant and additional alterations may be made.

4. *Communications with Lay Personnel.* The industrial researcher, by virtue of his client-patron relationship with nonscientific personnel who are in decision-making positions, must be able to communicate with them in nontechnical terms. Emphasis on this type of communication may occur early in the research process where the researcher needs to convince management of the value of his ideas, as well as at the end of the research when his efforts must be condensed into the ubiquitous "one page or less" so that management can learn whether its investment has been a wise one.

5. *Vested Interest.* The professional role demands that the industrial researcher be loyal to and maintain the interest of his company, his division, department, section or work group. At scientific meetings or in contacts with customers, the industrial researcher is expected to support the vested interest of his company. He must keep his eyes and ears open to see how the company can be of greater value to its customers and how it can maintain its position among and/or surpass its competitors.

THE ADMINISTRATIVE ROLE

The imperatives of the administrative role depend on the precise status and position of the researcher in the company hierarchy. At the lower levels and when the researcher is a subordinate, he has to be prepared to take on research assignments from others and to take on projects that are not necessarily of his own choosing. As he rises in the administrative hierarchy, he assumes increasing responsibility for the selection of problems to be investigated, the recruitment of both scientific and non-technical subordinates. He also assumes increased responsibility for communicating with manage-

ment and other parts of the company. He has to have the financial know-how to participate in the development of the budget and be sufficiently efficient to keep up with his "paper work."

THE EMPLOYEE ROLE

The fourth role for the industrial researcher is the employee role. It is to be distinguished from the three previous roles in that *their* adequate fulfillment adds *new* information to the system, while the performance of the employee role pertains to the flow of already existing information and to the maintenance of the system as an ongoing enterprise. The industrial researcher shares this role with others in the company. Some of the factors involved are:

1. *Consistent Productivity.* The man on the job must produce with some degree of consistency. To be sure, it is expected that the consistency will be a function of the difficulty of the problems that the man is investigating. But even on the most difficult problems he is expected to show progress in the course of his work.

2. *Financial Awareness.* From the planning stage through the production stage, research and development cost money. The time it costs to sit and think is budgeted and charged for like equipment. The researcher must always be aware of the costs of his activities, as well as be concerned with whether or not his results will "ring the cash register."

3. *Efficiency.* Since time, equipment and personnel are costly, the industrial research chemist is expected to be quite efficient in all his undertakings. The best idea and working procedure is one that results in a novel product that requires a minimum of retooling and reallocation of personnel and functions. Those ideas which require much shifting about of personnel may generate morale problems, and those ideas which require the expenditure of large amounts of money may involve many groups of individuals in the decision-making process who must give their approval on the problem.

4. *Accepting Status Position and Adjusting to Authority.* While in his research efforts the industrial researcher may be iconoclastic and even defiant of authority -- i.e., explore areas in which the authorities in his field say that certain things are impossible -- the employee role demands that he accept the limitations and circumscribed power assigned to his status position. He has to go through channels and work through others in more powerful positions in order to get what he wants. If he is openly defiant of those above him, he may well jeopardize his position. He has to learn to adjust to them or to get around them without too frequent or open conflicts.

5. *Regularity and Flexibility.* Although the industrial researcher may work independently on his own research and set his own rules in this area, he is, nevertheless, part of a working community, and he must abide by the rules and regulations that affect the total working community. He must attend his job regularly and be there for the prescribed working hours. He may not have the opportunity to pursue a "hot idea" after "closing time," for to do so may require special permission and clearance from the safety engineer and the night watchman. The researcher is required to keep accurate records of his research efforts, because of patent office requirements, and also for cost-accounting purposes, so that the total cost of the development of a product may be calculated. Within this emphasis on regularity there is the emphasis on flexibility. The research man himself may come up against a problem on which he requires the efforts of another person, or someone else may come to him for aid, or a problem may arise in production that involves a previous problem of his, and for these and other interferences the researcher has to be in a position where he stops what he is doing for a reasonable amount of time to help them.

THE SOCIAL ROLE

The social role refers to the behavior patterns that an individual is expected to manifest in his interpersonal relationships with superiors, colleagues, and subordinates. The individual's social role varies as a function of his position in the company's status hierarchy. The higher the status position, the more immunities and privileges accrue to him; and he might even be able to alter the role so that it is more congruent with his own personality. At lower levels in the status hierarchy, however, the individual may feel that it is impossible to alter the role to suit his needs.

The social role differs in one very critical aspect from the roles considered previously. For the scientist, professional, and employee roles there are usually either written or verbalized codes and regulations with which the individual may acquaint himself. But, for the social role the prescriptions are not codified and not verbalized. One learns about them through personal experience, or the individual may be informed about them by close friends. At times when they are verbalized in a professional discussion they may be denied, for the social role includes the "irrational" factors in the social process with which the scientist does not want to concern himself, especially since he may not be too adept at fulfilling them. Yet, fulfilling the social role adequately is a prerequisite for establishing smoothly functioning communication networks that facilitates one's work and often gain for one the *opportunity to be creative* -- a factor that has often been overlooked in research in this area.

The discussion of the social role that follows is not intended to be all-inclusive, nor does it attempt to account for all the nuances and variations that occur as a function of time in the company or status position. Indeed, the frame of reference for this analysis is the hypothetical individual who "succeeds" -- i.e., rises in the administrative hierarchy. While no single individual may fulfill all the requirements, the more successful ones are able to fulfill most of them.

The expectations with regard to social behavior are:

1. The industrial researcher is to be assertive without being hostile or aggressive.

2. He is to be aware of his superiors, colleagues, and subordinates as persons; but he is not to get too involved with them as persons.

3. He may be a lone wolf on the job; but he is not to be isolated, withdrawn, or uncommunicative. If he is any of these, he had best be creative so that his work speaks for itself.

4. On the job he is expected to be congenial but not sociable.

5. Off the job he is expected to be sociable but not intimate.

6. With superiors he is expected to "know his place" without being timid, obsequious, submissive or acquiescent.

7. But he is also expected to "speak his mind" without being domineering.

8. As he tries to gain a point, more funds, or more personnel, he can be subtle but not cunning.

9. In all relationships he is expected to be sincere, honest, purposeful and diplomatic, but not unwilling to accept "shortcuts," be inflexible, and Machiavellian.

10. Finally, in the intellectual area he is to be broad without spreading himself thin, deep without being pedantic, and "sharp" without being overcritical.

These, then, are the five roles of the industrial researcher -- the scientific role, the professional role, the administrative role, the employee role and the social role. While the researcher can bring change and creative products to the broader society through the fulfillment of the scientific or professional roles, he cannot devote himself to these roles in a manner that is completely free of stress and conflict. And, to the degree that stress or conflict does exist, to that extent may his capacity to develop change or to be creative be reduced. Stress or conflict may arise because it simply takes

time and energy to fulfill the different roles. The roles, in some instances, demand different attitudes. For example, in fulfilling the scientific role, the researcher is not concerned with secrecy or whether the project he is working on will or will not make money for his company. But as a professional, he needs to be concerned with both. There are other sources of potential stress. The social role, as indicated above, is rarely made explicit, but the researcher needs to learn it, and he often does through trial and error, and in the process makes a variety of mistakes. He may not be willing to undertake the responsibilities of an administrative role, but he soon learns that unless he does, his opportunity to rise in the company and the consequent greater freedom to select his own research problems (should this interest him) will be limited. The researcher in our society may also be conflicted in the time and energy he devotes to the different roles when he questions whether being creative will also lead to success as reflected in the values in the broader society. This question is a significant one for many research organizations, and several of them have considered the possibility of coping with this problem by having "two ladders" on which one could rise -- an administrative ladder and a scientific ladder. Presumably, a man could make as much money going up one ladder as he could going up another. The idea appears to be a good one, but it is not yet institutionalized in all or even many research organizations. The significance of the problem was also reflected in our study of researchers in industry. When we asked how important it was to independently pursue one's own ideas (a factor that we regard as characteristic of both scientific and professional roles) if one wanted to be successful and if one wanted to be creative, we learned that it was regarded as much more important for creativity than for success. Presumably, independence may result in new ideas, products and processes, but it may not lead to success in the organization. We also asked the researchers how important it was to know "the right people" in the organization, for success and for creativity. Our researchers, as well as their top level superiors, agreed that knowing the right people was one of the least important factors for creativity. And our researchers, but not their superiors, also agreed that it was rather important to know the right people if one wanted to be successful. These are only some of the sources of conflict that might curtail the efforts of the researcher as a change agent. But should he prove to be competent in fulfilling his scientific and professional roles, and should he be in an organization where his own values are congruent with his superior's, then not only will he gain the opportunity to manifest his creativity, but he will also be well supported through a variety of endeavors.

Thus, while some organizations in a society may try to achieve and develop change, the very structure of these organizations may be such as to require individuals within them to fulfill a variety of roles, the complexity of which might interfere with the effective fulfillment of their desires and responsibilities.

Research organizations are certainly not characteristic of newly developing countries on whom our attention is focused at this conference. Nevertheless, the example of role analysis presented above might well be utilized in studying the change agents in these societies, to remove some of the sources of conflict so that they might be better able to fulfill their goals.

Part III: The Intermediaries

If we assume that creativity is a process that extends from the creative individual to the public or audience, then we must also consider the functions of the intermediaries who fulfill important functions between the two end points. These individuals provide the creative person with either emotional or financial support, or they play the role of evaluators for the public. In their latter role, although their criteria of evaluation are not always clearly stated, they are nevertheless invested with important decision-making functions for the society. Without their approval, newly developed products, processes or ideas may not be accepted by the society at large.

Among the intermediaries are the following:

THE "PSYCHE" GROUP

The "psyche" group is an informal group of individuals that gathers around, or is sought out by, the creative individual. It may be bound by emotional or professional ties to the creative person. Its significance lies in the fact that the creative person feels free to go to the group in various stages of the creative process for advice, criticism, clarification or even for the testing of some of his ideas. Discussions within this group may be one of the early manifestations that new ideas are developing or that still newer ones are yet to come.

The size of this group may vary from one to several persons. An example of a smaller group is the relationship between Freud and Fliess. In the early days of his work, Freud found this relationship particularly important. One day Freud wrote him "...I feel very isolated, scientifically blunted, stagnant and resigned. When I talked to you, and saw that you thought something of me, I actually started thinking something of myself, and the picture of confident energy which you offered was not without its effect....for years now I have been without anyone who could teach me anything and have settled down more or less exclusively to the treatment of the neuroses" (Bonaparte, Marie, *et al.*, 1954).

A particularly fruitful example of a larger "psyche" group can be found in the collection of artists who formed around Diaghilev in the early nineteenth century. Dancers, painters, musicians, writers, many of whom later became foremost in their fields, helped and stimulated each other in the face of a skeptical public.

THE PATRON

A second type of intermediary is the *patron*, who generally provides the creative individual with opportunity for creativity by relieving him of financial concerns. The patron may give the creative individual complete freedom to do what he wants to do, but on other occasions he may set limits on what he will accept or reject, or make other personal demands.

THE ENTREPRENEUR

A third type of intermediary is the *entrepreneur*. He may be the researcher's employer in an industrial research organization who develops expectations that we have previously discussed in terms of roles. But he may also be one or a member of a group of individuals who provide the capital to "back" the development of an idea or product. Positive decisions from such groups have no doubt resulted in many things we enjoy today, and while their negative decisions may have eliminated many crackpot ideas, they may also have stifled new developments because the entrepreneurs were not far-seeing. Thus, "though Hooke invented the spring balance, which was designed and in fact destined to be the basis of a marine timekeeper, he lost interest in the matter after the failure of his attempt to form a syndicate to exploit the invention, and never himself constructed a timepiece involving that device" (Usher, 1954). A more happy instance was the experiment of Dr. Fritz Zernike, 1953 Nobel Prize winner in physics, who had difficulties gaining support for his phase contrast microscope. "When Dr. Zernike took his invention to the great Carl Zeiss Works at Jena, Germany, in 1932, he was told: 'It is impractical, and if it were not, we would have produced it already.' But when U.S. troops reached Jena in 1945 they found micropictures taken with Dr. Zernike's system. Since then it has been adopted by laboratories all over the world" (Time Magazine, 1953).

Not all the problems between the creative individual and the entrepreneurial intermediary result from the lack of vision of the entrepreneur. Some of it, of course, stems from the inadequate business sense of the creative individual. In a survey conducted by Rossman (1931), patent attorneys noted the frequent lack of business ability in inventors, while the inventors themselves had stressed the importance of business sense for success.

THE SALESMAN

Another type of entrepreneur is the enterprising salesman. Once he accepts the idea or product, he promotes with gain to himself and the creative individual, but in the process he is an important change agent. A good example of this in the art world is Duveen whose efforts have been described as follows:

> Probably never before had a merchant brought to such exquisite perfection the large-minded art of casting bread upon the waters. There was almost nothing Duveen wouldn't do for his important clients. Immensely rich Americans, shy and suspicious of casual contacts because of their wealth, often didn't know where to go or what to do with themselves when they were abroad. Duveen provided entree to the great country homes of the nobility; the coincidence that their noble owners often had ancestral portraits to sell did not deter Duveen. He also wangled hotel accommodations and passage on sold-out ships. He got his clients houses, or he provided architects to build them houses, and then saw to it that the architects planned the interiors with wall space that demanded plenty of pictures. He even selected brides or bridegrooms for some of his clients, and presided over the weddings with avuncular benevolence. These selections had to meet the same refined standard that governed his choice of houses for his clients -- a potential receptivity to expensive art (Behrman, 1951).

THE SPECIALISTS AND AUTHORITIES

The fourth group of intermediaries are the professional and scientific societies whose members serve as *specialists and authorities*. These societies provide a hearing ground for new ideas, some of which they reinforce, and for others they put up many obstacles. For example, in the history of medicine we find the following:

> Vesalius was attacked by his contemporaries because he challenged the authority of Galen on human anatomy. He was called a madman, and his resort to dissection to acquire knowledge was labeled impious. Harvey met with opposition of the same sort, and on the same grounds, with the publication of his researches upon the circulation of the blood. At least twenty authorities upon anatomy challenged his views in print, and many others ignored his discoveries or abused him personally. Lister's insistence that antisepsis would prevent suppuration of wounds provoked attacks from many quarters, and for several reasons; but the really damaging contentions were those of medical authorities, like James Simpson and James Morton, who either denied his method any originality, belittled its effects, or advocated some other causes for

> the good results that he was able to demonstrate. When Semmelweis announced his theory that puerperal fever was a contagious disease and was not due to any supernatural influences, he was violently assailed by members of the medical profession and experts in related fields. Virchow ignored him with pontifical disdain. Others fell upon him with ridicule, misrepresentation, and personal vilification (Barnett, 1953).[1]

Newton also had his problems with the "authorities." Although the Royal Society accepted his telescope, it was not as receptive to the paper spelling out the work on which its discovery was based. "The paper (on optics) touched off a storm -- not because the experiments were not accurate and the conclusions drawn from them indisputable, but because his findings did not square with certain theories then held. So many voices were raised in complaint that Newton finally exclaimed in disgust, 'I see a man must either resolve to put out nothing new, or become a slave to defend it.' From that time forward he was more reluctant than ever to make his discoveries known" (Strother, 1955).[2]

THE CRITICS

A fifth group of intermediaries are the *critics*. Among them are the book reviewers, the art critics, the editors of journals or magazines, the curators of museums, etc. These individuals need not have demonstrated the capacities or abilities to do what they are evaluating (this is what differentiates them from the specialists or authorities). The critic need not be an author, a dancer, a writer, etc. But, due to other abilities, he is chosen to "pass" on new developments and to "tell" the public what his evaluation is. The critic's evaluation may close off contact between the creative individual and the public or they may increase contact depending on the nature of the evaluation. Critics may also play significant roles in deciding what is or is not creative, and since there are no absolute criteria, evaluations may change as a function of time.

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[1] *It should also be noted that some of the conflicts might also have been attributed to the personalities of the creative individuals (Barnett, 1953).*

[2] *Strother makes the following comment about Newton's PRINCIPIA which may well be related to experiences such as those described above: "Even mathematicians found the book difficult to read, not only because the problems dealt with are difficult, but because Newton purposely made it tough so that he wouldn't be bothered by 'little smatterers in mathematics'" (Strother, 1955).*

Barzun arrives at "the strange conclusion that great creations are made such after the fact, by a retroactive decree of the human spirit. As the Lord looked back upon His creation and saw that it was good, so among mortals a providential critic coming after a longer or shorter time, falls in love with a certain work and persuades the heedless throng to look back and stare. Until then the creation lacks the very qualities that later make it unique and wonderful. A hundred years ago, all the merits of *Moby Dick* were defects, and Melville was a bungler. And in this centennial year of homage to Whitman, we find it hard to acknowledge that *Leaves of Grass* was then an obscure and obscene oddity" (Barzun, 1955).

There are no doubt other intermediaries, but let these suffice as examples of groups that might be looked at further if one is to gain a better understanding of the creative process and the factors involved in change.

Part IV: A Case Study[1]

The previous parts of this paper have concerned themselves primarily with change brought about through the creative process. In this part of the paper, we turn to another kind of change. It involves change that was brought about by members of a community in Colombia, South America, by participating in a process of Ccmmunity Development. In this process, two Peace Corps volunteers played important roles.

To facilitate understanding of what follows, it should be pointed out that Community Development, in this instance, involved the organization of community *juntas* (or councils) at which community hopes and problems were discussed. From these discussions, plans would be developed to solve the problems and to come closer to the hopes. The people in the community not only planned the activities, but actually carried out the work in teams which were generally called *mingas*.

Two volunteers worked in the community together with their Colombian counter-part who was called a *promotor*. It should also be pointed out that the term "community" is used here in the collective sense referring to the number of *veredas* (outlying villages) that are part of a *municipio* (town or county seat). The Community Development program referred to in this section was known as *Accion Comunal*.

Before presenting this community, one should be forewarned that this *is* a success story. There is no telling how many more such stories will be forthcoming from the Peace Corps volunteers currently working

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[1] *This case study is part of a larger work by the author entitled VOLUNTEERS FOR PEACE, New York: Wiley (in press), and is reproduced with permission. The case study is devoted to the first group of Peace Corps volunteers assigned to Colombia, South America. Information about this community was obtained while the author was gathering data with the aid of Colombian interviewers about the attitudes of a sample of Colombian villagers toward the Peace Corps. The above presentation is based on one of the interviewer's reports as well as the report of the two volunteers who worked in the community. The study of Colombians' attitudes was supported by a research grant from the National Institutes of Mental Health (MH-09188-01).*

in Colombia, or whether there will be any more. We do know that this was one of the best demonstrations of what could happen. Although it is not a typical situation, and indeed there were situations in which the volunteers could accomplish almost nothing, it is well to tell this story because it reflects what the possibilities of Community Development are; it indicates how a community itself can help bring about change, and it indicates how a group of young Peace Corps volunteers can participate in such change.

The community I shall present is in the north-central part of Colombia. It has 14 *veredas* and a population of 6,000 people. It has one main road that goes through several villages and a bus that makes its daily tour through the villages. Outside of the *municipio* the villages are quite dispersed, and communication between them is by means of winding dirt roads. The principal occupation of the community is the cultivation of hemp. For their own needs they also cultivate yucca, corn, bananas, string beans, *curubas* (tasty, sweet fruit), and, in a few cases, barley and wheat.

The land in many instances is eroded and inadequate for cultivation. In this community there are no major estates but primarily small land parcels and farms of between five and 20 *hectares*.[1] There are large areas of infertile land that had been cultivated in a traditional manner, in which little attention had been paid to protecting and maintaining the land. Approximately 30 kilometers from the *municipio* there is a section of land which could be devoted to growing tobacco. It had to be abandoned because there is no road and because there were outbreaks of violence in this area. With all this, this tobacco area still has natural resources to be developed, and the people are very much concerned with opening roads to it.

The people of the area are primarily *mestizo* (mixed breeds) and, in general, have been subject to the vacillations and whims of local and external political leaders. The community has been threatened with disintegration due to the battles between the political factions in which people, politicians, and priests participated. The political conflict has sowed the seeds of hate, revenge, lack of respect, dissatisfaction, insecurity, doubt, distrust and malice, not only among the townsfolk in the *municipio* but also among the villagers and peasants in the surrounding area.

Some time ago there did exist a kind of Community Development program in the area. It was useful but it did not get very far because of the political conflict.

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[1] *A hectare is 2.471 acres.*

The people do not recall that any priests coming to the area from 1955 to about 1960 were interested in helping materially or in promoting community progress even for the very basic needs of the community. One priest had come who laid some of the foundations for Community Development but, due to a series of both internal and external factors, his program did not get off the ground and nothing was accomplished. He was followed by another priest who did little or nothing for the community.

In 1960, a new priest arrived who was decisive in getting things going. He was a dynamic organizer, optimistic and practical, who understood Community Development. According to the interviewer, he was a community leader and "not only a Vicar of Christ." He knew what bothered the people and what brought them happiness. He tried to understand and analyze the community's socio-economic problems.

He began to put into practice what he called the "social function of the Church." He did not spend much time in his home, but frequently visited the villages, getting accustomed to the atmosphere of the humble dwellings, bringing spiritual aid and, on many occasions, working with the people. The people admired him.

With this base of good feeling, the priest planned a small work program. The people wanted to take on as their first job repairing the church roof at a cost of 30,000 pesos, but the priest said, "This is a poor community. We cannot make such an investment. If the church falls down we will celebrate Mass in my house, and if that is not possible, then outdoors."

Initially, the people did not agree, but they later accepted the priest's determination, and the program he developed had the following goals: To organize a Community Development program so that the people would not be pawns in the hands of the politicians; to construct a health center and schools to provide basic medical care and education for the peasants; to organize a cooperative savings and loan association; to ask for aid from local, departmental and national governments; to ask for the cooperation of American groups -- the Alliance for Progress, CARE, CARITAS, and especially the Peace Corps; to bring into the community professional resources such as a *promotor*, a doctor, a dentist, a nurse and a home economist; to promote unification of the community.

About six months after this priest arrived in the community, he obtained the services of an agricultural expert to help him. This man was described by one of the volunteers as an intelligent, humble, dedicated individual without strong political attitudes, but with a strong feeling for the people. He stayed in the community for about a year, and left his mark on it by fostering the growth of Community Development programs.

Before the volunteers arrived in this site, the priest had already organized several *juntas*. Although they were not very effective

and were later reorganized by the volunteers, they were a demonstration of the people's interest in progress. Essentially, when the volunteers had arrived, there was something of a basis for their work.

The priest left the community two months after the volunteers arrived. One story has it that his dynamic quality, forcefulness and political involvement had resulted in serious political divisions in the community. It was also reported that the agricultural expert also left the community because of political differences with the priest. The priest was replaced by another priest who was more neutral in his political attitudes, and it became possible to repair some of the ill-will that existed and to get on with Community Development programs.

The two volunteers in this community are best described in the terms used by the people themselves. Volunteer I, they said, studied the community's problems, its natural and human resources. He was a little serious, enterprising, very nice and firm in his decisions. The second volunteer was described as more of a romantic, a diplomat, who had great facility with people and a capacity to establish natural and modest social relationships. He was the kind of person who laughed while he worked and consequently always kept the people happy. The combination of these two volunteers was described by the interviewer as critical to the success of the program; one brought intellectual know-how, and the other knew how to convert ideas into practice.

The volunteers' activities in this area were quite diversified and frequently quite intense, as reflected by the following excerpts from their daily log for 1962.

> April 24 Saw the regional *promotor*, he gave us some school supplies. Went to the model farm run by the Secretary of Agriculture and bought three rabbits for the rabbit hutch. Then left for S.G.[1] Had to spend the night there; missed last bus.
>
> April 25 Saw our zonal agricultural specialists about a plan for reforestration. Caught first bus to S.J. (home base) and arrived late in the afternoon.

[1] *Names of places are indicated only by initials to maintain their anonymity.*

April 26 Spent day typing up five copies of request for school. Washed horses and changed their pasture ground. Began organizing English classes.

April 27 Went to *vereda* S.B. with *padre* and *promotor*. Had an *Accion Comunal* meeting with 50 people. They wanted a school. Walked to *vereda* and back 8 kms.[1]

April 28 Spent day with man from *Servicio Cooperative Interamericano*. Took him around town getting prices for materials for health center that is to be built.

April 29 After Mass had meeting with people. Covered program for health center. We then walked to *vereda* P. and met with people. Sixty people attended. Walked both ways 10 kms.

April 30 Spent the day helping one of the women build furniture from *fique* (hemp plant). Gave her a few construction hints.

May 1 Visited *vereda* S.C. to check and see how the work on the school was coming along. Four thousand bricks made to date. Decided to take the brick-making machines for repairs. Worked with the daily group of workers.

May 2 Market day, spoke with all the *veredal* leaders. In afternoon we worked with a bunch of children in reconstructing the town basketball court. Gave first English class.

May 3 Worked all day with surveyor and crew from Secretary of Hygiene helping them survey lot for health center.

And so the work went.

The interviewer who gathered the data in this area said he encountered nothing but positive comments about the volunteers. Both were regarded as not discriminating between the rich and the poor, the conservatives and the liberals, a town man and a country man, between the priest and the other professionals. Although the volunteers were somewhat bewildered at first, and had some difficulty in speaking

[1] *A kilometer is approximately 5/8 of a mile.*

Spanish, they caught on fast and got to know the area rapidly, visited many homes, and whatever they were asked for they tried to get or accomplish without delay. At first, the people thought the volunteers were going to work only in the town. They were surprised when they saw them in the countryside and said they felt sorry when they saw the volunteers working as day laborers. In talking about the volunteers some of the villagers said, "The truth is that we will never again meet such persons." To be sure, this might be an exaggeration. The people were aware they could have achieved certain accomplishments without the volunteers, but they were also aware that they could not have achieved the success they did, and which shall be described, without the volunteers. In talking about the volunteers the people would also say, "We are very indebted because the Americans gave us so much and we gave them nothing. We do not know how to thank them."

One of the volunteers' best friends in the community was the second priest. He liked them a great deal but he was a little troubled by one doubt. "The idea has been put in my head," he said, "that since they know the cultural and economic conditions so well, in other words they know the region like natives -- they make maps, reports, take pictures and have other information -- without doubt they are sending the reports to the United States. Well, the moment I discover that they are insincere and that they are actually spies I will declare myself in public as their enemy and war against them until they leave Colombia."

On their part, the volunteers commented very positively about the *promotor* and the *padre*. In one of the volunteers' reports there is this comment, "The *promotor* of this community was probably the best one in the country; he understood fully what Community Development was and had the knowledge to carry it out. The *promotor*-volunteer relations were excellent, we worked as a real team, including the *padre*. One member of the team never made a decision without first consulting the others. Whenever one member visited a *vereda* he would come back and give a report to the other members so that everyone would be well versed in what was going on in the *vereda*."

The *padre* was leader of the group, and together with the *promotor* and volunteers they reorganized the *juntas* and obtained the cooperation of other professionals in the community -- doctor, dentist, teachers and others. The nurse and home economist did not cooperate.

While the priest, *promotor*, volunteers and others were beginning to organize the Community Development programs, the Governor, Mayor and one local political leader put up many obstacles and tried to sabotage the Peace Corps' efforts, because they were beginning to learn that the community was not going to be torn apart by political differences. They therefore associated the priest, the volunteers and the program with communism, but the people reacted by saying, "If it is true that Community Development is communism then we like it and don't have to be against it."

Through Community Development activities, the people and volunteers in this area were able to achieve the following (as described in the volunteers' final report together with some additional comments from other sources):

1. "The biggest material project was a school built with funds from the Alliance for Progress. This school had been started in March of 1962 and the bricks were fabricated in two months, but actual work wasn't started until the end of November because of the lack of aid. The plant was inaugurated on the first of June...every single person contributed to the construction." The dedication ceremonies were delayed three times, and because it was such a momentous occasion, the volunteers invited the then U.S. Ambassador Fulton Freeman who accepted. This was much appreciated, because his schedule had to be altered on three different occasions.

2. "The second large project planned was a rural aqueduct to serve 35 homes. The organization of this *vereda* was excellent at the time the project was initiated. We were told by the *Division of Accion Comunal* that they would give us all the pipe needed for as many aqueducts as we wanted to build; therefore we promised the people that we would build it -- boy, was that a mistake. We had the engineers from the Secretary of Hygiene come out and do a complete study which we turned in, and to this day we haven't heard a thing. We were ashamed to face these people -- what could we do? We never made the same mistake of promising again; surely the Division realized that it cannot continue to work on these so-called promises."

3. "The Health Center was built by *Accion Comunal* and with the aid of the *Servicio Cooperative Interamericano de Salud Publica*. They supply all of the material and the community does all the work. The building at present is about half constructed; it is, along with the road, the biggest county-wide program and has helped immensely to organize the whole county -- that is, all the *veredas* working with each other. The road had been projected since June but the bulldozer never arrived. Three months ago the people said, 'Let's start it by hand,' so we did, and built about 600 meters before the bulldozer arrived last Wednesday."

4. "A program of home improvement has been one of the most successful, as far as small projects go. We, after the *vereda* had asked for our help, decided it would be best to build the project around a CINVA-RAM machine (a manually operated machine for making bricks) that was supplied by CARE after the *vereda* made up a program telling exactly what they were going to do with it. We built a stable, a pig pen and a house, and made repairs on several houses. From this *vereda* there are several others that have picked up the same idea. The beautiful part of this is that there is no monetary aid needed, the recipient foots all the bills and the work is done by the *minga*."

5. "A communal sugar mill has been started, but the lack of funds has hindered the project tremendously; CARE was unable to help us with the actual crushing unit, the biggest expense, but we have found out that one of the crushers can be obtained in some of the areas where they are being replaced by motor powered units. The new volunteers are going to find out about this right away to get the project rolling. If this one is a success, there will be about three more to follow."

6. "The housing program for the poor in the town proper is not getting off its feet. The recipients of the aid that CARE promised should be chosen by this time. One house has already been built. The plan was for 10 houses but CARE wasn't able to finance them all, so there will be only five."

7. "Other small projects: swimming pool, road maintenance, and every *vereda* has at least one communal agricultural work team that goes out one or two times a week, depending on the work, to work on each other's farms. Several sports fields have been started with CARE-furnished equipment. Numerous school repair jobs, vegetable gardens, classes in carpentry, masonry, etc., and ditches bringing water to the rural homes have been completed."

8. "Each *vereda* has its *junta* and *mingas*. The *juntas* are elected once a year. There are now 14 *juntas* in existence that vary in degree of effective organization. Six of them work completely alone, and the *promotor* is only there essentially as an observer or to provide orientation. Two get together when the *promotor* visits them, and the remainder are hardly well organized."

In addition to the concrete accomplishments listed above, this community has begun to assert its rights of self-determination against strong political odds. For example: (1) Mayors in Colombia are politcal appointees of the Governor. They are part of the patronage system and do not usually reside in the community to which they are appointed; consequently, the people regard them as doing no more than collecting their salaries. In this community, the people had gotten rid of two mayors and now were urging the Governor to appoint from the locality a new mayor who will not interfere in political affairs and who will work for the good of the community.

(2) The community now expects every professional who comes to it to accommodate himself to the local atmosphere, to learn the people's culture, and to be prepared to work with the community. As instances of this they objected to a new *promotor* who was assigned to them. They were tired of his excuses that little could be done because no economic aid was forthcoming from the government. The people told him, "All can be done if one wants it" -- they themselves can make stoves, improve their vegetable gardens, make bricks and latrines without government aid. A second instance involved a group of women who were associated with the Church. They got together and

asked for a home economist. They all went out to greet her when she arrived, and told her their grievances and problems. But she had other ideas and wasn't very active. The committee of women then got together, worked up a specific program of their desires consisting of lessons in sewing, cooking, nutrition and how to care for certain illnesses; an illiteracy program, a basic educational program for adults; and a cultural hour. After ten months, when the home economist still had not accomplished anything, the women asked that she be removed. A third instance involved the priest who replaced the one who started the community on its Community Development program. He started by asking the people to repair the roof of the church, and they informed him that the previous *padre* had told them this could wait until they had taken care of their community needs. They also pointed out to him that repairing the church roof was on their agenda and that it had to wait its turn. The people lived up to their word.

(3) The interviewer reports his impression that there have also been some other interesting value changes in the community: (a) the people have become more practical; (b) they now believe that all are equal and that no one has to be afraid of authorities and superiors; (c) they now believe that a man is rich in intellectual potentialities, and everyone can use his intelligence to improve his socio-economic conditions; (d) they have become somewhat more informal with each other and presumably more friendly; (e) they have become more punctual in attending meetings and more aware of the importance and responsibility of community work; and (f) they are beginning to adopt some democratic ways -- for example, electing the *junta* every year and becoming aware of the difference between democracy in theory and democracy in practice. They say, "In Colombia democracy is not yet well implanted and, what is worse, the government officials think they are practicing democracy."

The construction of roads, aqueducts, schools, etc. have several values. First, they represent means through which the community can organize and see concrete accomplishments. Secondly, they have value in their own right as facilitating transportation and communication. But thirdly, they also stimulate the people and open up new vistas for them. For example, the construction of roads, aqueducts, ditches, etc. has stimulated the people in the sense that they now feel they can work together and want to take advantage of their natural resources by organizing their private hemp work into an industrial cooperative.

The building of the schools has also had an interesting effect on the people. First, there is an increase in local pride. The people are proud of their schools and they go about saying, "We have schools like Bogota." Secondly, now that the schools are built, there is a desire for more education. Thus, the interviewer reports there is a group of people who go about saying, "To build schools in the villages is truly progress, but unhappily these nice little schools are wasted because they do not fulfill the educational needs of the

people. The programs are ridiculous and stupid, because the town child has five years of schooling and the country child has two. We don't understand these differences. Two years of school are worthless. A short while after the children leave school they will again be illiterate. We want country schools schools equal with those of the town. This is urgent, we will have a technical school, and we want not only the town youth but also the country youth to study there."

The people have also developed their own agenda of primary and secondary goals. Among their primary goals they have the following: technical school, primary schools, improvement in education, development of the hemp industry, road construction, electricity, introduction of machinery and the organization of cooperatives. Among their secondary goals, they have listed: repair the church, home improvement, home gardens, repair roads, sports and recreation facilities, telephones, aqueducts, canals and bridges.

There are two final things to be reported about this community. First, there were a number of people who did not participate in the Community Development programs. They had as their reasons either political problems or geographical isolation. After they had seen the effectiveness of the program, they would like to cooperate in future programs because otherwise they would continue to feel "inferior." Secondly, there is a *municipio* that borders on the one just described; it has been observing and speculating about what it has seen and now it, too, has begun to inquire about how it can get maximum benefit from a group of Peace Corps volunteers -- and so both Community Development and Peace Corps activities spread.

Before concluding the discussion of this community, it is well to review the experience to highlight some of the factors that it had working for it and which no doubt played critical roles in the success of the program.

First, it will be recalled that the community had a history and tradition of community action, so that when the Community Development program was presented to the people it did not fall on completely ignorant ears. Some of the early experiences in Community Development had been successful; but the method fell into disuse only to be revived by priests who, although not successful in their own programs, probably kept some ideas alive. This last point is well worth emphasizing, for it is relevant in evaluating the Peace Corps experiences in other sites. When a Peace Corps group was assigned to a difficult site and had to leave it, one might regard the experience as a failure. This need not necessarily be the case, since in any attempt to make for some kind of social change the people have to be prepared or made ready. The first or second wave of personnel may encounter resistance and difficulty, as did one of the priests in the community described, but at least they may be successful in planting the seeds for the future. Later groups that were successful might not have been as effective without the efforts of the earlier ones.

Secondly, the program that finally became effective was led by a significant power figure in the community. In this instance, it was the priest who was in an acknowledged position of leadership in the community. In addition, he had a social conscience and was ready and willing to cooperate with other groups that were willing to aid the community. Moreover, he represented the Church, which had an important effect on sanctioning the activities in the community. For the people of this community, Community Development was not only important in unifying them but was also something of a "sacred" activity because it had Church sponsorship.

A third factor that contributed to the effectiveness of the program, in the sense that it helped in getting it started, was a matter of timing. The people had been torn apart with political strife, and they had become frustrated and disappointed in the promises of the politicians which were never fulfilled. Community Development was one means of overcoming some of their problems.

A fourth factor, that was no doubt important, was that the people had worked on projects that were important to their immediate needs. They could see tangible results that effected their personal lives directly and thus were reinforced in their efforts.

Fifth was the personality and psychological characteristics of the people, which we can only infer, that allowed them to devote themselves to Community Development, to experiment with the procedures, and to learn those which they could utilize most effectively. They were able "to bury the hatchet," at least for awhile; and although they knew that political differences existed in the community, they were willing to forget them while they worked together. They were able to control their feelings in this regard and delay their evaluations until they could see what could be done. They said, "Now we do not want to hear anything about politics. It does not help us because we become fatalistic. Our practical politics is Community Development. When the time comes, we vote and it is over. On many occasions we need to freeze out the politicians and to continue fighting until there is an end to all their babbling." In taking this attitude, they could wait until there were realistic accomplishments that could be evaluated, and they could determine the significance of their own efforts.

Sixth, it was extremely fortunate that the nuclear working team consisting of priest, *promotor*, and volunteers was made up of the kinds of people they were. All were able to cooperate and work together with a minimum of differences and difficulties.

Seventh, although the community ran into difficulties with local and departmental government officials, it had sufficient strength not to permit these officials to be major obstacles. The people began to look upon Community Development "as a government," as a means through which they could govern themselves, and the people were willing to take on projects that did not require governmental aid. Where

substantial aid was necessary, the officials who resisted the program could be circumvented because of the aid from the federal government; and when this source was not effective, they could depend upon resources outside the immediate local government for aid, such as CARE.

No doubt there are other than these seven factors that were important to the success of the program. But those mentioned certainly were among the critical ones.

In summary, then, this paper involved: (a) A discussion of several general social parameters that might affect the development and/or survival of creative ideas, products or processes. (b) A discussion of the roles of some individuals in our own society who have the responsibility for bringing novelty into being. While the specific roles discussed may not be relevant to studies of newly developing countries, the technique of role analysis for different change agents in a society is suggested as a reasonable technique for understanding some of the factors involved in change. (c) A discussion of the "intermediaries" in the creative process. Attention is called to the fact that, although these persons play significant functions in the change process, relatively little is known about their roles or the criteria they utilize in fulfilling their functions. (d) Finally, the paper was concluded with a case study of a community in Colombia, South America, in which change was brought about through Community Development activities. Some of the factors discussed in the previous parts of this paper served as a background for discussing the changes that took place in this community.

My intent has not been to present a theory of social change, but some of the parameters and variables mentioned in this paper will, hopefully, find a place for themselves in such a theory at some future date.

Discussion

1. CHOICE OF CREATIVITY VARIABLES

Stein felt the Lasswell-Holmberg position paper presented a broader and better set of variables than his own, but that his creativity variables are perhaps more concrete. He explained that his concentration on individual characteristics reflected his background as a clinical psychologist. One of his interests is in determining how novelty gets implanted in a culture. This means focussing on the process of creativity and its diffusion. The Peace Corps case study illustrates the latter.

2. PHILOSOPHICAL ORIENTATION

Hagen commented on several aspects of the philosophical orientation described in the paper. He pointed out that an Asian orientation is typically toward the present and past, and that man feels his life is dominated by the forces of nature. In contrast Western man is more likely to be oriented toward the future and is convinced that he can control nature. Do these differences stem from environmental conditions or from man himself?

3. LANGUAGE AS CAUSE OR EFFECT

Hagen felt that language might be a result of culture and environment as well as a cause. The imprecision of the Japanese language is functionally related to the important concept of "face." Some African tribes have words for different configurations of trees but no word for "tree." Perhaps too much stress was given to language as a shaper, whereas attitudes may also determine a language pattern. Stein responded that he agreed that language could be regarded as both cause and effect.

4. NORMAL DISTRIBUTION OF CREATIVITY

Esman inquired if creativity is best visualized as a continuum. Stein responded that some continuum is assumed in empirical research and just what the distribution is is an impirical question. One

also needs to know about the distribution of creative persons, added Hughes, and their relevance as resources to a population, in ecological terms. An inadequate supply or distribution of creative people might be seen as analagous to disease among animals on which a hunting tribe lives. Peter remarked that there is a normal distribution of creativity, or at least creative potential, in any population, just as there is for intelligence or height. The problem of changing creativity is how to provide an environment in which children are brought up and trained to become more creative, and also how to encourage more creativity among adult members of a society. The shape of the normal curve of creativity distribution in different societies is not known, nor how much it can be shifted.

5. *NEED FOR MEASURING CREATIVITY PREDISPOSITION*

Lasswell wondered about the adequacy of the social scientists' tools for matching or comparing situations relative to creativity. How can we measure predisposition for adopting innovation, for example? Where do we stand in making skill inventories of communities?

He also expressed concern about strategies for handling obsolescing skills. Is there a possibility of formalizing the relationships between high skills needed in the old situation, and the acquisition of new skills? Do the most highly skilled or the mid- or lesser skilled have the best chance of opportunity acquiring new skills?

6. *PROCESSES FOR BRINGING ABOUT NOVELTY*

Esman inquired whether creativity is specific to a role or generalized. Stein replied that theoretically creativity can occur in all roles but in fact some roles allow for more creativity than do other roles. Furthermore, within a type, it is conceivable that some types of individuals may be more effective than others. There are some suggestions in the Peace Corps study that this is so.

7. *CONDITIONS FOR CREATIVITY*

Stein went on to say that within the creative process discipline is required. Children are not so much creative as expressive and spontaneous - qualities which, unfortunately, tend to be lost as they grow up. Creativity also requires an ability to deal with complexity. Stein believes that children who learn first how to handle complexity are readier to be creative. Some of this complexity may occur in inter-personal relationships. Research on creative research chemists shows that they tended to see their mothers as more inconsistent than was true of their less creative colleagues and therefore they had to draw on their own resources to resolve complexity; at the same time their mothers' affection provided emotional security.

Hagen commented that there is a danger in societies' concentration on particular specializations. For example, the Phoenicians focussed on colonization to the neglect of other developmental activities. In the United States, he believed that an overemphasis on private enterprise has inhibited opportunities for large scale research.

8. CREATIVITY AND INSTITUTIONALIZED SOCIAL CHANGE

Hughes inquired what the relationship is between creative people and institutionalized social change. He felt that this is the critical transactional relationship. Creative people must have followers and acceptors of their new ideas.

Reference was made to the various roles of the industrial researcher (described in Stein's paper) which illustrate how creative activities are linked to organizations charged with bringing about change.

Peter suggested that it might be helpful to distinguish more explicitly between creativity and productivity, and also to stress the diffusion links between creativity (resulting in an innovation) and its widespread adoption. It seems accepted that "creativity has to do with the development, proposal and implementation of new and better solutions, while productivity is concerned with the efficient application of current solutions."[1] Some definitions stress the criterion of widespread acceptance, stating that creativity is the process by which something new (product, method, system) and useful, as seen by a substantial number of people in some point in time, is brought into being. Social change requires both creativity and increased productivity if the innovations are to affect a substantial portion of a population.

9. THE DIFFUSION OF INNOVATION

Peter also commented that there has been a good deal of research on the deliberate diffusion of innovations. Any comprehensive discussion of social change would be incomplete without recognizing the work in this field. It has helped to show how particular target audiences first hear about innovations, become interested in and consider their use, evaluate their feasibility, try out and test them, and, finally, adopt them as part of their habitual ways of life.[2] Among the useful methodological features of this research are: (1) the plotting of cumulative adoption over time, so that time paths and requirements can be compared from one innovation to another, (2) analysis of the socio-economic characteristics of different adopter populations which also shows the typical relationships among parts of the target groups, (3) identification of the

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[1] *Steiner, Gary A., THE CREATIVE ORGANIZATION. University of Chicago Press, 1965.*

[2] *Everett M. Rogers, THE DIFFUSION OF INNOVATION, New York: Free Press of Glencoe, 1962.*

sources of information, communication and influence at each stage of adoption for the several groups. This throws light on the relative effectiveness of mass communication and personal influence at each stage.

10. PEACE CORPS CASE STUDY

Esman wondered how the Peace Corps[1] case fitted into the discussion of creativity, and asked for comments on the strategy of creating change through this program. For example, how do the inducers of change identify their target audience? He said that the underlying strategy of community development programs has been to get participation by members of a village in working on felt needs of the community. But, the results have been disappointing, and there is now a view that it is the responsibility of the change agent to tackle problems he believes are directly related to development even if they are not strongly seen as desirable by the community. For example, the change agent should try to get cooperation on increasing agricultural production (perhaps an unfelt need) instead of building a new mosque (perhaps felt need).

Stein reported that his work suggested a relationship between personality type and the style of fulfilling the community developer role: (1) The Socially Oriented persons emphasized personal contact. (2) The Intellectually Oriented were included to call meetings. (3) The Action Oriented used status and power. (4) The Unconventional were quite easy going. (5) The Resourceful developed gimmicks to interest the villagers. The orientation of the individual volunteer affects his style, behavior and success in attempting to move toward the same Peace Corps goals.

Hagen suggested that the crucial question is what happens five years after the Peace Corps volunteers have left. He referred to similar programs of help to Sioux villages in the United States, where improvements had disintegrated within a few years after the outside leadership had gone. He wondered what would be the fate of the Vicos program in Peru if assistance from Cornell and the Peace Corps should cease.

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[1] *Stein, M. I., VOLUNTEERS FOR PEACE, New York, John Wiley and Sons, 1966.*

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ENLIGHTENMENT AND COMMUNICATION

by
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Parts of this paper are adapted from the paperback edition of THE PASSING OF TRADITIONAL SOCIETY (Free Press, 1964).

The multivalue, multivariate framework in which we have been invited to compose our thoughts on social change presents a deep challenge. The challenge is deep because it requires nothing less than a multivalue, multivariate response. Every student of cononical Lasswell will be alert to the complexities of handling a particular value variable within a fully multivariate matrix, complexities that are rather amplified than diminished when the matrix is taken to represent an interactive system each of whose components figures simultaneously as input and output. So, while it is encouraging to read in the Lasswell-Holmberg integrative paper that "input-output analysis among the sectors will reveal the ratios of interchange among them," a reader with an eye on theoretically-based research designs is likely to sigh, "*C'est la vie!*" By this he will mean, I presume, that it is worth complicating his research to make it yield a fuller account of reality.

Complexity is compounded when one considers, as I have been asked to do, the value variable of enlightenment. According to the framework paper: "The preferred model of enlightenment prescribes criteria for the content of communication, characterizing the degree to which community members are exposed to (or have access to) intelligible, comprehensive and realistic statements about past or future events." This puts a special burden on communication. For, while all "value events are defined as interactions," any such interaction "can be summarized as a sequence of communication and collaboration." From the value variable of enlightenment, then, we are to derive prescriptive criteria for communication content as well as descriptive criteria for the communication sequence in all value interactions.

This is a very tall order. While I do not despair of its ever being filled, the requirements exceed my own present capacity. We can make a start, in any case, by sketching some of the theoretical conditions that eventually must be satisfied in terms of the historical conditions that now prevail in the world arena. In this sketch we shall focus on enlightenment as the communication of information that affects the preference models of peoples in the modernizing most-of-the-world. We choose this emphasis partly to avoid excessive intrusion into Professor Stein's discussion of skills, which are construed as the operational expression of enlightenment via income-producing occupations and professions. While the shaping-and-sharing functions

interact within as well as between all value sectors, an appropriate distance from the specialized skill-functions may be maintained if we concentrate our attention here on enlightenment as the operational expression of information via attitudes and opinions - and, more particularly, of those attitudes that convey identifications, expectations and demands.

So construed, enlightenment orients our attention to the dynamics and distribution of public opinion. Among the principal conditions of the current world arena, however, is one that enjoins excessive arbitrariness in differentiating dynamics from distribution - even for reasons of expository convenience. This condition is the emergence of a world communication network, which introduces into the communication of information a global factor not previously present on a operational basis. Ritchie Calder, writing in the December 1964 *BULLETIN OF THE ATOMIC SCIENTISTS*, puts the matter in a sentence: "I have been in most parts of the world in recent years and there is no place where I have been where the awareness of a new world has not penetrated."

Professor Calder is referring primarily to science and technology, where the differentiation between advancing new information and distributing extant information might most readily be assumed. But, when such an assumption is allowed to consign the dynamics of new information to developed countries and the distribution of extant information to developing countries, then it becomes empirically erroneous and theoretically misleading. For modernization, in today's world, often seeks to distribute the *newest* information through its communication network - and sometimes succeeds. In the Geneva laboratories of CERN, where scientists from a score of nations (including several that are developing) work together on theoretical problems of high-energy nuclear physics, a level of pure science has been attained that can be matched - I am told by competent judges - only at Brookhaven in the U.S. and Dubna in the U.S.S.R. At Ciudad Bolivar, in the southern jungles of Venezuela, I watched the operation of a steel mill that - again, in the judgment of competent commentators - can hardly be matched in either the U.S. or the U.S.S.R.

I do not wish to overstate the "leapfrogging effect" in rapidly-developing societies. There is sufficient basis, in the literature of economic development, to question both its frequency and its amplitude. Our concern is rather with the prevalence, in the developing most-of-the-world, of preference models which orient popular aspirations toward leapfrogging as a goal. Since these preference models arise in the enlightenment sector of society, they are a problem appropriate for our consideration here. Since these preferences usually lead to outcomes that are inadequately frequent, ample, or durable - thereby reflecting a basic fault in the communication of information that shapes and distributes such preferences - they are indeed a primary concern for this paper.

THE MIDDLE EAST AS AN INSTANCE

While studying the communication process in the Middle East, a decade ago, I was first struck by the radical new turn that appeared quite generally in the enlightenment operations of this diverse developing area. The "turn" was radical in that it involved the transfer of power to types of people who had never before made decisions that mattered in this region habituated overlong centuries to central, hierarchic, authoritarian rule. It was new in that the transfer of power was accomplished largely by the use of a new technology of communication that had not been available to these peoples earlier in their long history. It was general in that the transfer of power occurred throughout the diverse nations of the Middle East.

To wit: In the stunning Turkish election of 1950, the party of Ataturk was turned out of power by the first honest election in a genuine two-party system under the rule of near-universal suffrage. In 1951, Mossadegh governed Iran, after having obliged the Shah to emigrate and his tame Majlis to transfer compliance, by radio - this in a country that had known only monarchic rule since pre-Biblical times. In 1952, Naguib governed Egypt - after having exiled King Farouk, disintegrated his tame *Wafd* party, and realigned the oldest bureaucracy in recorded history. Such radical new changes, generalized throughout the Middle East and other regions of the world, gave rise to the hypothesis of a "revolution of rising expectations."

Yet, within a few years, these radical leaps forward turned out to be inadequate in amplitude and durability (despite their frequency). In Turkey: the military took over; they hanged Menderes and fractured his populist party; but they have not yet succeeded in creating anything more expectation-rewarding than an uneasy (and probably unendurable) party coalition. In Egypt: the military took over; they placed their own commander Naguib under house arrest (where he has remained in silence for over a decade) and installed young Colonel Nasser in supreme power; but the New Egypt looks today, after thirteen years, like a country that has multiplied its problems faster than its solutions.

The "revolution of rising expectations" has not yet, in the Middle East, found its appropriate quotient of satisfactions. The main reason for this may be the excessive implantation among these peoples, by their new enlighenment institutions (mass media), of demands to consume that far outrun the capacity of their extant socioeconomic institutions to produce. Their "preference models" derive from long-term Western achievements that exceed by far the short-term resources of those poor, and relatively impoverishing, countries. The major term of rising frustrations has been *excessive* aspiration - the expectation that one could emulate, hopefully "overtake and surpass," the West. This has led virtually all the emerging lands - whether designated as new nations or developing areas - to recast their self-imagery in the general terms of "modernization" rather

than the less global perspectives of their previous colonizers. The modern world has acquiesced in this unprecendented expansion of aspirations.

Modernization, then, is the unifying term in contemporary thinking about social change in the developing lands. The term is imposed by recent history. The passing of empires annulled such terms as Anglicization and Gallicization. Subsequently one spoke of Europeanization, to denote the common elements underlying French and British influence in their former domains. More recently, following a century of educational and missionary activity, Americanization became a specific force as a result of which the common stimuli of the Atlantic civilization came to be called Westernization. Since World War II, the continuing search for new ways has been coupled with official repudiation of the Western aegis. Soviet and other modernizing models, as illustrated by Japan, have become visible. Any label that today localizes the modernization process is bound to be considered parochial. For the developing people more than ever want the modern package, but reject the label "Made in U.S.A." (or, for that matter, "Made in U.S.S.R."). Hence we speak, nowadays, of modernization.

Whether from East or West, modernization poses the same basic challenge - the infusion of "a rationalist and positivist spirit" against which, many scholars seem agreed, traditional society is "absolutely defenseless." The phasing and modality of the process have changed, however, in the past decade. Where Europeanization once penetrated only the upper level of traditional society, affecting mainly leisure-class fashions, modernization today diffuses enlightenment among a wider population and touches public institutions as well as private aspirations with its disquieting "positivist spirit." Central to this change is the shift in modes of communicating ideas and attitudes - for spreading among a large public vivid images of its own New Ways is what modernization distinctly does. Not the class media of books and travel, but the mass media of tabloids, radio and movies, are now the dominant modes. Today's conception of social change is largely due to the shift of modernist inspiration from the discreet discourse of a few in Oxford colleges and Paris salons to the broadcast exhortations among the multitudes by the mass media.

That some millions of Turks now live in towns, work in shops, wear trousers and have opinions who, a generation ago, lived in the centuries-old *sholvars* symbolizing the agrarian, illiterate, isolated life of the Anatolian village, is what modernization has already done to some people. That other millions throughout the world are yearning to trade in their old lives for such newer ways is what modernization promises to most people. The rapid spread of these new desires, which provide the dynamic power of modernization, is most clearly perceived in the coming of the mass media. To see why this is so - to comprehend what the developing peoples are experiencing under the title of modernization - we remind ourselves of what, historically,

happened in the West. For the sequence of social change in the developing most-of-the-world can be understood as a deviation, in some measure a deliberate deformation, of the Western model.

This observational standpoint implies no ethnocentrism. As we shall show, the Western model of modernization exhibits certain components and sequences whose relevance is global. Everywhere, for example, increasing urbanization has tended to raise literacy; rising literacy has tended to increase media exposure; increasing media exposure has "gone with" wider economic participation (per capita income) and political participation (voting). The model evolved in the West is a historical fact. That the same basic model reappears in virtually all modernizing societies on all continents of the world, regardless of variations in race, color, creed, has been demonstrated to my satisfaction. The point is that the secular process of social change, which brought modernization to the Western world, has more than antiquarian relevance to today's problems of social change. Indeed, the lesson is that contemporary modernisers everywhere will do well to study the historical sequence of Western growth.

Taking the Western model of modernization as a baseline is forced upon us, moreover, by the tacit assumptions and proclaimed goals which prevail among the spokesmen for the emerging nations. That some of these leaders, when convenient for diplomatic maneuver, denounce the West is politically important and explains why it is more tactful to speak of "modernization" rather than "Westernization." Rather more important, Western society still provides the most developed model of societal attributes (power, wealth, skill, rationality) which these spokesmen continue to advocate as their own goal. Their own declared policies and programs set our criteria of modernization. From the West came the stimuli which undermined traditional society everywhere; for reconstruction of a modern society that will operate efficiently in the world today, the West is still a useful model. What the West is, in this sense, the rest of the world seeks to become.

But these societies-in-a-hurry have little patience with the historical tempo of Western development; what happened in the West over centuries, some Middle Easterners now seek to accomplish in years. Moreover, they want to do it their "own way." A complication of modernization is local ethnocentrism - expressed politically in extreme nationalism, psychologically in passionate xenophobia. The hatred shown by anticolonialism is harvested in the rejection of every appearance of foreign tutelage. Wanted are modern institutions but not modern ideologies, modern power but not modern purposes, modern wealth but not modern wisdom, modern commodities but not modern cant. It is not clear, however, that modern ways and words can be so easily and so totally sundered. Underlying the variant ideological forms which modernization took in Europe, America, Russia, Japan there have been certain behavioral and institutional compulsions common to all. These historical regularities some leaders of the new nations now seek to obviate, trying instead new routes and risky by-passes.

TRANSFORMATION OF ARENAS

The conditions just sketched, from our experience of the Middle East over the past decade, have now come into view in virtually every region of the globe. They have already transformed the arena of world politics and they are in process of transforming the arenas of national policy. This is what Professor Calder has in mind when he insists that there is "no place where the awareness of a new world has not penetrated."

The transformation of the world political arena is illustrated by the United Nations, which has more than doubled its membership over the two decades of its history. The advent of so many new nations so fast to a full voice in the major world forum is not without relevance to the power-balancing processes in the world arena. That Guinea has an equal voice with France in the General Assembly is disturbing to many Frenchmen, as the popular response to De Gaulle's strictures on the U.N. has shown.[1] But the disturbance is not only symbolic. It affects the way France votes - or abstains from voting - on many issues that come to the General Assembly for decision and thus acts as a real constraint on French policy in the world arena.

We need not exaggerate the power of the Afro-Asian bloc in order to form a just appreciation of the influence it has accrued by its strategic entry into the world communication network. Its role in U.N. peacekeeping operations is clear and present - whether as lead tenor in the Congo or as figured bass in the Middle East. More subtle, and perhaps more significant for the long-term shape of the world arena, has been its constraining influence upon the evolution of the Cold War. The bipolar structure which shaped postwar politics in the first postwar decade has not been obviated but its operation has been constrained to less crucial terms and less apocalyptic consequences than had been widely feared.

In this evolution, clearly the major terms have been the "containment" policy of the U.S. and the "competitive coexistence" policy of the U.S.S.R. But it is just this shift of major terms in the decade 1946-56 that illustrates the influence of the emerging nations upon the shape of the world arena. The splitting of bipolar alliances under control by the superpowers was initiated, a decade ago, when Iraq withdrew from MEDO and obliged the U.S. to reshape its Middle East alliance in the more limited structure of CENTO (i.e., effectively removing the Middle East altogether from the western system of alliances). A few years later, having profited from substantial increments of Soviet aid in the post-MEDO aftermath, Iraq imposed a similar constraint upon the U.S.S.R. - by denying it access to the Middle East via Iraq.

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[1] *The recent elections indicate no need to revise this sentence.*

Egypt's Nasser was not slow to perceive the advantage of the blackmail game. He, too, kicked a series of western shins (British, French, American) and reaped eastern kudos and cash as a reward. But when Soviet strategy began to move from indulgence of independence (as in the Aswan Dam subventions) to deprivation of autonomy, Nasser kicked Soviet shins just as hard as ever he had kicked the west's - hard enough that Khrushchev renounced him publicly as an "impetuous young man."

The reshaping of the bipolar structure of Cold War politics began when the superpowers became convinced, owing to effective nuclear parity, that they had little to gain by large-scale violence against each other. It was promoted when the emerging nations, perceiving the opportunities presented to them by the bipolar standoff, developed autonomous demands upon the world arenas. Initially, this took the form of refusal to bipolarize - variously designated along a policy continuum from "non-alignment" to "positive neutralism." In the longer term, it has refocussed the attention of the world arena from Cold War strategies to Development policies. The core of this successful operation upon the world political arena can be summarized in a single sentence stating a crude but potent lesson of the new world communication network: It is *our* needs, not *yours*, that require world attention.

That every developed area of the globe has responded to this communication from the developing most-of-the-world is the measure of its efficacity. The impact upon policy thinking in the U.S. (the one nation that can readily afford both guns and butter) has been marked by the policy transition from "technical assistance" under Point IV to "international development" under AID - accompanied by the budgetary transition that normally assures the developing areas of a minimal bipartisan commitment of U.S. funds in excess of $3 billion per annum. The impact upon Soviet thinking is less easy to express in numerical terms, owing to the particularities of Soviet budgeting and reporting, but is quite evident in the reshaping of Soviet policy over the past ten years. Even such newer European Community institutions as the Common Market - the old continent's most imaginative effort to renew itself in its post-colonial era of diminished power - have set aside important resources in an "Overseas Development Fund" designed to aid the modernization of the rest-of-the-world.

The modernization areas thus have won significant victories, over the past decade, in reshaping the world arena to share the burden of its own development problems. In so doing, however, they have begun a process of reshaping the arena in which their own national lives are lived. They have embarked upon the fateful venture which Karl Deutsch calls "the mobilization of the periphery." The "periphery" is that vast mass of the world's peoples who have never before figured in a national or world political arena. Their "mobilization" requires the diffusion among them of mobility - the desire and the capacity to *move* from where they are. The diffusion of mobility has initiated a

process that may well entail the greatest transformation of human life-ways that has ever been recorded in history. It is of this transformation - which may be considered as a simultaneous input-output function of enlightenment and communication - that we would now briefly speak. Our focu will be on the communication of information, particularly via the mass media, which supplies the new enlightenment underlying the global diffusion of mobility, the characterological transformation of empathy, and the revolutionary raising of expectations in the modernizing most-of-the-world.

THE NEW ENLIGHTENMENT: MOBILITY AND MEDIA; EMPATHY AND EXPECTATIONS

An effort is needed for people in the modern West to appreciate the scope and depth of problems which modernization presents to most of the contemporary world. This is so because people in the Western culture have become habituated to the sense of change and attuned to its various rhythms. Many generations ago, in the West, ordinary men found themselves unbound from their native soil and relatively free to move. Once they actually moved in large numbers, from farms to flats and from fields to factories, they became intimate with the idea of change by direct experience. Physical mobility so experienced naturally entrained social mobility, and gradually there grew institutions appropriate to the process. Social institutions founded on voluntary participation by mobile individuals required a new array of skills and a new test of merit, indeed a new personality. The idea spread that personal mobility is itself a first-order value; the sense grew that social morality is essentially the ethics of social change. A man is what he may become; a society is its potential. These notions passed out of the realm of debate into the Western law and mores.

It took much interweaving through time, between ways of doing and ways of thinking, before men could work out a style of daily living with change that felt consistent and seamless. The experience of mobility through successive generations gradually evolved participant lifeways which feel "normal" today. Indeed, while past centuries established the public practices of the mobile society, it has been the work of the twentieth century to diffuse widely a mobile sensibility so adaptive to change that rearrangement of the self-system is its distinctive mode. The mobile person is distinguished by a high capacity for identification with new aspects of his environment; he comes equipped with the mechanisms needed to incorporate new identifications and demands that arise outside of his habitual experience. This capacity we call empathy.

We are interested in empathy as the inner mechanism which enables newly mobile persons to operate efficiently in a changing world. Empathy, to simplify the matter, is the capacity to see oneself in another fellow's situation. This is an indispensable skill for people moving out of traditional settings. Ability to empathize

may make all the difference, for example, when the newly mobile person is a villager who grew up knowing all the individuals, roles and relationships in his environment. Outside his village or tribe, he must meet new individuals, recognize new roles, and learn new relationships involving himself. A rich literature of humor and pathos once dealt with the adventures of the country bumpkin in the Big City, the bewildered immigrant in a strange land. They had to learn their way in these new settings. Learn, in swelling numbers, they did. The story of the 19th century West includes this learning, which now enters the story of the 20th century East. Accordingly, we are interested in the mobile personality mainly as a social phenomenon with a history. Our concern is with the large historical movement, now becoming visible everywhere in the most-of-the-world, of which an enlarged capacity for empathy is the distinctive psychic component. Our interest is to clarify the process whereby the high empathizer tends to become also the cash customer, the radio listener, the voter.

A major hypothesis in this theoretical model is that high empathic capacity is the predominant personal style only in modern society, which is distinctively industrial, urban, literate and *participant*. Traditional society is nonparticipant: it deploys people by kinship into communities usually isolated from each other and often isolated from any center; without an urban-rural division of labor, it develops few needs requiring economic interdependence; lacking the bonds of bread-and-butter interdependence, people's horizons are limited by locale and their decisions involve only other *known* people in *known* situations. Hence, there is no need for a trans-personal doctrine formulated in terms of shared secondary symbols - an "ideology" which enables persons unknown to each other to engage in political controversy or achieve "consensus" by comparing their opinions. Modern society is participant by contrast, precisely because it functions by "consensus." Individuals making private decisions on public issues must concur often enough with other individuals they do *not* know to make possible a stable common governance. Among the marks of this historic achievement in social organization, which we call Participant Society, are these: most people go through school; read newspapers and listen to radios; receive cash payments in jobs they are legally free to change; buy goods for cash in an open market; vote in elections which actually decide among competing candidates; and express opinions on many matters which are not their private business.

Expecially important, for the Participant Style, is the enormous proportion of individuals who are expected to "have opinions" on public matters - and the corollary expectation of these people that their opinions will matter. It is this subtly complicated structure of reciprocal expectation which sustains widespread empathy. For, in any society, only when the accepted model of behavior is emulated by the population at large does it become the predominant personal style. The model of behavior developed by modern society is characterized by empathy, a high capacity for rearranging the self-

system on short notice. Whereas the isolated communities of traditional society functioned well in the basis of a highly constrictive personality, the interdependent sectors of modern society *require* widespread participation. This, in turn, requires an expansive and adaptive self-system, ready to incorporate new roles - which enables them to identify personal values with public issues, individual demand with institutional supply. This is why modernization of any society has involved the great personality transformation we call empathy. The latent statistical assertion involved here is this: In modern society *more* individuals exhibit *higher* empathic capacity than in any traditional society.

The expansion of psychic mobility means that more people now command greater skills in imagining themselves as strange persons in strange situations, places and times than did people in any previous historical epoch. In our time, indeed, the spread of empathy around the world is accelerating. The earlier increase of physical experience through transportation has been multiplied by the spread of mediated experience through mass communication. A generation before Columbus sailed to the New World, Gutenberg activated his printing press. The technical history of the popular arts suggests the sequence. The typical literary form of the modern epoch, the novel, is a conveyance of disciplined empathy. Where the poet once specialized in self-expression, the modern novelist reports his sustained imagination of the lives of others. The process is carried further in the movies and in radio-television dramas. These have peopled the daily world of their audience with sustained, even intimate, experience of the lives of others.

Radio, film and television climax the evolution set into motion by Gutenberg. The mass media opened to the large masses of mankind the infinite *vicarious* universe. Many more millions of persons in the world were to be affected directly, and perhaps more profoundly, by the communication media than by the transportation conveyances. Moreover, by obviating the physical displacement of travel, the media accented the psychic displacement of vicarious experience. For the imaginary universe not only involves more people, but it involves them in a different order of experience. There is a world of difference, we know, between "armchair travel" and actually "being there." What is the difference?

Physical experience of a new environment affronts the sensibility with a new perception of Lasswell-Holmberg "interactions" in their complex natural setting. Vicarious experience occurs in quite different conditions. Instead of the complexities that attend a "natural" environment, mediated experience exhibits the simplicity of "artificial" settings contrived by the creative communicator. Thus, while the traveler is apt to become bewildered by the profusion of strange sights, sounds and smells, the receiver of mediated communications is likely to be enjoying a composed and orchestrated version of the new reality. He has the benefit of more facile perception of the new experience as a "whole," with the concomitant advantage (which

is sometimes illusory) of facile comprehension. The stimuli of perception, which shape understanding, have been simplified.

The simplification of stimuli, however, is accomplished at a certain cost. The displaced traveler's great pragmatic advantage is that he must take responsive action toward the stimuli presented by the new environment. However painful this may be - as when, to take a simple case, he has lost his way and must ask directions in a language of which his mastery is uncertain - overt action does help to discharge the traveler's interior tensions. But the passive audience for mediated communications has no such discharge channel; the radio-listener's personal response to new stimuli remains confined to his own interior. The inhibition of overt active response is a learned behavior and a difficult one. It was common, in the early days of movies, for persons strained beyond endurance to throw themselves or some object at the screen to stop the villain from strangling the heroine. Even the "old media hands" among our younsters today will sometimes, at a particularly agonizing moment in the television show, hide their faces.

Thus the mass media, by simplifying *perception* (what we "see") while greatly complicating *response* (what we "do"), have been great teachers of interior manipulation. They disciplined Western man in these empathic skills which spell modernity. They also portrayed for him the roles he might confront and elucidated the opinions he might need. Their continuing spread in our century is performing a similar function on a world scale. The Middle East already shows the marks of this historic encounter. As a young bureaucrat in Iran put it: "The movies are like a teacher to us, who tells us what to do and what not." The global network of mass media has already recruited enough new participants in all corners of the earth to make the "opinions of mankind" a real factor instead of a fine phrase in the arena of world politics. There now exists, and its scope accelerates at an extraordinary pace, a genuine "world public opinion." This has happened because millions of people, who never left their native heath, now are learning to imagine how life is organized in different lands and under different codes than their own. That this signifies a net increase in human imaginativeness, so construed, is the proposition under consideration.

The increase of human imaginativeness, under the new enlightenment, has enormous societal consequences. In particular, it transforms all those "interactions" by which our Lasswell-Holmberg framework paper defined value events; and it does so by transforming the "sequence of communication and collaboration" which enable all such interactions to be summarized. Mobility initiates the process by displacing persons into new environments. Media - which we have called the "mobility muliplier" - accelerate the process by depicting alternative value events and supplying vicarious lessons in the interactive sequences appropriate to them. Empathy, which enables individuals to understand such vicarious experiences and to refigure their sequences in personal terms, invariably leads to rising

expectations. For, what can activate a man's imagination more effectively than an idea of something *better* than what he has?

The empathy-based "revolution of rising expectations" has been with us now for two decades. We have learned from its visible consequences that rising media participation tends to raise participation in all sectors of the social system. In accelerating the spread of empathy, it also diffuses those other modern demands to which participant institutions have responded: in the consumer's economy via cash (and credit), in the public forum via opinion, in the representative policy via voting.

But we have also learned that no underdeveloped society can satisfy such a simultaneous set of rising demands - or, at least, that no developing society has done so over the past two decades. It is to this disequilibrium between individual demand and institutional supply that we now turn.

THE WANT:GET RATIO AND RISING FRUSTRATIONS

The past two decades have taught us that mobility, while indispensable to rapid social change, is not enough. It is a necessary but not sufficient condition of growth. Since mobility is a seeking for something better, it must be balanced by a finding - as, in equilibrium, a demand must be balanced by a supply. It is the continuing failure of most transitional societies to maintain the balance of psychic supply-and-demand that underlies the new revolution of rising frustrations.

The spread of frustration accelerates when many people in a society want far more than they can hope to get. This disparity in the "want: get" ratio has been studied intensively in the social science literature in terms of achievement and aspiration, as expressed in the following equation (adapted from an ingenious formula of William James):

$$\text{Satisfaction} = \frac{\text{Achievement}}{\text{Aspiration}}$$

This formulates the proposition that an individual's level of satisfaction is always, at any moment of his life, a ratio between what he wants and what he gets. A person with low achievement may be satisfied if his aspirations are equally low. A person with high achievement may still be dissatisfied if his aspirations far exceed his accomplishments. Relative deprivation, as has been shown, is the effective measure of satisfaction among individuals and groups.

A wide and deep imbalance in this ratio characterizes the developing areas that are now beset by rising frustrations. Typically in these situations the denominator increases faster than the numerator - i.e.,

aspiration outruns achievement so far that many people, even if they are making some progress toward their goal, are dissatisfied because they get so much less than they want. Indeed, in some developing countries aspirations have risen so high as to annul significant achievements in the society as a whole.

Our experience of the apparently insuperable disequilibria in the want:get ratio also has been a source of deep frustration to theorists and planners of modernization. It has falsified the predictions and belied the assumptions of those who foresaw the coming of the good society to the backward areas. Among its casualties has been the assumption that if some particular input was made - i.e., investment capital, industrial plant, agricultural methods, entrepreneurial training, or any other "key factor" preferred by the analyst - then a modernization process would be generated more or less spontaneously. This is a serious casualty. As Lucian Pye has aptly written: "Faith in spontaneity died soon after the first ex-colonial people began to experience frustrations and disappointment at becoming a modern nation."

This frustrating experience is new to us and requires careful evaluation - particularly by those who want the analysis of past defeats to help prepare the modest victories that may still be hoped for. The postwar decades witnessed the spread of economic development projects around much of the world. People throughout the backward and impoverished areas of the world suddenly acquired the sense that a better life was possible for them. New leaders arose who encouraged their people to believe in the imminence of progress and the fulfillment of their new, often millenial, hopes. A great forward surge of expectancy and aspiration, of desire and demand, was awakened among peoples who for centuries had remained hopeless and inert. This forward feeling was shared by development analysts.

A significantly different mood characterizes thinking about the decade before us. While rising expectations continue to spread around the underdeveloped world, those of us who retain an interest in comprehending or programming rapid growth have learned that the ways of progress are hard to find, that aspirations are more easily aroused than satisfied. There is a new concern that the 1960's may witness the radical counter-formation we have called a revolution of rising frustrations. As the institutional limits on durable incorporation of rapid growth have become more clearly visible, we have become more concerned with maintenance of equilibrium in developing societies. Among other things, we have learned that disequilibrium is not always functional and that the subversion of institutions is not always "progressive" - or, at least, that the changes which follow the breakdown of extant institutions do not necessarily signal progress in the direction postulated by our own preference models or those of the developing peoples. The recurrence of "military takeover," in every modernizing region of the world, is a case in point.

We submit that the inadequacy of much behavioral theorizing about modernization is due to inattention to the functional role of institutions in the shaping - as well as sharing - of the new values which motivate and activate all social change. We further submit that institutions comprise some of the essential time-place conditions of mobility and stability - their tempo and balance in any particular society at any particular period of its history - that must figure in any strategy of accelerated development.

Since these statements indicate my conviction that behaviorists have significantly underestimated the relevance of institutions for all theories of induced social change, I turn next to this item on the agenda authorized by the Lasswell-Holmberg framework paper. In theoretical terms, we seek to replace the misleading notion of a "transfer of institutions" with a behaviorally-based argument that any such transfer can only be effectively incorporated in a modernizing society when it operates through an indigenous "transformation of institutions."

THE TRANSFORMATION OF INSTITUTIONS[1]

We start from the definition that institutions are the behavioral patterns performed by people whose goal is to enhance as much as possible the values which they hold important. The process involves an expenditure of available skills and knowledge upon the raw materials at hand; the process is actually one of conversion. The process becomes an institution when the application of techniques to the resources is formulated into a set pattern which is productively efficient. Routine behavior which conforms to a maximizing principle is rational. An institution, in short, is a code of rational, routine activity.

The style of such codes is various. They may be prescribed by statute or be made routine through custom. The rules may be numerous and detailed, hence rigid; or they may fix only scant rules-of-the-game within which behavioral variation is permitted, hence flexible. A code is coercive if it prescribes mandatory sanctions against all specific transgressions, or persuasive if its motivating mechanism is inducement rather than retribution. Finally, codes vary widely in their efficiency -- i.e., the ratio of cost to gain in the conversion process.

For example, consider the marital institution, which regulates the behavior of spouses seeking mutual values by the application of mutual techniques to mutual resources. No institution is more universal; no codes are more various. Their diversity derives from the varying

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[1] *Here I have adapted my somewhat polemical attack upon the management of a symposium on this problem. See my lead article "The Transformation of Institutions" in THE TRANSFER OF INSTITUTIONS, ed. W. B. Hamilton (Duke 1964).*

conceptions of the values which are to be enhanced by marriage. The differing values attached to marriage, in turn, diversify the conception of the basic resource which is to be converted. Where greater importance is attached to conjugal bliss, there affection is the raw material. Where self-reproduction is the primary goal, the genetic resource becomes salient. On the other hand, joint income and social status are fundamental to the marriage which is identified with socioeconomic gain.

Underlying these variations, which anthropology has elaborated in a formidable inventory, marital codes exhibit one remarkable regularity: they always stipulate the conditions of authorized participation in marital routines. However widely the codes may differ in their definitions of the values of marriage, they all join in recognizing that rational formulation of marital behavior requires the explicit stipulation of "*who* does what to *whom*" (to adapt a phrase from Lasswell). Furthermore, this functional component is present in all marital codes, though their structural stipulations may vary widely in rigidity, coerciveness, and efficiency.

Interest in this regularity is indicated by a case study by Professor John Kemeny, who is a mathematician and not an anthropologist. He sought to discover how efficiently the rules designed to prevent incestuous and consanguineous marriages operate in certain primitive societies. The efficacy of these rules is extremely important in societies where no written records are kept, for here family relationships may be confused or forgotten, making possible innocent mistakes. A conventional procedure is to assign to each person in the society a certain "marriage type" and to rule that only men and women of the same type may marry. If every son and daughter is assigned a type which differs from the parents' and from each others', then incestuous marriage can be stopped effectively.

A problem arises, however, in designing an efficient rule to prevent intermarriage between persons of the next degree of blood-relationship, e.g., uncles, aunts, first cousins. Most primitive societies which incorporate this purpose in their marital code have devised some rule to accomplish it -- more or less. The elusive quantum of error in these codes, which otherwise do rationally govern marriage choices, may perpetuate through generations and centuries a less than optimally-efficient rule that causes deep and *unnecessary* unhappiness to individuals in these folk societies.

It was doubtless the plight of these people that stimulated Professor Kemeny to work out a mathematical-type model for improving the "more or less" efficient operation of marital codes. He did this by perceiving the algebraic common characteristic of these codes (their "parameter"):

> The marriage group must be a regular permutation group which is generated by the parent-to-son transformation and by the parent-to-daughter transformation. Since regular permutation

> groups are relatively rare, this theorem enables one to find easily all possible marriage rules for a given number of marriage types. For example, it is shown that there are but six possible sets of rules for a society having four marriage types.

Applying this general model to societies wishing to prohibit all first-cousin marriages, Kemeny states that "the necessary and sufficient condition for this is that parent-to-son and parent-to-daughter transformations should not commute and that their squares should not be equal." Relating the new general rule to the two particular institutional codes which focused his attention on this problem, Kemeny concludes: "The Kariera and Tarau societies could not possibly have eliminated all firs-cousin marriages if they wanted to use only four types."[1]

Professor Kemeny, a humane as well as brilliant man, then reflects on the human meaning of the problem he has solved. He writes:

> It is most impressive that a society that is unable to keep precise records should have been able to solve, through trial and error, a problem that requires fairly intricate mathematical operations for formal analysis. It also shows, however, that their procedures could have been considerably improved if they had been in a position to use modern algebra to design the rules.

This conclusion is, in my judgment, intellectually correct and morally good. Yet, it leaves the hardest problem untouched for those of us interested in the transfer of institutions. Let us be clear about why I have presented the Kemeny case study to you. I am no specialist in the codification of marriage rules, having never gotten beyond amateur status in marital relations. Nor do I pretend to be expert in the mathematization of "anybody's problems." Since I am more preoccupied with *who* has *what* problems and *why*, I particularly ask those of you who have expressed interest in the latent-structure analysis of my Middle Eastern materials, to probe deeper than the merely marital and mathematical surface of the present case.

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[1] *See J. G. Kemeny, "Mathematics without Numbers," in D. Lerner (Ed.), QUANITY AND QUALITY, The Free Press, 1961.*

I invite you to consider, rather, the poignancy of Kemeny's condition: "...if they had been in a position to use modern algebra to design the rules." I further invite you, in this roundabout but pointed way, to consider the deep question: What would such societies as Kariera and Tarau have to *become* in order to put themselves in a position to use modern algebra to improve their marriage rules? This, I believe, is the *basic* question for those of us concerned with the transfer of institutions from more to less developed societies.

Kemeny's encounter with the untutored peoples suggests two lessons of general import for the transformation of institutions. One is that the behavioral patterns routinized in traditional societies *are* rational in some sense -- i.e., they do apply the best available techniques to available resources in order to maximize their values. The Kariera and Tarau "marriage types" became traditional, over many centuries of usage, precisely because they did perform their function of preventing consanguineous marriages with tolerable efficiency. Had the margin of error inherent in these types produced more first-cousin marriages than could be tolerated, these societies doubtless would have worked out in due course some appropriate alterations of their marital code. It is not even implausible, given the history of other untutored peoples, that these alterations unwittingly would have moved their code further in the direction of Kemeny's "regular permutation groups." The lesson, then, is that traditional societies can adapt to internally generated needs and can formulate indigenous solutions to problems of dysfunction within their own system of institutions. (When they can no longer do this they degenerate and disappear through disease, emigration, or conquest.)

The second lesson is that traditional societies cannot respond so readily to challenges external to their institutional system. Any institution requires, since it operates by the routinized activity of its constituents, a sufficient quantum of behavioral *inertia* to minimize frictional deviations from routine. In traditional societies, the mean quantum of behavioral inertia is very high. This reflects the shaping influence of behavioral codes that are customary rather than statutory. Customary codes evolved through centuries of lived-through experience that make them "feel right" are less adaptive to external challenges than statutory codes, which, being based on some explicitly articulated rationale for their behavioral prescriptions, are more readily modified when the reasons change.

There is more than legal formalism intended by this distinction. Its historical voucher is the plain fact that societies moving from the traditional to modern system *invariably* add the statutory to the customary codification of behavioral rules. (I italicized the invariance of this association because it puts us on the track of a "parameter" -- or, in a stricter version of my present hypothesis, an item which belongs in an index that, when adequately tested in empirical cases, will yield a parameter.) Our interest in the codes embodying behavioral regulation -- whether legal or ethical,

statutory or customary -- is sociological in the sense of societal. We are concerned with the process by which the behavioral codes of more developed societies are communicated to less developed societies. This means, in my view, a process that is typically (were I not leery of the metaphysical resonance, I would say essentially) *intrusive* upon the less developed societies.

To focus this point, we pause to pick a terminological bone. Note that our preferred phrase is "communication of codes," not "transfer of institutions." We insist upon the behavioral meaning of "institution" because any other sense of this highly ambiguous term misleads us into a preoccupation with pseudo-problems, i.e., problems incapable of empirical diagnosis and therefore, a fortiori, of empirical solution. We reject utterly the term "transfer" because it is the contrary (possibly even the contradictory) of the process that concerns us. Oxford tells us that to transfer is to "convey, remove, hand over...; make over possession...; convey...from one surface to another..." None of these meanings corresponds with the always intrusive, often disruptive, and usually violent process that is on our agenda. Indeed, the last definition suggests how superficial any notion of "transfer of institutions" turns out to be -- i.e., "convey from one surface to another!"

We can exonerate David Apter, who first gave currency to this unfortunate phrase, on the ground that he abandoned it first. Apter's renunciation of the phrase comes at the beginning of the only chapter which uses it as a title, i.e.: *"Political institutional transfer, involving secular parliamentary structures, requires and in fact achieves disruption of traditional societies and is in fact composed of elements some of which are dysfunctional to the maintenance of traditional systems."* Any process which "requires and in fact achieves disruption" has little or nothing in common with activities defined as "convey, hand over, make over possession." This point, while terminological, is not trivial. The root of our understanding of the modernization process is embedded in just this terminological terrain.

The process whereby more developed societies influence less developed societies always involves some institutional "discontinuity" in the less developed societies (some "break" with the past). This is so because traditional societies, while adaptive to internally generated problems, lack efficient mechanisms of consensual response to external challenge. The traditional code's available stock of responses typically provides no compelling behavioral directive for meeting an unprecedented new challenge. Some enthusiastically accept; others uncompromisingly reject. With such dissension, which calls into question the suddenly inadequate code of traditional lifeways, intrusion occurs and disruption begins.

Note, however, that the controlling component of this sequence is *internal* to the traditional society. The initial intrusion comes, it is true, from the outside. But its impact depends upon the

reaction of the indigenous people. An intrusion that is widely ignored or evaded or rejected has little or no impact. It is only an intrusion which is "internalized" by a significant fraction of the population that can have any lasting effect. The incorporation of dissent thus is the fulcrum of the attitudinal-behavioral sequence, which, on this analysis, presents itself primarily as a communication sequence.

THE COMMUNICATION NEXUS IN TRANSFORMATION

The view of modernization as primarily a communication process is not new. Over a century ago, in his preface to *Capital*, Karl Marx wrote: "The more developed society presents to the less developed society a picture of its own future." This insight, had he explored its meaning more empirically and comparatively, might have made Marx the father of twentieth-century communication studies. If the dynamic mechanism of social change is a "picture," then the relevant questions concern its form, content, and transmission from the more to the less developed society: who transmits what picture to whom by what means and with what effects? A picture exerts no influence simply by being presented. It must be perceived, evaluated, acted upon. Indeed, as in most communications, it is the response side of the process that determines its effectiveness -- i.e., how the less developed society responds to the incoming stimulus from the more developed society determines whether, as Marx postulated, this becomes "a picture of its own future."

Marx inhibited the articulation of his own insight, and stultified research on the process through which it operates, by his parochial focus on the social class that happened to be most salient in his own time and place -- the new class of urban industrial workers which preoccupied much of European social thought throughout the nineteenth century. This was the "spectre haunting Europe," in Marx's splendid propaganda phrase, that diverted European sociology from empirical observation to ideological theorizing until Pareto -- equipped with an Italian title, a French education, a European engineering experience, and a Swiss chair of mathematical economics -- decided, as the old century was turning into the new, that it was time to put sterile polemics aside and have a fresh hard look at how European society was operating. As a cosmopolitan with roots in Tuscany, which had seen the ebb and flow of interregional and international power over centuries, Pareto was highly sensitized to the problem of transfer from more to less developed societies. As an intellectual with roots in science and technology, Pareto was sufficiently motivated and endowed to give the inherited polemics of his day an austere no-nonsense treatment.

Pareto's conception of the "circulation of the elites" provided the most potent antidote yet articulated to Marx's parochialism of the proletariat and liberated new observational perspectives and research preoccupations among European sociologists. Mosca next focused

attention on the "ruling elite" -- the political class toward whose recruitment and composition the ownership of the means of production formed but one, and not necessarily the decisive, component. Michels then demonstrated the critical role of intellectuals in the formation and sustenance of both elites and counter-elites in the political process. Lasswell brought this new tradition squarely into the twentieth-century context by showing that psychological variables often outweighted economic variables in the distribution of power. He thereby became what a less parochial Marx might have been -- the father of communication studies.

I repress my passion for the history of social science at this point (begging your pardon for the curt take-it-or-leave-it style of these few condensed remarks) to talk about another problem that is only partially illuminated by its prehistory. What post-Marxian social science has accomplished enables us, as it were, to investigate systematically who gets what, when, how, and why. This is crucial legislation for it guides us -- as we turn to consider the impact of our own developed societies upon the less developed societies today -- in enriching economic sociology with communication sociology, in framing institutional change within the larger context of individual behavior.

So, we are more concerned with the transformation of institutions as they pass from more to less developed societies in the contemporary world. We focus on the sociological communication of ideas and give particular attention to the characteristics of individuals *actually* recruited into the elites and counter-elites (rather than ideologically attributed to these categories). We now recognize the plain fact that the Marxian proletariat has played a relatively small role in the process of social change since history took leave of nineteenth-century Europe. Other modes, other codes have played the key role in the present century. Contemporary social research, with all its flaws and blemishes, has at least the virtue -- since the Marxian "spectre haunting Europe" was laid away -- of looking history straighter in the face.

Thus, Everett Hagen, a first-class economist with a curiosity for finding out how things really are sociologically, which is uncommon in his discipline, put many years of effort into detecting how economic growth begins. Although Hagen first applied his general model only to Japan, he has shown that its applicability goes beyond this in principle. For its key concept is a reformulation of the Lasswellian counter-elite, which Hagen calls the "subordinated class," in terms that encompass the urban proletariat of nineteenth-century Europe as a particular case and go beyond it to include other social formations that have engineered a transformation of institutions.

What Hagen's study offers us is an account of the psychosocial process whereby a developing society -- stimulated by the picture of its own future from abroad -- accomplishes the internal redistribution of

power (which presumably is what is meant by the transfer of institutions). His "subordinated class" is composed of individuals who want larger shares in the distribution of social values than existing institutions are prepared to give them. They learn to articulate individually their frustrated desires, to aggregate their interests interpersonally with frustrated others, and to coalesce the power thus aggregated in political action designed to reshape institutions according to their plans. So conceived, the "subordinated class" can perform its transference function whatever may be the particular recruitment and composition of its membership.

In Hagen's treatise, the subordinated merchant class played a pivotal role in the perception, evaluation, and application of new ideas which ultimately transformed Japanese society. In Turkey, the crucial function was performed by the military class. In the ideological revolutions of the twentieth century, the intelligentsia took the lead in articulating and aggregating the interests of a counter-elite in political transformation. Our study group at the M.I.T. Center for International Studies has concluded that in the contemporary world durable transformation of institutions is likely to be accomplished by the coalition of intellectuals, soldiers, and bureaucrats, with entrepreneurs, workers, and peasants playing differential roles in the vanguard and rear guard.

The intellectuals play their pivotal role in the contemporary transformation of institutions because they are distinctively the literate and informed sector of their societies. It is with the literate and informed members of the military and bureaucratic formations that they are likely to make their revolutionary coalitions. This is because the transformation of institutions, in our time, has been quickened and broadened by the unprecedented transfer of ideas around the world's surface. We have reference here to the notorious communication revolution which, over the past two decades, has altered the basic conditions of political behavior within and between nations. Most dramatic has been its impact upon the flow of influence from more to less developed nations.

Colonel Nasser, prime example of the military intellectual as contemporary transformer of traditional institutions, has stated his version of the communication revolution in these terms: "It is true that most of our people are still illiterate. But politically that counts far less than it did 20 years ago...Radio has changed everything.... Today people in the most remote villages hear of what is happening and form their opinions. Leaders cannot govern as they once did. We live in a new world."

"Radio has changed everything!" What does Colonel Nasser intend us to understand by this emphatic statement? What, precisely, has changed? My own studies of the Middle East described in considerable detail the sequence of changes which, I believe, has transformed the style of life of traditional societies around the globe. I shall not recapitulate these findings here but rather focus on the main

conclusion relating to our present concern with the transformation of institutions -- namely, that traditional societies are passing from the face of the earth because the people in them *no longer want to live by their rules*. This massive and simultaneous abandonment of traditional codes of behavior in every part of the world raises problems of unprecedented scale and scope for the transformation of institutions.

I have already indicated why I consider that no significant *transfer* of institutions from more to less developed societies is taking place in our time. The notion of an orderly procedure to "convey, hand over, make over possession; convey from one surface to another..." is incompatible with the intrusive, disruptive, violent process *already* at work in the less developed societies. My diagnosis of this process embodies the forecast that, in the lifetime of the present generation, the disruptive process must continue and its political consequences must deepen.

It was never within the power of communications from more to less developed societies to prevent the disruption of traditional institutions. Indeed, the intrusion of the more developed, and the consequent disruption of the less developed, illustrates that "sequence of communication and after collaboration which our Lasswell-Holmberg framework paper considers essential for the "interactions" that produce the new preference models underlying modernization.

But, if the situation is theoretically indispensable, the case is an instance of empirical imperfection. No reasonable man will be astounded by the idea that cases alter situations. The multiplications of disruptive institutional cases, over recent decades, invites reconsideration of the intrusive communication situation. What we theorists and planners of induced and accelerated social change must reconsider is the tempo and balance of our intrusions -- for this is not only a key variable in theory, but a key variable over which planners still have (despite grave errors in the past) some measure of control. To aid serious reconsideration, I shall now profane some sacred cows -- hoping thereby that to help correct the excessively disruptive imbalances that now impede modernization.

DISRUPTIVE IMBALANCES IN MODERNIZING MODELS

We have already indicated our conviction that a favorable want: get ratio is critical for the sense of satisfaction among peoples everywhere in the world - and that an unfavorable ratio leads to frustration. We have further delineated our proposition to show that the critical want: get ratios have been flouted by the theory and practice of induced social change. We have then suggested that this flouting has occurred, all too innocently, because behaviorists have been inattentive to the "interaction" (in the Lasswell-Holmberg sense) between individual preference models and institutional constraints under the conditions of limited resources that prevail in most

modernizing societies. This inattention, which has promoted "disruptive imbalances" by ignoring the necessity for a "transformation" rather than a "transfer" of institutions as between more and less developed nations, endangers behavioral theory and institutional practice of foreign aid. Now, we turn to reconsideration of some model cases that have transformed the situation with which modernization must deal both in practice and theory.

It is difficult, for example, to induce Americans and other moderns, to reconsider dispassionately that literacy may be dysfunctional - indeed a serious impediment - to modernization in the societies now seeking (all too rapidly) to transform their institutions. Yet, I submit, the "literacy explosion" may constitute a more serious threat to human hopes for a rational world order than the highly publicized "population explosion" - just as the urbanizing furor in transitional societies has already passed the limits of what we tranquilly, in the United States, refer to as the "expanding metropolis."

Please understand the intention of these remarks. I am not opposed to literacy in principle, any more than I am opposed to babies or urbanity in principle. I am opposed to dysfunctional literacy - dysfunctionality signifying, in this context, the behavioral consequences which do more harm than good to the individuals acquiring literacy as well as the harmful sociological consequences of an excessively rapid increase of literacy rates in many transitional societies.

The point I wish to stress is that transitional societies can use only a certain amount of literacy within a certain time. We must remind ourselves that literacy first pervaded the modern West as a skill with a payoff before it became a psychocultural adornment. We must recall that literacy was a passport, for newly mobile men, to jobs and other satisfying opportunities for achieving a better life. We must, in sum, recall the penetrating question raised by George Bernard Shaw (who was, after all, a Fabian socialist): "How can you dare to teach a man how to read before you have taught him everything else?"

The disruption of transitional societies - the factor which makes an orderly transfer of institutions impossible in most of the world today - is an outcome of, among other things, widespread disregard of Shaw's prudent query. Many millions of people around the world are being taught to read long before they have learned "everything else," indeed long before they have the opportunity to acquire anything else in the historical "literacy syndrome" of the West.

My own empirical studies confirmed the focal role here attributed to literacy. Historically, it is distinctively the literate who has become the newspaper reader, the opinion giver, the cash customer, the voter - i.e., the participant in the modern sectors of his society such as the communication network, the opinion forum, the market economy, the electoral polity. The gradual and conjoint growth

of urbanism and literacy evolved the modern code of participant behavior - a code which, since it requires the transformation of millions of individual life-histories through generations, cannot simply be transferred from one society to another.

Without pausing to review the interpretation of findings which have been published elsewhere, we stress two conclusions that are especially relevant to the present discussion. First, the demonstration that the indices of modernity go together regularly in all countries - regardless of their great differences in geography, climate, race, culture, and other presumably "basic" traits - supports the hypothesis that, in some sense, they had to go together. The components of modern participant society form a genuinely interdependent "system," in which significant variation of one component must entail significant variation of all the others.

The second conclusion we stress is that imbalance among the components of modernization is disruptive in the transitional society. By disruptive I mean more than some transitory impediment, or tactical delay, in the process of modernization. I mean, rather, the incorporation of some stochastic element which is likely to render the process abortive or turn it in a direction quite different from modernization as represented by Western Europe and North America. This is so because the components of modernity, as we have defined them, must be built into the life-history of individuals - and, once there, they are not easily rearranged. People who move into cities, for example, are likely to stay there. (Back-to-the-soil movements, before and since the New England utopians of the nineteenth century, have usually attracted only alienated intellectuals and other deviant cases.) Urbanization is a secular trend that has not, in modern times, been successfully reversed.

The same is true of literacy, media participation, and political participation. These are behavioral codes which, once incorporated in the daily round of life by a community of individuals, are not easily revised. Indeed, the great despotisms of twentieth-century Europe - Bolshevik, Fascist, Nazi - were able to reimpose authoritarian controls upon populations that had gained some measure of political participation only by revolutionary blood-letting. In each of these cases, I believe, a stochastic process had disrupted the "system" of modernity and inhibited its efficient functioning.

A similar revolutionary situation - the revolution of rising frustrations - exists in the transitional world today. Its symptom is the military take-over. This symptom has appeared, during the past five years, in every major transitional region of the world. In Asia, military take-over has occurred in Laos and Vietnam, Burma and Pakistan. In the Middle East, virtually every Arab country as well as Iran and even Turkey have manifested the system. The Sudan, the Congo and most recently Nigeria have, in Africa, exhibited the pattern of military take-over to a continent that is likely to multiply examples rapidly. I need hardly illustrate the case in Latin America.

If military take-over is the symptom, then disruptive imbalance in the modernizing process is the etiology of the revolutionary disease that now pervades the transitional world. Since this situation inhibits the transformation of institutions - and, in my judgment, even distorts the modernization of institutions - it is fitting that we turn, in the concluding section of this paper, to a closer look at the matter.

In turning, we recall that disruptive imbalance occurs when a substantial fraction of the transitional population acquires one of the characteristics of modernity but not the other elements. Since modernity is a style of life - a set of interdependent behavioral codes - the absence of any element in the set tends to be disruptive upon the individual. When a sufficient number of individuals are so affected, then disruptive imbalance is felt in the community as a whole.

Thus, in our typology, the modern person is an urbane literate who participates fully in the public forum, market place, political arena. It is characteristic of the transitional world that most individuals do not exhibit all of these characteristics. The transitional world has, by definition, a tendency toward imbalance built into it. The tendency becomes disruptive when the proportion of individuals who acquire one characteristic without acquiring the others becomes too high.

In one study we were able to establish critical ratios between the four components of modernity in seventy-three countries. Thus, it could be shown that no significant increase in literacy rates could be expected before a country was more than 10 percent urbanized. Thereafter, when urbanization passed beyond the 10 percent mark, literacy tended to increase rather steadily - in a direct monotonic relationship with urbanization. This relationship remained constant until the country was 25 percent urbanized, by which time its literacy rate typically was 50 percent or better. Thereafter literacy continued to grow independently of further increases in urbanization.

We are not particularly concerned here with the numerical values obtained by our study. Clearly, the critical minimum ratio of 10 percent and the critical optimum ratio of 25 percent are artifacts of our statistical inputs - i. e., if urbanization were defined differently (we used the proportion of population living in cities over 50,000) then the numerical values would be different. Our concern is rather with the demonstration that critical ratios can be established that demonstrate a constant relationship between urbanization and literacy, however defined, in seventy-three countries that are so different in most other respects.

We consider that these ratios demonstrate the limits within which imbalance can be tolerated in most countries without becoming disruptive. A disruptive imbalance would exist on this view, in a

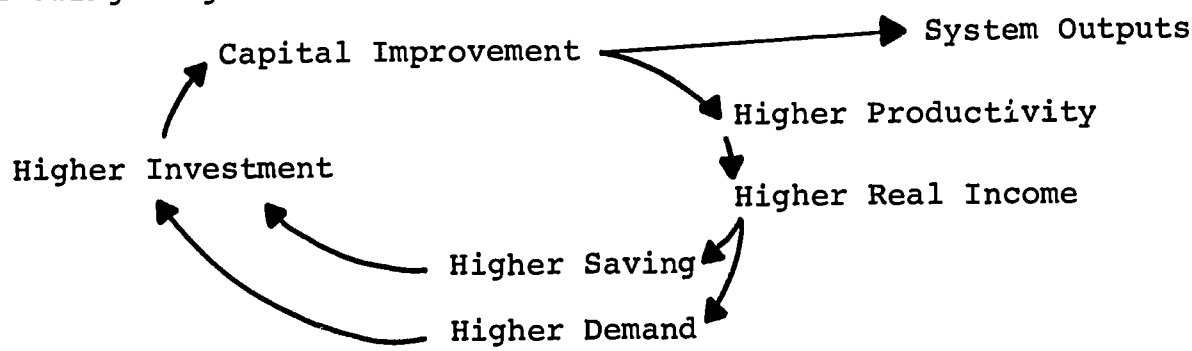
society that was over 25 percent urban but significantly less than 50 percent literate. Conversely, a society that was better than 50 percent literate while still under 10 percent urban would exhibit a disruptive imbalance.

So, with concern for the disruptive balances that have afflicted past theory and practice of induced social change, we venture to present, as the inadequate conclusion to an unduly complicated analysis, a model for future thinking about modernization. This venture is designed to stimulate better theory and research in moving from the vicious circle of poverty to the growth cycle that spells modernity.

FROM VICIOUS CIRCLE TO GROWTH CYCLE[1]

The "vicious circle of poverty" is a phrase used to characterize the situation in which no sustained economic growth is possible because each specific advance is rapidly checked by some counter-tendency in the social system. The most important of such counter-tendencies is excessive population growth. Any significant economic progress tends to prolong life by reducing famine and pestilence. When death rates decrease more rapidly than birth rates - often, indeed, while birth rates are increasing - then rapid population growth occurs. In poor countries population growth tends to "lead" economic growth by setting rates of increase that must be attained so that the society can stay at its existing levels of poverty. No surpluses can be generated, hence no "leap forward" is possible. Singer has succinctly summarized "the dominant vicious circle of low production - no surpluses for economic investment - no tools and equipment - low standards of production. An underdeveloped country is poor because it has no industry; and it has no industry because it is poor."

The picture looks quite different in a society which has broken out of the vicious circle and set its course toward the achievement of a growth cycle. The new situation is vividly illustrated by the following diagram:



[1] *For this concluding section, I have adapted a portion of my terminal chapter "Toward a Communication Theory of Modernization" in COMMUNICATIONS AND POLITICAL DEVELOPMENT, ed. L. W. Pye (Princeton 1963)*

The story told by this diagram reaches its climax with the achievement of a significant rise in real income. Such a rise becomes significant when it enables the society simultaneously to raise both demand and saving. We have seen that otherwise, in a poor society, small increases of income tend to be consumed promptly - with nothing left over for saving, hence investment. But when income rises rapidly enough to permit higher consumption and also higher saving, then the growth cycle is initiated. Higher investment leads to capital improvement and rising productivity, which in turn raise real income enough to encourage both higher saving and demand. Thereby higher investment is again stimulated - and the growth cycle becomes self-sustaining.

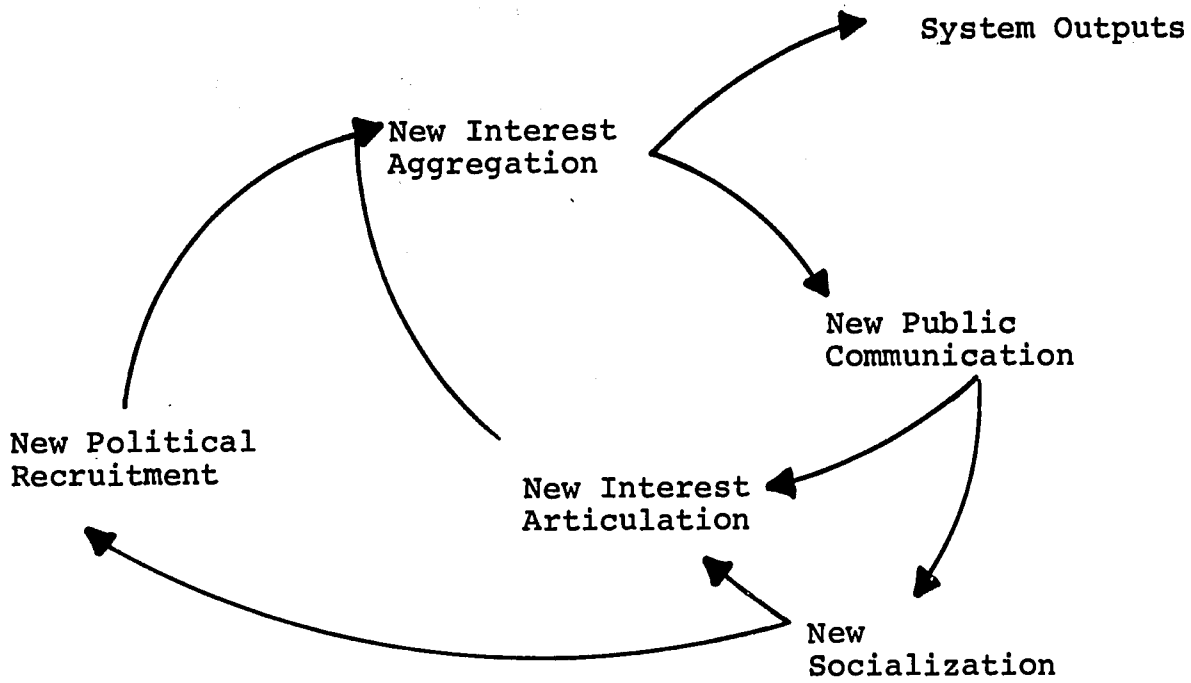
Specialists on economic development appear to be generally agreed on some version of this picture of the break-out from the vicious circle. There is less consensus, however, on the economic policies that will lead most efficiently from the break-out to the self-sustaining growth cycle. Contemporary economic thinking has tended to emphasize two quite different sets of theoretical analyses - which we may characterize as "disequilibria" and "balanced growth" theories - leading to different policies and programs.

It is difficult to resolve the issues between disequilibria and balanced growth on a theoretical level. The arguments rest in both cases on factors extraneous to the economy - i.e., on the values, beliefs, and institutions of a country and, especially, on its capacity to change these psychosocial factors as may be required for sustained economic growth. For example: higher income, even if rapid and substantial, will not necessarily lead to commensurate increases of saving and investment. There are numerous cases where higher income has led only to conspicuous consumption of imported products or to savings that were invested only abroad - hence with no effect on production and growth at home.

The growth cycle, which stipulated that higher income must be coupled with both higher consumption and investment, is likely to occur only in a society where effort is associated with reward - where saving is likely to compound interest, where investment at home is likely to conjoin personal with patriotic satisfactions (rather than exploit the latter and deny the former). The association of effort with reward comes from the matrix of social institutions, psychological beliefs, political efficiency (in managing public adaption to innovation) within which economic programs are obliged to operate.

This association of effort with reward, of aspiration with achievement, is a communication process. People must learn to make this association in their own daily lives - linking what they see with what they hear, what they want with what they do, what they do with what they get. Communication is, in this sense, the main instrument of socialization, as socialization is, in turn, the main agency of social change. To parallel the economist's model of the growth

cycle, we may represent the conditions for an expanding polity and modernizing society as follows (adapting the input functions proposed by Gabriel Almond).



The modernization process begins with new public communication - the diffusion of new ideas and new information which stimulate people to want to behave in new ways. It stimulates the peasant to want to be a freeholding farmer, the farmer's son to want to learn reading so that he can work in the town, the farmer's wife to want to stop bearing children, the farmer's daughter to want to wear a dress and do her hair. In this way new public communication leads directly to new articulation of private interests.

Simultaneously - by analogy with the significant increase of real income that enables both saving and demand to rise simultaneously - new public communication activates new modes of socialization. If new interest-articulation parallels demand, then new socialization parallels saving - the factor that will make possible new investment and, ultimately, the supply of new satisfactions for the new demands. So, while new communication is promoting new articulation of interests among the existing generation, it is also preparing a new generation who will incorporate these interests and go beyond them. The farmer's daughter who wants to show her face is likely to raise a daughter who wants to speak her mind. The farmer's son who wants literacy and a town job is likely to raise a son who wants a diploma and a white collar. Socialization thus produces, ideally, the new man with new ideas in sufficient quality to stabilize innovation over time.

In order to incorporate innovation efficiently, a society must translate it from private interests into public institutions. An essential step forward must be made from the articulation to the aggregation of private interests - which, when aggregated and accepted in the polity, become the public institutions of a society. It is also necessary that a new process of political recruitment come into operation. Among the newly socialized generation some must be recruited into political life so that the new aggregation of interests into institutions may be accomplished and sustained. So it is that, starting from a breakthrough in communication, reinforced by new ways of socialization (ideas of what one's children may be and practices designed to achieve these aspirations), a new political class is recruited that aggregates the new interests articulated within the society in such fashion as to create its new institutions - its version of modernity.

Discussion

1. CONCEPT OF EMPATHY

Lerner defined empathy simply as the capacity to see oneself in another fellow's situation. Empathy includes the capacity for identification with new aspects of one's environment. The empathic individual is equipped with the inner mechanisms needed to incorporate new identifications and demands that arise outside of his habitual experience. It is, therefore, an indispensable skill which enables newly mobile persons to operate efficiently in a changing world.[1]

Berlo felt that the key concept of empathy should be elucidated further. Is it just putting oneself in another's place, or does it have a more general meaning in point of time or space? How does one train for empathy as a desirable characeristic? How can the different inputs in early childhood, which result in increased empathy, be differentiated? Is empathy important in all social roles? Is the need for empathy reduced as institutionalism proceeds?

Stein considered empathy to be an Eastern, intuitive quality, reflecting more feeling than thinking tone. Bennis saw empathy as the broadening of perception, not just as putting oneself in another's role. Lerner described empathy as the poor man's creativity which enables a person to project himself into other situations. He felt that empathy could be trained but this is only a hunch and has not been demonstrated. He also believed that a great deal of empathy is needed for some social roles, and that some empathy is needed for every role. Empathy can work even for "ornery" persons. Typically, empathy not only increases but becomes routinized as modernity progresses.

In research done in several Middle East countries, Lerner reported, empathy, as determined from responses to a large questionnaire, turned out to be the only basis for discriminating between modernizing (high empathy) and traditional (low empathy) individuals living in

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[1] *D. Lerner, THE PASSING OF TRADITIONAL SOCIETY (Glencoe: The Free Press, 1958, paperback edition, 1965).*

communities which - in terms of such standard indices as literacy, urbanization, media consumption and socio-economic status - were indistinguishable. In such traditional and early transitional communities, comparably low on all objective indicators, empathy turned out to be the variable that most efficiently accounted for, and measured, the behavioral differences between modernizing and non-modernizing individuals.

2. FRUSTRATION AND WANTS

Humphrey, agreeing with Lerner that man aspires to have something better than what he has, quoted a remark by the late economist Frank Knight to the effect that "what we in the West want is bigger and better wants." And while Humphrey admitted that excessive frustration may be dangerous, he did not know how one could predict whether frustration would have positive or negative effects. Lerner responded that work in progress on his Want:Get Ratio, as revealed by M.I.T. studies in Venezuela, might provide a basis for better foresight on the effects of high frustration - and with better foresight, presumably, better prediction.

3. MILITARY TAKEOVERS

The losses versus the gains of military takeovers in developing nations were discussed in relation to short and longer term social change prospects. Lerner felt that military takeover may sometimes have a positive effect, and cited the example of Turkey under Ataturk - and since, however, military governments normally have been neither durable nor administratively capable of organizing and pushing through large programs of social development. The work of Johnson, Janowitz, and others indicates that civil-military relations in developing countries is a process that will richly repay intensive, comparative, and continuing studies.

4. EFFECTS OF MASS MEDIA

Deutsch elaborated Lerner's point that Paul Lazarsfeld's model of a two-step flow of communication, in which mass media output is relayed by opinion leaders, is more applicable to a media-saturated country like the United States than to developing countries. Lerner added that opinion leaders in traditional societies tend to be conservative because they are patriarchal - an "elite" of elder males with a kinship base and a parochial domain. Among the youth and females who begin to doubt the authority of elder males in these clans and parishes, the effect of mass media is to stimulate, evoke, and directly shape attitudes and opinions, even without relay points and local opinion leaders. Hagen commented that the state of readiness of traditional societies for social change is related to how widespread and powerful the effects of mass media have been.

5. PARTICIPATION IN CHANGE

Bennis noted that Lerner's participant society fits his own notion of mobile, temporary social systems, but wanted further discussion of how institutions are transformed. He was convinced that durable social change cannot be brought about by coercion or intimidation. Influence is a dependent variable caused by the independent variable called power. Power itself may derive from the cognitive information of an expert, from coercion with either rewards or punishment, from identification (referent power), or from legitimate authority and rules. It would seem that social change is more durable to the extent that people are influenced by the exercise of power encouraging their voluntary participation. But, it is not clear enough who starts the influence process leading to change.

According to Deutsch, intellectuals, bureaucrats and soldiers in most traditional societies comprise less than ten percent of the population, even if they are collaborating with each other. While cross-class coalitions have been found to be a potent instrument for creating social change, the base of active participation needs to be broadened. He felt that the communication revolution, as described by Lerner, was a means of accomplishing this. Communication can be used to increase not only the wealth value, but also enlightenment, well-being, respect - as well as the shaping and sharing of power by means of enlarged and differentiated participation in the polity.

6. WANT:GET RATIOS

Changes resulting from development have often produced an imbalance among preferred values acquired. Studying the historical experiences of Japan and Western Europe might give clues to the limits of imbalance in the accumulation of different values that traditional societies can tolerate. Since imbalance can be conceptualized as the difference between what people want and what they get, operational indexing of Lerner's Want:Get Ratio as an instrument for data-collection and data-evaluation may make an important contribution to the continuous interaction of research and policy in the development process.

8

GENERAL EQUILIBRIUM MODEL OF THE SOCIAL SYSTEM

by

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Part I: The Americanization of Emily

INTRODUCTION

Emily is an island discovered in August, 1966, by metereological workers interested in the origin of Hurricane Emily. The island is located in latitudes 120-121 south and in longitudes 661-662 west of Greenwich. Upon the report of the island's discovery it was immediately realized by the American scientific community that Emily was an ideal location for Mission Zebra. Accordingly, the State Department and other concerned agencies of the Federal government began to formulate plans to establish a secure and broad basis for an enduring relationship with Emilians.

The population of Emily numbers one million. The island is divided into four regions, the boundaries of these regions being well-defined by mountain ridges. In each region there is a major city of from ten to fifteen thousand inhabitants, six to eight cities of from three to five thousand, and many villages. Only twenty percent of the population lives in villages and cities, the rest being settled in rural areas at a density consistent with efficient food production.

The economic, political, social and cultural subsystems of Emilian society are stable. Customs, production methods, population levels, etc., have resisted change for at least a century. The few social scientists who have had the opportunity to observe Emilian society have been amazed at its perfect representation of a social system in stable equilibrium. Space limitations of this paper do not permit us to describe further the many intriguing features of Emilian society. Our objective, to analyze the possible impact of the impending Americanization of Emily, is too pressing for us to engage at this time in the aesthetics of traditional social science analysis.

To insure a positive and enduring relationship with Emily and thereby to achieve the goals of Mission Zebra, the State Department had on urgent call assembled in Washington a task force of outstanding social scientists and systems analysts. After intensive work a report was prepared on the social, political, economic, and cultural impact on Emilian society of both (1) the planned construction and operation of the Zebra missile base, and (2) the contemplated "strategic and compensatory" foreign aid. However, the few social scientists who had had first hand opportunity to observe Emilian

society dissented strongly with the findings of the task force's report. In light of this sharp dissent the State Department requested task force members to observe Emilian society directly. Arrangements were made for an observation tour to be under the guidance of a leading Emilian elder.

EMILIAN SOCIAL STRUCTURE

At the very start of the tour the Emilian elder evinced an inability to understand the implication in the task force's report that foreign aid was largely a unilateral gift. The elder Emilian pointed out that there is no such thing as unilateral giving in Emilian society. There is always "give and take." Emilians have long recognized, he said, that when an individual gives a so called "gift" he receives in return something of equal value. For instance, the width of a recipient's smile measures the value to him of the gift received. The width of his smile also depicts the amount of *c-evol* that the giver has received from the recipient, *c-evol* being a valued non-economic commodity that enters directly into the giver's utility function.

At first it was difficult for the U.S. social scientists to conceive as valid this custom of considering all gifts as exchanges. However, later, upon observing the extent and volume of gift giving and c-evol production taking place in Emilian society, they came to realize the significance of such exchange and production. Parenthetically, it is rumored that they now wonder whether there is any unilateral gift-giving anywhere in the world. It is also heard that they are now speculating that foreign aid provided in the past by industrialized nations may have been fully repaid by the receivers in ways which the conventional accounting systems of the industrialized nations have not recognized.

The elder Emilian went on to point out that the same attitude toward gift-giving existed among all regions of Emily, which had been at peace with each other for time immemorial. He was shocked at hearing of the low magnitude of this kind of exchange among the leaders of the nation states in the world described by the social scientists.

The Emilian elder continued with his succinct description of Emilian society. He observed that, in the terms of the behavioralists who had recently visited Emily, one might say that there were four types of actors in Emilian society, each motivated to maximize utility payoff or effective profits. The first set consists of individuals, the second of organizations, the third of government administrative agencies and the fourth of exporting units.

Each individual is associated with four major roles: (1) the role of one-man production for family consumption, a role in which each able member of a family engages; (2) the role of one-man production for profit in society, a role not too important for Emilian society;

(3) the role of active participation in organizations, involving, in essence, exchanges (contributions and receipts) at organizational markets; and (4) the role involving tendering of love through the giving of gifts to family members, friends, and other individuals. The elder observed that two roles present in U.S. Society were only on occasion practiced in Emily; namely, the roles of *selling* and *buying* economic goods at an economic market in a region. Economic exchange, per se, is practiced only to an extremely limited degree in Emily.

Organizations were described as engaging in both productive activities and exchange. Production activities cover all kinds of commodities and, unlike the situation in industrialized nations, there exists no large group of organizations, which might be considered purely business firms, primarily engaged in production for money profit. Most organizations can and are involved in producing a whole range of what the U.S. social scientists might describe as economic and non-economic commodities. Especially important is the production of the non-economic commodities: c-affection and c-respect. These are fundamental to an understanding of Emilian culture, being inextricably imbedded in Emilian social structure. Along with production, each organization provides a focal point at which individuals can exchange goods in the sense of making contributions to the organization (such as labor, corn, etc.) and receiving in return diverse commodities (such as c-rectitude, c-respect and money).

Government administrative agencies are guided in Emily by administrators who, out of own self-interest, are motivated to behave to maximize the welfare of their constituency. Taxes are collected and government goods and services are distributed. Finally, in each region there exist exporting units which engage in what little trade in economic goods exists among the four regions. The small amount of interregional trade is accounted for both by the small size of the economic market in each region and by the obstacles to trade which the mountain ridges impose. As with organizations, all profits earned by exporting units are distributed to those individuals who have ownership rights, inherited or accumulated over time.

The Emilian elder went on to indicate some of the basic social processes at work in Emilian society. First, there exists a set of c-sanctions which have very slowly evolved over the centuries, and which do not noticeably change over any lifetime. By affecting utility or effective profits realized, the c-sanctions serve to guide behaving units in the choice of actions consistent with the wishes of society as a whole.

Secondly, there are the market processes at each organization which set the ratios at which goods are exchanged. These ratios rise and fall in such a manner as to equate supply and demand for each

commodity on each such market, taking into account the use of these commodities as inputs and outputs in each organization's production. The equation of supply and demand of economic commodities is realized at the small economic markets in each region where individuals, organizations, exporting units and government administrative agencies may buy and sell goods, although the elder was not aware of any government administrative agency selling goods on such markets. Finally, the elder elaborated upon the legislative process. In part, it resembles that existing in the United States, but one in which the pure representation function is much more developed, partly as a result of the high negative-c-sanctions placed upon representatives who make proposals for government programs and tax rates not consistent with the wishes of the majority of their constituents. The legislative process is able to resolve conflicts on program priorities and tax rates through regular cooperative voting procedures.

In closing, the Emilian elder mentioned that in many ways the social structure of Emily resembled a conceptual framework developed in highly mathematical form a year or so ago in the United States. A verbal description of the framework is presented in Part II of this paper.

PROBLEMS OF INDUSTRIALIZATION (AMERICANIZATION)

It became crystal clear to the task force that the findings of their report were in large part irrelevant. Too great emphasis was placed on development of economic activities, to the neglect of transactions involving non-economic commodities. The benefit-cost analysis, to be applied for the design of policies to control the anticipated urbanization, completely ignored the disruption in family structure that would ensue. There was no recognition of the high negative-c-sanction on the earning of money for money's sake, nor of the high positive c-sanction on the earning of money as a means for effecting gifts and thereby producing c-evol.

Clearly, the use of the traditional economic market mechanism to obtain the necessary local labor force to man the Zebra Mission facility and to attract the necessary service industries to support this basic labor force--a use designed in accord with the best regional science techniques previously found applicable in the United States--is not feasible. The decimation of kinship structure, the inefficiencies from an intensified pace of urbanization, and the excess migration flows which would be entailed would be undesirable to all parties.

Consideration of the non-economic aspects of Emilian social structure led the task force to reconsider the pressing operational problem of where the missile base might be constructed. This problem is a variant of the general question often posed in the literature on underdeveloped regions: what site should serve as

the point for the fostering of industrial growth. The advantages of locating the missile base near one of the main cities are clear cut--a large supply of the most skilled labor would be at hand, infrastructure would be present, easy and sensitive access to key Emilian decision makers would be possible, and necessary controls could more reliably and easily be effected. But, locating near a main city would also entail a rather rapid diffusion of new ideas and new concepts of living, which might destroy certain basic underpinnings of Emilian society and set in motion undesirable counterforces to development.

Locating the Zebra site at a remote place, distant from cultural centers, would temper disruptive diffusion effects. On the other hand, such a remote location would lead to the emergence of a second major city in the chosen region, and would destroy that region's stable central place hierarchy which has evolved over centuries. (This stable hierarchy includes a customary pattern of migration from rural areas to urban areas, birth rates in rural areas being noticeably higher.) Moreover, a remote location would make it difficult to exert influence upon the nerve centers of Emilian society, and to effect strategic decisions at the right moment of time, especially for a society so little documented.

In short, consideration of this location problem points out that the cost differentials of traditional location analysis are not at all applicable, as is the case with so many of the existing battery of economic and regional science techniques. New cost differentials, compelling the measurement of non-economic commodities and the quantification of transactions involving these commodities, as well as impacts upon preference functions and fundamental facets of the Emilian social system, need to be developed.

Perhaps more critical is the possibility of disastrously upsetting the delicate balance achieved by Emily's regions. Such a possibility arises since for technological and economic reasons only one missile base would be constructed. Necessarily, this base would be in a single region, and would disturb the harmonious equilibrium that has so successfully evolved over time. In this equilibrium each region senses itself equally important as any other region in the making of decisions. *Per capita incomes*, and more important, *per capita c-respect* are each approximately the same among regions. Yet this could not possibly remain so were a missile base, partly oriented to a market economy, to be constructed in one region. As yet no social scientist has been bold enough to suggest social and political development programs which might offset the imbalance caused by a heightened economic development of one region and to help avoid the subtle jealousies and internalized conflicts which would inevitably result. On this point of non-economic development programs, the literature on the disruptive effects of industrialization at a focal point in a traditional society has little to say.

It is worth recalling that in their original report the task force had suggested that as compensation for the rights to develop the Zebra base, the United States would provide capital for the construction of an industrial district nearby the base. It was reasoned, and with a certain amount of justification, that certain enterprises might be encouraged to process certain exotic agricultural produce which could be advantageously sold in world markets. If located near the missile base, such activity and others of an industrial complex would have the advantage of drawing upon the engineering talent at the missile site and employing some of the local labor with work experience on Mission Zebra. Also, building the new industries and the missile base in the same region would maximize the probability of developing an efficient entrepreneurship to exploit as well as contribute to the infrastructure required by the industrial district and Mission Zebra.

However, upon considering the costs from political friction resulting from the concentration of development in one region, as well as the social costs of excess migration, and the cultural costs from loss of c-respect in the other regions, some members of the task force urged that the contemplated industrial complex be split up among the several regions. Admittedly this course of action would result in a great loss of agglomeration (external) economies which would be realized if the new industries were together, adjacent to the missile site. The optimum trade-off between decentralizing industrial development to minimize the directly imposed non-economic costs of regional imbalances and centralizing development to gain the agglomeration economies at a growth pole was seen to require further conceptual and empirical research.

An additional problem recognized by the task force was: how to advise or even make meaningful statements on how Emilians should establish a new level of government. For clearly, the management of foreign affairs would be beyond the ken and structural capabilities of any of the regional levels of government. A federal or central level would be required to coordinate the foreign relations of the several regions, to handle the delicate problems of negotiations with the United States and of trade in economic commodities with other industrialized nations of the world. What concerned the social scientists was not only how to recommend procedures whereby regional governments might come together under conditions which would appear reasonable and equitable to each, but also how to put forth recommendations on how much of existing governmental functions should be assigned to a central government as well as how power and decision-making authority associated with new functions should be allocated among the several levels of government. It was realized that the problem of initiating such a new level of government is not unlike the question of how to introduce a metropolitan government into the hierarchy of governments in a rapidly growing urban area. In both cases economies of scale and agglomeration economies in decision making make more centralization necessary to overcome inefficiency in government structure.

At this time, the task force came to appreciate that in view of its new knowledge, its initial report was largely obsolete. It also came to realize the glaring deficiencies in many reports carefully prepared in the past re: the industrialization of diverse regions of the world. The members of the task force returned to the State Department in Washington in a very sober condition, much tempered in their enthusiasm for own pet frameworks for societal analysis. They began to tackle the most difficult task of incorporating their new insights into analytical thinking. At this moment, it can only be said that these social scientists and their colleagues have not progressed very far in the development of a more adequate conceptual framework. However, some progress may be reported. The Rostovian concept of take-off has now been considerably generalized. It has been reformulated to include notions about minimum levels of non-economic capital required by a social system to start sustained growth in all its subsystems. For organizations in the social system to be viable, they must have capital stocks of such non-economic commodities as c-affection, c-respect and c-power as well as capital stocks of economic commodities. The c-respect capital may be needed to insure that any threat by a competing organization can be parried. The capital stocks of c-affection may be required to generate the minimum critical mass of c-solidarity needed for the efficient operation of an organization. In the case of a new regional planning authority, for example, the c-respect capital might come with the appointment of a well-known statesman as director, and c-affection capital might come from endorsement of a sufficiently large fraction of a constituency.

Parallel to the reformulation of "take-off" doctrine to embody non-economic subsystems has been the revision of concepts of increasing returns to scale and agglomeration forces. It is recognized that in production, non-economic commodities as well as economic commodities are subject to these forces. Out of this reexamination has come an increased awareness of just what characterizes a "growth pole" in regional development, and of some previously neglected aspects of urbanization processes.

It is also reported that a research group of mathematical psychologists and related social scientists are comprehensively and systematically studying the Emilian preference function. The research is breaking new ground both because of the very unusual preference functions found in Emilian society, and because of the expected sensitivity of these preference functions to Americanization processes. It is anticipated, from preliminary results, that the new communications media of radio stations, newspapers and television will lead the Emilian population to revise drastically the valuation it places upon c-achievement and c-enlightenment.

As fundamental as the changes anticipated in the Emilian preference function are the projected shifts in societal values and norms.

The pattern of c-sanctions conferred on individual and group action is expected to undergo major modification from the technological stimulus and from opening of trade with the outside world. For example, without doubt the exorbitantly high negative-c-sanctions imposed on "etteragic-ism," a practice of water-sucking through chopped seaweed which is highly toxic, will be removed. It is hoped that these shifts will be gradual so that Emily will be able to absorb shocks to her equilibrium state as she adapts to the twentieth century. There is, however, a most uncomfortably high chance of costly disorientation and uncontrollable disequilibrium from too rapid changes in c-sanctions.

While the discovery of Emily has disrupted the social science world--one systems analyst has reported that its impact will be the equivalent of 2,000 megatons--we can conclude that there are a few points at which more insightful thinking has been compelled.

(1) It must be recognized that since there is equal value in all exchanges, "so-called" unilateral gift givers among the industrial nations of the world must ask themselves what returns they are exacting for their foreign aid. Are these industrial nations in their monopsonistic positions undervaluing the contributions of less developed societies receiving "foreign aid?"

(2) There is increasing recognition that local inhabitants are highly perceptive of transactions in certain commodities which the highly trained social scientists from industrial nations are blind to. Therefore, analysts from the receiver nations should be employed in "foreign aid" research even if a necessary education in the industrialized nation's concepts must be supplied first. It is even being speculated that the best social scientists for foreign aid problems come out of the local population alert to the fundamental structure of local social systems.

(3) The successful industrialization of a traditional society requires that a complex set of preconditions be met. These preconditions go far beyond mere economic preparations. It is now being hypothesized that more frequently than not it is to be adjudged undesirable to disturb a society that has been unsuccessful in achieving stability in its social structure--a state of affairs which most industrialized nations have yet to savour.

Part II: Verbal Statement of a General Social, Political, and Economic Equilibrium for a System of Regions

INTRODUCTION

In this paper we outline the structure of a general social, political and economic equilibrium framework for a system of regions. It is hoped that this general framework will lead to improved operational techniques for the analysis of social system development The effort to construct such a framework stems from dissatisfaction with the current general interregional equilibrium theory of economics and regional science--dissatisfaction with its ability to identify and explain interrelations among numerous social, political and economic forces. By and large, the current theory and associated operational techniques emphasize efficiency and profit maximization in economic sectors. It is no secret, however, that important non-economic forces are at play, and, increasingly, attempts are being made to incorporate these into analysis. Basic decisions on plant locations, on the allocation of investment funds among regions, on the development of infrastructure within urban areas, on the designation of urban places as poles of growth for a system of regions, on resource development in general, and on financial assistance--all these and many other decisions involve such non-economic forces as:

(1) the desire by individuals to accumulate and consume non-economic "commodities" such as c-respect, c-affection, c-rectitude, c-well being and c-enlightenment;

(2) the operation of cultural values and social norms which highly restrict the set of possible individual and organizational actions, making unfeasible, for example, input-outcome schedules that might otherwise maximize per-capita income, employment, etc;

(3) the interplay of political units, as individuals and groups seek to maximize their possession and consumption of c-power.

Hence, it becomes necessary to develop a more adequate general theory and accounting framework.

Briefly put, our general framework is based on production, exchange, and unilateral transfer of political and social "commodities" as

well as the familiar economic commodities.[1] There are four kinds of behaving units: organizations, government administrative units, exporting units and individuals (having six roles). Each behaving unit has an action space, which may or may not be restricted by the actions of others. Each unit receives a payoff (profit or utility) from any single or combined action he may choose, and he is motivated to maximize this payoff. Among social processes considered are those which determine prices on both economic and organization markets, and those which determine government program priorities, and elections and issue determinations.

We assume that the space of the social system consists of a finite number of separate and distinct regions. All consumption, production, market exchange and other activity in each region takes place at a single center around which individuals in the region may reside. Transportation and communication costs are incurred primarily by commodities moving between regions. In reality, of course, space is continuous, but it can be approximated by the postulate of a large, finite number of regions.

In each region there is one *economic market*, where the economic commodities may be purchased and sold at prices established for those commodities in accordance with the forces of supply and demand in the region. To encompass exchanges of *non-economic* commodities, we conceive of *organizational markets*, one within each organization in each region. At the organization markets, exchanges of economic commodities are governed by the prices established on the economic market of that region. Exchanges of non-economic commodities are governed by prices that are established in accordance with the supply and demand for the non-economic commodities at each organizational market.

Organizations are privately-owned units which engage in the production of economic and non-economic goods to maximize effective profits. (Effective profits are defined to embody much more than money profits.) As such, the organization to which we refer is not limited to the business firm of the economic subsystem, but can be part of the political, social and cultural subsystems as well.

Governments, however, are not seen as organizations. They are yet another set of actors in our model, who operate to maximize the welfare of their constituents. Governments engage in the production and distribution of goods and services required to realize various programs. Each government is administered by elected public officials whose own interests motivate them to maximize constituency welfare. We have a tax system to provide the revenue necessary to

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[1] *The symbol "c-" which is placed before many commodities (for example, c-respect) indicates that we are interpreting the word which follows in a restricted sense, namely in accordance with the commodity definition given in this paper.*

defray the costs of production and distribution incurred by governments in effecting programs. Our tax rate and program priorities (in the form of revenue allotments) are determined through a political process involving representatives elected by diverse constituencies.

We look at the individual in a multiplicity of active roles: as a one-man producer in society, as a unilateral giver of gifts, as an active participant in organizations and as a buyer and seller of economic goods. The individual also has passive roles: he is a constituent of one or more governments, which entitles him to fixed shares of the goods and services distributed by these units and obligates him to pay taxes to them; he owns equity (stock) in organizations and exporting units which entitles him to fixed shares of their money profits. The individual's "utility-maximizing" final plan of action involves a consistent decision on how to be involved in each of his roles--consistent in the sense of satisfying certain constraints which interrelate the roles.

Commodities may be exported from or imported into any region. Economic commodities are shipped between the economic markets by profit-maximizing exporting units, by governments, and by individuals in their organizational participation and gift-giving roles. The export and import of non-economic goods occurs through the active participation of individuals in organizations outside their own region, and through governmental distribution of goods and services. All exports and imports of commodities are part of aggregate supply and demand in the relevant regions. We may allow transactions for commodities to be delivered at one of a finite number of future time periods.

We account for the influences of cultural values and social norms on decision processes through the commodity "c-sanctions." Units of c-sanctions accrue to organizations and individuals in accordance with society's favor or disfavor re: their choices of input-outcome plans. An input-outcome plan of an organization or individual specifies the various requirements (inputs) needed to undertake some action (production or role) and the results (outcomes) of the action. The c-sanction associated with any input-outcome plan enters into the accounting framework as an imposition upon (or reward to) the organization or individual. The organization in seeking to maximize effective profits, and the individual in seeking to maximize utility, will consider the benefits of positive c-sanctions and the costs or disutility of negative c-sanctions when deciding on their optimal choice of actions. Thus, by its effect upon effective profits and utility, the award of c-sanctions by society affects organizational and individual behavior.

To facilitate understanding of our equilibrium model we present Illustration 3. Illustration 3 summarizes the various possible commodity flows among the several behaving units and institutions of our model.

As already mentioned, each actor in the social system has a range of possible actions. This range is restricted by resource limitations, prices, and the actions of other actors. Each actor has a preference function (profit, welfare, or utility) that ranks his possible actions. The social system is said to be in "equilibrium" when each actor, given the actions of all other actors, can find among his feasible actions no action which is better than his present one.

Before developing our equilibrium model of the social system, and discussing equilibrium conditions, we may ask how we know that an equilibrium state *exists*. Not all social system models have equilibrium states, and we want to be sure that ours does. In general we are assured that an equilibrium state exists if:

(1) the sets of actions to which all actors are restricted (by limited resources, debt limits, actions of other actors, etc.) are bounded, convex, closed, and contain the possibility of no action at all. Boundedness means that unlimited output or consumption is impossible. Convexity means that if any two actions are possible, then any weighted combination of the actions (where the weights add to unity), is also a possible action. Closure means that the sets of actions contain their boundaries, i.e. that if there is an action arbitrarily close to a second action that the actor is free to choose, then the first action is also among those which the actor may choose.

(2) the sets of actions to which all actors are restricted (as defined in (1)) vary continuously with the actions of other actors.

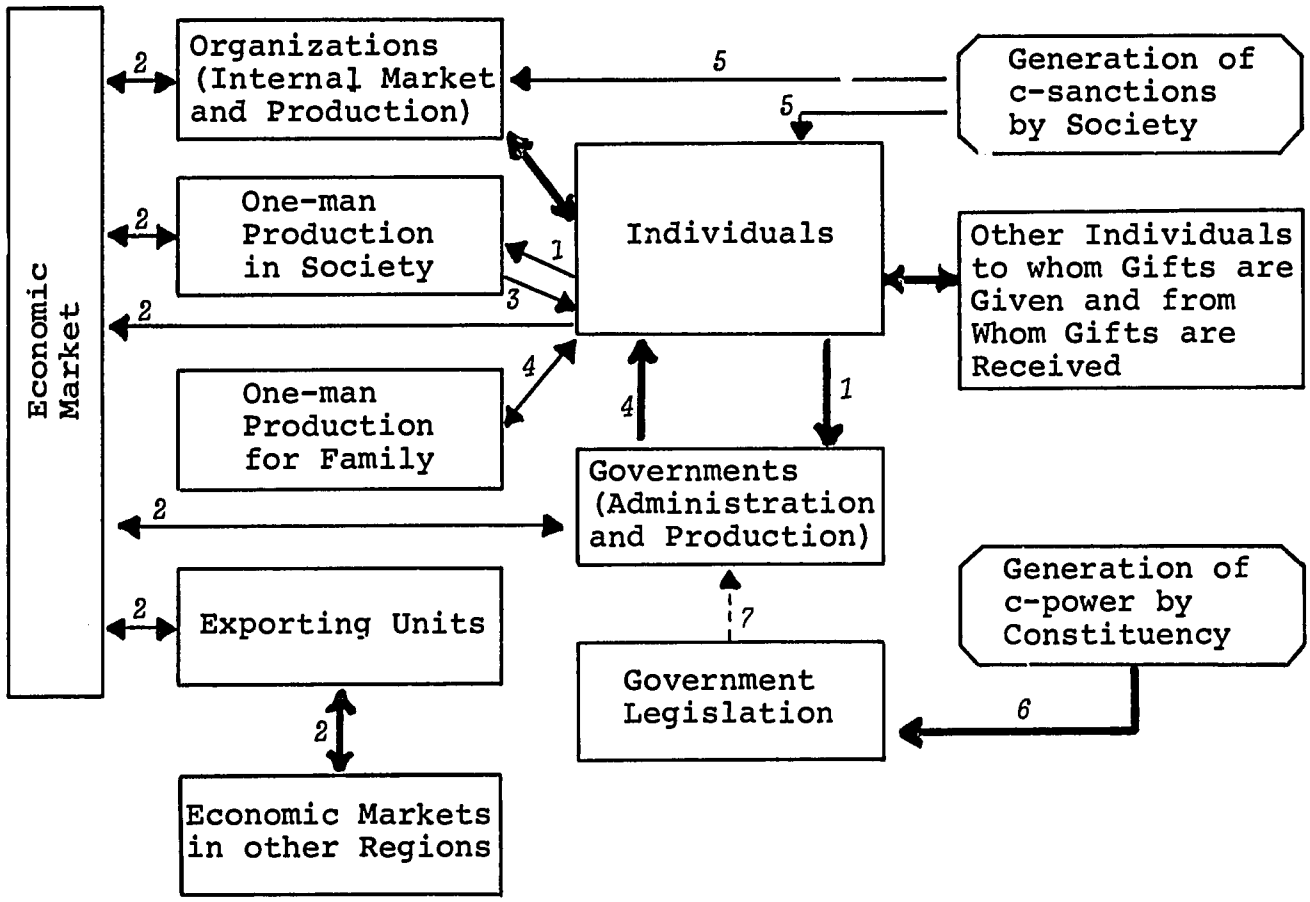
(3) the preference functions of all actors are such that, if actions A and B are preferred to C, then any weighted combination of A and B (where the weights add to unity) is also preferred to C.

What is important here is that under certain not unreasonable conditions like non-increasing returns to scale we are assured that an equilibrium does exist.

We have not yet mentioned the individual's role of voting in the election of government officials or the individual's role of saving commodities from current consumption. Together with changes in individual tastes, production technology, foreign aid, social sanctions and other factors, the individual's role of voting and saving are outside our equilibrium model. Changes in all such exogenous factors can be recognized in our model only at the start of a new equilibrium period (point of time), and not during an equilibrium period (point of time). The revised conditions (e.g. new elected officials, new production technology, etc.) will lead to a new equilibrium set of actions by all the actors in the social system. In turn the new equilibrium will affect the outcome of the

Illustration 3

COMMODITY FLOWS*



*Arrows indicate direction of commodity flow.
Unlabeled flows are of economic goods (including money) and non-economic goods.
Light lines are intraregional flows, heavy lines are flows that may be interregional.

1 money
2 economic commodities (including money)
3 money and non-economic commodities
4 economic commodities (excluding money) and non-economic commodities
5 c-sanctions
6 c-power
7 flow of decisions on government programs and tax rates

next elections, account for shifts in tastes between equilibrium periods, etc. Such alternation between equilibrium analysis of changes in exogenous factors can be suggestive of the path of development of a social system over time, and lead to a final social system model which may be designated a *recursive progression* model.

The reason that the use of the vote must be excluded from our equilibrium model is that, given the customary political-legal framework, the vote is a non-retractable action. In contrast, in general equilibrium analysis we assume that each actor can, without cost, reconsider and retract his action if he can identify any other action which allows him to attain a more preferred outcome. This strong retractability assumption of general equilibrium analysis is often approximated in reality by the possibility of resale of goods at very near the purchase price, and more generally by permitting the actors to act in increments so that by experience they learn what is the best action. No such resale or incremental action is open to the voter; he votes, a candidate is elected, and there is no recall.

It is not possible to put the individual's choice between saving and consumption in an equilibrium model. This limitation arises from the use of a utility function that accounts only for satisfactions occurring during the equilibrium period, while the motivations for saving are long range and cover at least two periods. Thus. if we wish to discuss individual saving, and the consequent possibility of investment in organizational capital, we must consider the role outside the equilibrium model.

There are other limitations to our model. As in traditional general economic theory, we assume away uncertainty (except that kind of uncertainty which can be treated actuarially as risk). We thereby deny the importance of the attitude variable in the decision making, that is, in the choice of one input-outcome plan from among many relevant ones in a given situation. Second, to construct a competitive equilibrium model we exclude all monopoly and monopsony elements (control of prices, supply and demand). Third, all processes within the model take place instantaneously, so that, in effect, all outcomes occur in the same period as the use of inputs which caused them. Finally, our inability to define precisely units in which non-economic commodities may be measured leaves the concept of internal organizational markets and the associated exchanges full of problems. Though in these, and many other respects, our model is unrealistic, yet it still can be useful, as with many economic models, in acquiring insight about the real world.

COMMODITIES

Our framework involves a finite number of distinct commodities, including all kinds of services. First, there are the familiar economic commodities which include such goods as labor, c-transfer (transport and communication services) and money. Money is the

numeraire commodity. It can be used by an individual to store wealth. The holding and use of money is viewed by society as a means of implementing production, export and market interaction. Moreover, money serves as a numeraire not only for the economic subsystem of the social system but also for the system as a whole. Accordingly, we assume that society looks neither favorably nor unfavorably upon the holding and use of money, and places no sanction on it.

In order to develop general equilibrium theory beyond the relatively narrow confines of economics, we find it necessary to identify and define several basic non-economic commodities.[1] It is to be emphasized that the list of non-economic commodities presented, as an addendum to the list of economic commodities that may be said to be identifiable, is by no means a final or full list of basic non-economic commodities. This list merely represents some of the non-economic commodities which, in our judgment, ought to be defined at this time.

An essential difference between economic and non-economic goods lies in the degree to which each type is well-defined. It is assumed that each economic commodity is so well-defined that it is not possible to distinguish between different units of that commodity in utility analysis; the utility anyone derives from consuming a unit of an economic commodity at a given time and location is independent of which unit he consumes. For example, of the many standard bottles of coca-cola offered for sale by the numerous sellers at a point economic market, the utility to the individual of a bottle of coca-cola is independent of the one consumed.

In contrast, non-economic goods are not so well-defined. It, therefore, is difficult to distinguish conceptually between different qualities or brands, or other significant attributes of a broad class of non-economic goods. When we speak of the commodity c-respect, where

> *c-respect* is the weighted combination of status, honor, recognition, prestige, esteem, and expressive social approval which an individual or group receives,

we should speak of many different non-economic commodities which might fall under the heading of "c-respect-type" commodities. For example, a Nobel Prize award for outstanding research and a Red Cross decoration for an act of bravery are two "c-respect-type" commodities which fall under the general heading of c-respect; and

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[1] *As will be very apparent, our definitions of non-economic commodities draw heavily upon Lasswell's writings.*

each may be taken to correspond to specific numbers of units of the general commodity c-respect.

Because of inadequate definitions and complete absence of investigation,we choose to aggregate all "c-respect-type" commodities into the same one broadly defined commodity c-respect; yet we may still distinguish among the different utilities the individual receives from different units of c-respect when he obtains them at different organizational markets. In other words, though from the standpoint of accounting in the supply and demand framework, we may make no distinction between different units of c-respect on the same organizational market; from the standpoint of utility derivation, we do not assume that the utility obtained from consuming a unit of c-respect is independent of the source of the unit. For example, the utility of the c-respect in a president's handshake depends upon the organizational market from which this unit of c-respect is received (i.e. the organization to which the president belongs).

Note that c-respect is a commodity that can be both held as stock and consumed as a flow. The individual about whom the statement, "He won the Nobel Prize," can be said, has a stock of the commodity c-respect--a stock in the sense that in the future similar respectful statements about him can be expected to be made. If the statements (or statement equivalents) conferring respect come to be made less frequently per unit of time, or each has a decreasing significance, then the stock of c-respect depreciates over time. It is interesting to speculate on how much c-respect an organization needs as operating capital. It may be that a large supply of c-respect is needed to achieve such practical ends as low interest rates on loans.

In contrast to c-respect, we have the commodity c-sociality where

> *c-sociality* is the pleasant feeling generated by interaction of individuals in a group or circle. It is a commodity which can be produced by a collectivity only, and not by an individual. As a member of a group, an individual receives a share of this commodity as a return. It is narrowly defined to exclude affection that may simultaneously be generated.

Relatively speaking, c-sociality is a commodity of momentary character and of which there can be no stock. It is a final product commodity which can only be consumed by the individual as it is generated by social interaction. That is, if the individual is to consume c-sociality he must consume it approximately at the same time or during the same period as it is produced. In the process of consumption, c-sociality directly yields utility just as any other service of a relatively momentary character, e.g. recreation from a musical performance.

Another non-economic commodity that is produced only by groups is c-solidarity, where

> *c-solidarity* is the integration of diversified perspectives within a collectivity. It is a commodity which has reference to a collectivity only, and is produced by interaction of individuals within the group. It is not a commodity which is capable of being possessed by individuals, and thus is an intermediate and not a final product. It embraces cohesiveness (the strength of attraction of individuals to the group) as well as loyalty (faithfulness of individuals to the values and standards of the group). One hundred percent solidarity implies that the group has a joint preference ordering.

In our conceptual framework, group behavior is considered to be primary and not reducible to individual behavior. Further, in the empirical implementation of our framework, we will wish to employ the extensive sets of data available on the behavior of diverse groups. Hence commodities such as c-sociality and c-solidarity which are produced by groups only (and in the case of c-solidarity, consumed by groups only) are appropriate for our analysis. In other conceptual frameworks, however, group behavior may be reduced to individual behavior in situations involving more than one individual. Both c-affection, where

> *c-affection* is the kindliness, friendliness, love, and goodwill bestowed upon an individual or group by other individuals and groups, and embraces popularity,

and c-sociality might then be combined into a single commodity. And, c-solidarity, which is an intermediate commodity, might no longer be considered a commodity of primary significance.

Other important non-economic commodities are defined as follows:

> *c-rectitude* is a weighted average of religious and moral values such as virtue, goodness, righteousness, responsibility, honesty and integrity. Its possession by an individual is recognized by the individual, other individuals, and groups.
>
> *c-well being* is the health and safety of the individual. Each individual may be viewed as possessing a stock of c-well being, no matter how small. Per unit of time (that is, on a current basis) such stock may be said to generate a flow of c-well being (i.e. physical vigour, vitality and safety), the amount of which varies directly with the size of the stock.

c-skill is proficiency in practice, whether in arts, crafts, trade or profession. It also embraces the ability to be inventive and creative. An individual's stock of c-skill may well increase with use, as for example in a musical performance where careful execution and sensitive repetition leads to greater coordination and control of muscular activities.

c-enlightenment is knowledge and insight concerning the physical environment and personal, social and cultural relations. C-enlightenment may be used as an input in an input-outcome vector to yield such outcomes as money, c-power, etc., as well as c-enlightenment itself.

c-achievement is accomplishment of an individual as evaluated by that individual. It is a commodity that can be consumed by an individual only, and its consumption may be associated with the removal of the tension associated with the need for achievement.

c-power is the ability to influence decisions of individuals and groups. It may be possessed by both individuals and groups, through delegation or otherwise. By this definition, power embraces the ability to exercise authority -- to compel obedience, the exercise of authority implying an asymmetrical relationship between two behaving units.

Note that we treat power as one of many desired and valuable commodities that can yield utility directly to its possessor. However, by allowing c-power to be used as an input in an input-outcome vector, (that is, in a plan of activity of an individual or group) we are able to encompass fundamental influence and power relationships. For c-power can be exchanged at organizational markets for such other commodities as c-respect and c-affection that yield utility directly to the individual, or for such commodities as labor that yield utility indirectly through use as an intermediate good.

The most basic use of c-power, perhaps, is to influence the outcomes of elections and other issue resolutions. The use of c-power to influence the outcome of elections is, however, outside our equilibrium analysis. But such use of c-power in the past or future relative to the time period of an equilibrium analysis helps define the given environment in which the equilibrium is cast.

The *vote* is a resource (frequently a perishable resource). It is an input in a situation where the output is a decision. It is an explicit unit expression of support or opposition to alternatives available for selection.

The use of the vote as an input takes place outside the equilibrium period, that is, during the interim between two successive time periods during which our equilibrium analysis is pursued.

Finally, we consider a type of non-physical production which is important for understanding the integrative and cultural sub-systems, and in particular the relationship of the individual to members of his family. This production occurs when out of pure love an individual gives another individual a gift of commodities (e.g. corn, flowers, c-affection) which the first individual judges will increase the welfare (happiness) of the second individual. Such unilateral giving is present most pervasively in family relationships wherein human love is involved. One spouse gives to another without requiring or expecting any commodity in return. Similarly, parents give on a one-way basis to their children; and to a lesser extent, individuals make unilateral gifts to friends.

An individual's utility (inwardly experienced satisfaction) increases when he makes a unilateral gift which he judges to increase the recipient's utility. We establish this utility effect by having the giver consume additional amounts of specific commodities. One method would be to reward the giver with c-affection or c-respect or other commodity in an amount directly proportional to the imagined increase in the recipient's utility caused by the unilateral gift. However, for our purposes, we have chosen to define a new commodity, namely, c-love tendered. C-love tendered can only be produced by individuals through the giving of unilateral gifts. It enters directly into an individual's utility function and cannot be exchanged on any market.

> *C-love tendered* is the inwardly felt satisfaction produced by individuals giving unilateral gifts, and as such is directly consumed.

SOCIAL SANCTIONS

In addition to the economic and non-economic commodities discussed in the previous section, we conceive of a commodity "c-sanctions" to enable us to include cultural values and social norms in a competitive model of the social system. Unlike other commodities, the generation (production) and allocation of c-sanctions is completely controlled by society as an entirety. No organization can produce c-sanctions, nor can any organization use c-sanctions to produce other commodities. Nor can individuals produce or use c-sanctions in their production activities. However, units of c-sanctions are awarded, on a unilateral basis, to organizations and individuals in their respective actions. The exact number of units awarded for a given action is well-defined, and reflects the degree of concordance between that action and the values, norms, aspirations, and expectations of the social system with reference to the given actor.

The magnitude of the c-sanctions awarded to an organization's or individual's input-outcome plan may be taken to reflect society's net

approval or disapproval of the plan. In this sense, c-sanctions is an atypical commodity; yet, we conceive it to have utility for the individual and we conceive its value to enter into the profit decisions of organizations. In this latter sense, it is a real commodity; so we treat it as such.

Rather than associating the award of c-sanctions with an action as a whole, we find it more meaningful to associate the award with the individual components which taken together comprise the action. From the standpoint of general equilibrium analysis, it is desirable as far as possible to disaggregate by commodity the c-sanctions of society in order to identify their differential effects upon different commodity-producing and commodity-consuming activities. For each organization (or individual) and each commodity, then, there is an amount (that can have either a positive or a negative value) or c-sanctions which is awarded for each unit outcome of the commodity. When a positive amount of c-sanctions is awarded the organization receives a positive award or gift from society whenever its actions involve the commodity as an outcome. And when the amount is negative the organization receives a negative award or imposition from society (that is, it must pay a fine or tax to society) whenever its actions involve the commodity as an outcome. Similarly, for each organization and each commodity there is an amount of c-sanctions that is awarded to the organization for each input of the commodity. The total receipts of c-sanctions associated with an organization's action, i.e. the total social sanction of the action, is the algebraic sum of the c-sanctions awarded for all the inputs and outcomes of the action. It is convenient to assume that five units of a commodity are associated with five times the amount of c-sanctions than one unit of the commodity. This simple linearity assumption facilitates calculation of equilibrium conditions and makes the proof that an equilibrium exists much easier; however, a more elaborate framework could be developed to approximate reality more closely.

We assume that society can bestow upon and exact from individuals and organizations unlimited quantities of c-sanctions. Analysis of the process by which society acquires the authority to levy both positive and negative amounts of c-sanctions, and of the forces governing the extent of this authority, involves dynamic consideration of the cultural subsystem which is beyond the static framework employed in this paper.

In many respects, c-sanctions, as constants per unit commodity, behave as transport costs do in standard location theory on supply and market areas. In such theory, the demand curves of different individuals at different locations can be brought together and aggregated to form the aggregate demand curve at the market place through vertically lowering of the demand curve of each individual by a constant amount equal to the cost of overcoming the distance of his location from the market place. In the case of negative sanctions placed on purchases, which may be different for different

individuals, individual demand curves must be lowered by the value of the c-sanction. Similarly, to aggregate supply curves of organizations, the separate curves must be raised by the amount of transport costs or sanctions. When the c-sanctions are positive on goods, the direction of the shift of the demand curve is reversed.

ORGANIZATIONS AND THEIR OPERATIONS

Organizations are collectivities (systems of interacting individuals normatively regulated by common values) which (1) engage in the production of economic and non-economic commodities, (2) serve as a market where individuals can exchange economic and non-economic commodities, and (3) maximize effective profits. Examples of organizations are business firms, political clubs, churches, families and social groups. One-man production is a role of an individual and does not constitute an organizational action. Also, governments are not considered organizations in this analysis, but are treated as separate units in section 5. Although governments are collectivities that produce commodities, they do not fit our definition of an organization; they operate to maximize constituency welfare and not effective profits. Also, individuals are free to join or not join any organization, but being a member of a government's constituency unavoidably obligates an individual to pay taxes and entitles the individual to a share of the government's goods and services. Note that political clubs and parties are organizations.

In the discussion to follow we shall, in general, have in mind the real organizations which are amalgams of two or more of the four types of organizations, each type characteristic of one of Talcott Parsons' four subsystems.

(1) The typical organization in Parsons' adaptive subsystem is concerned with the overcoming of environmental constraints and the active manipulation of the scarce resources of both the environment and the social system in order to acquire commodities meaningful for a variety of goals. Such organizations have typically been designated economic firms. Externally seen, the inputs and outputs of these organizations fall, by and large, within the class of economic commodities. Frequently, however, business firms have required as inputs or yielded as outputs, or both, some of the non-economic commodities. For example, a business firm may produce c-sociality, c-solidarity, and c-respect to use as intermediate goods in current production, raising morale and providing other incentives to achieve high worker productivity. For such economic organizations, traditional economic theory has been found wanting.

(2) The typical organization of Parsons' *goal-attainment* subsystem evaluates the diverse goals of the social system.

These political, policy-forming organizations possess potential influence and exercise authority, and mediate the interests of individuals and groups. Typically, in making their contribution, these organizations will employ as inputs c-power, c-respect, and other non-economic as well as economic commodities. They frequently realize as outcomes c-power, c-respect, and other commodities--the realization of these outcomes being related to the extent of their success in mediation and in committing facilities and resources to the attainment of system goals.

(3) The typical organization of Parsons' *integrative* subsystem controls conflict and disruptive tendencies to deviant behavior and promotes harmony and cooperation. Some examples of these organizations are the family, other social groups and certain legal institutions. By and large, the outputs of these organizations are the non-economic commodities, especially c-sociality and c-solidarity.

(4) The typical organization of Parsons' *pattern-maintainance* subsystem seeks to establish stability of institutional patterns and values, and, in a more comprehensive sense than an integrative-type organization, the management of forces of tension among individuals and organizations. This type of organization includes religious and educational institutions. These organizations are concerned with preserving certain values and the significance of certain symbols, or with the restoration of balance once forces of change have injected themselves into a culture. Outputs of these organizations are predominantly c-respect, c-rectitude, c-affection, c-solidarity, c-well being, c-skill, c-enlightenment, and c-power. Inputs typically range over the full list of commodities.

Each organization serves as a market at which individuals can exchange economic and non-economic commodities. This market, through a system of prices, regulates the exchanges of commodities among organization members and the organization. Customarily, time (labor), c-skill, etc. of individuals are given to the organization as inputs to the production process, and in return the individual receives some of the organization's outputs or products. Conceiving of this exchange as governed by a market, where both economic and non-economic commodities are bought and sold for money, enables us to include the internal behavior of an organization in our general equilibrium model.

Any economic goods exchanged at an organizational market must be evaluated at the price prevailing at the economic market in the organization's region. This is so because we postulate zero transport costs between all organizational markets and the economic market in a region. Prices on non-economic commodities, however, may vary between organizational markets in the same region. The

reason for the varying prices of non-economic goods is lack of standardization. Recall our conceptual distinction between economic and non-economic commodities; whereas the utility of consuming economic goods is assumed independent of the particular unit being consumed, the utility of non-economic goods depends upon where the consumer obtained the unit of the good, i.e. at which organizational market he made an exchange for that good.

We have defined an organization as a collectivity that maximizes effective profits. The entrepreneur, and each member of the executive group, may be conceived to be shareholders in the organization, each of whom receives a fixed share of the organization's profits. Thus the executive is motivated to choose, from among all technologically possible organizational production plans, that input-outcome plan which maximizes effective profit. The *effective profit* of an organization consists of the money value of all outcomes less the money value of all inputs plus the money value of the c-sanctions that society confers upon the production plan.

In calculating effective profit, the money value of commodities is found using the prices at the internal market of the organization. The organization always takes prices as given since we assume perfect competition in our equilibrium model. We assume that the organization has full knowledge of all prices, including the amounts and value of c-sanctions associated with inputs and outputs in the production plan. Actually, the organization may have rather incomplete knowledge about the non-economic commodity prices and the c-sanctions. Hence, there may be a considerable amount of subjective estimation in calculating the effective profit of an organization.

We do not require that an organization choose a plan of action that results in a positive total of c-sanctions. The income for interaction with the economic market plus the income from transactions on the organization's internal market may have a positive value and outweigh a negative social sanction. The organization seeks to maximize its effective profits, and c-sanctions comprise only one part of the organization's income. On the other hand, it is also possible for a positive social sanction to balance out a negative market income. In maximizing effective profits an organization produces an output up to the point where, owing to diminishing marginal productivity and other factors, its effective marginal cost equals effective price (marginal revenue). Since effective price exceeds the market price for outputs upon which a positive c-sanction exists, the organization may lose money (in the restricted economic sense) while enjoying a non-negative maximum effective profit. In fact, the organization's overall operations may incur negative money profit; that is, its operations may involve, on net, small or large inputs of the commodity money. Such a situation characterizes many non-business organizations, e.g. educational and religious institutions. Such institutions frequently balance their books in the narrow financial sense primarily through the contributions of money by individuals. Of course, business

organizations primarily in the economic subsystem typically concentrate on the production of economic commodities, upon which society places few, if any, c-sanctions.

As an example of the structure and motivation of organizations in our equilibrium model, consider a religious society. The members of this religious society are dedicated to a particular set of principles and creed. The society seeks an action, possibly to open a mission, which will maximize its effective profit. Among its possible actions, i.e. its possible production plans of inputs and outcomes, the religious society is particularly interested in those with large outcomes of c-rectitude. C-rectitude is in great demand among the organization's members, brings a high price in the organization's internal market, and thus leads to high profits.

Ethical standards and cultural norms, as expressed in our model by c-sanctions, restrict the ways in which this religious society may seek converts in order to grow, and the ways in which it may compete with other religious societies. Further restricting the religious society's choice of action is the fact that, in choosing its production plan it must reconcile whatever conflicts exist among its own members. Each member, if he is to remain active in the organization, must feel properly "appreciated." This stability requirement, in effect a requirement for the religious society to produce c-solidarity and other inducements to cooperation among members, enters into the production plan of the organization and is considered in its search for an optimal input-outcome plan.

We treat the family as a special case of an organization. We conceive of an individual belonging to one and only one family, the kinship unit which is responsible for his subsistence (in the case of children, invalids, and aged), or to which his family subsistence responsibilities are attached (if he is an able-bodied adult). The family is unique as an organization because it is the subsistence unit. (We overlook, here, the rare arrangement such as the Kibbutz where the family is not the relevant subsistence unit.) The family is also distinguishable from other organizations by the high rate of exchange of non-economic commodities, and by the prevalence of unilateral giving to loved ones. It is the organization through which society, via c-sanctions, typically regulates reproduction of the species, and one of the chief organizations through which society regulates the socialization of children and the psychological development and motivation of the individual.

The family members are the active participants of their family organization. Each member contributes labor and other inputs in exchange, at the set economic market and family organizationion market prices, for other commodities such as food, c-affection and c-enlightenment. Society awards c-sanctions to the family in its actions, the size of the award reflecting the norms of society. As a production unit, the family seeks to maximize its effective profit, inclusive of c-sanctions, taking the market prices and the internal prices on its own organizational market as given.

GOVERNMENT UNITS AND THEIR OPERATIONS

Governments are collectivities which: (1) engage in the production of economic and non-economic commodities, (2) collect taxes from and distribute goods and services to their constituents, and (3) maximize the welfare of their constituents. A government unit has jurisdiction over an area which consists of one or more regions. All the individuals living in this area are constituents of the government unit. All constituents pay taxes, and each constituent receives a fixed share of government goods and services.

An administrator is associated with each government. The administrator has been elected to office, as a candidate of some political organizations, by the government's constituency. The administrator knows and accepts as fixed the share of government goods that each constituent, including himself, receives. The administrator receives from the government's legislative branch the definition of different programs and the allocation of tax revenue to each program. The administrator's role consists of choosing a government production plan that maximizes the number of units of each program that can be distributed, given the tax allocation. He is responsible for overseeing the distribution of goods and services to the constituents. The administrator is motivated to maximize governmental efficiency because, as a member of the government's constituency, he receives a fixed share of the distributed goods and services.

In choosing the government production plan, the administrator examines production possibilities in each region and may divide government production among several regions. Since the government's constituency may involve several regions, the distribution as well as the production of government commodities may involve interregional commodity flows. The inputs to production in each region are purchased at the economic market of that region. We make the simplifying assumption in our model that only economic commodities are needed as inputs to government production. This allows us to avoid postulating a governmental internal market where individuals can provide the government with non-economic commodities. Note that our government can produce non-economic commodities and distribute them to constituents.

Each government has a body of representatives. The representatives have been elected by a subconstituency of the government's constituency. The subconstituencies of the representatives form a mutually exclusive and exhaustive subdivision of the constituency of the government. The body of representatives is involved in a series of meetings to determine the levels of diverse government programs and the amount of taxes (expressed as tax rates on taxable income) to be spent on each program. Typically, an action of the body of representatives made known at the end of any one meeting involves a political process whereby an agreement is reached on some compromise set of programs and tax rates. Throughout the time period of any

one meeting of the body, prices and the taxable incomes of the constituents prevailing at the beginning of the period are taken as given. Since prices and taxable incomes may change, the body of representatives holds a series of meetings, and at each meeting past actions may be altered, and a new set of compromise program levels and tax rates may result.

We assume that each representative seeks c-power, which is conferred on him by his subconstituency. The greater the welfare to the subconstituency resulting from government goods and services, the greater the amount of c-power conferred on the representative. In this manner, the representative is motivated to maximize his constituents' welfare. The representative may derive utility directly from the c-power, exchange the c-power at an organizational market for other commodities such as c-respect, or hold a stock of c-power for future use to improve chances of re-election.

In reflecting on our distinction between organizations which maximize effective profits and government units which maximize constituency welfare, note that we could model certain religious, educational, and other social and cultural collectivities in the same way as we model governments, rather than as organizations. As to the problem of defining an index of constituency welfare, about all that can be said here is that we posit that the individuals in any one representative's subconstituency have similar enough utility functions and similar enough consumption plans so that an "average individual's" utility function can be used as a welfare index.

INDIVIDUALS AND THEIR ROLES

For our purposes, an individual is more than the traditional consumer and producer (laborer) of economics. He has other roles in addition to the purely economic ones. We follow Parsons in defining a "role" as "the structured, i.e. normatively regulated, participation of a person in a concrete process of social interaction with specified, concrete role-partners. The system of such interaction of a plurality of role-performance is, so far as it is normatively regulated in terms of common values and of norms sanctioned by these common values, a collectivity. Performing a role within a collectivity defines the category of membership, i.e. the assumption of obligations of performance in that concrete interaction system. Obligations correlatively imply rights."[1]

The first of six active roles that an individual may choose in our model is *one-man production for family consumption*. Such pro-

[1] *Talcott Parsons, et. al., THEORIES OF SOCIETY, the Free Press of Glencoe, New York, 1961, Vol. 1, p. 42.*

duction uses no other inputs than the individual's initial stocks.[1] The only labor input to the production is the individual's own time, and no inputs may be purchased at any market. The outcomes or results of the one-man production in this role are either consumed by the producing individual or are given away as gifts to members of his family. Since this role is performed in isolation from society, no c-sanctions are conferred upon an individual choosing an action in this role.

An individual may conduct a second type of one-man production operation. This time, although still using only his own labor, he may purchase production inputs and sell outcomes at markets. We call this role *one-man production in society*, because it involves interactions outside the family, namely exchange at some market.

The third possible individual role is *unilateral gift-giving*. As discussed in section 3, we look upon the giving of gifts to individuals as the production of c-love tendered. This commodity, c-love tendered, is valued by the giver, and allows our model to account for the feeling of satisfaction generated by unilateral giving.

In section 4, we conceive that an individual views each organization as a submarket to which he can bring commodities, including his own labor, as contributions or inputs, and from which he takes home commodities, including c-sanctions, as outcomes or receipts. Trading economic and non-economic commodities at an organizational market constitues a fourth role open to an individual, here called *active participation in organizations*. This role includes administrative and non-administrative, entrepreneurial and non-entrepreneurial, and other leader and non-leader participation in organizations.

It is useful to specify some of the input-outcome organizational participation plans that may confront an individual. If the individual is a participant in a business organization in his region of residence, then in one of his input-outcome plans he may simply supply labor services (in his role as an employee) in return for a positive amount of money. However, if the business organization is hybrid and yields to the individual some c-sociality (more or less as a by-product), then the individual's input-outcome plan will have an outcome component of c-sociality. C-respect and c-enlightenment will also be outcomes if the plan involves taking advantage of an educational program of the business organization. If the individual devotes some time to his local church, which also sponsors social activities, then the commodities and c-sociality may be outcomes in his role plan, and labor and money may be inputs. Where an individual attends a university, there will be a c-enlightenment outcome which may in turn be used as an input to produce both c-skill and c-achievement.

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[1] *Or commodities received as gifts from initial stocks of other family members.*

The fifth and sixth active roles that an individual may perform are the traditional ones of economics: the *sale of economic commodities* and the *purchase of economic commodities* at the economic market in the individual's region. The goods sold come from initial stocks augmented by any receipts of economic goods from organizations or as gifts. The goods purchased are for own consumption (i.e. final stocks) and gift-giving.

All six active roles require inputs of commodities and result in outcomes of other commodities. An individual's ability to participate in one or more roles thus depends upon his possession of a stock of commodities to use as inputs. Each individual is assumed to have a finite stock of commodities at the beginning of each equilibrium period. All these initial stocks must be non-negative, except money, which in the case of a debt is a negative amount. (By convention, in our model all debts are in money terms.) All individuals have an initial stock of time (labor). Also included in initial stocks may be non-economic goods which automatically accrue to an individual at birth (e.g. c-well being), or at the attainment of a certain age (e.g. the vote). A final contribution to initial stocks is that portion of the previous equilibrium period's final stocks that the individual saved from consumption.

In addition to the six active roles discussed above, there are two passive roles open to an individual: *membership in a government constituency and ownership of equity in an organization* or exporting unit. As a member of a government constituency, an individual has the right to receive his fixed share of the goods and services distributed by that government, and the individual has the obligation to pay the required taxes. In the equilibrium model, the individual has no control over the government services or over the taxes he pays, so this role is called passive. As an owner of equity (capital stock) in an organization or exporting unit, the individual receives, as dividends, a fixed share of the money profits of that organization or exporting unit when these profits are positive. He is not required to bear a share of any money loss of an organization or exporting unit. This role also does not necessitate active participation.

The objective of an individual is to maximize the utility of his final stocks (i.e. commodities held by an individual at the end of the equilibrium period). We assume that the individual's tastes, aspirations and values are expressed in a preference ordering of possible final stocks. This preference ordering function indicates which of any two bundles of final stocks has the greater utility. The individual's problem, then, is to choose a number of roles from among his possible roles in such a way that the combined action of all roles leads to final stocks that maximizes his utility over all possible final stocks.

In calculating the final stocks resulting from a set of roles, the individual considers the inputs and outcomes of all the roles. One

of the outcomes considered is the amount of c-sanctions conferred by society on a role choice; all exchanges at economic, organizational and governmental markets resulting in the award of c-sanctions by society. Also, when an individual engages in one-man production in society he receives c-sanctions according to his production plan, just like an organization receives c-sanctions through its production activity. As in the case of c-sanctions received by organizations, the c-sanctions received by an individual are conferred per unit commodity involved as an input or an outcome in the individual's role plan.

In our model, we make the simplifying assumptions that the input-outcome vectors associated with each of the several roles are *additive*. Subject to the requirement that we do not aggregate non-economic commodities from different organizations, this assumption allows us to find the final stocks resulting from the combined action of several roles simply by adding to an individual's initial stocks all the outcomes from his roles and subtracting all the inputs to his roles.

There are five constraints on an individual's choice of roles that reduce the number of possible role combinations, i.e. that make the roles dependent from the point of view of the individual. The first constraint is the *budget constraint*. Money expenditure less money income must not exceed the maximum allowed debt. In our system, debts of any kind, at either the beginning or the end of an equilibrium period, must be in money. In the model, we may set this minimum level of money holdings at zero if we want to avoid debts entirely, or we may make the minimum level a positive amount if we want to require that each individual save and hold money. From the convention on debts we obtain the *consumption constraint*, that except in the case of money, only non-negative amounts of goods can be consumed.

The third and fourth constraints on an individual's choice of roles involve his initial stocks of commodities, i.e. those commodities that the individual has at the start of an equilibrium period. The *labor constraint* requires that the demand for an individual's time for leisure, for one-man production, and for organizational participation not exceed the time available in the equilibrium period. The *initial stocks constraint* requires that inputs into one-man production for family not be greater than initial stocks.

Finally, we have the *subsistence constraint*. Individual consumption must exceed a minimum subsistence level. In treating the problem of subsistence, we look at each commodity separately. For every commodity, economic and non-economic, there is a minimum amount which an individual must consume (hold as final stock) in order to subsist. For many commodities and individuals this minimum amount will be positive, and in some cases it will be zero. Money is again an exception. There is no minimum amount of money holdings, except for the debt limit, since money is not necessary for subsistence. It is possible to conceive that an individual can

subsist in isolation from society, with zero consumption of all non-economic commodities. Also, for individuals living outside of society, subsistence on negative consumption of commodities such as c-respect is conceivable.

In our system, it is the family, and not the individual, which is the basic subsistence unit. Note that unlike other organizations, the family may consist of only one member. We assume that the members of a family can subsist as a group of one-man producers for family consumption, completely divorced from all other participants in the social system. That is, we assume that the initial stocks of the members of a family plus what commodities they can produce in isolation from society is sufficient to insure subsistence for all family members. Of course, just because such separate subsistence is possible does not mean that individual utility functions will very often be maximized by this choice of action.

Recall that the members of a family act as separate individuals in our competitive equilibrium. How then do we account for the cooperation among family members to insure subsistence? In our system, the cooperative element is a major problem, the structure of general equilibrium analysis being such that each participant takes the actions of every other participant as given--each participant acts independently in a non-cooperative way. Of course, we could choose to treat the family as a single participant. However, we choose to treat each family member as an individual participant in the social system, and we motivate each individual to act toward his brothers in such a way that at equilibrium every individual is subsisting. That is to say, brotherly love considerations enter into each individual's utility function and motivate each individual to help provide for the subsistence of other family members. We conceive that an individual's utility function is dependent upon the total consumption or final holdings of each member of his family, such that the individual is happier when each family member is supra-subsistent than when some member is infrasubsistent because the individual failed in his responsibility. This may be a rather poor substitute for cooperation, but we use it pending the development of further analysis which will permit the incorporation of cooperative solutions into general equilibrium analysis.

In addition to the six possible active roles (two kinds of one-man production, gift-giving, active membership in organizations, and buying and selling economic goods) and the two passive roles of membership in government constituencies and ownership of equities, there are two roles that are external to the equilibrium model. These roles occur, in our framework, between equilibrium periods. The first of these non-equilibrium roles is that of *voting* in elections. This role is discussed in section 9. The second non-equilibrium role is *saving*.

EXPORTING UNITS AND SHIPMENT PLANS

Individuals, governments, and exporting units are all involved in exporting (and importing) commodities between regions. When individuals actively or passively participate in organizations of foreign regions the individuals must export from their own region, the inputs to their organizational roles and import to their own region the outcomes. Also, in the unilateral gift-giving role, individuals may export commodities to family and friends in other regions. Individuals export and import both economic and non-economic commodities, for all kinds of commodities are involved in their organizational and gift-giving roles. Governments may produce goods and services in whatever region is most efficient, and typically efficient production involves some economic goods via exporting units. Also, governments directly undertake exporting when distributing the goods and services they produce to their constituents. A government's constituency may embrace several economic regions, and in this case its export activity will be especially high.

In a multi-regional system, where the same economic commodity may be differently priced in the various regions, there is opportunity to profit through trade. Independent traders buy economic goods in one region and sell them at a profit in another, whenever the price spread between the two regions covers the transfer costs. In reality, some organizations produce goods in one region and ship them to another for sale without using independent traders. However, in our framework, we assume that import-export activities of an organization are independent of production and can be separated from the organization and performed by one or more exporting units.

An exporting unit can engage in the trade of economic goods only. Non-economic commodities have utility for the individual which is dependent on the origin of the commodity. Whereas there need only be one set of prices for economic goods in any region, there must be many sets of nontangible prices for non-economic goods--one set for every possible origin or, equivalently, one set per organization. For these reasons, the import and export of non-economic goods is not done by exporting units, but is left to the import and export activities of individuals, through their active participation in organizations of foreign regions and passive participation in governments.

Although exporting units are profit-maximizing, they are not organizations, have no internal market, do not deal with non-economic goods and receive no c-sanctions. However, like the organization, the exporting unit is privately-owned, and its profits are completely distributed to individuals according to the fixed share which they own. The exporting unit does not incorporate in its activities the export of goods for distribution to constituents, which is carried out by governmental units under welfare-maximizing motives. Neither does it include the export activity of individuals who

belong to foreign organizations, or who send unilateral gifts to friends and relatives in other regions, under utility-maximizing motives.

Each exporting unit, government or individual, requires as inputs to any export plan both the set of commodities to be exported (which may include transportation and transmission services) and the transportation and transmission inputs required to effect the export plan. We use the terms transportation and transmission in the sense customary in the literature on trade and communications. We adopt a more general term, c-transfer, to cover both transportation and transmission of commodities--for example, of wheat, electricity, c-enlightenment (in books) and c-affection (in statements). We place the symbol "c-" before the word transfer to indicate that we interpret the word in a restricted sense--as a process involving the movement of a commodity from one place to another.

EQUILIBRIUM CONDITIONS AND SOCIAL PROCESSES (MARKET AND POLITICAL)

When the social system is in equilibrium, no actor can improve his corresponding situation by changing his action. No individual can increase his utility, no organization can increase its profits, no governmental unit can increase its constituents' welfare, and no exporting unit can make additional profits from trade. Thus, many of the conditions defining a social equilibrium derive from the requirement that the objective functions of all actors be maximized, when suitably constrained by the given prices, actions of others, and budget and resource limitations.

Other equilibrium conditions stem from the equating of supply and demand at economic and organizational markets, and in the political process. We assume that many individuals and organizations come together at the economic market in each region to buy and sell economic commodities. No one individual or organization is large or strong enough to influence any price. Each assumes that prices are independent of his own actions. Market equilibrium with respect to a commodity exists when the supply and demand for the commodity are equated or when there is excess supply of the commodity at a zero price. Market equilibrium with respect to an actor exists when (using the prevailing prices) the value of commodities supplied equals the value of commodities received.

We conceive that there exists internally to each organization in each region an organizational market to which individuals may bring commodities for exchange and which guides individuals in their active participation in organizations. As with the economic market, at equilibrium the value of contributions of the individual must equal the value of commodities received; at the organizational market either the demand for each commodity must equal its supply, or the commodity is a free good. Prices of economic commodities at organizational markets are the same as on the economic market

in the region in which the organization is located. Prices of non-economic commodities are set internally at each organizational market.

The organization itself is directly involved in exchange at its internal market. It may sell certain of its outcomes (outputs) at this market, as well as purchase some of its inputs. Hence, all outcomes which are marketed internally and sold to its active participants must be subtracted from an organization's production plan, and to this plan must be added all inputs which it receives (purchases) on the internal market from its active participants. Only then do we have the net vector of inputs and outcomes which the organization buys and sells on the economic market.

To discuss the system of economic market prices, we need to introduce the concepts of excess demand and of a market participant. Excess demand for a commodity is the total demand for that commodity at the market less its total supply, demand and supply being summed over all individuals, organizations, governments and exporters dealing with this economic market. On each economic market we postulate a fictitious market participant who regulates prices and serves as the mechanism through which the classical law of supply and demand operates. Recall that each actor in our equilibrium system accepts prices as given, and alters his supply of and demand for commodities to maximize his objective functions. In contrast, the market participant is an actor who must accept total supply and total demand as given, but can alter prices. The market participant's objective is to maximize the total value of excess demands over all commodities. He can not influence the magnitude of the excess demand of any commodity, but he can and is motivated to raise the price of those commodities whose excess demand is positive and lower the price of those commodities whose excess demand is negative.

Of course, the market participant is a fiction, but this fiction enables us to conceive of the way prices equate supply and demand as simply the behavior of another actor in our equilibrium framework. When the market participant sees a positive excess demand for a commodity he raises the price to increase the value of his objective function, i.e. the value of the excess demand. However, as the price rises, individuals and other actors who accept the price as given, recalculate their optimum exchanges and substitute other goods for some of the good whose price has risen. Then the excess demand seen by the market participant will fall. This process continues until no change in price will increase the value of excess demand; a state of equilibrium may be then said to exist for the market participant. At this state of equilibrium, the prices set by the participant call forth supplies and demands that are equal for each commodity, so that excess demand is zero for all commodities.

The equilibrium set of prices on the economic markets in different regions are not independent. Specifically, the prices of any commodity on the economic markets in any pair of regions must not

differ by more than the cost of transfering a unit of that commodity from one region to the other; for if they did, additional trade would be profitable and equilibrium would not yet exist. If commodity movement between two regions is positive, then the price of the commodity in the two regions must differ by the c-transfer cost per unit of that commodity. When the price difference between two regions for a commodity is less than this c-transfer cost, no commodity movement takes place.

Turning to the system of prices internal to each organization, we define excess demand for commodities on an organizational market as total demand less total supply. Within each organization we postulate a fictitious organizational participant, who seeks to maximize the value of excess demand. His behavior reflects the forces of supply and demand upon the prices at the organizational market. Suppose the organizational participant raises the price of a non-economic commodity. Then an individual will receive less of the commodity in exchange for his given contributions, for the value of the individual's contributions must equal the value of his receipts. Confronted by such a price change, the individual can either accept less of the commodity, increase his contributions to the organizational market, or respond in both ways; or he can leave the organization and actively join another. Normally, total demand for the commodity at the original organizational market will decline. Also, a price rise can be expected to cause the demands of the organization itself, at the organizational market, to decline. In contrast, an increase in price of a commodity may be expected to increase the supplies of the commodity by the organization itself, by active participants, and possibly by stimulating individuals to leave other organizations and become active participants in this organization. Thus, on net, demand for a commodity falls and supply increases as the organizational participant raises the price. The participant continues to adjust prices until excess demand is zero, i.e. until supply equals demand for all commodities.

It is clear from the above discussion that, because of freedom of exit and entry into all organizations by individuals, the equilibrium prices on all organizational markets are interrelated. Moreover, these prices are related to the prices at the economic markets. Money courses through both types of market, creating a link between them (for example, money is donated to a church in exchange for c-rectitude). Any change in the price of one good affects exchange possibilities, and thus the demand, supply and price of all other goods at all markets; such change also affects the level of outputs and inputs of diverse organizations.

The fact that zero c-transfer costs are involved when individuals choose to take goods from one organizational market to another within the same region might suggest that in any given region the equilibrium price of a non-economic commodity must be the same on all organizational markets. This is not true! For, returning to our notion of the basic difference between economic and non-economic commodities,

we recall that the utility of consuming a unit of a non-economic good is not independent of which unit is being consumed. Hence, at equilibrium, a non-economic good, whose utility is in part dependent upon the organization of purchase, may have greatly different prices on different organizational markets.

A final condition of social system equilibrium is that costs of each government program must equal tax revenue assigned to it. We assume political process by which a body of representatives reaches agreement on a set of programs and tax rates. This process is subject to certain rules which define unfeasible proposals. These rules may be in the form of a legal code, a code of ethics and responsibility, obligations to follow platform commitments, and tacit agreements among representatives. A representative must obey these rules in striving for programs and tax rates that maximize his constituents' welfare. The representative considers only how taxes and programs effect his constituency, and there is no requirement that at any given point in time taxes and program costs in one constituency be equal. However, in equilibrium, the government's budget must balance, and some mechanism must exist in the rules to force representatives to narrow the gap between program costs and taxes, that is, between demand for tax monies and the supply of tax monies. To look at such a budget balancing mechanism as a process in our equilibrium system, we may postulate a fictitious political participant whose role is similar to the economic and organizational market participants'. The political participant's payoff function is related to the gap between program costs and tax revenues, that is to excess demand for tax monies. More specifically, his payoff function is, the product of the excess demand for tax monies over which he has no control, and a q factor, which he is free to vary and which may be viewed as a price (cost) for tax monies. When excess demand for tax monies is positive, he is motivated to raise q. This, in turn, leads each representative to propose smaller levels of program and higher tax rates to effect them. Most simply, the political participant can be assumed able to adopt actions which come to raise amounts of taxes required for the representative's proposals to be allowable under the rules. Faced with such an increase in taxes, each representative will consult his constituency's welfare function, and lower some demands for services and raise some taxes and arrive at a new feasible proposal. The political participant, in turn, will calculate the gap between program costs and tax revenues, and again require more taxes if proposed revenue are short. On the other hand, if proposed revenues come to exceed program costs, his actions will lead to a relaxation of tax requirements.

In this manner our conceptual framework accounts for the political process whereby all representatives acting together (each, however, being concerned with his own self-interest) determine the level of tax monies to be raised, and the allocation (channeling) of these tax monies to diverse programs in accordance with representatives' priorities. These priorities can, of course, be related to election platforms. And clearly, through its use of the vote resource, the

constituency in the long-run determines program priorities, the representative, administrator and their political organizations being instrumentalities.

ELECTIONS

The election process, or, more broadly the issue resolution process, involves the making of non-retractable decisions. Issues are decided once and for all by non-market procedures. Such a decision procedure is unlike that of the organization, the individual, or any of the participants in our equilibrium framework. In their cases, moves are always essentially retractable. If, given prices, an organization is not maximizing its profit, it is motivated and is able to choose another action. But, when a voter perceives that an elected official whom he supported in the previous election is not acting in the voter's interest, the voter cannot retract his vote. Thus, the election process is very different from the other processes that we consider in our theory of the social system, and we must exclude it from our equilibrium analysis. Nevertheless, we discuss it as a social process to provide background for the previous discussion of the political process, and to help depict the outlines of a more complete theory of the social system.

The election process may be divided into three stages. In the first stage candidates are announced and campaign strategies are chosen. Next, voters make their decisions and cast their ballots. Finally, the ballots are counted and the winners are declared. The action spaces of both successful and unsuccessful candidates are affected by the results. The new mayor may be asked to attend events of organizations where he can exchange c-sociality and labor for c-power (improved re-election chances), while the defeated ex-representatives may no longer receive such invitations.

For each contested electoral office, there are several political organizations which are eligible to run candidates. Each political organization may only choose to contest for one electoral office in any given election. (We conceive of a political party of reality as consisting of many such political organizations.) The candidate of a political organization is a member of that organization, and we assume that the interests and motives of both the candidate and the organization are identical; thus, we may speak of them interchangeably. In reality, of course, there are conflicts of interest between a candidate, a political leader and his organization. Treatment of such conflicts lie outside the scope of this manuscript. We do not specify what the decision of whether to declare a candidacy involves; nor if the decision is positive, how a candidate is chosen. The political organization must weigh the costs of campaigning for office (which vary with political know-how), gains from winning an election, intensity and effectiveness of competing organizations, and other factors.

The candidate's pre-election strategy, whether he is contesting for an administrative office or a position as representative, consists of stating a platform of proposed levels of government goods and services and proposed tax rates (and other impositions). This platform is designed to yield maximum satisfaction to his potential constituency or to a majority of this constituency. The problem of defining such maximum satisfaction cannot currently be adequately handled by any social science analysis. Presumably, the candidate employs some make-shift device. He may

(1) assume that a majority of his potential constituency, including the candidate himself and members of his political party, are alike and have the same utility function, or

(2) assume that since he is a candidate to be a representative, or has been previously elected, his own utility function represents some kind of a good average of the different utility functions of a majority of his potential constituency, or

(3) estimate an average utility function of a majority of his potential constituency on the basis of correspondence, discussion and other formal and informal surveys.

In any of these cases, and others that may be identified, we in effect postulate that the candidate assumes he knows the welfare index of his potential constituency. To maximize the probability of being elected, the candidate chooses that platform which maximizes the welfare index he perceives.

After all candidates for an office have declared their platforms, the voting process takes place. Each individual has an initial stock of the vote commodity, one unit for each of the contests which he is elegible to help decide. The voting process also requires inputs of labor to cast a vote, unless the voter chooses to abstain. If the voter seeks additional information on the candidates, then a wide variety of other inputs may be involved. A minimal input voting plan involves no information gathering, and the only labor expended is that of going to the polls and pressing the party lever. A second possible voting plan might require such inputs as telephone calls, labor time spent reading literature, etc., to obtain and process information. A third individual voting action might involve the receipt of a certain sum of money from a political figure, or the receipt of a certain amount of c-well being (possibly in the form of protection from gangsters) when the vote resource is sold at a political organization's market.

The individual is motivated to maximize his utility. As a voter and a citizen, he is assumed to know that he will receive a fixed share of the stream of government goods and services to be distributed. This fixed share is either traditional or implicit in the platforms of a candidate. Therefore, when a citizen votes, it is in his

interest to vote for that candidate whom he expects will distribute to him a set of goods and services, which when combined with his expected receipt of commodities from all other sources, will maximize his utility. Of course, in view of the expected impact of his vote on the election, the amount (or lack) of difference between alternative election outcomes, and the inputs required in actually voting, an individual voter may consider that his utility maximizing action is to abstain from voting.

We assume that the outcome of any election is always determinate, and that somebody always wins. We assume a legal-constitutional framework which contains a vote counting procedure which selects from the many candidates the one candidate (and platform) to serve until the next election. By emphasizing the platform and not the candidate, we can see that the election process just described is a special case of an issue resolution process.

Discussion

1. PROBLEM OF MEASURING NON-ECONOMIC VALUES

Esman commented that this paper is an imaginative and carefully reasoned effort to develop a more comprehensive decision model, which incorporates more than conventional economic variables. In the past, even rather sophisticated methods of cost-benefit analysis have been limited to economic variables and measurements where the models were quantitative. As a result, models for project, regional, or national planning have been sequential decision making. That is, one starts with an economic model and then sequentially tries to modify it to take into account the non-economic variables which are known to be important but for which the model does not provide qualitative measurement. Now in this new equilibrium model, non-economic values are treated as social commodities, each with its own particular market and transactional rules, so that they can be handled along with economic variables in a single decision system. The main problem, as Esman saw it, was not a conceptual one at this stage, but the problem the authors have already identified, how to measure the non-economic values and then make them commensurate with economic values.

Rydell replied that the exchange ratios between units of the various social commodities such as c-affection and c-respect is set by the supply and demand on the market, and can be set differently in different markets. There is no attempt in the equilibrium model to state these exchange ratios, as one would in a partial model for cost-benefit studies. There is still the problem of measuring the value of these social commodities in some way where, as on the economic market, so many bushels of wheat are made commensurate with one automobile.

Rydell said there were three things that have to be done. One is to try to quantify the non-economic variables. The second is to develop the specific functional relationships contained in the model. The third thing to do is to trace the impacts, the effects on society, of changes in the basic variables.

2. CONCEPT OF EQUILIBRIUM

Hagen stated that the mathematical appendix (not published in this report) to the prose summary section, does prove rigorously that given the precisely specified assumptions, there can be and is equilibrium in this system; this is a fact of some substance, although it is important to consider the assumptions made. It is a regional system; given the assumptions in the model, there could be no change in the society unless it came from the outside. No changes in form of government or in economic techniques are provided for; in fact the equilibrium appears to be stable. Rydell confirmed that the model is intended to describe a stable equilibrium.

Hagen also believed that a stable equilibrium model was not too far from reality in traditional societies to be useful, even though no such society is completely without changes in political structure, knowledge, or social relationships. But he didn't think it useful to conceive of a modern society as in equilibrium, even in a simplified model. Every modern society is in the process of change, which is a dynamic process within itself. There are lags in functional relationships -- a change in one variable causes a change in another, but only after a year, or a generation. That change then causes a change in another one and we have a sequence of change going on. Hagen suggested that the shift from "traditional" to "modern" society is not a shift from one state situation to another, but a change from what could be considered a stable equilibrium to what must thereafter be regarded as in dynamic process. Hagen noted, however, that some intrusions from the outside did not appear sufficient to move a traditional society into a dynamic process, but only succeeded in moving the equilibrium position a little; this would be a moving equilibrium, not the same as the dynamic process described as leading to continuous change.

Lerner added that in his view, the value of the system equilibrium model was heuristic for development purposes. By following this system model out, one begins to arrive at partial equilibria more easily. What is needed for development planning is not an equilibrium model, but a "fall-back" position which says, "if you get outcome A which is closer to the plan, then your next step will be this; if you get outcome B, which is somewhat less than the outcome projected in your plan, then your alternative will be that." Here one is talking about partial equilibria, rather than stable equilibrium.

Rydell commented that there seem to be several ways in which the equilibrium model is useful for development. You ask questions of the model. For example, is there going to be a sharp change from the outside such that the system cannot adjust to equilibrium but has to be restructured? Or will the adjustment time to a new stage of equilibrium be so long as to invalidate the model as a predictor? In either example, the question can also be asked, how does the adjustment to a new equilibrium take place, which is something

outside the equilibrium model, of course. The equilibrium model also helps one understand whether the assumption that supply equals demand is useful in non-economic commodities. There is in the model a double entry accounting system for analyzing the society and for providing a consistency check.

Rydell pointed out that an equilibrium model is a good place to start for research strategy, even though the situation in a society may require such modification in the model that it becomes a dynamic one. Stability analysis (whether equilibrium or not) leads to inquiry about rates of change, which may require dynamic analysis.

Referring to Lerner's query about partial equilibrium models rather than stable equilibrium, Rydell confirmed that partial models are an accepted technique for predicting and planning. He mentioned Leontief's input-output analysis model, which is a static, partial equilibrium model found most useful for planning. By making assumptions which fix (freeze) most parts of the system, it becomes possible to examine impact of a few basic variables. The partial model then helps predict how to optimize a value or a certain control. A partial dynamic model can also be setup by adding rates of change but assuming that they cannot exceed a given level. He suggested that a good way to approach planning or development problems is to start with a static equilibrium model, make it partial and assume certain things fixed. Then within the context of the partial model put in some dynamic relations if you feel incremental static equilibrium is not going to get you very far.

Stein expressed concern that the equilibrium model was descriptive rather than predictive because it could not in itself account for the kinds of change from outside that move the system to another kind of equilibrium or to a dynamic process. He felt that the social sciences need better agreement on what the variables are, and that this might mean setting up a periodic table of elements as had been done in physical science; it would also help show where the gaps are. Attempting to predict the future on the basis of past relationships always seems to bring in new variables which were not taken into account. Hagen argued that this means the functional - especially the causal - relationships in the system were really not understood. A model is bad to the extent the functional relationships defined in it do not reflect real-life phenomena; but creating a model is helpful in showing what you have not comprehended, particularly when used for prediction.

Lerner suggested that the selection of a missile base as the focus for intrusion into Emilian society may obscure the point that any large intervention would have similar effects; there would be the same necessity for following through the impact had it been an auto assembly plant or a factory making striped candy for the children of the world.

3. REGION AS UNIT OF ANALYSIS

Bennis asked for further discussion of why the region was chosen as a unit of analysis rather than the individual, an organization, an institution or other points of leverage in society. Behind any professional interest and theories of approaches are assumptions about what reality is, ease of measurement, and so on.

Rydell explained how predicting that the exchange ratios will be different in different markets is a good way to show where regions get into a national model. Isard's conceptual framework includes a nation of regions which are separated by the functions of transport and communication costs. The difference between regions is thus simply one of access.

Hagen gave as an example his family's choice when he was a boy, of going to a Methodist Sunday School and Church in the town they lived in rather than to the Norwegian Lutheran Church in the neighboring town. Even though his parents were sure he'd get more rectitude out of the Lutheran Church, going to the neighboring town cost too much wealth and time. When the roads were improved later, and they owned an automobile, these frictions of transport costs diminished and they went to the Lutheran Church.

Peter added that there are other ways in which the economic concept of physical space was relevant to other approaches. In studying organizations, for example, problems of centralization-decentralization are partly spatial. So are the dynamics of small groups to some extent. One can also think of the sociology of knowledge, the spread of enlightenment, as conditioned by spatial factors and technology. Sending books is very expensive because of the cost of shipping the paper; transporting or communicating the contents of the book electronically changes the relevant regions of equal access costs very markedly. Hagen commented that the concept of regions is a rich one beyond the economic meaning. What constitutes modernization, as often defined, is greater unity in the nation, a sense of oneness and shared values. This gives regions meaning in a political and sociological sense.

APPLYING BEHAVIORAL SCIENCE FOR ORGANIZATIONAL CHANGE

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NEED FOR A THEORY OF CHANGING

This paper attempts to bring together elements of theory and method for changing organizations, in the belief that bringing about planned organizational change is an important way to create desired social change quickly and effectively. A deficiency in the existing theories of social change in the various disciplines of social science is that they tend to be weak in describing and explaining the variables of the system which are subject to manipulation through intervention. Existing partial theories of social change are more suitable for observers than for the action-oriented practitioners who are concerned with how desired social progress can be accelerated. We believe that theories of social change should be also extended as theories of *changing*, so that any possibilities for directing and implementing change in a planned, goal-oriented manner can be more fully understood and exploited.

PREREQUISITES FOR A THEORY OF PLANNED SOCIAL CHANGING

There are some generalized prerequisites for a theory of social changing which have been described by Robert Chin.[1] A theory of changing must include the following:

> Levers or handles for influencing the direction, tempo, and quality of change and improvement; i.e. the variables that are accessible to control. Variables which "explain" and are causal may be the *least alterable*; hence a science of "causes" may not be adequate for a theory of changing. For example, we do know that urbanization causes population explosion, but the applied demographer can do little to reduce the birth rate by manipulating the degree of urbanization. Demographers can,

[1] *Chin, R., Models and Ideas About Changing. Paper read at Symposium on Acceptance of New Ideas, University of Nebraska, November 1963.*

however, control contraceptive materials and information. So, most of all, a theory of changing must include manipulable variables.

2. Capability of taking into account the roles of a change agent and a client system, each with its own system of values, perceptions and rights of self-determination. For example, in the preceding, it may be that the use of contraceptives in a Catholic country will render this independent variable virtually useless to manipulability; the variable must not violate the client system's values.

3. A means of taking into account the cost of usage. Prohibitive costs may again rule out a highly controllable and value-resonant variable.

4. A reliable basis of diagnosing the strength and weakness of the conditions facing the client system.

5. A plan for phases of intervention so that the change agent can develop estimates for termination of his relationship with the client system, self-"take-off" points, etc.

6. Communicability with minimum distortion to the client system without destroying its effectiveness.

7. Ability to assess its own appropriateness for different client systems.

THE ROLE OF ORGANIZATIONS IN SOCIAL CHANGE

Planned change is any that uses planning before and during the change to achieve stated goals. The methods used in planned social change convert the knowledge of relevant variables, which comes from the behavioral sciences, into strategic instrumentation and programs. These methods also incorporate social values (conventional meaning) and behavioral skills. The logic and rationality of planned change is the same for any discipline; it is largely in respect of the particular problems dealt with, the selection of variables and of strategies, that the applied behavioral science approach to planned change differs from others.

Historically, the development of planned change through the application of behavioral science can be seen as the resultant of two forces: ever more complex social and socio-technical problems, and the recent growth and viability (not yet maturity) of the behavioral sciences.[1]

[1] *The term "behavioral sciences" itself is of post World War II origin, coined by the more empirically minded social scientists to distinquish this portion of the social sciences from the non-quantitive humanists, the depersonalized abstractions of the econometricists, and the non-explanatory statistics of some parts of demography and sociology.*

It seems to us almost meaningless to think about social change except in terms of organizations. Social change, or more generally, all planned changes and programs of political, economic and social development are carried out primarily through organizations, seldom by individuals except in an organizational context. This is simply because organizations become necessary when the achievement of objectives requires cooperative efforts, specialized roles, and the mobilization of capital, material and human resources. Organizations are no more, in this sense, than the social invention, the method, for extending an individual's capacity to increase his value accumulation (in the Lasswell-Holmberg meaning) beyond what he could do by himself.

Organizations are also important in social change as the setting, the social context, in which individuals work and spend a great deal of their time. Social change takes place within, as well as through, organizations, partly because they occupy so much of the life space of individuals.

Organizations are established with their own particular goals of value development, maintenance and growth. Where these value goals become generalized and normative in a society, organizations become known as institutions.

While organizations are formed the world over to achieve similar social, political or economic purposes, there are substantial differences between organizations of common purpose. This is accounted for by differences in technology and cultural patterns, either or both of which may lead to innovations in organizational structure, technical processes and human relationships. Considerable variations exist in organizational patterns just as they do in technological or social patterns at other levels of aggregation. Organizations, even more than the individuals who comprise them and make them work, are both a key and convenient units for analysis and action in social change. Therefore, planned change aimed at increasing organizational effectiveness (defined in social as well as physical terms) is working quite directly for social change in society. The organization, as an immediate target for planned change and development is in fact both the laboratory for testing and creating change and the instrument for diffusing the change more widely in society.

It is logical and gratifying to see that administrators of programs of foreign aid are giving increasing attention to the development of new and more effective organizations as means for achieving broader social, economic and political development in the less developed areas.

ELEMENTS IN THE PLANNING OF SOCIAL CHANGE IN ORGANIZATIONS

Below are those elements or general factors which we feel must all be integral parts of any program of planned social change.

1. A client system
2. A change agent or agents
3. A collaborative relationship between client system and the change agent
4. Specification and selection of goals
5. Methods and interventions
6. Feedback

THE CLIENT SYSTEM AND ADOPTION OF CHANGE

The target of social change as we are describing it is the organization and its members. However, the client system with which the change agent actually works may be either the total system or, more frequently, a sub-system of the formal organization. Both individuals and groups are the targets of change within the client system. In laboratory training programs, for example, individuals are helped by the change agent to increase their personal growth, their interpersonal competence and their "self-actualization." But unless these training activities are also designed to effect organizational improvement, they benefit the individual as a client, not the larger organization client system.

The characteristics of client systems are as varied as the organization structures and processes developed in different cultures. However, all individual members of client systems have similar problems in dealing with power and influence and in adapting to change. The later section of this paper on the collaborative relationship between change agent and client system develops some ideas on the use of power that are equally relevant to the client system and the change agent. Here we describe briefly some features of the adoption process by which individual members of a client system determine whether or not to accept change and incorporate new behavioral patterns as normative ones.[1]

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[1] *The description which follows draws heavily on the research done by sociologists studying the diffusion of innovation from the perspective of the individual's adoptive process. See Rogers, E., THE DIFFUSION OF INNOVATION, N.Y., Free Press of Glencoe, 1962.*

An individual appears to go through five distinct phases, or psychological stages, before he accepts and adopts a change in his attitudes, beliefs or behavior. He must first become *aware* of the prospective change in order to think about it, and this often leads to *interest*. Then, if there is sufficient interest, the individual attempts to evaluate the change in terms of its risks to him. Until the *evaluation* is positive there will be uncertainty, indecision, resistance to, or even active opposition to the idea. Even when the evaluation is positive, the individual usually tries to give the change a *trial* to see if it really works out as hoped and expected. If this trial is successful, and he is convinced that it works, the *adoption* takes place, and the change becomes internalized as a new norm for the person.

An organization client system is made up of individuals who go through some approximation of these stages before a change is adopted, and do so through group processes and interaction with the change agent. Two elements related to successful implementation of planned organizational change can be summarized:

1. Resistance to the anticipated change will be great where the client system possesses little or incorrect knowledge about the change and the reasons for it, has relatively little trust in those promoting the change, and has comparatively low influence in controlling the nature and direction of the change. The client system needs to have as much understanding of the change and its consequences, as much influence in developing and controlling the change, and as much trust in the initiator of the change as is possible.

2. The more profound and anxiety-producing the change, the more collaboration and closer relationship between initiator and client system is required. The change program must then include emotional and value as well as cognitive (informational) elements for successful implementation. For human changes are bound up in self-image and in the social fabric from which individuals gain their evaluation and definition of self. Rational persuasion is not likely to meet all the real needs of the individual viewing a change.

BEHAVIORAL CHANGE AGENTS

In this analysis of planned social change, we are particularly interested in the role of the change agent, and we recognize that there are many types of these performers. Such individuals may be located inside or outside the client system. If they are functioning from within the organization, their intimate familiarity with the system is a big advantage; for those outside, the perspective and objectivity that comes from detachment is often of considerable value. Change agents, whether inside or outside the client system, often have different preferences about where, when and how to intervene in the

organization, these preferences reflecting individual differences in professional training and skills, as well as recognition of the opportunities open for intervention at any time.

The label of "change agent" in its more general meaning may be applied to a variety of persons involved in a planned organization change program. One such key person is the man administratively responsible for carrying it out, who may be a manager or a project engineer with the day-to-day job of directing the program. We do not include such administrative representatives of the client system as change agents in our restricted definition, however, but would prefer to see them referred to as managers of change.

Let us look more closely at the behavioral change agent (the applied behavioral science practitioner -- ABS practitioner). The term "change agent" in this restricted context refers to professionals using behavioral science knowledge and skills to help bring about organizational change.

Floyd Mann, in analyzing the roles of various persons involved in the managing of change has suggested the role of the *change catalyst*,

> "who would be expected to hold himself apart from the direct management of the on-going change so that he might better see the large issues and the problems of strategy. Knowing and accepting the basic goals of the change, he would be expected to observe developments, make predictions regarding developing problems or tensions, test these predictions through the collection and arraying of facts, and introduce his findings in a manner that would help move the change along. At different times the change catalyst would be an analyst, integrator and indirect facilitator.[1]

While we are particularly interested in behavioral change agents, we feel that a change agent may be anyone who has some planned role in bringing about social change in organizations -- including trainers, researchers and consultants -- provided that the individual has professional competence for this role.

It must be admitted that the professionalism of behavioral science practitioners has not progressed to the point where there are accepted standards of training, examination, internship, membership in a professional association, and license to practice -- the conditions which characterize other established professions. The best we can do is to sketch the general characteristics of this not very

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[1] *Mann, F.C. & Neff, F. W., MANAGING MAJOR CHANGE IN ORGANIZATIONS, Ann Arbor, Michigan: Foundation for Research on Human Behavior, 1961.*

homogeneous group of behavioral change agents (ABS practitioners) with which we are concerned, as one step toward the development of more reliable criteria for distinguishing and evaluating them.

Change agents have professional training in one or more of the behavioral sciences. They have usually received a doctorate. Whether they hold university posts, positions in large-scale organizations, or work as full time consultants, they owe primary professional allegiance to one of the behavioral disciplines.

Change agents are similar in their basic values and assumptions about people. They believe that most people derive satisfaction from being responsible for their work, and are motivated to do the best they can within the limits of their environment. Change agents from Western countries take for granted the centrality of work in industrialized Western culture (and may therefore suffer from cultural astigmatism in other societies). They are concerned with organizational effectiveness, however intangibly defined or measured. However, their diagnostic focus is on interpersonal and group relationships; their preoccupation is with people and the processes of human interaction. They are aware of the implications of these variables.

APPLIED BEHAVIORAL SCIENCE COMPARED WITH OPERATIONS RESEARCH

It may be helpful to compare and contrast the method of applying behavioral science (ABS) with that for operations research (OR). Both ABS and OR are products of World War II, developed in response to pressures for more effective application of science; both are problem-centered although they have provided significant inputs to the concepts and methods of their parent basic disciplines. Both emphasize improvement and optimization of performance; in this respect they are normative in their approach to problems, attempting to maximize goals under certain specified conditions. Both rely heavily on empirical science and on a relationship of confidence and valid communication with clients. Both emphasize a systems approach to problems - requiring an awareness of interdependencies within the internal parts of the system studied, as well as boundary maintenance with its environment. And, both appear to be most effective when working with systems that are complex, rapidly changing and somewhat science-based.

With all these similarities, there are also some important differences. One is in basic scientific training. The majority of practitioners of OR were trained in the basic physical sciences rather than in engineering or administration where OR methods are widely used.[1] On the other hand, ABS practitioners are mostly

[1] *Ackoff, R. L. and Rivett, P., A MANAGER'S GUIDE TO OPERATIONS RESEARCH, Wiley, N.Y. and London, 1963, p. 34.*

trained in psychology, social psychology, sociology or anthropology. This difference in background may explain what is the most striking difference between OR and ABS - the identification of strategic variables and problems that are selected as making a difference in the performance of the system.

A comparative inventory of operations research and applied behavioral science problems would include:

OR[1]	ABS
Inventory	Identification of mission and values
Allocation	Collaboration and conflict
Queuing	Leadership and control
Sequencing	Utilization of human resources
Routing	Coping with resistance to change
Replacement	Communication between hierarchical ranks
Competition	Power and influence
Search	Management and career development
	Increasing motivation and commitment

As this listing shows, OR practitioners tend to work with physical resources, with economic or engineering variables which are quantitive, measurable, and quite directly linked to the efficiency and profitability of the organizational system. ABS practitioners, while also interested in quantitative measurement where possible, deal with human variables, and particularly with what are known in the trade as "intervening" or "conditioning" variables, that tend to be somewhat less amendable to quantitative measurement and mathematical formulation. These human variables -- including needs, desires, perceptions, attitudes, motivation, satisfactions -- in interpersonal and group contexts, condition the individual's behavioral responses to stimuli, and must of course be somewhat understood if planned change is to be successful. These variables also "intervene" between the inputs to an individual or group and actual performance outputs. In this respect, they are also linked to the efficiency and profitability of the organization, but more indirectly and in more complex patterns than in the case with OR-type variables.

A second major difference between ABS and OR has to do with the conceptual relationship with the client system. The more successful OR practitioners seem to operate with a sensitivity toward their clients equal to that of some ABS practitioners. But in the ABS approach, this relationship with the client system is consciously used as an integral part of the change strategy and as a source of

[1] *Johnson, E.A., "Introduction" in OPERATIONS RESEARCH FOR MANAGEMENT, McCloskey and Trefethen (eds), Johns Hopkins Press, Baltimore, Md., 1954, xii.*

data and diagnosis about the change. The essential feature of collaboration between the ABS change agent and the client system is that the latter is encouraged to develop its own diagnostic and problem-solving capability with help from, but not excessive nor continuing dependence on, the expertise of the change agent. The quality and nature of the relationship are used as indicators for the measurement of progress. The OR practitioner or change agent is usually satisfied if his proposed solution is adopted by the client system and works for organizational improvement; the ABS practitioner is usually satisfied only if the client system has adopted and internalized the attitudes, knowledge and skills for solving a particular problem in such a way that it is better prepared to deal with the next problem.

The rather different collaborative relationships developed by OR and ABS practitioners leads to a third major difference between these types of change agents -- how they spend their time. The OR practitioner generally devotes a large portion of his time to research and to problem solving, and this is often done with an interdisciplinary team. The ABS practitioner may or may not devote considerable effort to research and data gathering. He tends to spend a larger portion of his time on implementation activities, through counselling, training, discussion groups, management development schemes and so on. This difference seems to reflect one in point of view about "knowledge as power." To the OR man knowledge is power, in that problem solving leads readily to adoption of the solution by the client. For the ABS man, knowledge is a necessary but not sufficient basis for ensuring adoption; he believes that members of the client system cannot successfully adopt solutions without using their own skills, and perhaps changing some of their values and attitudes. Finally, the ABS practitioners, although recognizing that they are dealing with "social systems," unfortunately tend to give less emphasis to the systems approach than do OR practitioners. This may explain why ABS change agents seldom use interdisciplinary teams in their approaches to client system problems.

This brief comparison of OR and ABS approaches illustrates the interrelatedness and the complexity of organizations as social-technical systems. Harold Leavitt gives a delightful and insightful description of this point in telling how three sets of consultants gave three quite different prescriptions for solution of the same problem posed by a curious and persistent company president.[1] One, a typical management consultant, advised certain changes in structure of the organization; the next, an operations researcher, saw the problem as one of rearranging the physical equipment and flow process; the last, a behavioral science consultant, proposed a program dealing with improvement in the interpersonal and group variables.

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[1] *Leavitt, Harold, "The Engineering of Human Behavior in Industry," INDUSTRIAL MEDICINE AND SURGERY, December 1964.*

Two points emerge. Looking at an organization one way, structural factors appear, while different perspectives emphasize the economic and technological, or the internal human relations problems. Point one - all are legitimate viewpoints. The second point is that all are very probably interrelated, so that changes in any one will result in changes in the other two sets of variables. Structure, process and people are really inseparable, as the most far-sighted experts in each group are beginning to realize.

Two examples, one OR and one of ABS, illustrate the interrelationships among these different kinds of variables. Ackoff and Rivett report a case in which OR was called on to help a major commercial airline decide on how often it should run a class for stewardesses and how large the class should be.[1] This study led to a study of the following factors: cost of running the school, forecasts for future requirements, forecasting procedures, expenses and salaries of all personnel, maximum possible average number of flying hours per stewardess that could be obtained, factors in stewardesses' job satisfaction, the number of bases and where they should be located, how flights should be assigned, etc., etc. As Ackoff and Rivett conclude:

> "What originally appeared to be a simple and isolated problem turned out to be interconnected with almost all other operating problems of the airline. With extension of the problem the solutions to the parts could be interrelated to assure best overall performance. This avoided a 'local' improvement which might result in overall loss of efficiency."

Compare the airline's case with a report of C. Sofer, a sociologist who employs behavioral techniques of planned change as a social consultant to a variety of organizations. A small firm called upon him to help in the selection of a senior manager.[2] This "presenting symptom" led to a series of disclosures and causal mechanisms which Sofer uncovered during a series of talks and meetings with the top management group. The case itself unravelled a complicated cat's cradle of factors including family relationships (among the top management group), fantasies and mistrust among members of the management group, management and career development, selection procedures, etc. Sofer helped the firm overcome these problems through counselling, through devising new organizational structures, through a training program, and through developing improved selection devices, over a period of three years.

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[1] *Op. cit. p. 304.*

[2] *This example is taken from Sofer, C., THE ORGANIZATION FROM WITHIN, London, 1961.*

Both of these cases required the change agent or consultant to go far beyond what was originally seen as the immediate problem into a field of other variables. Visualizing similar assistance in developing countries, where less is known about organizational characteristics and cultural variables affecting behavior, emphasizes the need for research which can be converted to knowledge for planned organizational change in these areas.

THE COLLABORATIVE RELATIONSHIP AND USES OF POWER

We have said earlier that the process of planned change involves a *client system*, and a *change agent* who works in *collaboration* with this system in applying valid knowledge and skills to the client's problems. Several aspects of the collaborative relationship have already been described and illustrated in the preceding section comparing the methods of the applied behavioral science practitioner with those of the operations researcher. The deliberate, planned collaborative relationship can also be understood in terms of a discussion of appropriate power and influence relationships between change agent and client system. For planned organizational change differs from other types of social change primarily in the ways collaboration is distinguished from other power relationships.

Here we are concerned only with social power and influence -- one class of power. Physical power is not of interest here. In the broadest sense, power has been defined as the ability to cause changes in either the social or material environment. In political analysis, power has been defined as "the ability to overcome resistance either in one's environment in general, or of some specific obstacle, rival or opponent" (see Deutsch paper). We define social power in interpersonal or psychological terms as "person A's ability to change person B's behavior." More precisely, A has power over B to the extent he can get B to do something that B would not otherwise do. Social power is thus the ability of a person or a group of persons to change the probability that others will respond in certain ways to certain stimuli. Power and influence can be used as synonomous terms, although influence is sometimes seen as the dependent variable resulting from the exercise of power.

One might ask colloquially, "How come the change agent is able to influence the client system? He does not have *coercion* (threat of punishment or deprivation) and *reward* to use as the familiar "stick and carrot." Nor does he usually have *authority* power (the sanctioned ability of a role occupant to exert power and deploy resources). There are other sources, or bases, of power, however, which are available to the change agent as well as to the client system with which a collaborative relationship of working together is to be established. Both can use the power that stems a sense of *legitimacy* (the feeling that influence is appropriate and proper). The change agent (and, for that matter, staff as contrasted with line members of an organization) depends heavily on his *expertness* --

the power that comes from the client system's recognition that he has special knowledge, training and skills. Another base of power is *identification* or *referent* power. This comes from the subtle patterns of personal relationships involving people's desire to identify with certain others, personal loyalties, admiration, and personal sympathy and liking (or disliking) others.

There may also be a shared *value* power between change agent and client system, distinguished from identification or referent power. Most change agents (in Western countries at least) emit cues to their value system based on their cultural notion of a scientific humanism, openness and honesty, flexibility, cooperation and the ideals of democracy. To the extent these values are made explicit and shared by both participants they are a basis for mutual influence. It is particularly important in any cross-cultural change effort to have discussion and agreement between change agent and client system on the value orientation underlying the collaborative relationship. This should help to avoid the fiction that change agents are value-free, and the mutual discomfort which stems from any suggestion of "intellectual or value imperialism" if the change agent is from a Western society.

As a frame for comparing a variety of change processes with different assumptions about mutual goal-setting and the distribution of power, Illustration 4 presents a typology of eight possibilities. Along the horizontal axis are shown two variables, mutual goal-setting and deliberateness of change. Along the vertical axis the distribution of power between the change agent and client system is shown. The .5/.5 power ratio indicates an equal distribution in which each party has the capability of influencing the other. The 1/0 power ratio indicates an unequal power distribution, where only one party is susceptible to influence. It should be noted that the total amount of power being exercised is not shown, and it is well known that the total amount of power and influence exercised within an organization may be very large, or very small. It is *not* a fixed amount. Not shown are the kinds of power being exerted; the power ratios may reflect exchanges of different kinds of influence between change agent and client system. Valid knowledge on the part of both the change agent and the client system is, for the present, subsumed under "mutual goal-setting."

Planned change entails mutual goal setting, an equal power-ratio (eventually) and deliberateness on the part of both sides.

Indoctrination involves mutual goal setting and is deliberate, but involves an imbalanced power-ratio. Many schools, prisons and mental hospitals or other "total institutions" fall into this category.

Coercive change is characterized by non-mutual goal setting, an imbalanced power-ratio, and only one-sided deliberateness. Coercive

Illustration 4

TYPOLOGY OF CHANGE PROCESSES

Power Ratio	COLLABORATIVE: Mutual goal setting		NON-COLLABORATIVE: Goals set by only one or neither side	
	deliberate on the part of one or both sides of the relationship	non-deliberate on the part of both sides	deliberate on the part of one side of the relationship	non-deliberate on the part of both sides
.5/.5	*Planned*	*Interactional*	*Technocratic*	*Natural*
1/0	*Indoctrinational*	*Socialization*	*Coercive*	*Emulative*

change, as we are using the term, may be exemplified by the thought-control and "brainwashing" practices of the Chinese.[1]

Technocratic change may be distinguished from planned change by the nature of the goal setting. The use of technocratic means to bring about change, then, follows primarily an "engineering" model: the client defines his difficulties as deriving from inadequate knowledge and assumes that this lack of knowledge is accidental or a matter of neglect -- not something that is functional to the system itself. The technocrat colludes in this assumption and merely makes and reports his findings.[2]

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[1] *Schein, E.H., Schneider, I., and Baker, C.H., COERCIVE PERSUASION: A SOCIO-PSYCHOLOGICAL ANALYSIS OF THE "BRAINWASHING" OF AMERICAN CIVILIAN PRISONERS BY THE CHINESE COMMUNISTS, Norton, N.Y., 1961. The distinction between INDOCTRINATION and COERCIVE changes are complex. When all is said and done, hospital administrators and POW commandants may employ similar processes and techniques. There are probably more similarities than would appear obvious between forms of "acceptable" social influences, such as psychotherapy or teaching, and "unacceptable" forms, such as "brainwashing." This paradigm, like all others, creates an ideal and abstract model to which empirical occurrences do not neatly conform. See the typology of change process: Bennis, Benne, and Chin, op. cit., 154.*

[2] *For a full discussion of the technocrate as change agent, see Gouldner, A.W., "Engineering and Clinical Approaches to Consulting, in Bennis, Benne and Chin, Ibid., 643-653.*

Interactional change is characterized by mutual goal setting, a fairly equal power distribution, but no deliberateness on either side of the relationship. (Unconsciously, either may be committed to changing the other in some direction.) Such changes can be observed among good friends, married couples, and in various other non-deliberate transactions among people. Change does occur in such relationships, possibly with beneficial effects, but there is a lack of self-consciousness about it, thus a lack of any definite change agent-client system relationship.

Socialization change has a direct kinship with hierarchical controls. Parent-child relationships would be the most obvious example, although the counselor-camper, teacher-pupil relationship would also be applicable here.

Emulative change takes place for the most part in formal organizations where there is a clear-cut superior-subordinate relationship. Change is brought about through identification with and emulation of the "power figures" by the subordinate.

Natural change refers to that class of changes brought about with no apparent deliberateness and no goal setting on the part of those involved in it. Primarily it is a residual category encompassing all accidents, "quirks of fate," unanticipated consequences, spontaneous innovations, etc.

This typology is crude: in nature we can rarely observe these change processes exemplified so neatly. In addition, the distinctions made in it are somewhat arbitrary and certainly not all-inclusive.

Two other points need emphasis in this discussion of uses of power in the sought-for collaborative relationship between change agent and client system. First, power relationships are usually quite complex. For example, the use of coercive power usually affects adversely the attraction between individuals, whereas identification, expertise and value power are usually consistent with strong positive mutual influence. A collaborative relationship stands or falls on the skilled use of power and influence by *both* parties. Secondly, we repeat that an essential feature of collaboration is that the client system is encouraged to develop its own diagnostic and problem-solving capability with help from, but not excessive or continuing dependence on the ABS practitioner, from outside. When the client system has sufficiently developed these capabilities, collaboration continues among members of the organization without the need for an external change agent. What has been said about the uses of power and influence then applies internally within the organization.

SPECIFICATION OF GOALS FOR ORGANIZATION DEVELOPMENT

Up to this point we have used the terms social change in organizations -- organizational development -- rather loosely. Let us be more specific about what makes increased organizational effectiveness from the behavioral viewpoint. We are not here concerned with improvements resulting from new technology, from additional capital or from structural rearrangements, although as pointed out elsewhere in this paper, these other types of changes are important and usually require behavioral adaptation. Organization development includes:

a. Effecting a change in values, so that feelings and similar non-intellectual expressions come to be considered a legitimate part of organization life. This means stressing openness rather than secrecy, collaboration rather than dependence, cooperation rather than competition, consensus rather than individual rule, and authentic relationships rather than those based on political maneuvering.

b. Improving the personal skills, the relevant organizational knowledge, and particularly the interpersonal competence of managers.

c. Developing increased understanding within and among working groups in order to reduce dysfunctional individual tension.

d. Developing more effective methods of conflict resolution focussed on joint problem-solving rather than on suppression or denial that problems exist.

e. Developing "team management" in which more of each group's resources are effectively used for the organization's problems.

f. Viewing the organization as an organic system of relationships which tend to work best when marked by mutual trust, mutual support, open communications, interdependence and multi-group membership of individuals, and a high degree of personal commitment.

The intermediate results of organization development activities of these kinds include improvements in attitudes, morale, personal satisfaction, and a decline in absentee rates, sickness and accident rates, and personal turnover. The incidence of creativity and innovation is also likely to rise.

Increased organizational effectiveness also leads to, and is ultimately measured by:

a. Greater capacity and flexibility in adapting to changing environment.

b. Higher productivity, lower costs, and ultimately,

c. Greater services (for government and voluntary organizations), higher profits (for business organizations).

These aims of organization development can, at different levels, also be described as the normal goals of behavioral change agents.

METHODS AND INTERVENTIONS

In the light of the normative goals of the behavioral science practitioners and the types of problems with which they are concerned it is not surprising that there are relatively few types of change programs, out of a much larger general range, which are employed by these change agents. Their methods and interventions are through the use of human resources and social technologies in amounts, patterns and sequences to reach the agreed-upon goals.

Eight general types of change programs have been described which seek to apply knowledge for socially desirable purposes.[1] These are (1) exposition and propagation, (2) elite corps development, (3) human relations training, (4) staff programs, (5) scholarly consultation, (6) circulation of ideas to the elite, (7) developmental research and (8) action research. Most of these strategies rely almost totally on rationality; none of them allow participants in the client system to "work through" the fears and worries that are usually involved in any significant change which calls for rearrangement of patterns of power, association, status, skills and values. Thus, these eight types of programs have inherent weaknesses that do not make them very suitable for implementing behavioral changes in organizations.

There are three broad types of programs or processes that are most widely used, frequently in combination, with success by behavioral change agents working with organizational client systems: training, consultation, and applied research involving feedback. Training in the meaning used here, is not simply "drill" and "exercise," but is one or another form of what is called laboratory training, sensitivity or group dynamics training in what are commonly called T-groups.

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[1] *Bennis, W. G. "A New Role for the Behavioral Sciences: Effecting Organizational Change," Admin. Sci. Quart. 1963, 8, 125-165.*

a. *Training*. Training of the T-group variety was started in 1947 in Bethel, Maine, with Leland Bradford playing a central role in this development as director of the National Training Laboratories. Growth has been facilitated through the active participation of a number of university-based behavioral scientists and practitioners. Tavistock Institute has played a similar role in England. Recently a group of European behavioral scientists have set up a counterpart to the National Training Laboratories, and T-group training has spread to Africa, the Middle East and other less developed regions.

The main objective of laboratory training at first was personal change or self insight, while since the late fifties the emphasis has shifted to organizational development, particularly in business organizations, which are making wide use of this form of training.

Briefly, laboratories of the T-group type unfold in an unstructured group setting where participants examine their interpersonal relationships. By analyzing data generated by themselves, and with the help of a skilled trainer, participants begin to understand the dynamics of group behavior, e.g. decision-making processes, leadership and influence, communication distortions, motivational forces, the effects of authority and of group norms on behavioral patterns and individual coping mechanisms.

Another type of laboratory training program, or workshop, is called the "Managerial Grid" system. This was developed by Robert Blake, one of the early T-group trainers in the United States, as an alternate method for encouraging managers of business and other organizations to examine their own operational styles and to increase their desired managerial skills. Widely used in the United States, Canada, and more recently in Europe, this analytical framework of managerial styles provides a more structured approach than does the T-group, but seems nevertheless to contain the ingredients of high participant involvement and use of participant data which makes for real learning about self, group, and organizational behavior. Blake and his colleagues have, moreover, designed six distinct phases of their change program: (1) introductory theory and experiments, (2) team training, (3) intergroup integration and linking, (4) planned change and goal setting, (5) realizing the organizational goals and (6) stabilizing the changes.

There are also a number of other types of laboratory training programs, including T-group variations, that reflect the style of the behavioral science trainer and the themes which he considers most relevant in particular situations.

b. *Consulting.* In this type of change program, the behavioral change agent acts in a more clinical role, starting with the chief "presenting symptom" of the client, articulating it in various ways with the client system so that causal and underlying mechanisms of the problem are understood, and then encouraging and helping the client system to take remedial action. As mentioned earlier, the ABS practitioner, as consultant, does not consider his task successfully completed when his recommendations (if any) are reported and accepted. He would rather have the client system see and agree on the optimal solution as its own. Thus, he works with a psychiatric model of helping the client help himself after confronting his own behavior in a different perspective, as contrasted to the physician or the traditional management consultant, whose expert advice is given either for acceptance or rejection. The change agent uses himself as a *role model* to define and reconceptualize the problem, trying to exploit every encounter with the client system to help it see "reality" in the clearest way. And he uses situations as they develop spontaneously, for information about the progress of change, and to help the client system work through the tensions and resistances that arise.

The logic for the consulting approach of the ABS practitioner is that rational knowledge about something does not automatically lead to intelligent rational action, particularly when personal feelings and relationships are involved. Such action requires individual and group commitment and personal understanding; these in turn come more easily with direct involvement of client system members in the diagnosis of the problems, and skillful use of behavioral data obtained from the participants. The client system must convince itself, using its own information but assisted by the behavioral consultant in working through to problem solutions.

c. *Applied research.* We use the term here to mean research not only aimed at the solution of a particular problem, but that in which the results are used systematically as an *intervention* for change during the problem diagnosis and problem-solving processes. Thus the collection and use of behavioral data from the client system, described as part of consulting (above), merges into applied research where the focus is more heavily on the systematic collection of data, usually by means of surveys.

The intervention which uses data from the client system is called feedback. The survey feedback approach, developed primarily by Floyd Mann and his associates at the University of Michigan, provides for sessions where data obtained from subjects in the client system are reviewed

and discussed. The research results, often permitting participants to compare themselves with other groups in a non-threatening way, serve to activate personal involvement and to encourage participation in change programs.

It should be stressed that most planned change inductions involve all three processes -- training, consulting, researching -- and that both change agents and members of client systems play a variety of roles in working together. Among the factors that determine the nature of a particular intervention are: cost, time, degree of collaboration required, state of the target system and the style of the change agent.

INTERVENTIONS FOR ORGANIZATIONAL DEVELOPMENT

We have touched on the characteristics of the behavioral scientist or behavioral change agent, and three types of change approaches. The specific kinds of interventions made by such change agents have been analyzed by Blake and Mouton [1] who list nine which facilitate organizational development:

1. Discrepancy diagnosis - calling attention to a contradiction in action or attitudes.

2. Theory review - describing research findings or seeking conceptual understanding which help a client system gain perspective

3. Procedural critique - examining existing methods of solving problems and considering other methods.

4. Experimentation - setting up comparisons and testing several actions *before* a decision is made.

5. Dilemma probing - identifying significant choice points or exigencies in problem solving, attempting to understand the underlying assumptions and searching for alternatives.

6. Perspective - attempting to provide situational and historical understanding of problems through a detached study.

7. Structure examination - identifying sources of problems where bound in the structure and organizational arrangements.

8. Relationships - focussing attention on tensions growing out of group and interpersonal relationships.

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[1] *Blake, R. R. and Mouton, J. S., "A 9,9 Approach to Organization Development" in Zand, D. (ed) ORGANIZATION DEVELOPMENT: THEORY AND PRACTICE, in Press for 1966.*

9. Cultural - examining the effect of traditions, habits and organizational methodology on problems.

These interventions can be, and are, used in training, consulting or applied research on the processes of human interaction within organizations.

CONCLUDING COMMENTS

A good deal is known about some aspects of social change in an organizational context, and not nearly enough is known about other features of the processes that are involved, particularly in organizations in developing nations.

Behavioral knowledge is substantial on such subjects as perception, motivation and the formation of attitudes and opinions, dealing largely with the individual in social context -- the micro unit in social change.

A great deal is known about small groups and the dynamics of relationships among members (although most of this work has been done in Western societies). Small groups are a key link between micro and larger social systems.

Reference has been made to the growing knowledge of the adoption process whereby individuals and groups progress through a series of stages before finally accepting an innovation. We know that acceptance or resistance is conditioned by a large number of factors including the perceived quality and the extent of anxiety-production of the proposed change, the degree of trust and confidence in the source of the change, the amount of information available about its probable effects, the extent of the collaborative relationship involved, and so on.

We know much less about systematic designing and "social engineering" by which principles of human behavior can be applied to planning and implementing social change in particular situations. This reflects both the existing inadequacies in social change theory and also our lack of experience in social development or application and experimentation. Similarly, we know far too little about the interlocking and stabilizing of change programs within parts of a large social unit so that the total social system is desirably affected.

We believe, however, that further progress toward implementation of positive social change in organizations will continue to depend on (1) the creation of understanding and commitment toward a particular change on the part of the client system, (2) change efforts which are self-motivated and voluntary, (3) mutual influence on goals and methods, (4) the recognition that social change programs involve emotional and value as well as cognitive (informational) elements, and (5) the use of professionally qualified change agents whose activities are congruent with these principles.

Conceptually, it seemed possible to visualize a ministry of health as itself a technically specialized change agent working with its client system, the population of the country.

2. ROLE MODEL AND SELF-IMAGERY

Lerner sensed in the paper a deep epistemological and methodological problem in the author's concern with how to learn, in a systematic and scientific way, to produce changes rapidly in the direction one prefers and forecasts. This problem comes from the use of self as an object of inquiry, and from the change agent as a role model. Human interactions are mentioned in the paper as a source of data - the indicators of both changing and evaluating future interaction, using the self as object, in a sense. How can a person act methodologically as a scientific observer at the same time he is actively engaged as a participant in the experiment or process? There is a problem because we have inadequate concepts and techniques for the contemplation of dual-purpose personal interactions. The change agent, as described, does not become a role model to encourage others, but to observe others in a better way. Lerner knew the authors were aware of these problems which have to be wrestled with if we are to have induced, planned and accelerated changes.

Bennis agreed that the change agent has difficulty keeping a perspective on the effects of his own involvement; he is deliberately trying to influence others through the power of expert knowledge, and trying to learn from and be influenced by the client system in a situation of relatively equal power. Bennis made a rough analogy to pschoanalysis where the analyst has to use a dual referent. Being an authority figure as a doctor and trying also to interact as an individual with the patient, he uses the dual role prerequisites to bring out information, including fantasies.

Stein offered the possibility that the roles of the change agents could be further codified into activities of talking, studying, persuading, giving advice and the like. Berlo felt that the model presented was essentially one of communication and influence, providing a close link to another symposium devoted to these subjects. He was more concerned that other papers had not given sufficient explication of communications systems and processes, and wanted more discussion of the strategies of communicating change within a general framework of communication and influence. It seemed to him that the behavioral model for changing organizations, recognizing the difficulties of changing people who don't want to be changed, focusses on transforming the client system into one more amenable to the change methods known to the change agent.

Stein reported getting the impression from the paper that every situation or client system is amenable to change, and questioned whether this was so. He compared the change agent's role to that of the therapist in psychotherapy, and pointed out that some individuals appear basically unchangeable.

Berlo felt that bringing about organizational change with the help of a professionally trained change agent was usually an expensive process, and wondered how the benefits of change, in terms of their magnitude and durability, could be evaluated.

Bennis agreed that not all organizational situations can be substantially changed, but that the client system, like the individual seeking therapy, decides that it or he wants to change, which increases the probability that changes will result.

With respect to evaluating the costs and benefits of organization change programs, Bennis mentioned that a bibliography of evaluation studies had been published. He felt quite satisfied with evaluation research on individual change, but was unhappy about evaluation research done on organizational or cultural change, particularly about the lack of light shed on the durability of change. Evaluative research is difficult for any educative process, but not impossible to do. It is certainly needed to increase the efficiency of future programs.

Berlo questioned several assumptions which appeared to have been made in the paper. One was that there exists within the organization a sufficient diversification of technical competences that the broad sharing and participation in decision making will produce not only more committed individuals but technically better decisions. Bennis and Peter agreed that the model was designed for modern, large-scale organizations which were very diverse and full of specialized individuals. However, few of the large-scale organizations in the developing countries seem to make adequate use of their internal technical knowledge, partly because of excessively centralized and authoritative decision making. Bennis also pointed out that many dependent members in organizations typically don't want more involvement and participation in decision making; the model is immediately useful only among those who do.

Berlo also wondered if the assumption of congeniality of values to be shared within the client system, and with the change agent, was valid and necessary. He felt that openness and honesty, for example, were not desired goals in many organizations, and might be disruptive of interpersonal relations. Bennis believed that progress toward an adaptive, problem-solving organization required more openness, honesty and trust usually resulted in more satisfying as well as more genuine interpersonal relationships.

Sperling felt that there were other problems involved in extrapolating the behavioral change model from a modern large organization to other kinds of client systems - a developing nation state, for example. Members of industrial organizations have some kinds of outside authority - courts, labor unions, etc. - to appeal to, while the environmental parameters of a nation state are quite different. Could there be stated some of the parameters of a client system that make them comparatively more or less amenable to this approach, and some principles for modifying client in different settings? Jacobson added that the ideal organization described seemed to be one with high capabilities for problem solving and adaptation, to which the authors agreed.

Bruhns observed that the resistance to change in a client system is somehow related to its confidence in the change agent. How can the motives and competence of the change agent be checked by the client system during the risky stages of change, so that he can be a more effective instrument for overcoming resistance to change? Peter replied that the client system checked competence before hiring and learned more about both the change agent's motives and competence during the establishment of a collaborative relationship and during the change induction programs from data generated in them.

4. *VALUE ISSUES*

Referring to several questions raised about the change agent's values, and how they relate to the collaborative relationship, Bennis said that the paper discu-ses, rather narrowly, certain kinds of social influence which deal with what may be called operative knowledge. For example, if one thinks of the values involved in the continuum from authoritarian to democratic systems, there are a number of things one can identify in organizational behavior which determine where one *is* along this continuum. There are at least three important clusters of variables. One has to do with the leadership, which may not have had experience in democratic practices. Another is the constituency or the subordinates, who may be overly dependent and prefer authoritarianism. And of course the situation itself, the conditions of the organizational parameters are important; in an emergency situation, democratic processes, including consensus, may be inappropriate. So the change agent has to differentiate under what conditions certain ideals and values are appropriate.

Bennis went on to say that the paper is not trying to postulate democratic ideals, or to argue that you have to have democratic practices to succeed. The authors are saying that given certain contemporary conditions of organizations as described in the paper, the best way for an organization to cope with its tasks is to infuse its social system with certain values.

Bennis felt that there were five categories of tasks (areas of achievements) which a large-scale organization has to cope with in Western society (and probably others), in order to be a successful social system from an economic, psychological (to members), and an ecological (in the environment) point of view. These tasks, dealing with the human side of the enterprise and clarified in the research done on organizations, are:

1. Integrative tasks, which link individual needs (aspirations, concerns, etc.) and organizational demands.

2. Collaborative tasks, which have to do with conflict management and resolution among sub-systems.

3. Adaptive tasks related to the changing external environment.

4. Distribution of power task, perhaps the central polemic issue, involving how much power can be diffused downward, at what points to get consensus, when authoritarian decisions are necessary, and where more autonomy is possible.

5. Revitalization tasks having to do with problems of growth and decay, and requiring a self-conscious attempt to look at goals and infuse new values.

The values of organizations are not identical with those of democracy, but similar processes are involved in reaching goals. Bennis referred to the word "idene," coined by Henry Murray, as a social equivalent to the biological "gene." He felt that there are certain "idenes" which are functional to social systems and have to be infused during certain phases of their evolution, and other "idenes" that may be dysfunctional. There is no proof of this, but he also felt that where organizations approach modernization, then these values become appropriate.[1]

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[1] *See W. G. Bennis' CHANGING ORGANIZATIONS (McGraw-Hill, New York, 1966) for elaboration of this idea.*

Discussion

1. ASPECTS OF COLLABORATION

Bruhns commented that this paper was stimulating to him because it treated change as planned and deliberate, and explained action roles for the behavioral scientist. From this point of view, the focus on the relationship between the change agent and the client system goes to the heart of the problem of who does what to whom and why. However, the collaborative relationship although described in some detail, seemed most relevant to western industrial enterprise, how does one apply this design, or model of planned change, to the public sector in a modernized country or to any sector in a developing country? The requirement that the change agent not violate client systems values is especially difficult to accept as a prerequisite for collaboration.

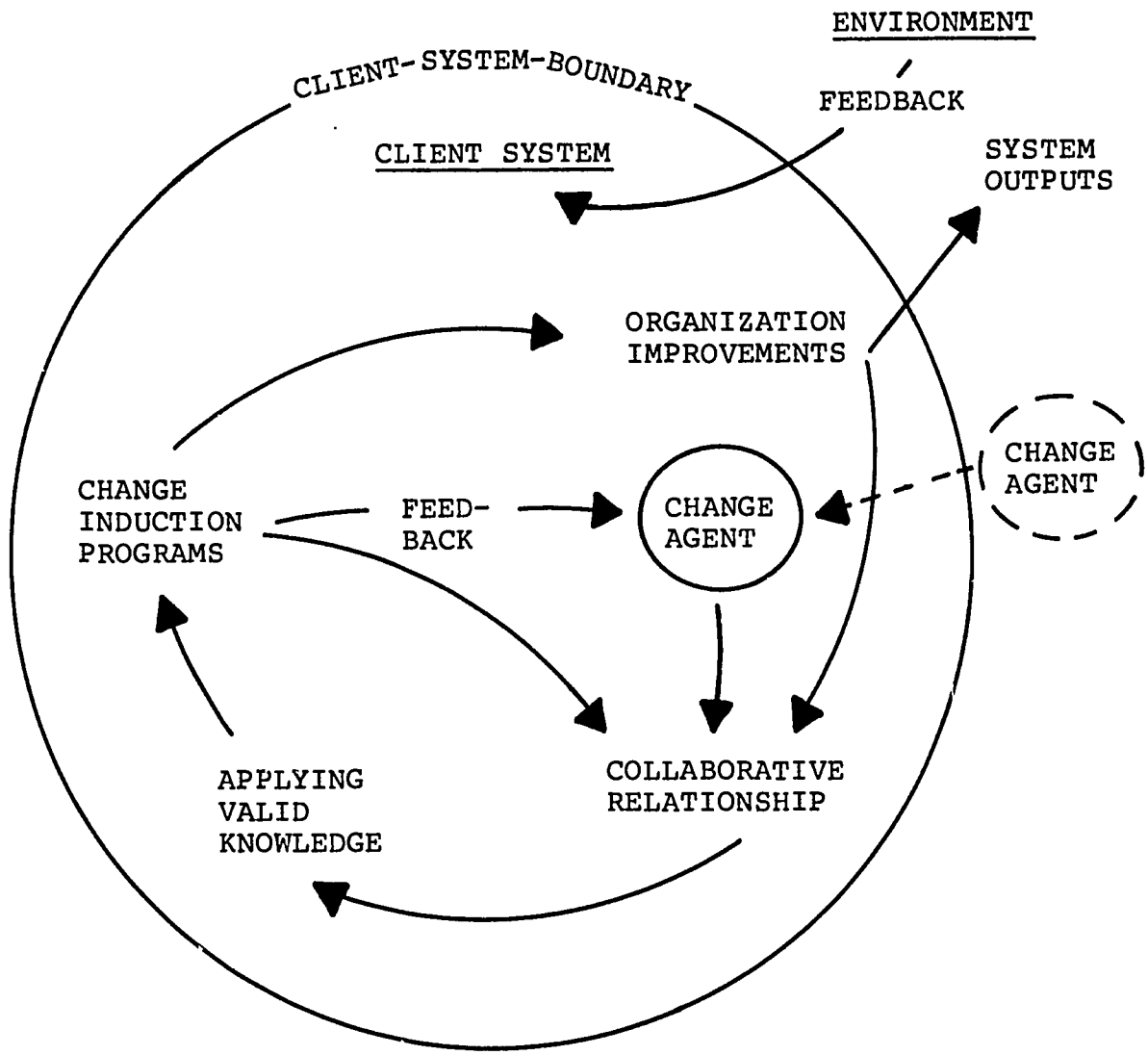
Bennis agreed that the model had developed primarily from experience and some research in large-scale organizations (e.g. industry, hospitals) in modernized Western countries, and that its applicability to organizations in developing countries would have to be tested. In India, for example, many business and industrial organizations are not yet even in bureaucratic stage, but in the pre-bureaucratic stage of family enterprises. Peter added that there are, in most developing countries, both private and government organizations which are already quite large-scale, complex and technically or science-oriented, in which organization improvement is badly needed. Bennis felt that while different strategies for intervention might be found appropriate in other parts of the world, a collaborative relationship between client system and change agent would turn out to be important.

Rydell was struck by the similarity between the behavioral approach to organization development and urban planning. The change agent has to concern himself with rather undefined client goals, has to articulate them, and then see to what extent they are being achieved.

Ratinoff wondered whether there was any difference between collaboration and getting consensus for change. In his experience in Latin America, getting consensus in the client system seemed to be a crucial step before change could take place. But the immediate

lent system may also have to obtain some level of consensus in
other target audience or client system. For example, it is the
asant farmers who must see and accept the importance of learning
ithmetic and simple statistics to improve their farming efficiency,
: just the Department of Agriculture. New health practices must
adopted by citizens generally, not only within the health indus-
/. So getting consensus, or collaboration, extends from one client
stem to another.

ter presented a simple diagramatic representation of the organi-
tional client system and the change agent, in planned change, as
own below:



10

INSTITUTION BUILDING IN NATIONAL DEVELOPMENT
AN APPROACH TO INDUCED SOCIAL CHANGE
IN TRANSITIONAL SOCIETIES

by

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and

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This paper outlines an approach to the study of induced social change in transitional societies. It states the underlying rationale for the concept of "institution building," the basic ideas which comprise its theoretical framework, and the boundaries which have been established by the Inter-University Research Program in Institution Building.[1]

MOTIVATION AND RATIONALE

Besides our long-standing academic interest in comparative social change which is the topic of this symposium, the main motivational factor for this research undertaking is, of course, the fact that this nation has been involved in institution building in a large number of transitional societies for over a decade and a half. Through various instruments of foreign economic aid, mainly through technical assistance, we and other industrialized nations, through governmental and private channels, bilaterally and multilaterally, have been trying to transfer and adapt various physical and social technologies to new and developing nations for the purpose of economic and social development. For a considerable time after we started we did not think of this process primarily as an effort in introducing social change through institution building. It was Harlan Cleveland in his book *THE OVERSEAS AMERICANS*, which was published in 1960, who coined this term. Then, the term cropped up in academic circles and was used in official government documentation for the first time when AID submitted its Congressional

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[1] *The Inter-University Research Program in Institution Building, composed of units from Indiana, Michigan State, Pittsburgh and Syracuse Universities, is engaged in an active program of field research and theory building. The headquarters of the program is at the Graduate School of Public and International Affairs at the University of Pittsburgh. Milton Esman and Hans Blaise are the Research Director and Associate Research Director. The members of the Executive Board of the program who have contributed to the development of this theory are Ralph Smuckler and Eugene Jacobson of Michigan State, William Siffin and Fred Riggs of Indiana, Irving Swerdlow and Julian Friedman of Syracuse, and Saul Katz and Jiri Nehnevajsa of Pittsburgh.*

Presentation for the fiscal year 1962. Today, the term "Institutional Development" is used in the designation of specialized offices at AID headquarters in Washington. Only in recent years has development, and with it the transfer and adaptation of physical and social technologies, been recognized as a comprehensive and complex process of societal change which impinges on all the values, institutions and behavior patterns within a society, affecting social organization and the political process as well as the structure of economic activity.

The basic rationale for this research is directly relevant to the concerns of this symposium. It has several important features which push inquiry into social change and the development process toward elements and channels which have heretofore been neglected. As a consequence of this neglect, the implementation of development programs and of technical assistance activities has suffered. A very important ingredient in social change which has been neglected is the institutionalization of new physical and social technologies through the vehicle of organizations.

While our formal definition of the terms "institution" and "institutionalization" will be specified in the next section of this paper, let us point out here that when speaking about "institutions" we do not mean normative action patterns such as property or religion, or cherished symbolic rites such as marriage, which are sometimes called the institutions of a society. An institution, for the purpose of this paper, is always a functionally specific social organization or a cluster of related organizations though, as we shall see later, not every organization necessarily becomes an institution. By institutionalization, we mean the process by which new ideas and functions, through the instrument of organization, are integrated and fitted into developing societies, are accepted and acquire the capacity to sustain themselves, and, in turn, influence the larger environment in which they function.

To illustrate, we may give two simple examples of failure in institution building. In the field of rural health, where our foreign aid program attempted to introduce new technologies through the supplying of covered and seepage-proof wells with handpumps which provided safe, uncontaminated water to the village, we have had many cases where the wells, soon after their installation, fell, through neglect, into such a bad state of disrepair that the water supply again became contaminated. The reason was neither the cost nor labor involved in well maintenance which was extremely simple, nor was it ignorance of the techniques, as the villagers had been carefully briefed. But the technicians and provincial health officials had come, installed the wells, "lectured" to the villagers, even left spare parts for the handpumps, and then had left. They had failed to convince the villagers of the value of safe drinking water, of the utility of covering the well when not in use, and of simple maintenance and protection measures to avoid seepage and water recontamination. They had not only been unable to spread the

doctrine of the developmental innovation they sought to introduce; they had failed to establish in the village the organizational nucleus necessary for the spreading of doctrine and for sustaining and protecting the innovation. An association of a few responsible and influential villagers convinced of the value of the innovation could have constituted an institutional core and could have gone far in exercising leadership and mustering support. As it happened, this strategy of institution building was overlooked and the innovation was not accepted.

Failures in the institutionalization process may occur even when an organizational base is built if the organization is unable to establish the necessary support linkages with its environment. Planning organizations in quite a number of developing countries can serve as an example. While formally organized and provided with adequate resources, staff and skills, they nevertheless frequently fail to gain acceptance of their new doctrine and technology. When cultural and social values or economic and bureaucratic interests are perceived by significant actors in the environment as being in conflict with the innovative goals of the organization, or when its leadership does not perceive its task in an institutional perspective but rather as the mere implementation of a program or the transfer of a technology, the organization, while surviving as a shell, may never become an institution.

Through the foregoing simplified examples, some of the theoretical concepts which we are using in our research have begun to emerge. Three categories of variables form the structure of our initial conceptual model. These are the *institutional* variables -- leadership, doctrine, program, resources, and internal structure; the *linkages* with other institutions, which we classify as enabling, functional, normative and diffused; and the category of *transactions* between institutions, which we define according to purpose as resource exchanges, gaining support and overcoming resistance, structuring the environment, and transferring norms and values.

Until recently, research on national development, and, indeed, most of the knowledge and insights which are currently at the root of policies and programs now guiding the development process in low income countries have emphasized two major themes:

(a) The accumulation and efficient investment of capital. This theme underlies the rationale of the "big push" theory, the controversy between "balanced" and "unbalanced" growth, trade gaps and resource gaps, and related subjects of current research and controversy;

(b) The development of individual skills and human resources. This line of research has influenced such policy instruments as technical assistance and cooperation, and has stimulated the increased emphasis on education and manpower planning and on the process of transmitting modern tech-

niques. Thus, the diffusion of innovations has been conceived primarily as an educational process, with little recognition of the necessity of establishing an organizational base and an institutional vehicle for fostering the acceptance of the innovations by those being exposed to them.

The institutional research focus is indeed a recent one.

2. DEFINITION AND BASIC ASSUMPTIONS

In considering an institution as the vehicle through which most if not all social change is introduced and effected, we are making certain basic assumptions. First, however, let us define our terms: An institution is an organization which incorporates, fosters, and protects normative relationships and action patterns and performs functions and services which are valued in the environment. Thus, while all institutions are organizations of some type, not all organizations are institutions. Institutionalization is the process by which normative relationships and action patterns are established. In this conceptual distinction, we have borrowed from and somewhat enlarged on the distinction between organizations and institutions which Philip Selznik stated almost ten years ago: "To institutionalize is to *infuse with value* beyond the technical requirements of the task at hand."[1] Thus, an organization is primarily a technical instrument, a means to reach certain objectives, but never an end in itself. In contrast, as our colleague Hans Blaise has observed, "the institutional approach emphasizes not only the instrumental characteristics; nor is the focus of analysis and action primarily on the structural, functional and behavioral elements which are internal to the organizational system, though these are essential also. "In institutional analysis, we are concerned with purposes and values which extend beyond the immediate task at hand," with the spreading of "norms which affect participants and clientele beyond the functional and productive specialization of the institution." Thus, institutional values and "specific relationship and action patterns governing the performance of functions within the institution become normative beyond the confines of the institution itself... (and) stable points of reference both within the organization and for the environment."[2] It goes without saying that influences flow simultaneously in the opposite direction, from the environment to the institution, affecting the latter both in its structure as well as its performance.

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[1] *LEADERSHIP IN ADMINISTRATION, Row, Peterson and Co., Evanston, Ill., 1957, p. 17.*

[2] *Blaise, Hans C. THE PROCESS AND STRATEGY OF INSTITUTION BUILDING IN NATIONAL DEVELOPMENT, Unpublished Ph.D. Dissertation, University of Pittsburgh, 1964, p. 77.*

From the foregoing definitions, some basic assumptions emerge:

(a) Development, or more modestly, social change, and the concomitant new values, functions, technologies and action patterns, cannot be effectively introduced and sustained in transitional societies unless they are embedded in a supportive network of social structures, processes and norms. In short, these innovative values, functions and technologies must be institutionalized.

(b) This process takes place in and through institutional organizations which must either be newly created or adapted and restructured for this purpose.

(c) Institutional development need not be a "natural" or evolutionary process which occurs independently of human design. In this era, new technologies and new institutional forms are almost everywhere deliberately induced and directed. This sense of deliberate human purpose and human direction warrants the use of the phrase "institution building" and suggests a key role for modernizing elites.

(d) Institution building is thus an approach to the development process which relies heavily on the concept of "social engineering,"[1] and which stresses the leadership functions of modernizing elite groups within that process and the alternative action strategies available to them.

(e) As development occurs, social functions or technologies become increasingly specialized. With specialization, interdependencies develop. The institutions incorporating innovations are thus involved in a network of complementary and competing relationships in their environment on which institution-building research must focus.

(f) Institution building is conceived of as a generic social process. There are elements and actions that can be identified as generally relevant to institution building, even though their expression will differ depending on the type of institution and the social environment.

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[1] *Howard Perlmutter calls it "social architecture." See his pamphlet "Towards a Theory and Practice of Social Architecture," to be published in the Tavistock Pamphlet Series in Fall, 1965.*

(g) It is possible, through systematic and comparative analysis of institution-building experiences, to derive elements of a technology of institution building that will be useful to persons engaged in introducing innovation into developing societies, whether they be indigenous change agents or foreign advisors.

It is proper to note that these assumptions constitute an attempt to break out from the confines of our own professional disciplines. It is not only expedient but necessary that the approach to institution building be interdisciplinary in its insights and concepts. The focus on institutional interdependencies and linkages with the environment excludes an inquiry concerned solely with political, economic, social, psychological or technical phenomena involved in change or development. Fundamentally, we do not believe that the processes of societal change can be contained in the conventional categories in which social science knowledge has hitherto been organized.

Before taking a closer look at our guiding concepts, it might be useful to relate these concepts to the burgeoning body of literature on organization theory. Many of the fundamental concepts about organization structure and behavior, particularly those relating to internal or "institutional" variables, derive from this literature and from related writings in business and public administration. This literature, however, focuses largely on the maintenance, strengthening or incremental reform of existing complex organizations in advanced industrial societies, and frequently emphasizes behavior internal to the organization rather than relationships to the external environment. *Institution-building concepts, in contrast, emphasize the creation of new organizations or the radical remodeling of existing structure in transitional or preindustrial societies and the patterns of interaction between institutions and their environment.* Because of this rather pronounced difference in emphasis, we have found relatively little help from western organization theory in conceptually undergirding this research program. While modern physical and social technologies must be embedded in formal organizations, we are skeptical that much of the prescriptive literature on organizational efficiency and effectiveness - whether inspired by scientific management, human relations insights, or Weberian rationality - can be applied meaningfully to organizational behavior in preindustrial societies where different value preferences and norms of action predominate.

Far from assuming that the values, norms, or action patterns associated with organizational efficiency prevail in transitional societies, institution-building research must begin with the opposite assumption. Institution building or rebuilding involves deliberate efforts to introduce radical innovations into transitional societies whose cultural values and social structures - not to mention economic and political interests - may not initially be supportive of these changes. This research thus addresses itself to problems which are

qualitatively quite different from those which have preoccupied theorists concerned with change in the sense of gradual improvement or reform of business corporations, hospitals, prisons, or governmental agencies in the United States and Western Europe.

Institution-building research begins with a set of problems which confront societies as they attempt to modernize. Our data will be gathered from action situations. The elements of theory, as they emerge, should constitute contributions to organizational science and to comparative administration, as well as to knowledge of the processes of planned social change. Perhaps it will be possible to extend and generalize institution-building theory to cover a variety of situations in industrialized countries, such as creating change-oriented institutions and integrating their new values and action patterns into the surrounding environment. These problems have not yet been adequately treated in the research or current literature on organization theory in Western societies.

3. *SOME GUIDING CONCEPTS*

A. *THE TESTS OF INSTITUTIONALITY*

By definition, the institution-building process has been completed when it can be demonstrated that at least certain relationships and action patterns incorporated in the organization are normative both within the organization and for other social units, and that the functions and services performed by the organization are valued in the environment. Institutionality is a matter of degree. We cannot state in absolute terms the fact that, or the point in time when, an organization has become an institution. We can speak only of a trend, and identify certain indicators of the institutional character of an organization. Some of these indicators are suggested in the following paragraphs.

The *first test* is the organization's ability to survive. Survival alone, however, is not enough. It is possible that the organization, as an operating agency, may survive only at the cost of forfeiting all or most of its innovative elements. Or, it is possible that the organization may continue its existence, but fail or cease to be normative. A second qualification is that the survival of specific innovations is not necessarily dependent on the continued existence of a given institution. Other institutions may become the receptacles and protectors of the new values and norms. The original institution may have come to the end of its useful social function, and its abolishment may become both inevitable and desirable.

A *second test* of the institutionality of an organization concerns the extent to which it is viewed by the environment as having intrinsic value. This can be examined by assessing the

relations of the organization with the environment and the actions taken by the environment toward the organization. Some parameters to test the institutional character of an organization are:

(a) *Autonomy* - the institutionalized organization has a high degree of autonomy. Three manners in which this autonomy is expressed are:

(1) The institution can establish rules and procedures deviating from and independent from the larger system of which it is a part;

(2) The institution can acquire resources without being subject to detailed questioning of specific operational and programmatic items, by invoking its acknowledged intrinsic value;

(3) The institution can rely on the acknowledged intrinsic value of the total institution in defending itself against attacks and encroachment on some of its elements.

(b) *Influence* - the institutionalized organization can exert considerable influence on its environment. Expressions of this influence can be found in:

(1) The extent to which the institution influences decisions made in its functional area;

(2) The extent to which the institution can enlarge its sphere of action inside and outside the organization.

As a *third test* of the institutional character of an organization, we can determine whether specific relationship and action patterns embodied in the organization have become normative for other social units. This is the measurement of the impact or spread-effect of the innovations introduced by the organization.

B. *RESEARCH DESIGN*

For the conduct of institution-building research, it is necessary to develop a conceptual scheme which will facilitate the orderly collection and logical classification of data. While this important preparatory phase has not yet been completed, the basic requirements for structuring and carrying out a coordinated research enterprise have been met. What remains to be done is a refinement of certain analytical categories and the further exploration of some dimensions of the research, which time has so far not permitted.

We are presenting here the current formulation of the analytical concepts and categories. Given in a somewhat abbreviated form, it is not a definitive basis for the studies to be conducted, but rather indicative of the trend of our preliminary investigations at this time.

(a) *Analytical concepts* - Three basic analytical categories may be distinguished in institution building. In the first place we are concerned with the structuring of the institution as a system with a set of elements or variables which, in their interrelationship, determine the behavior of the entity in the performance of its program of action. The second category is the specification of the environment with which the institution interacts. At all stages in its development, there are interdependencies between an institution and certain social entities in its environment. The institution maintains an exchange relationship with the environment (from which it obtains its authority to operate, its support and its resources), which uses the institution's output and provides complementary services, and to which the institution strives to transfer its values, norms, and technologies. These points of interaction with the environment have been termed *institutional linkages*. Besides the specification of the relevant environment and its properties, we are concerned with the kinds and purposes of transactions which are conducted between the institution and its environment. Under transactions are included both the exchange of goods and services, and the exchange of power, influence and values.

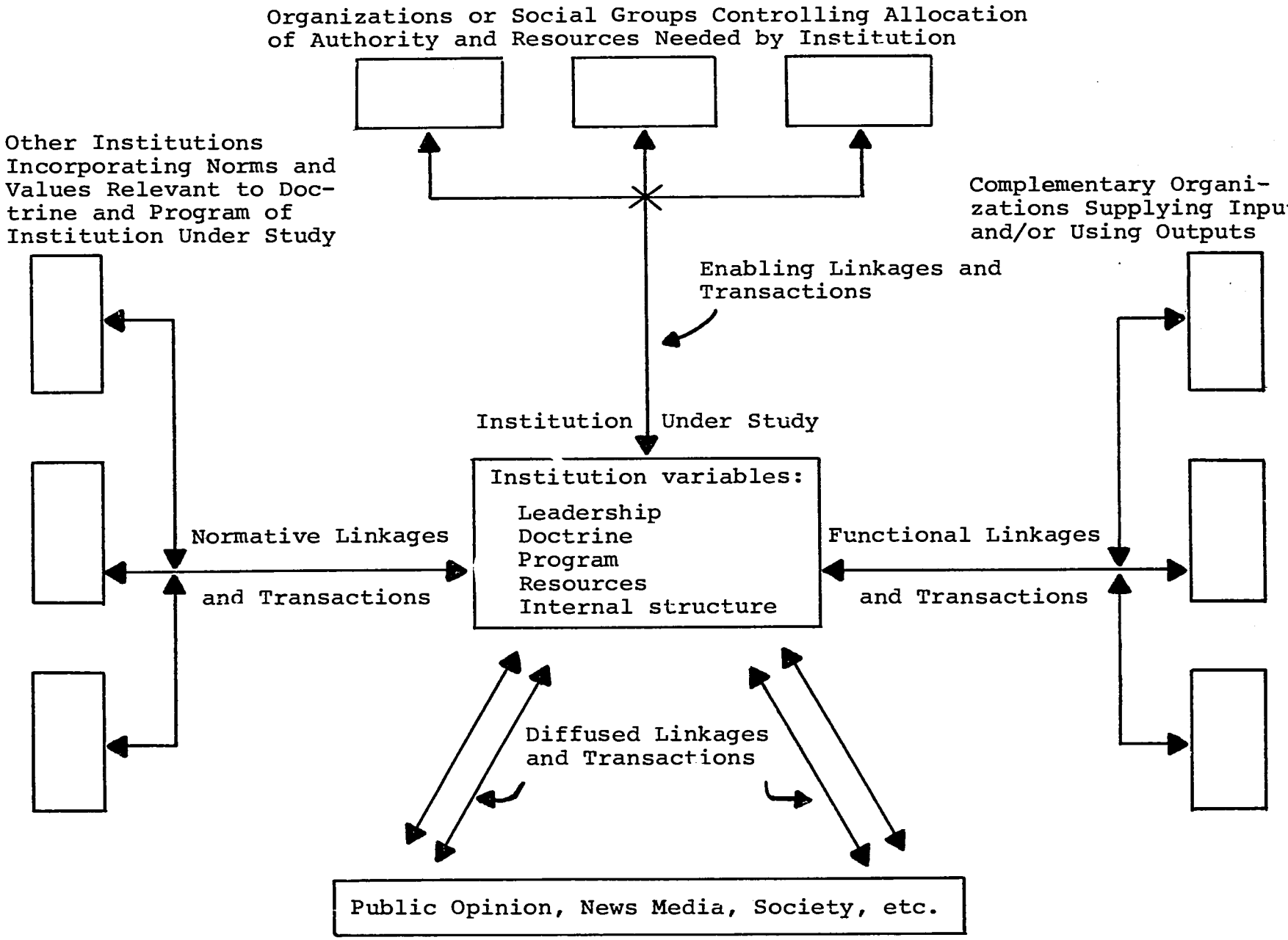
The three analytical categories of institution building are presented in Illustration 5. The elements identified under institution and linkages, as well as the category of transactions, are described as follows:

(b) *Institution variables* - our first variables for the analysis of the institution-building process are classified into five categories. The descriptions suggest some of the properties which determine the value of each central concept.

(1) *Leadership* - Leadership is defined here as the group of persons who are actively engaged in the formulation of the doctrine and program of the institution, and who direct its operation and relationships with the environment. On the basis of this definition, the leadership group is not restricted to those who are formally charged with the direction of the institution, but includes all those who - according to the definition of institution building - participate in the "planning,structuring and guidance" of the institution. Leadership is viewed as a unit, with the variables or

Illustration 5

THE INSTITUTION-BUILDING UNIVERSE



determinants of leadership being significant for the group, rather than in terms of each individual.

Some of the variables in the leadership category are: political viability -- the political acceptability and survival power of the members of the leadership group; professional status -- the status or rank in the professional group and field of activity within which the institution operates; technical competence -- with regard to the functional area and technologies used by the institution; organization competence -- the ability to design and implement effective structures and processes for the operation of the institution; role distribution -- the distribution of roles and functions to permit the utilization of the complementary assets which leadership group members bring to the situation; continuity -- the continuous association of members of the leadership group with the institution.

(2) *Doctrine* - Doctrine is defined as the specification of values, objectives and operational methods underlying social action. The doctrine is viewed as the stable reference point of the institution and of its interaction with the environment, to which all other variables are related.

Some of the variables in this category are: specificity -- the extent to which the elements in the doctrine supply the necessary foundation for social action in a given situation; relationship to existing norms -- the conformity of the doctrine elements to the socially expected and sanctioned behavior; relationship to the preferences and priorities of the society -- specifying the relation of doctrine elements to the intermediate goals and targets of the society.

(3) *Program* - Program is defined as those actions which are related to the performance of functions and services constituting the output of the institution.

Relevant variables of the program are: consistency with the rules or specifications contained in the doctrine and among the programmatic elements; stability -- the reliability of the output in terms of quality, quantity, and in time perspective; feasibility regarding physical and human resources, complementary production of other organizations, and the absorptive capacity of the society; contribution to needs -- concerning the actual contribution made through program actions to satisfying the specified needs of society.

(4) *Resources* - Defined as the physical, human and technological inputs of the institution. Resources is a significant category, not only with regard to those resources which are at the institution's disposal or which it can acquire in absolute terms, but also regarding the sources from which they have been or can be obtained. Program decisions, and even decisions concerning doctrine and leadership, may be affected by the ability to mobilize resources, and the sources from which they can be obtained. The sources will also affect the interdependencies of the institution with other organizations.

Two variables under resources are: availability - the physical, human and technological inputs which are available or can be obtained for the functioning of the institution and the performance of the program; sources - the sources from which the inputs have been obtained and alternative sources to which the institution has access.

(5) *Internal structure* - Defined as the structure and processes established for the operation of the institution and for its maintenance. The distribution of functions and authority, the processes of communication and decision making, and other relationship and action patterns are essential for the analysis of institution building and maintenance. Internal structure and processes determine the efficiency and effectiveness of program performance, as well as the identification of participants with the organization, its doctrine and program.

Important variables in this category are: identification -- the mechanisms and processes which enhance identification of participants with the institution; consistency -- conformance of internal structure with the rules and specifications of the institution's doctrine and program; adaptability -- the capacity to change over time to accommodate shifts in program emphasis and other changing conditions.

(c) *Linkage variables* - The linkage variables specify the interdependencies which exist between an institution and other relevant parts of the society. We have stated earlier that an institution cannot be studied in isolation. It is dependent on other social organizations for its authority to function, and for the acquisition of resources. It is dependent on the complementary production of other organizations, and on the ability of its environment to use its resources. It is also concerned with and subject to the norms of relationship and action which are established in

the society. The institutional linkages are the points where the institution maintains exchange relationships with its environment. A mapping of the institutional linkages is the strategic mapping for the analysis of the institution-building process.

The creation of a new institution or the reconstitution of an existing institution will affect the role boundaries of the interdependent complex of functionally related organizations. The strategic manipulation of existing linkages by a new institution is of considerable relevance to the institution building process.

Within the class of institutional linkages, we shall distinguish four categories: (a) enabling linkages, (b) functional linkages, (c) normative linkages, and (d) diffused linkages.

(1) *Enabling linkages* - The enabling linkages are the linkages with organizations and social groups which control the allocation of authority and resources needed by the institution to function. In the creation stage of a new institution, they are the prime target of the institution builders. It is through the enabling linkages that the change agents seek to further their cause and that the competitive claimants and other forces of opposition seek to withhold authority and resources from the new institution. Also for continued functioning, the institution is dependent on its enabling linkages.

    The entities within this category are the specific organizations and groups with which enabling linkages exist.

(2) *Functional linkages* - This second set of linkages are the linkages with those organizations performing functions and services which are complementary in a production sense, which supply the inputs, and which use the outputs of the institution. It should be noted, however, that in the case of inputs we have included the aggregate financial resources -- the capital and operating budget -- under the enabling linkages. Also included in the functional linkage complex are those organizations which perform or seek to perform, similar functions and services to those of the institution under study.

    In its interaction with the functional linkage organizations, an institution will strive for achieving complementarity. As an institution which embodies and promotes new relationship and action patterns, and

new technologies, it works toward the spread of these innovations through the functional linkages.

Again, the entities in this category are the organizations with which complementary or competitive relationships exist.

(3) *Normative linkages* - The normative linkages specify the linkages with institutions which incorporate norms and values which are relevant to the doctrine and program of the institution. This applies to both the sociocultural norms and the operating rules and regulations. As an example, an institution may be affected by the rules and regulations of a civil service commission, even though no enabling or functional linkage exists with that body. Similarly, certain norms and values may be protected by a religious or political organization, without a direct linkage of the (1) or (2) category existing between the institution and the norm-protecting organization. Yet, the presence of these norms and values in other parts of the society will affect the feasibility, process and strategy of institution building. Depending on the property of the linkage, it can enhance or hamper the institution-building process, and is a strategic element for action and analysis.

The significant entities in this category are those norms- and value-protecting institutions which enhance or hinder deviations introduced by the institution.

(4) *Diffused linkages* - Not all the interdependencies between an institution and its environment are with specific social organizations. The establishment and operation of an institution is also affected by the more diffused support or resistance in its immediate environment and in the larger society. Thus, diffused linkages refer to public opinion and relations with the public, as expressed in news media and other channels for the crystallization and expression of individual and small group opinion not reflected in formal institutions.

(d) *Transactions* - In the structuring of an institution, the performance of its program, and the transfer of its innovations to other segments of the society, an institution conducts certain transactions with the social organizations with which it has linkages. Transactions are defined as the exchange of goods and services, and the exchange of power and influence. Thus, it is not restricted to physical inputs and outputs, but includes such social interaction as

communication, acquisition of support and the transfer of norms and values.

A specification of the transactions which take place between an institution and the social entities in its environment may be made in terms of the purposes of the transactions. This is relevant for the study of the flows of different kinds of transactions and their effect, of the institutional linkages through which transactions take place, and the institutional variables which affect the transaction patterns. The following purposes of transactions have been identified:

(1) *Gaining support and overcoming resistance* - An important element in the transactions of a new institution with its surroundings is to strengthen or create bases of support for the organization and its program. In part, this consists of overcoming opposition by creating a favorable relationship, by neutralizing, or by isolating opposition forces.

(2) *Resource exchanges* - The purpose here is the acquisition of the necessary resources for the operation of the institution and the distribution of the outputs of the organization.

(3) *Structuring the environment* - Frequently an institution will be created in an environment which is ill prepared for the fulfillment of complementary services on which the institution is dependent for the effective performance of its functions. Thus, a number of the transactions of the institution will be designed to create complementarity by bringing about changes in existing organizations, or by creating new units outside the existing organizational complex which will provide the necessary complementarity.

(4) *Transfer of norms and values* - Some transactions of the institution will be directed toward introducing new relationship and action patterns which are normative for other individuals and organizations in the society. Giving attention to this kind of transaction is both essential and characteristic for institutional organizations.

The above listing of a typology of transactions is neither exhaustive, nor are the categories mutually exclusive. A given set of interactions may have, simultaneously, several of the purposes mentioned.

The flow of transactions, their purposes and elements, appear to be significant for the analysis of the strategy and process of institution building.

4. THE LARGER THEORETICAL FRAMEWORK

We shall now sketch the outlines of the larger system, the theoretical context and perspectives, into which our research focus on institution building will fit. The model to be given here does not necessarily represent a consensus of the scholars who are engaged in the inter-university institution-building project, but it is based on a paper[1] presented some two years ago to a Research Seminar of the Comparative Administration Group at Boston University. It was assumed that throughout the underdeveloped world, governing elites have committed themselves and their regimes in large measure, though with varying degrees of intensity, to two inter-related modernizing goals: nation building and socio-economic progress.

It is recognized, of course, that governing elites might be motivated also by other, often competing goals, explicit or latent, such as survival or enrichment in office, territorial expansion, or the protection of vested economic or social interests. To the degree that this occurs, the model presented here loses its relevance. There is, however, impressive evidence provided by many other scholars and by observed behavior of key members of these elites, that nation building and socio-economic progress are, in fact, powerful motivational goals in most transitional societies. Though this assumption may somewhat oversimplify reality by neglecting other and possibly competing goals, it provides a method for illuminating, through research, the patterns of action and organization which are most likely to move transitional societies toward these twin goals.

Nation building and socio-economic progress, as overriding goals, constitute normative guides and regulators of official doctrine, and as such influence public policy and programmed action. They call for the operational solution of a series of major tasks common to all regimes which have espoused these goals, and for operating programs through which these tasks are performed, and which constitute the core of development administration. Our task, or action-oriented model, now begins to emerge, incorporating the following components: a governing, goal-oriented elite which bears the major responsibility for initiating and directing the process of modernizing change; a doctrine, or set of action commitments, which establishes, communicates, and legitimizes norms; priorites and styles for operating programs; and a set of action instruments through which communication

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[1] *Esman, Milton J. THE POLITICS OF DEVELOPMENT ADMINISTRATION, CAG Occasional Paper, 1963.*

with the community is maintained and operating programs are implemented. These are set forth schematically in Illustration 6.

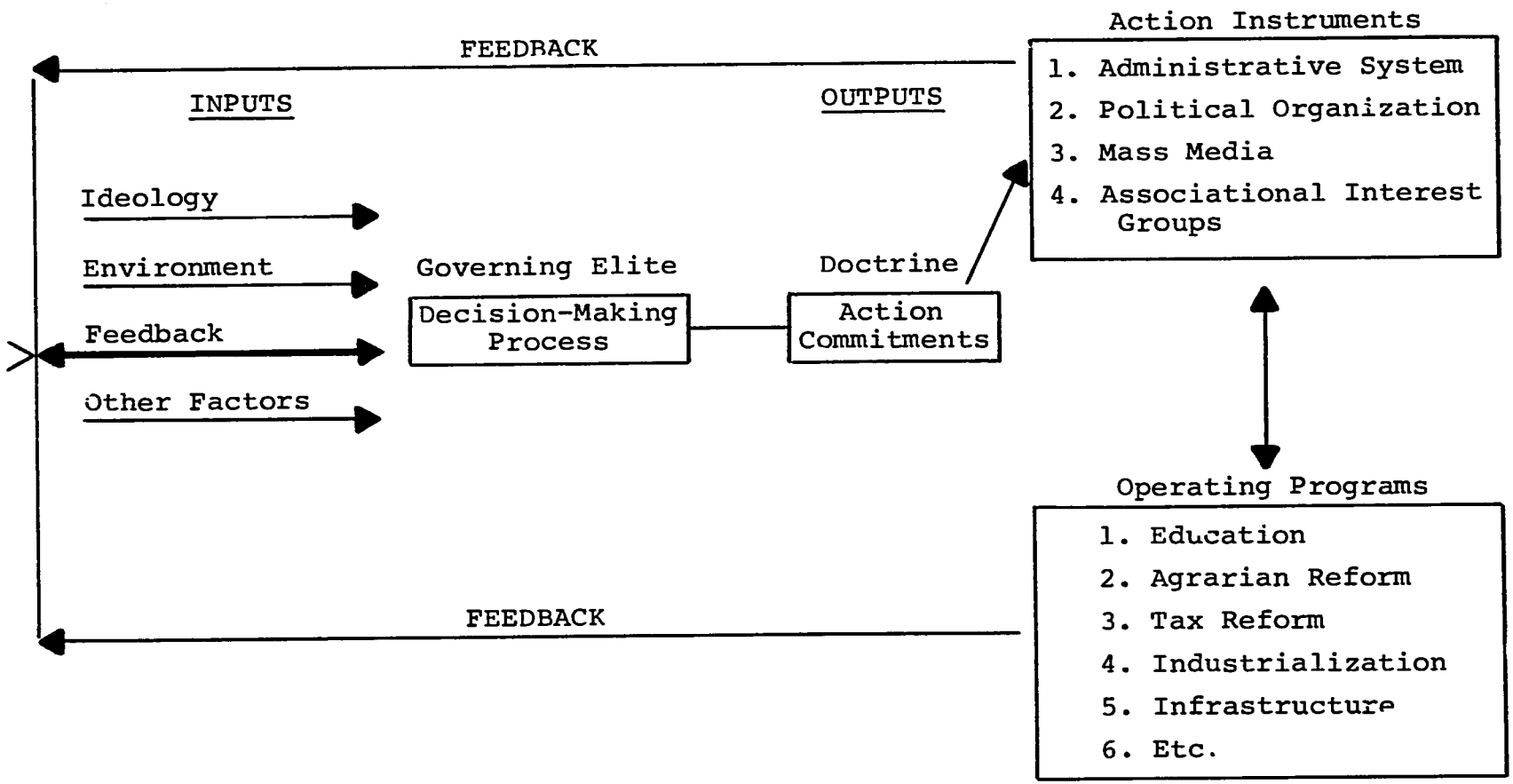
The following four principal action instruments are available to the governing elites: (1) political organization, (2) the administrative system, (3) associational interest groups, (4) the mass media. The realization of the goals, as well as the initiation, protection and effectuation of individual programs, requires the use of several or all of these action instruments in concert. The administrative system, unaided by complementary instruments, is, in most transitional societies, unable to carry this burden alone.

The relevance of this larger model to institution-building research now becomes clear. The twin goals of nation building and socio-economic development, and the concomitant assimilation of new values and norms by society cannot, as an inspection of the action instruments will show, be achieved without organization and institutionalization. The latter may occur in the political, administrative or mass media field, or in the field of specific associational interests and groupings. These fields provide channels, through the building of effective institutions, for the governing elites to motivate the community in support of program measures and to deploy resources with reasonable confidence that the community is prepared to receive them. A successful institution in any development action field will thus become a critical two-way communication link between the governing elite and the community, and will permit the felt need of groups to become manifest, provide legitimate means of interest articulation, yet enable leadership to anticipate the consequences of programmed action and maintain continuing pressure in behalf of planned innovations. In short, institution building provides the means by which a change-oriented leadership can articulate with an organized community, and the community can participate in the struggle to achieve the twin goals.

The larger goal and action-oriented model for nation building and socio-economic development thus provides both a theoretical framework and context, and a perspective and orientation for the narrower model which guides our institution-building research. It will assist us in selecting critical institutions which must be researched when the focus is on social change in developing societies; it indicates likely interdependencies with the environment as well as inter-institutional linkages. Both models, though different in scope, are similar in that they assume as a basis human design and purposeful action; and some variables such as leadership (governing elites) and doctrine occur in both models. One may think of both models as wheels of different size mounted on the same axle or drive shaft; we may shift from one to the other, from low to high gear, or vice versa, depending on whether we wish to study social change on the macro, or societal level, or on the micro level of the individual change agent or institution.

Illustration 6

TASK-ORIENTED MODEL OF NATION BUILDING AND SOCIO-ECONOMIC DEVELOPMENT



5. SOME REMARKS ON METHODOLOGY

Let us now shift back to the lower, less speedy but perhaps more powerful gear of the institution-building model. In order to ensure the cumulative quality of our research findings, to enhance the comparability of data and to facilitate the deduction of generalized propositions and hypotheses applicable to the institution-building process as a whole, we have attempted to discipline our field research through a loose conceptual structure which serves as a common reference and departure point to all the participating researchers. Nevertheless, well aware that our guiding concepts do not constitute the last drop of wisdom, and that critical variables may have been missed, researchers are encouraged to look for additional variables and unanticipated relationships. We also sponsor research which approaches institutions with different key concepts, provided the research proposal makes a convincing case for this different approach.

To operationalize this conceptual scheme for field research purposes, Jiri Nehnevajsa, the Chairman of the Department of Sociology at the University of Pittsburgh, has designed for the Inter-University Research Program the scaffold of a methodology which we recommend to individual researchers, but do not require that they follow.

Within the scope of this paper, only a few salient points of this methodological scaffold[1] can be sketched. This methodology considers institution building not as a single process but as a set of distinct - though interrelated - processes, each of which constitutes a separate research problem. It guides the analysis of the goals of the institution; of the program which must be formulated and implemented to meet the goals; of the support which must be obtained from the environment to permit the operation of the institution; of the program priorites which must be established and enforced; of the resources which must be acquired; of the organizational structure and processes which must be designed and put into operation; and of the complementarity which must be achieved in the environment to ascertain the availability of appropriate inputs and the absorption of outputs.

To identify relevant variables and data, the methodology thus disaggregates the process of institution building into a fairly large number of subprocesses and time-bounded stages. As a starting point of analysis, two main cycles of research are distinguished, the evaluation cycle and the design cycle. The former begins with the evaluation of an existing institution, proceeds to redesign whenever needed, and then moves to re-evaluation. The design cycle addresses itself to the process of setting up a new institution- and then evaluates both its design and operating characteristics. The type

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[1] *Nehnevajsa, Jiri. METHODOLOGICAL ISSUES IN INSTITUTION-BUILDING RESEARCH, A working paper. University of Pittsburgh, March 29, 1964.*

of analysis undertaken in both cases is concerned with the identification of the institution's goals or objectives, its actual or intended results, some measurement of actual or potential discrepancies between the two, and an identification of sources of discrepancies. The results of evaluation always feed into problems of design which, in turn, have to be re-evaluated through monitoring. There are at least four dimensions to be analyzed: (1) the operational objectives of the institution under study; (2) the larger social goals which the institution's operational objectives support; (3) the inter-institutional linkages from the vantage point of (a) boundary maintenance, (b) input and support acquisition, (c) output and support production; and (4) the consequences of institutional action for other aspects of social, political and economic life of the society (diffused linkages). Analytical steps to be taken (e.g. goal analysis, realization analysis, degradation analysis, problem-solving analysis, cost-effectiveness analysis, etc.) are the same for each dimension. An individual research study can fruitfully concern itself with one or several of the steps in any one dimension, or deal with the same step in several dimensions, or with several steps in several dimensions. In goal analysis for instance, data on normative values held will be collected from the institution's leadership as well as from relevant groups in the environment. This will ascertain if there are discrepancies in goals, and will permit assessing planned methods, time targets and other factors likely to reduce any discrepancy.

The methodology also specifies major categories of information which might be required in the kind of analysis considered above. A useful technical device is the mapping of the normative structure and functioning of an institution (Blueprint Mapping), of its operations (Operations Mapping), and the kinds of perceptions which salient segments of the population have regarding the institution (Image Mapping).

For each of these mappings, in turn, certain substantive axes are identified to cast light on what needs to be depicted. Intra-institutional components (doctrine, leadership, program, financial and personnel resources), internal structure, and inter-institutional relationships (enabling, functional, normative, and diffused linkages) are specified as aspects of each map.

The mappings express relationships and occurrences at certain points in time. This approach is articulated in terms of present states, antecedent states, and future states of affairs of the institution.

Finally, the methodology considers the broad research design requirements which flow from the interaction of the mapping levels discussed above, the substantive aspects of each map, and time. It also sketches out some of the methodological problems which are involved in the acquisition of data required for analysis.

6. LIMITATIONS, EXPECTATIONS, AND RESEARCH NEEDS

Among the limitations of this approach, one particularly should be noted: this program researches induced social change, not "development." At the present state of knowledge in the social sciences, there is no objective, scientifically valid way of defining "development," "improvement," "progress," or "modernity." Unless we wish to be prescriptive or oriented toward value-judgments, we must be satisifed to consider institution building as an instrumentality for changing present states toward what others specify as more preferred states; and to analyze and measure deviations from existing normative patterns of value and action which institution building can bring about.

In this respect, for instance, the model presented here seems to differ from that of Harold Lasswell with whom we share, however, other institution-building concepts. Lasswell urges, in the political realm, that "models of political development should be explicitly preferential, and that the preferred model requires an ideology of progress and commitment to wide participation in power as a long-run goal."[1] Our model does not satisfy that requirement. Neither is this research program well adapted to distinguish between political development and political decay, subjects which Samuel P. Huntington tied to institution-building concepts in a stimulating and provocative recent article.[2] The last few decades have witnessed a large number of interesting cases of institution building in which genuine social change was quickly and effectively introduced and assimilated, and which could be fruitfully researched if the focus is on social change, but not if it is on development. We are thinking here of Nazi Germany and the communist world. Take, for instance, an institution such as the Hitler Youth movement or some of the other Nazi organizations which acquired all the elements and qualities of an institution. None of us would wish to call this process political development, but it was real induced and apparently institutionalized social change nevertheless. Whatever one's value preferences may be, the more scientifically valid and fruitful focus for analyzing the institution-building process is social change, not development. As social actors, we hold values and preferences. As scholars, however, we must regard these same values and preferences as data.

Another limitation, as in so many social science research undertakings, is the problem of measurement and precision. When mapping transactions and linkages, competing positive or negative influences, support and opposition, when attempting to analyze the quality and

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[1] *Lasswell, Harold D. "The Policy Sciences of Development," in WORLD POLITICS, XVII: 2, January 1965, pp. 386-430.*

[2] *Huntington, Samuel P. "Political Development and Political Decay," in WORLD POLITICS, XVII: 3, April 1965, pp. 386-430.*

effect of leadership and doctrine, the forces which are at play can often be related to the objective by little more than a plus or minus symbol. Nevertheless, there is the hope that with experience more sensitive yardsticks will be found.

Another problem is how to handle the difficult dimension of time. Even though innovations must be institutionalized to be genuinely accepted and integrated in a developing society, even though institutions are important vehicles for transferring technologies and inducing social change, an institution may in some cases prove to be an important focus for resisting change. The same institution which, in the early part of its life span, brought about the acceptance of an innovation, and which was perhaps created for this very purpose, may, at a later point in its life-cycle, become a formidable obstacle to further induced change. Has it "aged;" has it become "conservative?" While we are interested primarily in the building phase of new or remodeled organizations, it is important to look at the history of an institution and to speculate about its "age," the point which it may have reached in its life cycle. Why is this important? Because we wish this research to be action oriented, to assist in the rational choice of the institution which may, among available alternatives, serve best as the vehicle for the desired innovations. Again, when examining linkages between the selected and other existing institutions, the history and life-cycle of the linked institutions must be considered as important factors affecting support of or resistance to the innovating institution.

There are other instances where the time factor affects practical decisions and choices among alternatives which cannot be neglected if we wish to contribute to developing an institution-building technology. Are there necessary sequences of events in the institution-building process? Over what period of time is a desired innovation to be introduced in the society? Decisions on time phasing, on "pushing" or introducing a new technology more slowly and gradually, will obviously affect the action strategy of the institution builders, their methods of dealing with the institutional variables such as internal structure, leadership, doctrine and resources, and relations with linked institutions.

This type of decisions, i.e., those which involve consideration of the factor of time, illustrates well the dual focus which all institution-building research must have: the focus on the internal, organizational aspects of the institution, on the instruments by which norms are fostered and protected, and the focus on the environment which must be brought to accept and value the institution's innovative services. We cannot afford to neglect either. Perhaps the most fascinating challenge in this research is to achieve a better understanding of the interactions between organizations and environment in the context of deliberate and induced social change, and of the strategies available to institution builders in managing these interrelationships.

The following types of institutions are those to which we have given initial research priority.

(a) *Educational:* (1) universities, (2) teacher training centers, (3) institutes of public administration;

(b) *Planning:* agencies charged with the formulation of national development plans and with resource allocation;

(c) *Areal and multifunctional:* (1) local government, (2) multi-purpose resource development agencies;

(d) *Cooperatives.*

Our view should never become so narrow that we think institution building is the *only* process by which social change can be induced. While this is a major action process, there is more than one path to salvation. Throughout our enterprise, however, we are unashamedly preoccupied with action and with the problems of the practitioners. Enormous efforts and resources are being committed to induce change by indigenous governments and foreign advisors with little appreciation of the institution-building dimensions of their undertakings and little guidance in the strategies and practices that might enhance their prospects of success, reduce their margin of uncertainty, or minimize avoidable mistakes. We intend to maintain a continuing dialogue with practitioners of the art of institution building so that they may participate in translating our findings with a minimum of delay into guidance that may be immediately useful and may constitute the elements of an eventual social technology.

Discussion

1. INSTITUTIONS RELATED TO ORGANIZATIONS

Most of the papers prepared for the meeting dealt with particular value-institutions (e.g. well-being, enlightenment) in the framework proposed by Lasswell and Holmberg, and in the ways each author thought most appropriate to show the functioning of the system. Isard and Rydell developed an equilibrium model which specified functional relationships more vigorously than in the Lasswell-Holmberg paper, and bringing in the concept of regions. Bennis and Peter described some elements and relationships in a tentative behavioral model of change for well-developed, large-scale organizations. Esman and Bruhns also focussed on organizations as instruments of social change, but in a different way.

Esman emphasized that the group concerned with research on institution building did not refer to institution as a set of patterned norms, the conventional sociological meaning referred to by Lasswell and Holmberg, Stein and Lerner. Rather, institutions are special types of organizations which embody certain values and norms, represent them in society, and promote them. In this special meaning, organizations do not qualify as institutions if they perform technical functions which are purely instrumental and which do not embody values that become normative in society. Institutions are thus a sub-class of large-scale organizations which have explicit, overt, purposeful programs of discriminating and promoting certain sorts of values. The paper is a description of the institutionalization process by which values are developed, diffused and maintained. However, since no research data are yet available from the long-term project on institution building, the authors were limited to the materials for this approach.

Several symposium members inquired about examples of organizations that did not qualify as institutions. Esman conceded that some large-scale business organizations, like the Bell Telephone Company, have acquired some institutional characteristics, but maintained that it was difficult to give examples for the reason that it always depends on the environmental context of a given situation. The criterion is whether an organization is infused with value beyond the technical requirements of the tasks at hand.

Bruhns illustrated this problem with two examples. If one thinks of organizations possessing a rather routine character, such as a municipal trolley car or garbage collection system in an industrialized society, it could reasonably be assured that the technical requirements of the task at hand determine, by and large, the value system of the organization. In either of these two cases, it would be rather utilitarian. Thus, though the organization might have a few institutional features, it would not be very useful to consider it as an institution and to do an institution-building study. In a different environmental context, however, the very same organizations could become institutions. Selznick mentions the San Francisco Cable Car Company as an example of a genuine institution. Albert Camus, in his novel "The Plague," describes a situation where the highly dangerous task of refuse collection in the plague-stricken and isolated city of Oran is being infused with values which distinctly transcend the utilitarian requirements of garbage collection. In this context, the esthetic values inherent in the operations of the San Francisco Cable Car Company, and the values of courage, sacrifice, and good citizenship needed to bring about collection of highly contaminated refuse are present beyond those values which are needed to satisfy a purely technical requirement. Thus the two rather utilitarian organizations have become institutions. While the environmental context for these cases is unusual, especially in a developed society, it does occur more frequently in less developed societies on which institution-building research is focussed.

Peter inquired how the methodology and subject matter of research on institution-building differed from research on organizations and the development of organizational theory. He felt that the very considerable body of findings on organizations would be very relevant to institution-building research. Jacobson replied that this had unfortunately not turned out to be so; most of the research knowledge on organizations had to do largely with problems of behavior, structure and internal maintenance. He felt that except for Selznick's seminal studies on leadership, little had been found that was of use to researchers concerned with institution-building. For example, organizational studies have contributed almost nothing to an understanding of doctrine, an important element in the studies being made.

2. *GOAL ORIENTATION*

Sperling pointed out that reference was made in the paper both to research on, and action involvement in, institution building. At the same time, the scope of the project is restricted to social change rather than social development, since the authors claim that no objective method exists for defining, or distinguishing between the two. Toward what goals is the action orientation directed?

Esman and Bruhns explained that while researchers in institution building have personal goal preferences, they did not believe that these should be injected into their studies. Institution building is largely an indigenous process, necessarily directed by local leaders toward their own goals and preferred outcomes. The researchers assume that leaders' goals are generally nation-building and socio-economic development; in effect they do not question these goals, although considering them a legitimate subject for study. Institution-building researchers hope to understand the process, while remaining value-neutral, and even occasionally studying institutions with value goals they do not themselves share. Esman acknowledged that this research approach is in contrast to that proposed by Lasswell, who had stated that models of political development should be explicitly preferential, and that the preferred model requires an ideology of progress and commitment to wide participation in power as a long-run goal. Other symposium participants noted that most economic models of the development process also have an explicit value ideology, about the preferred distribution of income, for example. This may not reflect the personal value system of the economist, but rather his best professional evaluation of what is needed for economic development as contrasted to economic change.

Symposium participants expressed their encouragement for continuing research on institution building, and expressed the hope that findings from the project in different countries would soon become available to test the hypotheses in this model.

3. *BUILDING RESEARCH INSTITUTIONS IN LATIN AMERICA*

Ratinoff described some of the problems of building teaching and social science research institutions in Latin America. It seemed clear to him, and to many other Latin American social scientists who had been actively discussing these problems, that progress will come from changes in (1) more collaborative relationships, (2) effective sponsorship, and (3) better selection of research projects.

In order to have better research, there must be better relations among social scientists within Latin American countries, and between indigenous and foreign social scientists. He criticized, especially, the frequent practice of "importing theory to, and exporting data from, the developing areas." The processing and analysis of data goes on largely in foreign research centers and becomes available years later to the country of origin. Real collaboration calls for joint development of research design and joint participation in all stages of the research.

In spite of the appeal of a "scientific approach" to social problems, especially for most young people in Latin America, Ratinoff reported that social scientists have found that their research is often suspect, and seen as politically sensitive. This means that few social

research and teaching institutions have adequate political or financial support. There are many more well-trained Latin American social scientists than are engaged in research in their own countries. Ratinoff estimated that there are ninety sociologists, for example, of whom only fifteen or twenty are actually working there in social research. Many have migrated to other countries where they have better opportunities to use their training and skills.

Sponsorship of Latin American social research institutions by foreign universities and foundations would increase not only financial resources but the acceptance of the values of science. Establishing an intellectual community in the social sciences in the first pressing need, followed by improving specific research institutions.

Deutsch felt that to have autonomous social research institutions, one needs adequate financing (through endowment or other continuing sources), feedback circuits to provide for the circulation of information, and a body of memory (storage of and access to information).

Ratinoff also felt that improvement of Latin American social research called for better selection of subjects for study. This has been a considerable problem in the earlier cooperative programs, where the foreign researchers have selected subjects of academic or theoretical interest to them, rather than topics of greatest importance to the developing country.

Stein, while empathizing with the problems in Latin America, pointed out that the selection of problems for research, and getting support from prospective users are universal problems in social research. Collaboration is a two-way relationship, whether it is with sponsors or with other social scientists, which requires trust by both sides.

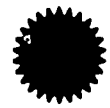
Lerner commented that the intellectual community mentioned by Ratinoff would have to be of a certain kind to be worth building; if it were excessively constrained by the alleged political radicalism of students or by the demands of infant industries, for example, it might not be worthwhile.

Berlo suggested that the Inter-Institutional Program of Institution-Building Research might itself be a suitable subject for research, both as a developing institution and because of its pecular relevance to inter-institutional rivalry and to change strategies. Berlo found disheartening the evidence that many social scientists have not thought through their own value systems.

Deutsch thought that three points stood out in the discussion: (1) A belief system is necessary which both implies and means equality between North American and South American social scientists. There are at present material facts which upset this equality. In theory, Latin American teams would be welcome to investigate the

racial situation in Los Angeles or other embarrassing problems, just as Latin Americans ought to welcome studies in their countries by North American teams. But, in fact, the North Americans have the research grants and the plan tickets, and the Latin Americans do not, so the latter cannot come. The basic notion is that in the long run anything that promotes empirical fact-mindedness among intellectuals in developing countries will on the whole strengthen their attachment to the free world and their ability to collaborate. (2) A second point is that North American social scientists can get computer time much more readily than can Latin Americans. One might create a fund for computing time, contingent upon continuing collaboration. (3) A third point is that social scientists in Latin America need subsidy of their research designs, and their universities need overhead support like North American campuses do. Perhaps a Latin American Foundation is needed. More autonomy is desirable in the research in developing countries, aside from the need for collaboration.

Selected Glossary of Terms



Some terms are included in this list which have been used with particular meaning by different authors.

VALUE TERMS

Value is an abstract standard of what is desirable, by which concrete events or objects are evaluated. (Hughes quoting Kluckhohn)

Values or *valued outcomes* are needs, desires, wants and preferences. (Lasswell-Holmberg)

Value outcomes are culminating events in the interplay among participants in the social process. Example: power outcomes are the giving (and receiving), the withholding (and rejecting) of support in matters of community-wide concern. (Lasswell-Holmberg)

Base value is any value available to a participant to use, while *scope value* is any preferred value sought by a participant. (Lasswell-Holmberg)

Value accumulation is change of predisposition among individuals and change in resource capabilities. Values are accumulated when the level at the beginning of an outcome period is heightened by the end of the period. (Lasswell-Holmberg)

Value indulgence is a positive gain or an avoided loss from participants' efforts to maximize their net value position. *Value deprivation* is a positive loss or a blocked gain from participants' efforts to maximize their net value position. (Lasswell-Holmberg)

Gross value outcome is the sum of value indulgences; the *net value outcome* is the sum when value deprivations have been deducted. (Lasswell-Holmberg)

Value shaping is the flow of preparatory events prior to the culminating outcome. *Value shapers* are the elite, the leaders, the producers, the practitioners of the value. *Value sharing* is value accumulation and enjoyment. The *value sharers* are the rank and file participants, experiencers, recipients of the value. (Lasswell-Holmberg)

Value unit is any fundamental unit of symbols, signs and resources that describes the particular value and the direction of commitment. Example: a power unit is a fundamental unit of support

(non-support) in a decision, or a "vote." (Lasswell-Holmberg)

Value-institutions are the collective process of interaction, pursued by relatively stable patterns of practice, which are somewhat specialized to particular value outcomes. Examples: the power value and the institution of government; the enlightenment value and institutions of communication and inquiry. (Lasswell-Holmberg)

Value interaction can be summarized as a sequence of communication (use of signs) and collaboration (use of non-sign events). More generally, it is any sequence of events among participants in a social process whose relationship to value outcomes can be conveniently characterized. (Lasswell-Holmberg)

ORGANIZATION

An *organization* is the social invention, the method, for extending the individual's capacity to increase his value accumulation beyond what he could do by himself. (Bennis-Peter)

An *organization* is a privately owned collectivity, a system of interacting individuals normatively regulated by common values, which engages in the production of economic and non-economic goods, serves as a market, and maximizes effective profits. (Isard-Rydell)

An *organization* is primarily a technical instrument, a means to reach certain objectives, but never an end in itself. (Esman-Bruhns)

A *formal organization* is the rational coordination of the activities of a number of people for the achievement of some common explicit purpose or goal, through division of labor and function, and through a hierarchy of authority and responsibility. (Bennis-Peter)

A *social* or *informal organization* is a pattern of coordination that arises spontaneously or implicitly out of the interaction of people without involving rational coordination for the achievement of explicit common goals. (Bennis-Peter)

INSTITUTIONS

Institutions are the behavioral patterns performed by people whose goal is to enhance as much as possible the values which they hold important. *Institutions* are codes of rational, routine activity. (Lerner)

Institutions are the collective process of interaction pursued by relatively stable patterns of practice which are somewhat specialized to particular value outcomes. (Lasswell-Holmberg)

Institutions are functionally specific social organizations which incorporate, faster, and protect normative relationships and action patterns and perform functions and services which are valued in the environment. (Esman-Bruhns)

Institution building is the process by which normative relationships and action patterns are established. It is the process by which new ideas and functions, through the instrument of organizations, are integrated...into society. (Esman-Bruhns)

To *institutionalize* is to infuse with value beyond the technical requirements of the task at hand. (Esman-Bruhns, quoting from Selznick)

POWER

Power is the ability to overcome resistance, either of one's environment in general, or of some specific obstacle, rival or opponent. It is also thought of as the ability to produce specific results. (Deutsch)

Social power is person (or group), A's ability to change person (or group)B's behavior. More precisely, A has power over B to the extent that he can get B to do something that B would not otherwise do. (Bennis-Peter)

Gross power is the actor's probability of carrying out his inner program, over and against any programs of his environment. *Net power* is the difference between the change imposed by the actor upon his environment and the change accepted by him in regard to himself. The ratio of net to gross power could be considered a measure of the *efficiency* of power. *Effective* power is the increase in the probability of being obeyed. (Deutsch)

Bases or sources of power include *coercion* (threat of punishment or deprivation); *reward; authority* (the sanctioned ability of a role occupant to exert power and deploy resources); *ligitimacy* (the feeling that influence is appropriate and proper); *expertness* (the recognition of special knowledge and skills); *identification* or *referent* power (the subtle patterns of personal relationships arising from liking, sympathy, admiration and loyalty). (Bennis-Peter)

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EVERETT E. HAGEN has had an interest in economic planning and development dating from his work on the National Resources Planning Board in 1942-43. His experience in this field has been varied, including a period on the Board of Governors of the Federal Reserve Board (1943-45), two years as chief fiscal analyst in the Bureau of the Budget. He obtained his Ph.D. at the University of Wisconsin, and first taught at Michigan State College. In 1946 he went to the University of Illinois, becoming chairman of its Department of Economics in 1950. By 1951 Dr. Hagen's interest in international economic development took him to Burma as economic advisor to its government, and when he returned he became visiting professor at MIT's Center for International Studies, where he is currently located. In 1958 he went to Asia as economic advisor to the government of Japan, and in 1964 he spent a year in London with the Tavistock Institute of Human Relations. Dr. Hagen's publications in international economic development include "Economic Development of Burma" (1956), "On the Theory of Social Change" (1962), "Economics and the Emerging Nations" (1961), and he is editor of "Planning Economic Development" (1963.

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CHARLES CAMPBELL HUGHES was trained as an anthropologist, taking degrees at Harvard (B.A. magna cum laude, 1951) and Cornell University (M.A. 1953, Ph.D. 1957). However, he has expanded the horizons of the profession through his integration of sociology and social psychiatry with anthropology, and he has held academic positions in all three fields. Beginning in 1952, he worked with Dr. Alexander Leighton in the Sterling County Study; he spent 1954 researching in Alaska, and returned to the Study and to teaching at Cornell University through 1960. From 1958 he also was a member of the Cornell Program in Social Psychiatry, becoming associate director in 1960. In the summer of 1959, Dr. Hughes made brief survey trips to Mexico and Peru in connection with locating sites for research projects in cross-cultural psychiatry. He spent the summer of 1960 in Liberia as a member of a Cornell survey team (under ICA sponsorship), and made a trip to Nigeria. In 1961 he did community studies and research in Abeokuta, Nigeria, as part of the Cornell-Aro Mental Health Research Project, and he spent part of that year at Stanford's Center for the Advanced Study in the Behavioral Sciences. In 1962, Dr. Hughes went to the Department of Sociology and Anthropology at Michigan State University, and was also director of the African Studies Center there. His books reflect the variety of his talents and his abilities to integrate several disciplines in the study of socio-cultural problems. Among them are "An Eskimo Village in the Modern World" (co-author 1960), "People of Cove and Woodlot: Communities from the Point of View of Social Psychiatry" (co-author 1960), and "Psychiatric Disorders Among the Yoruba" (co-author 1963).

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HAROLD D. LASSWELL. A biographical sketch of Harold D. Lasswell which included all his interests, activities, honors and publications would be a paper in itself, for he has been distinguished in many areas. He received his Ph.D. in political science from the University of Chicago (1926), having studied the previous three years in London, Geneva, Paris and Berlin, thus beginning his international career. He taught at the University of Chicago until 1832, but was also a visiting professor at three other schools in the United States, and at Yenching University in China, between 1926 and 1937. He spent a year as a political scientist with the Washington, D.C. School of Psychiatry, and from 1939-45 was director of war communications research at the Library of Congress. During these same years Dr. Lasswell also was Sterling lecturer at the School of Law at New Haven, Connecticut, and lectured at the New School for Social Research in New York. Since 1946 he has been professor of Law and Political Science at Yale University, though he spent 1955 as a visiting professor at Tokyo, and part of 1954 at the Stanford Center for Advanced Study in the Behavioral Sciences. In 1960 he was awarded the American Council of Learned Societies' prize. Dr. Lasswell's publications have been as varied as his experience, and include many of interest to behavioral scientists other than political scientists. Among these are "Politics Faces Economics" (1946), "Power and Personality" (the Salmon Memorial Lectures, N.Y. Academy of Medicine, 1948), "Power and Society: A Framework for Political Inquiry" (with A. Kaplan 1950), "World Revolution in Our Time" (1951), and "The Policy Sciences: Recent Developments in Scope and Methods" (with D. Lerner 1951).

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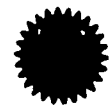

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The program and activities of the Foundation include seminars, conferences and publications. The seminars and conferences are based upon newly available behavioral research reported by leading behavioral scientists. They are attended by representatives of business, industrial and governmental organizations who are concerned with operating organizational problems. Seminar reports and other selected research materials are published by the Foundation.

The Foundation maintains a working network of operating managers, administrators and behavioral scientists who are concerned with the application and utilization of behavioral knowledge and research for the improvement of organizational effectiveness.

The Foundation headquarters are located at 508 East William, Ann Arbor, Michigan 48108.

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