

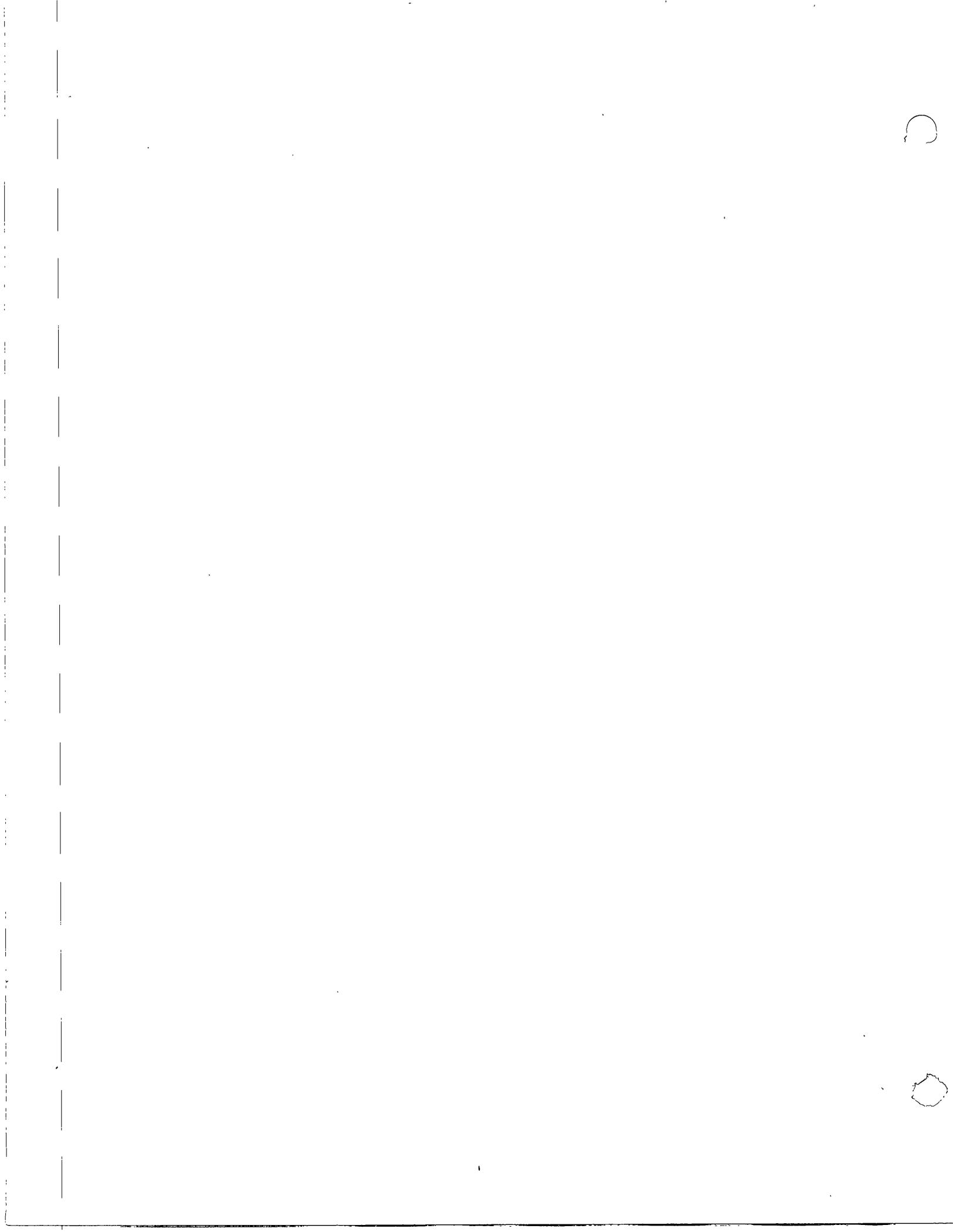
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Book

INSTITUTIONAL ANALYSIS AND DESIGN\*

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### Note to the Reader

This is a preliminary and incomplete draft of a manuscript that attempts to provide theoretical foundations for institutional analysis and design. We conceive of institutions to be nothing more nor less than decision-making arrangements. Institutional analysis is concerned with the effect of different decision-making arrangements upon human conduct and upon the well-being of the individuals who are involved. Institutional design is concerned with the choice of decision-making arrangements that will provide the means that are appropriate to the realization of specifiable objectives, consequences or ends in view. Any practical man of action who is concerned with organizing the efforts of many individuals in a joint enterprise is necessarily involved in problems of institutional analysis and design. The basic question is whether this presentation makes sense to any reader. If not we need your help in revising this manuscript so that it does make sense. Please send your suggestions and criticisms to one or the other of us.

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## Chapter I

### INSTITUTIONAL ANALYSIS AND DESIGN AS A FACTOR IN DEVELOPMENT

#### Introduction

A persistent object of debate and controversy in all areas of the world is the prevailing structure of institutional arrangements and why these fail to yield more satisfactory results in maintaining mutually beneficial relationships among the members of a society. Controversies in some areas focus upon the performance of "economic" institutions and demands are made to eliminate private enterprise and build a "socialist" economy subject to the direction and control of central governmental authorities. In other circumstances, revolutionaries struggle against the governmental authorities as oppressive tyrants exercising autocratic control over society. Much of the rhetoric uses slogans where expressions like capitalism, socialism, communism and the "free world" are devoid of empirical meaning except to point to the "good guys" and the "bad guys."

The possibility that alternative structures of organizational or institutional arrangements can be the subject of choice and that societies of people can rely upon different arrangements for organizing their ways of life is generally presumed to exist in the contemporary world. But there appears to be little agreement in the diagnostic assessments that are being made about prevailing social disorders or upon the appropriate course of actions that might be taken to remedy those disorders. Governments usually become the focus of discourse.

But the discourses often diverge over questions of whether governments are the essential source of human misery or are the primary instrument for advancing human welfare. If both contentions can be true we are then confronted with the difficult task of distinguishing among those conditions that increase the prospects of human misery as against those conditions that increase the prospects for improving human welfare.

If we are to cut through the rhetorical contentions and ideological debates it will be necessary to be quite explicit in distinguishing between institutional arrangements and the non-institutional factors that affect developmental opportunities and possibilities. We broadly define institutional arrangements as being equivalent to decision-making arrangements. Institutions are arrangements for allocating, exercising and controlling decision-making capabilities among people who are engaged in social relationships with one another. Some possibilities will be foreclosed and excluded as being improper or unlawful; other possibilities will be facilitated as proper and lawful.

Since we have defined institutional arrangements as being equivalent to decision-making arrangements we shall turn to different forms of analysis that are used in decision making to distinguish those considerations that have explicit reference to institutional analysis as against those that have reference to other considerations. To simplify the distinctions to be made we will refer to an analysis of factors relevant to decision making in water resource development. We will want to distinguish between institutional arrangements that pertain to water resource development as against the physical transformations involved in the production of water services.

Once basic distinctions have been made we shall then

extend analytical methods to a broad array of different types of institutional arrangements. If the basis exists to know the relationship between specifiable conditions and the consequences which flow from those conditions we can expect the scientific method to be broadly applicable to institutional analysis. If it is then possible to use a knowledge of alternative possibilities so as to array the structure of institutional arrangements that are appropriate to the realization of specifiable results it would then be possible to design institutional arrangements. Design is the conscious choice of conditions to produce or yield intended effects.

If a body of knowledge appropriate to both institutional analysis and design can be organized in a systematic way, we would then have the rudimentary basis for developing a science of institutional analysis which can be tested for its usefulness in practical efforts to solve explicit problems of institutional design. We assume that such a science of institutional analysis would be a political science. Politics can also be defined as being concerned with the allocation, exercise and control of decision-making capabilities among people who are engaged in social relationships with one another. A policy is a rule which allocates decision-making capabilities by facilitating some possibilities and constraining other possibilities. Government can be broadly defined as those institutional arrangements that are specialized to determining, enforcing and altering policies.

Our basic preoccupation will be with the task of conceptualizing and thinking about the structure of institutional arrangements as a technical problem in the sense of identifying what institutions are and how they are created, maintained and modified. But, first we must

make some basic distinctions identifying the phenomenon called "institutions." We shall turn to a hypothetical examination of decision-making analysis as applied to water resource development in order to make these basic distinctions and to identify institutions from non-institutional factors of development.

### Decision-Making Analysis

Many years ago an engineer concerned with a problem of water resource development in Southern California made the following observation:

Control of water to secure maximum supply at costs determined by the economic situation is the engineering problem and that problem is solvable.

Ahead of the engineering accomplishment is the engineering of men. The decision of the community at large must be made. For accomplishment, its public body, its semi-public water organizations and its individuals must unite in teamwork to pool, rearrange and compromise existing interests, to legislate and to create a competent organization to carry out the engineering solution.  
(Santa Ana Investigation 1928: 3)

This observation implies a number of fundamental distinctions that are helpful in orienting ourselves to the problem of institutional analysis and design. Our engineer refers to "the engineering of men." His reference is clearly not to "psychological engineering" but to "social engineering." He is concerned with "the decision of the community" and he suggests that the task is one of uniting the individuals of a community in a teamwork, which will facilitate the creation of an enterprise, and will require the pooling, rearranging and compromising of existing interests.

From the perspective of this engineer essentially three levels of analysis are inherent in his observation. First would be engineering analysis to consider the technically feasible alternatives to assure

control over the natural flow of water so as to increase its availability for human uses. The criterion of technical feasibility is established when alternative possibilities exist so that the appropriate means can be arrayed to produce some specifiable result. Second is an economic analysis to assess the expected costs and potential benefits in light of anticipated demands to determine whether the benefits will exceed the costs. If a technically-feasible engineering solution is available and if benefits exceed costs and have been appropriately calculated to include both external benefits and external costs (i.e. benefits or costs which impinge upon others without their having a choice in the matter such as air pollution or water pollution), then the project would be worth undertaking. The economic criterion of efficiency requires that benefits exceed costs. Our engineer has viewed the technical problem of water supply and the economic problem of demand as being a part of the "engineering problem."

In circumstances where the proportions of external costs and benefits are relatively large in relation to the costs and benefits which directly accrue to individuals as separable or divisible costs and benefits, another criterion affecting the feasibility of an undertaking would have to be considered. This criterion would be concerned with financial feasibility. If all benefits and costs were separable or divisible, those benefits and costs could be directly translated into market prices. In that case, economic feasibility would be equivalent to financial feasibility. Financial feasibility requires that the cumulative flow of revenues associated with an undertaking exceeds the expenditures. Where substantial social benefits

accrue and individuals of the community cannot be excluded from enjoying those benefits (i.e., benefits are freely available to all members of the community) great difficulties would exist in establishing the financial feasibility of such an undertaking as a private enterprise. A private enterprise normally derives its revenues only from the sale of services or commodities to individual users and cannot charge for social benefits that accrue to anyone living in the vicinity.

A flood-control project would be an example of a water resource development which would create potential external benefits to all individuals in a flood plain who are exposed to the dangers of floods. If an individual water-resource developer were to design a project which would reduce flood damages to residents in the lower flood plain, he could have no assurance that each benefited resident would voluntarily pay a proportionate share of the costs for his flood control efforts. An economically feasible project that calculated the external benefits of flood protection would be financially infeasible for a developer unless institutional arrangements existed to compel beneficiaries to pay through some form of tax levy or unless access could be secured to some other source of public funds. In undertaking a developmental effort that involved substantial external benefits, an entrepreneur might consider organizing a public enterprise like a flood control district with authority to tax or seek fund or help from a governmental agency to develop the project. Success or failure of a venture that involved significant flood control benefits would thus depend upon the choice of appropriate organizational or institutional arrangements to do the job.

Whenever the conditions exist where enterprises depend upon compulsion to derive revenues in the form of taxes for services supplied to customers, other problems arise which can adversely affect performance. Entrepreneurs who supply such services may become insensitive to the interests and preferences of those whom they serve. Those who are served may have little voice in the conduct of such an enterprise. Thus, the constitution of public enterprises may have recourse to special mechanisms like elections and referenda to express the preferences and to reflect the community interests of those who are users and taxpayers.

Sensitivities over potential conflicts among different human interests create the essential problem in "the engineering of men." All human societies establish conditions for taking account of problems associated with potential conflict in the development of opportunities and possibilities. In taking account of those interests, an engineering study would extend into the realm of institutional analysis where two additional feasibility criteria can be considered. The first criterion that focuses explicitly upon institutional analysis relative to a specific water resource development project would be to determine whether the undertaking would be lawful, or legally feasible, under existing law. Such an analysis would require a knowledge of existing law and the essential conditions which are implicated by reference to existing law. The other criterion bearing upon institutional analysis is whether or not the appropriate decisions can be sustained among all decision makers who have legal standing or authority to decide upon the proposed course of action. This criterion relates to the political feasibility of a project.

Where a proposed undertaking is legally infeasible under existing law, consideration may then be given to conceptualizing and formulating legal instrumentalities which would be appropriate to establishing its legal feasibility. The problem of establishing legal feasibility, in such circumstances, will also depend upon calculations of political feasibility by again determining what decision makers have legal standing or authority to alter legal relationships and create the appropriate legal instrumentality.

Conditions of legal and political feasibility can only be established by referring to other sets of institutional arrangements. What is legally feasible or lawful depends upon rules which assign authority to act. If those rules have authorized persons occupying particular positions including those who are owners of property to undertake activities to make use of a water course, some forms of water resource development may be legally feasible for those persons to undertake. But the enforcement of a claim to a legal right may be subject to challenge. Maintaining the legal feasibility of an enterprise may also depend upon the maintenance of its political feasibility in the sense of sustaining decisions by those who have authority to determine, enforce and alter legal relationships. The legal instrumentality that is used to organize a particular enterprise thus depends upon decisions which are taken in a complex structure of other institutional arrangements.

Except for the relatively simple undertaking, we would not expect any one engineer to perform the different types of analysis in assessing the feasibility of a project. A civil engineer with specialized knowledge in hydrology might undertake an examination of alternative systems of works in considering a water supply problem. An economist

might assess those alternatives in estimating their economic worth. A financial analyst or accountant might be called upon to calculate an estimated flow of expenditures and revenues in considering the financial feasibility of a project. Lawyers would be most likely to be called upon to assess the legal and political feasibility of a project. An analysis of a complex undertaking is apt to draw upon teams of professional analysts composed of engineers, economists, accountants and lawyers.

All of these forms of analysis are exposed to calculations which bear upon human interests, human preferences or human values. The engineering calculations are undertaken to estimate some consequence, outcome or product which yields "goods" or "benefits." The value to be attached to that outcome depends upon an estimate of its worth in relation to human preferences. An economist uses price as a measure of value by reference to the prices generated through market transactions. Money serves as a medium of exchange, and, thus, as a measure of value for many different goods and services. Prices in a market economy are public measures of value but valuation is based upon individual preferences or demands. The institutional behavior of market arrangements thus provides the foundations for economic analysis. Establishing the "worth" of non-marketable goods and services is plagued with extraordinary difficulties. General agreement of the relevant community of individuals might serve as a proxy for price and as appropriate measure of value. In the absence of money as a measure of value, other mechanisms, including those of voting and elections, exist for people to signal their preferences and agreements or disagreements with one another. Votes and agreements, instead of

prices, become a measure of value or worth where market institutions do not work.

Financial analysts are concerned with an estimate of the flow of revenues and expenditures. A knowledge of the way that particular institutions organize fiscal transactions and account for flows of revenues and expenditures in relation to the changing value of money is added to the economist's analysis. A knowledge of financial institutions and the changing conditions of money markets is essential information for estimating financial feasibility.

Since the estimates of value and worth made by economists and by financial analysts depend critically upon the operation of market institutions, any effort to deal with value and worth where markets do not operate must turn upon standards or norms inherent in the structure of authority relationships maintained by reference to legal and political systems. The standing of individuals, their terms of trade and patterns of association, voting rules and other institutional rules exist within the more general configuration of legal and political institutions. Standards of right and wrong as these establish the basis for securing legal remedies become critical measures of value in a legal system.

From this examination of the efforts of anyone who attempts to assess the feasibility of some new project or some new program, we can now identify two levels of analysis. The efforts of an engineer to determine the feasibility of a water resource project focus first upon the cause and effect relationships about how a system of works will alter the physical regimen of a water course and yield products in an array of goods and services. These products might, for example,

include municipal water supply, irrigation water, hydro-electric power, recreational opportunities and flood control. This level of analysis is concerned primarily with the production of physical effects. We shall refer to such planning efforts as program analysis. Program analysis focuses primarily upon factors of production, the production process and the yield of outputs or products. Program analysis is concerned with production possibilities.

Most studies of economic feasibility and financial feasibility strongly emphasize program analysis where the transformations inherent in production possibilities are evaluated in relation to costs and benefits and are translated into money flows expressed in estimates of revenues and expenditure. When legislators make expenditure decisions, they are essentially making program decisions that pertain to production processes of public agencies engaged in the supply of public goods and services. This is in contrast to legislative decisions enacting general laws or decision rules for allocating decision-making capabilities among different sets of decision makers involved in transactions or relationships with one another. We refer to institutional analysis as an examination of the way that rules order relationships among people in their conduct of activities with one another. These rules allocate decision-making capabilities and decision-making capabilities are exercised and controlled in relation to those rules.

Institutional analysis focuses more explicitly upon the structure of decision-making arrangements that create or establish the legal and political feasibility of an enterprise. Where jointness, indivisibilities and interdependencies are difficult to unravel, factors affecting the legal and political feasibility of an enterprise come to the foreground and begin to intrude upon assessments of financial feasibility and economic feasibility. The two sets of calculations inherent in program analysis and institutional analysis are never fully independent of each other. Each needs to be made with an awareness of the interdependencies among production and consumption processes and the patterns of organization associated with such processes.

Practicing lawyers and successful men of action possess substantial knowledge about the essential characteristics of the institutional arrangements existing within any particular society. Such knowledge is being continuously put to use whenever analysis gives way to action and an entrepreneur is required to translate an opportunity into an operating "reality."

#### Designs and Operating "Realities"

If we assume that a practical man of action or an entrepreneur has assessed the feasibility of some new development and has concluded that the opportunities inherent in the effort is worthwhile pursuing, he will then be confronted with the task of translating that possibility into a "reality." The "reality," of course is an artifact--events created by reference to human knowledge; facts created by design. In translating a conception into an event, he will now face the task of

selecting particular options in order to realize the results that he would hope to attain. The choice of a specific set of options which can be translated into "reality" is the formulation of a design. Any entrepreneur is thus required to be a designer.

If we proceed on an assumption that an entrepreneur is concerned with undertaking a water resource development project, he will face two quite different design problems. One will be concerned with a system of works and facilities that will enable him to transform a water course into a series of usable products: irrigation water, domestic water, electricity, recreational opportunities and flood protection. These works and facilities can be viewed as a plant. By passing water through this plant, it will yield these "products" or "outputs."

These particular elements of a design are closely related to technical feasibility and to program analysis. Such design considerations require that an entrepreneur comes to terms, in a precise and knowledgeable way, with the natural characteristics of water and water supply systems. Water, for example, will not flow uphill unless boosted by some mechanical or hydraulic force. Designs of water works will be radically constrained by requirements of hydraulic gradient. Designs of irrigation works may vary from municipal water supply systems. These in turn may vary radically from the design of electrical generating facilities, recreational facilities and flood control facilities. Each needs to be proportioned in relation to anticipated patterns of use.

The knowledge appropriate to the design of such a system of works may require a competence that exceeds the capabilities of any one individual. Many individuals of specialized competence may participate

in the formulation of various design components. However, each design component and the fit of the different components will affect the potential yield of the project.

Once a design is translated into a system of works, the plant can be operated in a way that sustains a material flow of goods and services that will serve the interests of different groups of users: farmers, householders, recreationists, power users and potential flood victims. The works transform natural water supplies into these usable goods and services.

In addition to the material flow of goods and services inherent in the operation of a plant in a production process, an entrepreneur will be concerned with a radically different problem of design in establishing an organization or enterprise to coordinate the actions of the individual persons who are concerned with the operation of the plant and the conduct of the enterprise. Establishing an organization or enterprise that is appropriate to the series of tasks involved will require the design of an institutional arrangement and the translation of that design into a going enterprise or going concern. John R. Commons has distinguished the plant from the going concern when speaking of the patterns of social organization that are developed to operate the plant and conduct the enterprise.

Patterns of organization associated with the going concern or human enterprise can be viewed as maintaining a flow of actions and transactions which are associated with the flow of the material goods and services in the production process. Flows of actions and transactions involve the conduct of many individuals with diverse interests and preferences who now function as a team to produce a flow of goods and services. Factors affecting the well-being of each individual will

affect his pattern of behavior and how he relates his action to the actions of other individuals. Thus a flow of actions and transactions will be critically affected by the maintenance of understandings that permit people to express their concurrences and agreements or to state their objections and disagreements.

Maintaining a flow of actions and transactions in the conduct of any enterprise depends upon developing a series of understandings and working rules that enables each individual to relate himself to other individuals in productive efforts. The operation of any going concern will depend upon the capability of individuals to form stable expectations about the behavior of others by knowing the "working rules" of the "going concern."

The relationship of rules and of rule structures can be expected to have an important place in the conduct of any enterprise and in the way that any enterprise organizes relationships with other people in the larger society. Organizations -- teams of individuals -- maintain relationships and transactions with diverse sets of individuals outside an organization. The terms and conditions pertaining to those transactions are also organized by reference to rules of conduct. The team of individuals organized as an enterprise or going concern faces the task of maintaining a flow of transactions with people in a larger social environment while maintaining the flow-through of materials resources.

Where money economies exist, the flows of goods and services and the flows of actions and transactions are also accompanied by fiscal flows which are intended to balance out transactions among large numbers of individuals who sustain a nexus of relationships with one another.

The pursuit of opportunities and the organization of enterprises will be significantly affected by both the structure of institutional arrangements within an enterprise and the structure of institutional arrangements in the larger society which forms the operational nexus of an enterprise as it operates in relation to other enterprises and other associations or communities of interest.

In the design of institutional arrangements like the design of any other artifact, we would expect certain design conditions to yield certain results or consequences. We would not expect one form of organization to be "good" for all purposes. We would expect certain patterns of organization to give rise to certain capabilities but to manifest weaknesses and failures if applied to inappropriate circumstances. As circumstances change, we might also expect an existing pattern of organization to yield evidence of problems associated with institutional weaknesses or institutional failures. Such evidence provides signals for the informed observer that modifications in institutional arrangements may be required.

Thus, we might assume that an entrepreneur in considering the problems associated with the design of an enterprise, as distinguished from the plant, will need to draw upon an appropriate body of knowledge. That knowledge would enable him to formulate and select the design elements for the organization of an enterprise and create the structure for fashioning a configuration of rules conducive to productive work efforts. He should know that configuration of design elements will serve the purposes of the enterprise and how constructively to relate the enterprise to the more general configuration of decision-making arrangements in the larger society. If he succeeds only in conceptualizing a system of works which he anticipates will yield benefits in excess of costs he may

still be confronted with failure for not having successfully resolved the problems of institutional analysis and design. If he fails to recognize evidence of institutional failure and does not make appropriate structural modifications, he may also see the enterprise fail.

We shall view institutional arrangements as being subject to technical considerations in the sense that such arrangements can be known and can be created as instrumentalities or artifacts for organizing human actions. Institutions as phenomena never exist in a state of nature by themselves apart from their association with human beings. Instead they are human artifacts designed and created by human beings to serve their purposes. Those purposes relate to ordering or organizing human actions so as to facilitate the transformation of events in the world to some advantage.

As Thomas Hobbes has observed men are both the material or the principal ingredient of which commonwealths are formed and the artificers or creators of commonwealths. The same observation applies to all human institutions. As a consequence a knowledge of institutions as technical arrangements will depend upon a knowledge of the human condition, why that condition has led to the development of institutions and how that condition affects and limits the structure of institutional arrangements.

Human action, in turn, relates to the world of events in which human beings find themselves. Different types of structures in the world of events require recourse to different types of institutional arrangements. Institutions, as intervening variables for organizing human actions in the world of events, must be related to the different structural circumstances inherent in the world of events. Institutional

analysis and design requires reference to the human condition and to structures of events such as water courses, which people attempt to transform and control to their advantage. We can thus view the basic elements of institutional analysis as having reference to 1) human beings as actors, 2) events in the world as objects of action and 3) institutional arrangements as arrangements for ordering decisions and actions so that individuals can take advantage of each other's capabilities in transforming the world of events into a flow of goods and services.

#### Extension to Other Institutional Realms

Can the same type of considerations that apply to an entrepreneur concerned with the development of a system of water works be extended to include reference to other types of institutional arrangements? The answer we believe is a tentative "yes." Persons who have assumed positions of leadership (or entrepreneurship) in undertaking a variety of practical efforts to conceptualize, and create different types of institutional arrangements can be drawn upon to explain the basic structure of relationships which are involved in those efforts. Since the late eighteenth century the organization of systems of government has been the object of repeated efforts at constitutional decision making. These efforts at constitutional decision making can be viewed as efforts to design systems of government as an explicit matter of choice. The theories used to inform those choices can be looked upon as general intellectual tools which have been fashioned to solve particular problems of political organization. The theories used to solve particular problems of organization are general intellectual tools that can also be used to think through a variety of other problems, derive inferences and

reach conclusions. These chains of reasoning, in turn, enable us to specify relationships between causes and effects or conditions and consequences. Such specifications can be used as hypotheses to determine whether or not the explanations hold under empirical conditions. When explanatory arguments are supported by empirical evidence we have reason to believe that the intellectual tools inherent in that explanatory argument are worth using until a better set of intellectual tools can be developed. The choice among different explanatory theories then would turn on the questions of which set of intellectual tools permits the derivation of the more extended chains of reasoning to reach fruitful conclusions which are best supported by empirical evidence.

We assume that all efforts to deal with political change involve two types of calculations that are essentially explanatory in nature. The first of these calculations is a diagnostic assessment of some problematical situation which is assumed to be indicative of institutional failure. Some state of affairs has been evoked which is assumed to be pathological -- to generate a form of social misery which need not be. A diagnostic assessment is made whenever an observer identifies some condition which is imputed to be the primary causal factor generating the set of consequences which are assumed to be pathological. If that causal condition can be altered by some form of action then the new set of conditions provides an alternative solution and can be expected to evoke a different set of consequences. If the new set of consequences is anticipated to be more benign than the prior set of consequences, theory has again been used as a tool

to array a new hypothetical solution. A common theory has been used to advance two sets of hypotheses: One to explain what went wrong in making a diagnostic assessment; the other to create a new set of consequences or outcomes. If the alternative is acted upon, the effort to produce a change can be viewed as an experiment to test the proposed solution.

Our focus will continue to be directed to the level of institutional analysis rather than program analysis. Our preoccupation is with the effects that structures of institutional arrangements will have upon the organization of conduct, how the organization of conduct can be expected to affect the performance of human tasks when the potentialities inherent in different production possibilities are known.

As early as the mid-seventeenth century, Thomas Hobbes formulated the rudiments of a political theory that could be used as a basis for analysing the essential structure of social and political relationships. Hobbes explicitly recognized that political phenomena is word-governed or rule-governed phenomena. He specifies the relationship of language to human reason and demonstrates how decision making involves an application of human reason to array alternative possibilities. Those alternatives are then weighed by reference to human preferences in making a choice among alternatives. He applies a reasoned analysis to specify the conditions that would be necessary to create mutually productive social relationships but he recognizes that such conditions will be mere words unless they can be given force and effect through the availability of coercive sanctions. The use of words to order social relationships, or to create "law and

order," depends upon the "sword" of justice. These are the rudiments upon which the structure of all institutional arrangements are fashioned.

Hobbes applies reasoning to considerations of political choice, provides an explanation for the organization of political associations and specifies what he considers to be the necessary conditions for the creation of a commonwealth or nation state. His formulation is based upon an assumption that there is "only one way" for constituting a stable, long-lasting commonwealth. There may be more than one way. Hobbes' assumption that there is only one way may be challenged without destroying his analysis of a state organized on the basis of certain specified or stipulated characteristics. Indeed, it can be argued that a number of nation-states, including the U.S.S.R., closely approximate Hobbes' model of a commonwealth.

Near the end of the eighteenth century, Alexander Hamilton and James Madison in The Federalist draw upon essentially the same mode of reasoning used by Thomas Hobbes. By some changes in assumptions, they arrive at a radically different solution to the problem of political organization. This solution was the basis for the design of the American constitutional system. Hamilton viewed the American effort as an experiment in determining whether men could formulate the design for a political system and organize the conduct of government so that it would be constrained through a system of constitutional law. He was quite explicit in indicating how developments in political science had assisted in the assessment of design components. Both Hamilton and Madison then explain the consequences which they expected to flow from the structural design of the American political system. Their use of reason to derive extensive implications and conclusions makes their

work a classic in political theory which continues to be of greater value than any contemporary work for understanding and explaining the behavioral characteristics of the American political system.

Where constitutional decision making is used to formulate an enforceable system of constitutional law, the various decision structures which comprise a system of government will themselves be designed as a matter of choice from among a larger array of structured possibilities. The constitution of legislative authority, executive authority and judicial authority will each represent choices from among alternative possibilities. Thus a general political theory that enables a constitutional decision maker to array different possibilities and to anticipate the consequences which will flow from each set of possibilities forms the essential tool for constitutional choice.

The notion that governments can be created as a matter of calculated choice has led to the design of a variety of political systems that gave little attention to the limitations and constraints involved in organizing human endeavors. Constitution writers have often behaved like engineers who disregarded the flow characteristics of water and failed to take account of gradient as a constraint upon the design of water distribution system. French revolutionists, for example, attempted to build a whole new social order by abolishing social customs. Russian revolutionists attempted to create a new society where the state would "wither away" by eliminating private property.

All of these efforts might be viewed as political experiments where the course of experience could be used as a test of the explanatory theory used in the design of political institutions. It is entirely possible for men to formulate explanations and to use those explanations for undertaking experiments that do not work in the anticipated way. Such explanations would not have much value as empirical theory. Can the same experiment be examined from the perspective of a different explanatory theory and can one of the alternative theories provide a more powerful explanation of the events which transpired? In that case we would be inclined to accept the alternative theory as the better theory to use in institutional analysis and design.

For example, could we take Thomas Hobbes' theory and relax the assumptions of benevolence and enlightenment that he applies to those who exercise sovereign prerogatives? Assuming fallibility and self-interestedness, can we reason through the consequences which will follow in relation to proneness to error and the social costs of deprivations which will follow from actions based upon the erroneous judgments of fallible rulers? Will this theory give us a better explanation of events which have transpired since the Soviet revolution? Could we have predicted the results documented by Milovan Djilas in his The New Class? Does the reasoning derived from Hobbes' political theory enable us to anticipate the types of problems or consequences

which are engendered in Soviet society when those who exercise ultimate political authority occupy a position analogous to Hobbes' sovereign?

Alexis de Tocqueville drew upon a mode of reasoning similar to that used by Hobbes and by Hamilton and Madison to study Democracy in America and The Old Regime and the French Revolution. Many writers attribute extraordinary intuitions to Tocqueville for his capacity to anticipate patterns of development which occurred many decades after his works were published. We might also want to consider an alternative explanation: that he used a mode of reasoning as a tool of analysis which enabled him to reach important conclusions about the general course of future events.

Tocqueville makes a number of observations in Democracy in America that pertain to the possibility of a political science:

. . . a democracy cannot profit by past experience unless it has arrived at a certain pitch of knowledge and civilization. There are nations whose first education has been so vicious and whose character presents so strange a mixture of passion, ignorance and erroneous notions . . . that they are unable to discern the causes of their own wretchedness, and they fall a sacrifice to ills of which they are ignorant. (I: 239-40, paper)

If this observation is applied to the development of institutional arrangements, we might anticipate that any people who are incapable of diagnosing the conditions that generate social pathologies will not be able to discern the causes of their wretchedness and will be required to endure the ills of which they are ignorant.

In the introduction to Democracy, Tocqueville explicitly observes that "A new science of politics is needed for a new world." (I: 7) The new world is one where traditional authorities are no longer accepted because they bear the titles of ancient offices. Instead, he suggests that men need access to a "science of association" which will enable them to "comprehend the utility of forms." (II: 325)

By comprehending the utility of forms, he anticipates that the doctrine of self-interest can be used as a rule for action in organizing and sustaining collective enterprises. "Without understanding the science" (I: 10) that puts the doctrine of self-interest to use, we might anticipate that people will be "unable to discern the causes of their wretchedness and fall a sacrifice to ills of which they are ignorant." (I: 231)

The mode of reasoning used by Thomas Hobbes, Alexander Hamilton, James Madison and Alexis de Tocqueville, among other classical political theorists, is similar to the mode of reasoning used by modern political economists. Most economists have applied their analytical capabilities only to market institutions. In the last two decades, however, a growing number of economists have begun to apply economic reasoning to problems of non-market decision making or public choice. The success of their efforts encourages us to have some measure of optimism about the possibility of a political science that can be used for institutional analysis and design.

#### Institutional Aspects of Development

This preliminary assessment of problems of institutional analysis would suggest that any effort at economic development to realize production possibilities will be accompanied by problems of institutional design. Whenever productive efforts require teamwork among those who form an enterprise or going concern, entrepreneurship will be as much concerned with problems of institutional design and institution building as it will be concerned with the construction and operation of plants or production facilities. The relationship of any

enterprise or going concern to other enterprises and going concerns and to those who use its goods and services will also be subject to explicit rules which establish the terms of relationships among enterprises.

The interests of the individuals who act both within the rules of a particular enterprise and within the rules that establish the relationships among enterprises may be subject to controversy and conflict. Such circumstances will require reference to various governmental decision-making arrangements to determine conflicts, to enforce relationships or to alter the rules that establish the basis for organizing relationships. If the rules that apply to the conduct of governmental institutions are themselves to be subject to alteration, we are confronted with problems of constitutional choice and constitutional decision making.

The organization of any modern society will require recourse to an extensive knowledge of institutional arrangements and how these arrangements can be expected to affect the choice of strategies on the part of those who are concerned with the pursuit of developmental opportunities. The wrong choice can be expected to exacerbate the pathologies that are generated by institutional weaknesses and institutional failures. The right choices can be expected to enhance the benefits to be gained by teamwork in the sense of improving the lot of each individual who shares in the joint effort and in the aggregate benefits to be derived from productive teamwork. The opportunities for taking the wrong decisions are very large and the possibilities of taking the right decisions are extraordinarily small unless those decisions are informed by an appropriate theory of institutional analysis and design. We cannot expect the right decisions to

be taken by trial and error methods.

### Conclusion

In this study of Institutional Analysis and Design, we shall examine the basic elements or factors that need to be taken into account and indicate how they can be used both to reason through problems of institutional analysis and to deal with problems of institutional design. A political science can exist only if those basic elements or factors can be specified as terms and relationships so that human reason can be used to think through problems, draw inferences and derive conclusions.

In keeping with economic reasoning, we use individuals as our basic units of analysis. We assume that individuals pursue opportunities in relation to events in their environment. The structure of these events can be dealt with as basic variables that affect patterns of human interaction. We further assume that individuals have recourse to decision rules to order their relationships with one another as they pursue opportunities in the world of events. Thus, the essential problem in institutional analysis is to 1) anticipate the consequences which follow 2) when self-interested individuals choose which course of action will improve their net well-being 3) within particular institutional arrangements which assign capabilities and impose constraints 4) when applied to the pursuit of opportunities in relation to specifiable structures of events. Items 2, 3 and 4 are independent and intervening variables; item 1 is the dependent variable. The optimum choice of institutional arrangements for those concerned with institutional design would be the set of decision making

arrangements that creates the greatest net advantage for the individuals involved.

By using theory to reason through problems, draw inferences and derive conclusions, we can translate structures of inferential reason into researchable hypotheses. By using hypotheses as the basis for organizing research or observing political events, we can begin to secure evidence to test the warrantability of the theories used to derive chains of inferential reasoning. The theory with the strongest explanatory power is the preferred theory.

We must caution that a political science will be a relatively soft science and the predictions made cannot be expected to occur in each and every case. We cannot hope to specify necessary and sufficient conditions so that we would expect predictions to hold in each and every case. Deviant cases will occur. In many cases the most we can do is predict general tendencies. In those cases, the theory that is consistently able to predict the right direction or the approximate order of magnitude is a better theory for explanatory purposes than the theory that consistently predicts the wrong direction or wrong magnitude.

We can never expect a political science to be used to predict what named individual will be elected to a particular office in 2020. However, we might, on the basis of a political science, expect the individual elected to a specified office to present a program of action and to vote on critical issues that reflect the dominant preferences of his constituents if his continuance in office depended upon winning elections by majority vote in a single-member constituency. To predict such behavioral tendencies may not be insignificant in anticipating the future course of political events.

If theory can be used to reason through alternative options for dealing with different institutional arrangements, we would also anticipate that policy makers could use that mode of reasoning to array the different alternatives and be in a position to choose the particular configuration that will be most appropriate for the realization of specifiable objectives. Policy makers would then be able to design and build the configuration of organizations that would be most appropriate for given objectives.

Efforts to conceptualize and develop organizational arrangements to realize objectives can in turn be viewed as social experiments. Whether or not the appropriate consequences are realized would provide a test of the experiment. Again such efforts can only be made in light of analyses derived from different explanatory theories rather than in some absolute sense of success or failure.

Thus, the possibility of a political science will exist only when essential terms and relationships can be specified in a theoretical language and be used to reason through problems. When that chain of reasoning is supported by empirical evidence, we can have some confidence in the warrantability of the theory and in the practice of a political analysis based upon that theory.

The Problem of Comparative Analysis

Any effort to make cross-cultural and cross-national comparisons of the behavioral tendencies evoked by particular types of institutional arrangements is plagued by serious difficulties. We need to be conscious of these difficulties, if we are to be aware of the risks that institutions, which evoke particular behavioral tendencies in one social setting, may manifest quite different behavioral tendencies in another setting.

The most difficult problem in cross-cultural and cross-national comparisons arises from the circumstance that institutional arrangements are language-based phenomena. Behavior is governed by concepts formulated in a language which implies sets of relationships among persons and is known to those language users who are familiar with the particular social practices implied by particular terms. Such terms are apt to be loaded with implications and connotations which are not easily translated from one language to another.

The traditional means of surmounting this difficulty is to rely upon country specialists who develop an intimate familiarity with particular cultures, languages and behavioral referents. Such country specialists can then translate from one language to another taking account of particular nuances of meanings. Having access to informed and sophisticated translators who know the nuances of meaning may, however, foreclose access to the development of a generalized body of knowledge about institutional analysis and design. The sophisticated translator can easily become so preoccupied with the uniquenesses of specialized bits of information that he loses a capacity to think in more generalized terms. He may be inclined to dismiss any general analysis for its failure to consider particular personalities, times and places. On the other hand, his detailed knowledge of a particular culture, language and behavioral referents is

essential in providing a sense of political and social realities for testing the implication of political theories.

An alternative possibility is to develop a theoretical language where persons familiar with the language structures used in legal terms can translate from legal languages into that theoretical language and then communicate about cross-cultural comparisons in the theoretical language. The concept of property, for example, probably has radically different meanings as formulated in the language of different political systems. We would expect this to be especially true in socialist countries which view private property as a major source of evil. The question remains as to how individuals in socialist countries order their relationships with specifiable structures of events. Bread is a source of food in both socialist and non-socialist countries. How do the relationships of individuals to the possession and use of bread differ in socialist and non-socialist countries? Are these relationships conceptualized in different ways? How do we know whether different terms imply different relationships? We can begin to clarify these problems only when we can make essential distinctions in a theoretical language and then use that language in a consistent way to deal with the diverse terms that are being used in different political cultures.

Another problem arises from the circumstance that different political communities do not have access to the same array of institutional arrangements. France has no court with jurisdiction to provide constitutional remedies should high political authorities violate the prerogatives of their offices. The closest approximation is the French Council of State. Official discretion is subject to review by the Council of State as essentially an administrative instrumentality. In French jurisprudence, administrative law is radically different

than administrative law in the United States, encompassing much of what Americans would call "public law." France has no major field of jurisprudence called "constitutional law." American jurisprudence, by contrast, has a major preoccupation with constitutional law. These differences will have substantial implications for relations between persons and officials in the two political systems.

Since the operation of any one set of institutional arrangements will be affected by the presence of other institutions, we cannot expect the same patterns of institutional behavior to occur when any given institutional structure is used in different social and political contexts. Market mechanisms will evoke different behavior in a political system permeated by political corruption than in a political system that provides effective law enforcement and an easily accessible and highly reliable court system for adjudicating conflicts among market participants.

However, access to an appropriate political theory should enable a political analyst to estimate the consequences of introducing new institutional structures into a political system with specifiable institutional characteristics. Success may be anticipated in some circumstances; failure in others. Once an analysis has been made and an experiment undertaken, the worth of the analysis can then be determined by whether experience is consistent with the consequences anticipated by the analysis.

The difficulties of comparative analysis greatly compound the problems of institutional analysis and design. The difficulties are of such substantial magnitudes that comparative analysis must be approached with great caution. However, comparative analytical capabilities can only be developed by working through problems and critically scrutinizing the product. If we can develop analyses that enhance the capabilities of people to make more effective use of institutional

analysis in feasibility studies and in the design of successful enterprises, then the efforts will be worthwhile. Persons working on problems of institutional analysis and design in a cross-cultural context need to expose their efforts to systematic criticism and review by persons who have an intimate familiarity with the different cultures. The country specialist supplies essential skills that are necessary complements to those who are preoccupied with a more general theory of institutional analysis and design.

### The Scope of this Inquiry

A sense of substantial modesty about what can be attained in institutional analysis need not foreclose efforts to develop and extend our analytical capabilities as far as possible. Recognizing some of the limitations and difficulties that we have already discussed, the study of institutional arrangements cannot focus exclusively upon institutions as such. Rather we must be prepared to deal with institutions as important intervening variables which enable human beings to order their relationships with one another so that they can take advantage of the opportunities that are available in the larger world of events. Institutions as intervening variables then become the critical policy variables for considering alternative ways that individuals can order relationships with one another as they pursue various developmental opportunities.

We shall begin our analysis by an examination of "The Human Condition" and consider why human beings find it necessary to have recourse to institutions in organizing their lives. The answer to that question lies in the relationship of human behavior to development. Human beings

have attained extraordinary capabilities for adaptation in the sense of learning about themselves and their environments and for being able to transform events and relationships to serve their purposes and to advance their potential well-being. The human ability to learn and to develop, organize and communicate knowledge through language systems is the critical factor in the development of human culture and human civilization. New knowledge gives rise to new possibilities and the development of new possibilities implies that human development will always be subject to change. But the nature of new possibilities and the course of events created by those new possibilities cannot be known by those who have not yet learned about the new possibilities. The human capability for acquiring new knowledge necessarily implies that long-term planning is itself an impossibility. Human efforts to plan are plagued with increasing uncertainty as time horizons are projected further into the future. Instead of being able to predetermine the future with precision, human beings are confronted with the task of building patterns of order that will accommodate change and development as human history unfolds. That order is built upon the use of language to create a system of rule-ordered relationships.

When we have clarified the relation of rule-ordering to adaptive behavior we shall pursue the implications that follow when new knowledge gives rise to new possibilities and require that human beings confront the task of creating and modifying the structure of institutions for ordering relationships with one another as time horizons unfold. Human beings confront the problem of dealing with change in an orderly way or of maintaining order in a changing world. Finally, our discussion of "The Human Condition" will close with a statement

of the assumptions that we consider appropriate for a "model of man." That "model" specifies the assumptions that we propose to use for thinking about the behavioral tendencies of representative persons as they pursue opportunities where their choices are constrained by the decision rules inherent in different institutional arrangements.

In Chapter 3, we shall turn quite explicitly to the essential architecture of institutional arrangement where we examine "The Basic Language and Structure of Authority Relationships." We shall consider problems in the language of authority relationships where words are used to order human relationships. Since decision rules, as language-based assertions or propositions, are not self-formulating, self-enforcing nor self-modifying, we pursue the implications for the organization of governmental institutions that are assigned the tasks of determining, enforcing and altering decision rules. The structure of authority relationships, thus, involve at least two sets of rules. One set assigns decision making capabilities or authority to individuals occupying positions to act in relation to others occupying commensurable positions. Another set of rules assigns specialized authority pertaining to the determination, enforcement and alteration of authority relationships. Following John R. Commons we shall distinguish these two sets of rules as rules of authorized relationships and rules of authoritative relationships. Together they comprise the two principal components involved in the language and structure of authority relationships.

In Chapter 4 we shall extend our analysis of the language and structure of authority relationships to explore the question of whether that language system can be used to formulate the design of a system

of government where those who govern can be subject to enforceable rules of law. The possibility of an enforceable system of constitutional law carries the implication that constitutional choice can be the subject of calculated choices in the design of governmental institutions. Theories of constitutional choice which foreclose the possibility of establishing an enforceable system of constitutional law and those that allow for the possibility of creating and maintaining an enforceable system of constitutional law will both be examined.

In Chapter 5 we shall turn to the world of events in which men pursue opportunities in order to characterize the structures of events that are associated with different types of goods and services. Events in the world can be conceptualized in many different ways but we shall use some very general terms to characterize events as "goods" or "bads" depending upon how they are weighed by human preferences. We shall also use the distinctions made by modern economists in characterizing individual or private goods from public or collective goods. Each of these types of goods involves special problems in the organization of appropriate institutional arrangements. In the absence of appropriate institutional arrangements we can expect conditions of institutional weakness and institutional failure to arise. It is such circumstances that call especially for capabilities in institutional analysis to assess the conditions generating institutional weakness or institutional failure and for the formulation of alternative institutional structures to cope with the difficulties posed by those conditions.

In Chapter 6, we shall turn to "The Organization of Institutional Arrangements in a Market Economy." Chapter 7 will extend the analysis to "The Organization of Institutional Arrangements in a Public Economy." Problems of entrepreneurship will vary significantly because of the organizational problems associated with different types of goods and services.

Assuming that a set of institutional arrangements appropriate for facilitating the pursuit of diverse developmental opportunities will require an array of different institutional structures, we will turn in Chapter 8 to an examination of the problem of "Complex Orderings" where different institutional mechanisms are developed for coordinating the activities of large groupings of individuals who interact with one another as organized entities. Again, alternative possibilities exist and persons concerned with the creation of complex orderings have alternatives to choose from. In turn, those who are concerned with understanding behavior in complex orderings will need to view individuals as choosing strategies where each move is a play in a series of simultaneous games.

Chapter 9 will be concerned with "Some Characteristic Problems of Institutional Weakness and Institutional Failure." Several papers written by colleagues who have been concerned with the application of institutional analysis to particular types of decision-making situations will be examined to draw inferences and develop hypotheses about problems of institutional weakness and institutional failure. These papers indicate how reasoning can be used to think through characteristic problems confronting human societies and explore some potential solutions to those problems.

Finally in Chapter 10, we shall conclude by pursuing the theoretical and methodological implications that this discussion has for "Institutional Analysis and Design." We shall examine the methodology inherent in the use of theory as a tool for positive analysis which can be used to predict consequences which will flow from specifiable institutional arrangements given individuals who have specifiable capabilities for dealing with task environments of specifiable

characteristics. Positive analysis of this sort can also be used in empirical research to secure evidence that either provides support for the structure of inferential reasoning used or casts doubt upon the appropriateness of the conclusions derived.

A somewhat different methodology can be applied to a consideration of "social pathologies" and a diagnosis of the conditions of institutional weakness and institutional failures that are associated with particular pathologies. A consideration of appropriate "remedies" takes us back to the problem of institutional design. The development of institutional designs and their implementation in appropriate settings can then serve as social experiments to again test the warrantability of the concepts being acted upon. The methodology inherent in institutional analysis and institutional design should serve as a basis for continuing inquiry.

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## THE HUMAN CONDITION

The raison d'etre for institutions is to order choice or to organize decision-making among persons who interact with one another. The phenomena of choice -- of being able to consider alternative possibilities and select a course of action from among a range of possibilities -- is a fundamental part of human behavior. Before we can understand the place of institutions in human behavior we need to consider the more general problem of adaptive behavior in which choice plays such a significant role.

Modern man has inherited an extraordinary endowment for adaptive behavior which derives from both genetic adaptation and cultural adaptation. This endowment has, in turn, created a series of problems, puzzles or paradoxes which have been solved by instituting order in human relationships. Decision rules serve as means of resolving some of these problems by structuring ordering of human behavior into patterns of social organization. Decision rules are rules of action which authorize some patterns of behavior and prohibit or constrain other patterns of behavior.

These problems, puzzles or paradoxes and the solutions that human beings have attained through patterns of social organization enable us to understand some of the difficulties which plague efforts to devise a science of human behavior and to understand patterns of human development. Once these difficulties are understood we can be more careful in specifying the limitations which will necessarily apply to the social sciences as well as the possibilities that we might hope to realize by developing knowledge that is relevant to problems of institutional analysis and design.

In this chapter we shall turn first to problems of adaptive behavior, the various forms of adaptive behavior and the contribution that these

different forms of adaptive behavior make to human development. We shall then examine some of the problems of organization created in human development. Human beings are required to create patterns of order that can both accommodate a changing environment and in turn be subject to change. These conditions, finally, present us with a difficult task in attempting to stipulate what assumptions might be used about human beings as both designers of social orders and as persons behaving within the context of social orders.

### Adaptive Behavior

The essential structure of adaptive behavior is revealed by a standard definition of the verb, to adapt. Adapt has been defined as "1. to make suitable to requirements or conditions; adjust or modify fittingly. . . 2. to adjust oneself to different conditions and environments, etc." This definition suggests that adaptive organisms or systems have a capability to induce variety into their behavior in relation to variations in the environment. Adaptive behavior is covariant behavior in the sense that variations in the environment, which affect essential values in an organism, will evoke variations in response. The higher the degree of adaptability attained by any organism, the larger the repertoire of potential variety that is available to it in responding to variations in its environment.

The essential structure of adaptive behavior then would suggest, first, the existence of some mechanism or arrangement that is capable of arraying or generating potential variety. This potential variety is then subject to a mechanism of selection if an appropriate fit is to develop between adaptive organisms and the events which comprise their environments. Appropriateness of fit is determined in the first instance by whether essential values are kept within limits (e.g. limits of survival among

others). If adaptations are to persist through time selection cannot be a random process but must occur with elements of regularity or constraint.\* Where selection occurs with constraint or regularity and that constraint or regularity can be named we can then identify a "principle" of selection. Choice is a particular form of selection on the part of organisms that can array alternative possibilities (i.e. have access to potential variety) and can then select from that array of possibilities.

The adaptive potential among human beings derives from different forms or modes of adaptation. Among these are (1) genetic adaptation associated with biological evolution, (2) learning as a form of adaptation that occurs among all animals or organisms that have nervous systems, and (3) cultural adaptation which occurs when organisms can have recourse to language, the learning transmitted by language and the artifacts created by reference to language in organizing actions for adapting to diverse task environments. Each will be briefly considered in turn.

#### Genetic Adaptation.

Genetic evolution occurs among all living organisms. Life for any one organism is of limited duration and the transmission of life depends upon reproduction. Reproduction involves an opportunity for the generation of variety whenever new life forms differ from old life forms. If life is transmitted with imperfect reproduction we would expect variations to occur in the new life forms. The new will not be identical with the old.

\* W. R. Ashby (1956:127) defines constraint as a relation between two sets and occurs when the variety that exists under one condition is less than the variety that exists under another. Constraint can be said to exist when the potential variations in the behavior of any variable are not realized.

Thus reproduction offers the prospect of life becoming a one-many transformation where the new life forms cannot be predicted with absolute certainty from the characteristics associated with the old.\*

Sexual reproduction in particular involves a complex union of cells derived from different lineages and greatly increases the potential for genetic variations in the transmission of life. While the generation of potential variety occurs in reproduction, the process of selection occurs with the survival of the populations which continue to transmit life by reproduction. Conditions in the environment including the existence of diverse life forms will affect potentials for survival. Those life forms that do not survive to reproduce are eliminated from the living. New variations in life forms, that have a greater capability to adapt to their environment, survive. The environment, thus, selects those characteristics that survive; and the principle of survival is the method of selection in biological evolution.

Genetic adaptation apparently occurs only in relation to reproduction. Species which produce large numbers of young with short generations are capable of substantial genetic adaptation over relatively short periods of time. However, little genetic adaptation will occur within the lifetime of an individual organism. Genetic adaptation thus occurs at an inter-generational level and each individual member of a species inherits a genetic endowment that remains relatively constant through its lifetime.

Over a very long period of genetic adaptation, a wide variety of life forms have, however, developed where organisms have access to nervous

\* The transmission of life forms is subject to imperfect reproduction in the sense that the new may vary in some characteristics from the old. If the new characteristics persist, the new will tend to displace the old. All adaptive systems are subject to change through time. Their future course of development cannot be fully anticipated. A science of adaptive system, thus, will never be an exact science.

systems which enable them to "learn" or to adapt during the lifetime of each individual member of the species. These life forms have acquired another type of adaptive behavior. We shall identify this type of adaptive behavior as "learning." Human beings, through an extended process of genetic adaptation, have, in particular, been endowed with a form of life which gives access to extraordinary capabilities for learning.

Learning as a Form of Adaptation.

Any organism that is capable of learning has access to a genetic endowment which provides it with (1) sensory mechanisms to derive information from the environment, (2) cognitive facilities for comprehending and retaining information about recurrent events, regularities or constraints in the environment, (3) internal sensation or feelings which serve as potential indicators about disturbances and states of well-being, and (4) reacting parts or motor facilities which enable it to act with variety in relation to dangers and/or opportunities in its environment.

By using this genetic endowment any animal with a nervous system can (1) derive information about events in its environment, (2) organize such information in some form of image or cognitive mapping, (3) assess or weigh this information in relation to its own internal indicators or feelings, and (4) act in a way that will facilitate its survival or relative well-being. Organisms that are capable of learning are able to adapt to a variety of environmental circumstances within the course of their individual life-spans. Sensory mechanisms are important in giving organisms information about potential opportunities and threats or disturbances in their environment. So long as constraint exists in the environment in the sense that many potential variables behave like constants over given time horizons or vary in a recurrent, rather than random, way, an organism with cognitive facilities is able to form a stable

image of elements in its environment. If it can conceive of potential moves or acts in relation to those relatively stable elements in its environment it can then weigh those possibilities in relation to its own internal indicators or feelings and act in a way that will leave it better off rather than worse off.

W. R. Ashby emphasizes that "every law of nature is a constraint." (W. R. Ashby, 1956: 130) Laws of nature are concerned with recurrent events. He also demonstrates that learning can occur only in the presence of constraint. He, thus, concludes that learning is possible only to the extent that events in the environment show constraint. (W. R. Ashby, 1956: 133-34)

Given a condition of constraint in the environment and a capacity to perceive of potential acts or moves in relation to those constraints, we can now conceive of learning as the generation and selection of ideas (mental images of different moves, actions, possibilities). The generation of ideas need not be a purely mental process but may be a combination of physical activity and mental activity. In such circumstances search behaviors associated with the so-called trial-and-error methods can be used to generate ideas. If a trial is unsuccessful, when measured by internal indicators, an organism can change its behavior and continue that procedure until it is successful. If it can then retain information about its successful strategy for dealing with similar events in the future it would have learned by generating several trials and by selecting and retaining information about its successful trial. Each trial represents a possibility which we might conceptualize as an idea. Search procedures with numerous trials are equivalent to the generation of numerous ideas.

Internal indicators or feelings are critical elements in a choice process. If we view these as essential values or preference orderings which provide a learning organism with a series of internal readings about its well-being we can begin to understand an essential constraint that applies to the process of selection or choice in any organism capable of learning.

Unfortunately, mental activities are internal to learning organisms and modern science is notably unable to read minds, decipher cognitive processes or read internal indicators or preference orderings. As a result much of the essential information for understanding learning as a form of adaptive behavior is difficult to procure and we must instead rely upon inferences about internal states that can be derived from overt behaviors.

Learning as a form of adaptive behavior, significantly amplifies potentials for adaptation beyond those available through processes of genetic adaptation. Learning gives those organisms with a nervous system the capability for modifying their patterns of behavior during the life span of a single organism in relation to events which occur within its environment. Genetic adaptation as we have noted occurs only in an intergenerational context. Those organisms which are genetically endowed with a nervous system have greatly amplified their potential for adaptive behavior by being able to make intragenerational adaptation. This endowment in turn unquestionably facilitates the survival of species which develop more complex nervous systems and thus gain access to a larger repertoire of adaptive potential.

The radical limit confronting most species is the circumstance that life is of limited duration; and the learning acquired by each member of a species is largely lost when life expires. The young can acquire some information from the old, but in the absence of languages the intergenerational transfer of

learning is extraordinarily small. Human capabilities for overcoming this limit has contributed to the extraordinary development of human civilizations. This capacity gives rise to patterns of cultural adaptation.

Cultural Adantation.

The unique characteristic of human adaptation which distinguishes homo sapiens from other forms of life has been the developmant of language as a facility for radically amplifying human capabilities to transmit learning. Languages are highly specialized symbol svstems where sounds or markings can be used to stand for or to symbolize events and relationships. Symbols organized as words and sentences can be used to express ideas, images or thoughts. By inventing words to stand for events and relationships it becomes possible for human beings to communicate their thought processes to one another when words or symbols are used as a media for communication. Such thought processes can be extended into a realm of ideas that goes beyond the bounds of immediately observable events.

Within the bounds of my daily observations, for example, I always see the sun rise in the east and set in the west. Immediate observation might lead me to believe that the sun rotated around the earth. But by using concepts based upon observable events and relationships it is possible to build a train of thought where we can contemplate a complex set of rotating objects which move in orbits around a sun. A series of observations may be used to test the inferences inherent in such trains of thought so that different ideas or images about the relationships of the earth and the sun can be developed. Human reason in pursuing trains of thought can conceptualize possibilities or generate ideas which in this case provde an alternative explanation about movements in the solar system.

The triangulation between (1) events and relationships, (2) words or symbols, and, (3) ideas, images or thoughts means that words in serving as a media of communication can be used to transmit learning from one individual to another in contemporary or succeeding generations. So long as ideas and chains of thought can be translated into words the learning acquired by one individual can be transmitted to other individuals and become available for him to use. New knowledge or new discoveries can be acquired by those who have access to a common language without being required to make each discovery anew from individual experience. The development of languages has enabled human beings to accumulate increasing large pools of knowledge that give them access to an extraordinary accumulation of learning.

The capacity to transmit learning from one generation to another depends critically upon the type of language form that is available to human beings. Where humans have reference to only a spoken language we might expect substantial difficulties to arise in the amount of information which can be stored and transmitted to successive generations. Where a language cannot be recorded as a material object in some written form, the connection between the conveyor of acquired knowledge and the receiver of acquired knowledge must be made by direct interpersonal communication.

Without having access to an authentic record, variations in information may occur as it is transmitted from generation to generation. Information can be easily lost and distorted. The transmission of information through long chains of human communication will be altered and distorted to a greater degree than where a message can be transmitted as a material object and conveyed from one person to another person.

The constraints inherent in spoken languages imply substantial

limits to the aggregate pool of knowledge that can be transmitted between generations. As a consequence we would expect any society relying exclusively upon a spoken language to be associated with a relatively "primitive" civilization by modern standards. Difficulties in communication are such that we would also not expect primitive societies to be the basis for the large-scale patterns of organization associated with modern conditions.

The development of writing and the later development of printing has greatly altered human capabilities to record, store and transmit increasingly large bodies of knowledge. With the availability of writing and printing, information can be transmitted over greater social distances in both space and time with less risk in the loss of information and knowledge. Knowledge also becomes more easily accessible to larger numbers of people who acquire the basic literary skills for gaining access to those information systems.

More recent developments in specialized languages associated with electronic machine communication and data processing can be expected to affect human capabilities for storing, transmitting and processing large bodies of detailed information and knowledge. Each of these capabilities can be expected to affect human potentials for development.

Human capabilities to acquire new knowledge and transmit existing knowledge has also been significantly affected by advances in the use of scientific languages as tools for reasoning to extend implication beyond the domain of immediately observable events. The development of scientific languages and of mathematics as a general form of scientific language has enhanced the use of human reason to press beyond observables. The invention of new techniques for observation has, also, pressed the frontiers of observation beyond immediate sensory perception. Unobservables can

be accounted for through appropriate intermediate thought processes until instruments are able to array observation in a form which can be perceived by human sensory mechanisms.

With the use of reason to generate ideas, scientific methodology can also reduce the costs of crude trial and error procedures. Research designs can be formulated where evidence is arrayed to test the warrantability of conclusions reached by recourse to human reason.

The use of theory and research methodologies can thus be viewed as a development in learning how to learn. By an explicit understanding of strategies relevant to the development of new knowledge, human beings have learned how to improve their capabilities for generating new knowledge. When combined with the development of printing, the rise of modern science following Gallileo has contributed to a virtual explosion in the growth of new knowledge in modern times.

When human capabilities to acquire, organize and transmit knowledge are taken together with human motor skills, human beings have developed a radical capability for transforming their environment from a configuration of natural events to cultural or artificial states of affairs. Human beings have learned how to transform elements of the biosphere into an agriculture until the land masses of the earth take on a symmetry of human effort. Indeed, human knowledge has worked such a transformation of the earth that the noosphere - the sphere shared by human knowledge - assumes global proportions.

Thus if we define culture as events organized by reference to learning, man's cultural endowment has assumed immense significance in shaping configurations of events. Cultural adaptation, as a form of adaptation made available by accumulating and transmitting knowledge

through the vehicle of human languages, has significantly amplified the endowments which human beings have derived from genetic adaptation.

The attributes of human cultural evolution depend upon individual learning in the sense that each individual must acquire the knowledge that gives him access to potentialities for action. Thus we cannot speak of a culture or civilization apart from the people who comprise that culture or civilization. Individuals are the learners, the thinkers and the doers. If individuals fail to acquire and transmit the accumulated learning that forms a part of their cultural heritage that learning can be lost; and civilization can decline and disappear.

#### Implications for Human Development

In our discussion of adaptation we have indicated how various modes of adaptation have greatly expanded the repertoire of possibilities available to human beings in relating themselves to events in their world. We have avoided implications which pose problems or difficulties associated with these potentials for adaptive behavior. An understanding of human institutions and of political organization requires us to come to terms with some of these difficulties. The first such difficulty is the threat of chaos that derives from amplifying potential variety. The creation of a social order, in turn, poses a problem in organizing collective action. Another difficulty is the problem of change created by the generation of new knowledge. A further difficulty arises from the inability of individuals to master and use but relatively limited amounts of knowledge within the duration of their life-span. We shall pursue each of these problems or difficulties in turn.

The Threat of Potential Chaos

We have already characterized adaptive behavior as being associated with two processes or mechanisms. One process arrays or generates possibilities that gives access to potential variety. The other selects or chooses from that array of possibilities. In dealing with learning in contrast to genetic adaptation, the mechanisms for arraying possibilities involves recourse to thoughts, images, conceptions or ideas. Any organism with a rich imagination has substantial capabilities for arraying different strategies and possibilities for action.

If we temporarily set aside considerations of selection and choice we can begin to perceive the problem that access to large accumulated bodies of knowledge imply. When human beings have learned about constraints inherent in events in their environment and can now act with variety in relation both to those events they gain access to a very large repertoire of potential variety in their behavior. They can transform the natural world of events so that a wide range of artifacts and potentialities can be generated from that world of events.

A large accumulation of human knowledge enables individual persons to have access to a large repertoire of ideas or potential variety in patterns of behavior. If all of the potential variety in human behavior were to be expressed in a random way, rather than in highly selective ways, human beings would face a state of affairs approximating chaos. Casual observation of human affairs indicates substantial anxiety about the threat of chaos and the problem of maintaining order in human relationships. Access to a very large repertoire of potential variety thus carries with it a threat of chaos.

We also indicated in our earlier discussion of learning as a form

of adaptive behavior that learning can occur only in the presence of constraint. Constraint gives rise to regularities that can be observed and acted upon. Human beings thus face a paradoxical situation where they need order or constraint in their environment as a necessary condition for learning but learning gives rise to new possibilities for increasing the potential variety of human behavior. Increasing potential variety in human behavior threatens the maintenance of a predictable order in which learning can occur. As the human adaptive potential increases we would anticipate that mechanisms for ordering or constraining choices must simultaneously occur if human development is to advance beyond a most primitive level.

In our previous discussion of learning we have indicated that any organism that has the capability for learning will act subject to a constraint where it will select or chose that possibility that will improve its well being as measured by reference to its own internal indicators. Thus we would expect all organisms to evidence constraint in the courses of action which are selected rather than randomly pursue all possibilities that are perceived to be available. All animals can be expected to manifest regularities in their patterns of behavior even though we will be unable to predict each behavior that any particular animal will pursue at any point in time. We would predict general behavioral tendencies on the basis of assumptions about internal states, levels of learning, and the principle of selection which will be used in chosing among alternative possibilities.

Assumptions bearing upon the principle of selection that operates in individual choice will carry us some distance in understanding human behavior. But such assumptions will not carry us very far in understanding how human beings can overcome the threat of chaos inherent in the large repertoire of potential action available to men in advanced human societies.

The development of order out of chaos requires that each human being establish a basis for anticipating how others will behave so that each person can act with an expectation that other persons will act with constraint. Otherwise individuals will act in ways that may enhance their own well being at a potential cost to the well being of others. The individuals who suffer adversely, as intelligent creatures, will pursue strategies to reduce their deprivations. Such patterns of interaction may result in a destructive conflict which leaves each individual worse off.

Since human beings are unable to read each others minds, the task of developing a method for ordering behavior in relation to one another again requires recourse to language systems. Language now becomes the basis for stipulating rules so that disparate individuals can act with an expectation that others will behave in accordance with those rules. Decision rules are a means for constraining potential variety by partitioning the array of all possible behaviors into subsets where some possibilities are authorized as admissible forms of behavior and others are constrained as inadmissible forms of behavior. Decision rules thus enable two or more persons to interact with one another under conditions where some possibilities are excluded and other possibilities are included within the range of choice available to each individual in his relationships with other individuals. The excluded possibilities establish the constraints or the limitations upon choice or upon decision making. The included possibilities establish the opportunities or capabilities authorized in human conduct. Decision rules use language to introduce constraint into human relationships and establish the basis for social organization. Reference to a common set of decision rules is a basis for ordering choice and, thus is a necessary condition for establishing ordered social relationship.

If people act with reference to a common set of decision rules, individuals can pursue their interests in relation to one another in an orderly and predictable manner. Human behavior can be bafflingly unpredictable, as any behavioral scientist knows, unless reference can be made to relevant decision rules. However, human behavior can be surprisingly predictable to anyone who acts in relation to relevant decision rules. Any automobile driver, for example, is able to act in relation to thousands of other automobile drivers by knowing the common rules of the road. Such knowledge enables him to arrive at his destination with a very high degree of predictability. If, in the absence of a common set of decision rules, all automobile drivers were to act randomly in relation to one another, the potential variety of all possible behaviors would preclude anyone from reaching his destination in an orderly and predictable manner. He would instead be confronted by a threat of chaos that would leave him disoriented, anxious, and unable to act.

Reliance upon decision rules as a means for creating order from potential chaos indicates why we can refer to human beings as political animals. Our extraordinary ability to learn and to transmit learning implies that a random use of ideas would create a potential chaos. Decision rules become a basis for ordering choice and for creating order in human relationships. We would anticipate that the rule-ordered arrangements go hand in hand with the growth of human knowledge and the development of human civilization. The growth of human knowledge must be accompanied by the creation of social relationship based upon concepts, words and rules. Institutions are social artifacts created through human reason and choice and built upon a language pertinent to rule-ordered relationships.

The Problem of Collective Organization

By themselves decision rules are but words. As such they are not self-generating nor self-enforcing. Social order, as a consequence, depend upon human agents who can formulate, determine, enforce and alter decision rules. This condition is the basis for distinguishing governmental institutions from other institutions in any society. Governmental institutions are those decision-making arrangements which are specialized to formulating rules, determining conflicts, enforcing decisions, and altering decision rules that affect interpersonal transactions and patterns of social organization among communities of people.

The development of rule-ordered relationships depend upon collective decision-making arrangements if individuals are to partake in the advantages that are to be gained from social organization. Collective action implies that some persons, who have authority to formulate rules, determine conflicts, enforce decisions and alter legal relationships affecting the interests of others, will necessarily be assigned an authority that is subject to radical inequalities when compared to the authority of those who are subject to that governing authority. If a system of rule-ordering is to prevail some decision-makers must be able to make decisions which can determine and enforce legal relationships in relation to others. Otherwise, words cannot be given effective meaning in the maintenance of ordered relationships among individuals if each individual is free to determine for himself which rules are to apply to him. Collective action always implies organized inequalities in the management of inter-dependent rule-ordered behavior.

Persons assigned the extraordinary authority

or power to determine and enforce decision in relation to others also necessarily requires the potential use of coercive sanctions to support behavior based upon lawful conduct and to remedy wrongs associated with unlawful conduct. Thus patterns of political organization necessarily depend upon the potential exercise of coercive capabilities. The lawful exercise of coercive capabilities necessarily implies that some will have lawful authority to impose deprivations upon others and leave them worse-off rather than better-off at least in the short run.

These conditions inherent in the logic of rule-ordered choice leave us with a fundamental difficulty. On the one hand, an inequality of decision-making capability and a capacity to impose potential sanctions are necessary conditions for sustaining ordered relationships among human beings. On the other hand, these conditions as necessary conditions are clearly not sufficient conditions for maintaining orderly and productive relationships. The use of sanctions inherent in the maintenance of ordered social relationships may also compound wrongs as well as right wrongs. The conditions of political constraint can be used as instruments of tyranny as well as an instrument to support productive and mutually advantageous relationships. This condition necessarily implies that political relationships are sensitive relationships; and, like fire, need to be treated with care in devising solutions to the structuring of decision-making arrangements among people.

If used with care, sensitivity and skill, the conditions of political choice can encapsulate conflict and enable persons to contemplate the consequences of their actions before taking decisions and forcing others to bear the practical effects of those consequences. In short, the political process can be used to sustain deliberation, to reduce the prospect of error, and enhance the calculation of more general, long-term

interests. In this way, advances in justice and in human welfare can be attained in light of reasoned contention among self-interested and fallible human beings. Conversely, the use of a heavy hand in relying upon coercive capabilities for ordering human relationships can exacerbate conflict, suppress recourse to human reason and provoke strategies of pre-emptive reprisals. Threats and counterthreats, challenge and reprisal can easily escalate into violence, tyranny and warfare. The possibility exists that the facilities for political choice can be used to generate a vicious circle of events leading to the compounding of wrongs. Those who govern have access to instrumentalities that offer them prospects of dominating the allocation of values in a society.

The consequences which can flow from patterns of collective action have substantial implications for human well-being. The basic language and structure of authority relationships and variations in authority structures will be pursued more extensively in subsequent chapters. In the meantime we shall assume that decision rules and arrangements for ordering choice through instrumentalities of government and collective action can enable human beings to take advantage of ever increasing bodies of knowledge. Any set of ordered relationships depends upon constraints to maintain regularities over time. The human capability for generating new knowledge, in turn, poses a threat to any existing or established order. We shall turn to the problem of uncertain futures and orderly change in considering a further implication of adaptive potentials for human development.

The Problems of Uncertain Futures.

As human capabilities for learning, organization and communication have increased, the aggregate pool of human knowledge has expanded at a rapid rate. As a consequence of this development an accelerator principle or multiplier effect seems to operate in the development of human civilization. Substantial investments in research and development continue to generate new knowledge at a growing rate.

The growth of new knowledge also has the effect of disrupting existing or established relationships and expectations about future developments. New knowledge gives rise to new possibilities. New possibilities manifest themselves as new events, relationships or occurrences, which were unanticipated by those who failed to take account of those new possibilities in anticipating the future course of events.

These conditions generate a basic paradox for social planners or social forecasters. New knowledge creates new possibilities and new possibilities evoke events which could not be anticipated without access to that new knowledge. New conceptions and new techniques cannot be anticipated by those who have not even contemplated the possibility. Under conditions of rapidly expanding knowledge and technological development, long-term social planning and long-term social forecasting is subject to radical limitations. Any creature that continues to learn and to acquire new knowledge cannot foresee the future course of events with any degree of confidence. Human capabilities for learning and generating new knowledge necessarily imply that human beings can anticipate the future course of human development only through an obscure veil of ignorance.

Long-term, comprehensive plans which are designed to serve as blueprints to predetermine the future course of events will fail to be realized.

Creatures that are capable of generating new knowledge and of creating new possibilities are necessarily foreclosed from long-term comprehensive planning if they are to take advantage of the new knowledge and new possibilities.

Planning can be an essential strategy for organizing information in an assessment of alternative possibilities so long as time horizons are indicated and crude magnitudes of uncertainty can be specified in relation to the obsolescence of old knowledge and the generation of new knowledge.

The problem of uncertain futures plagues both the social scientist and the social forecaster. As Milovan Djilas observes in The Unperfect Society: "History does not exactly abound with instances of thinkers' predictions having come true, least of all those relating to social patterns and people's attitudes and way of life." (Djilas, 1969:159)

If long-term social forecasting and long-term social planning are subject to severe limitations then a relative advantage may be gained by relying upon the constraints inherent in rules to order relationships among individuals where the choice of particular techniques and modes of production are left open to choice. The constraints introduced by rule-ordering are, however, soft constraints in the sense that they operate only as a matter of human choice. Yet if we can know how such constraints order choice and affect patterns of behavior we can anticipate general patterns of social development without knowing precise technologies and their relationship to the array of all products produced by human effort. Such a knowledge should also enable us to understand how rules constrain choice and affect behavior in ways that are likely to generate social pathologies under changing conditions of interdependency. Such knowledge might then be used to change rules and create new patterns of behavior which will avoid those pathologies and generate more constructive relationships.

Our analysis also leads us to the conclusion that human beings are unable to order conduct rationally as means for attaining "the good life" or "ultimate goals." The most that fallible creatures with imperfect knowledge can do is to use evaluative criteria as the basis for choice. Operational objectives or goals can then be selected by reference to appropriate yardsticks if we think of an evaluative criterion as a yardstick. Human development unfolds as successive actions and steps where each choice is weighed by some principle or criteria of selection without knowing the ultimate goal, or ideal state of human development. Fallible creatures capable of generating new knowledge do not have the foresight to know ultimate values or goals.

A knowledge of the behavioral tendencies evoked by institutional forms should enable those who are responsible for altering decision-making arrangements to reformulate or redesign institutional arrangements to accommodate to the changing potentials inherent in the generation of new knowledge. If orderly change is to occur, advances in human knowledge about institutional analysis and design must accompany the generation of those other forms of new knowledge which enable human beings to manipulate nature and alter the structures of events.

If decision rules can serve as a basis for ordering human behavior we can then think of the rules of a game as structuring the play of a game. Decision rules connect the interests of persons in some opportunity or outcome to the interests and opportunities of others. When viewed

from this perspective decision rules are used to "structure" social relationships and "determine" social outcomes. It is this "structuring" of relationships that allows individuals to pursue their interests in an order which constrains choice but leaves a variety of options open for choice within those constraints. Modifying the rules of the game can alter the structure of a game and the play of a game. A knowledge of these relationships in the various "games" of life is the basis for using institutional analysis and design to cope with uncertain futures.

The essential problem in institutional analysis is to (1) anticipate the consequences which will follow when (2) self-interested individuals chose strategies to enhance their well-being within (3) particular institutional arrangements which constrain choice in relation to (4) the opportunities inherent in particular structures of events. When all of these elements can be specified with precise time and place variables, institutional analysis can be conducted with greater rigor. In the absence of precise information we could anticipate only the more modest generalizations that are to be associated with reasoned analysis where variables are specified by stipulation.

Institutional conditions will be mutually productive when self-interested individuals chose strategies to enhance their well-being with reference to particular decision-making arrangements and structures of opportunities that leave everyone better-off. Social pathologies are generated when the opposite occurs: self-interested individuals chose strategies to enhance their well-being with reference to particular decision-making arrangements and structures of opportunities but the consequences of those choice leave the aggregate community of individuals worse-off.

The conditions of institutional weakness and institutional failure that generate social pathologies exist in many different forms. Remedial action for treating social pathologies turns critically upon modifications in the structures of decision-making arrangements inherent in different institutional forms. Modifications in decision-making arrangements can transform patterns of human interaction from unproductive pathological relationships to productive relationships. Such possibilities have substantial ramifications for human development.

The general veil of ignorance which obscures human vision about the future course of events is aggravated by the limited mastery that each individual can attain in relation to the aggregate pool of human knowledge. We shall turn next to the problem of increasing relative ignorance as a factor affecting potentials for human development.

#### The Problem of Increasing Relative Ignorance.

The Spanish philosopher José Ortega y Gasset in The Revolt of the Masses advanced a thesis that specialization of knowledge had produced a "new barbarian" whom he characterized as a "learned ignoramus." As the aggregate pool of human knowledge continues to increase there is a correlative increase in the relative ignorance of each individual in relation to that aggregate pool of knowledge. Individuals are limited in their ability to gain mastery of large bodies of knowledge. As the aggregate pool of knowledge increases the relative ignorance of each individual about that aggregate pool of knowledge will also increase. Following Ortega y Gasset we might identify this problem as the paradox of the "learned ignoramus."

This dynamic of increasing relative ignorance is recognized in the whimsical observation that: "A specialist is one who knows more and more about less and less." The correlative of this observation is:

"A generalist is one who knows less and less about more and more." Each observation implies limits to any individual's knowledge.

No one can "see" or "know" the "whole picture." All decision-makers are fallible. No decision-maker can know all of the consequences which will flow from his choices or his actions. All decision-making will be subject to error. Many decisions will be made under conditions where a knowledge of consequences will be obscured by ignorance. A proneness to error will plague all human efforts.

Where all decision-makers are assumed to be fallible, error proneness can be reduced by the development of error-correcting procedures in the organization of decision-making processes. The organization of decision-making processes which facilitate error-correcting strategies requires reference to specialized decision rules that involve the testing of perceptions, the arraying of arguments and the assessment of evidence. Where error correcting procedures can be built into the structure of decision making arrangements, we can view such procedures as arrangements for facilitating learning. Systems of organization including systems of government can be viewed as arrangements that can facilitate or repress opportunities for learning to occur. Issues bearing upon the methodology of choice and the way that such methodologies are taken into account in the structure of decision-making arrangements will affect our estimate of error proneness or error-correcting capabilities that occur in human choice.

The problem of increasing relative ignorance, or the paradox of the learned ignoramus, does not foreclose the possibility that policy analysts, planners or decision-makers may assume that they can take the perspective of an omniscient observer. An analyst who takes the perspective of an omniscient observer will assume that he can "see" the "whole picture," "know" what is "good" for people, and plan or pre-determine the future

course of events. Such a presumption is likely to increase proneness to error. The probability of error need not, however, foreclose recourse to a strategy of presuming to be an omniscient observer. Having eaten fruit from the tree of knowledge, some men are willing to presume that they are gods.

Ernst Cassirer in The Myth of the State indicates that a technique of modern political mythology can be used by those who presume to be omniscient observers as a substitute for critical inquiry and analysis. Decision-makers and political analysts who rely upon the technique of political mythology will develop a rhetoric where slogans become a substitute for reasoned analysis. These slogans are given mythical status when faith is attached to slogans through a presumption of social imperativeness. Such slogans come to have the attributes of magical words.

Decision-making processes are, in the technique of modern political mythology, transformed into rites where magical words are reiterated. Faith is reaffirmed by frequent reiteration of slogans as magical words. In such decision-making rites, evil forces are exorcised as impediments to the realization of some ideal state, and the faithful reaffirm their devotion to the struggle for social imperatives.

The pagentry of decision-making rites and the magical imputations assigned to key words, phrases and personages can create serious impediments to an understanding of essential variables and relationships in institutional analysis and design. However, the action tendencies inherent in such practices can no more be ignored than the reading of omens can be ignored as a method for choosing among alternatives among people who believe in omens.

Implications for a Model of Man

Human behavior in the context of different times and places has been subject to radical variations. If we are to consider problems of human development and anticipate the differences that institutions will make for the organization of human action we must come to terms with some simplifying assumptions which can be made about human individuals and their behavioral tendencies. Given the limits of human intelligence, simplification becomes an essential element in human reason. We can think through problems, pursue implications and reach conclusions only as we can simplify and take account of essential characteristics and relationships.

Based upon this analysis of the human condition there are several assumptions that we shall stipulate and use in our subsequent arguments:

1. Equality and Inequality. Given human sexuality and reproductive potential we shall assume the genetic endowment of most human beings, while subject to significant individual variations, will be characterized by such broad uniformities that we can afford to ignore racial differences in considering developmental potentials. Sexual reproduction induces sufficient potential variety in determining the genetic inheritance of any particular individual that the capacity to predict that effect for particular individuals will be no better than predicting the outcome of a lottery. We thus accept Thomas Hobbes assumption that men as endowed by nature, are essentially equal. Individual variations will exist as anyone can observe; but we cannot specify the effect that those genetic differences will have upon individual capabilities and potentials for development.

We further assume that the radical differences will exist among persons of different cultures and among persons of different circumstances in any particular society or culture are learned or acquired differences. These differences are to be attributed to differential access to quite different cultural endowments. Differential access to learning and to skills acquired from learning is the principal source of the radical inequalities existing among individuals of different cultures and among individuals within a particular culture or civilization.

2. Ideas. We assume that human beings have access to cognitive facilities that give them a rich imagination capable of generating an extraordinary array of ideas. Many thoughts and ideas will be fantasies but other ideas will be disciplined by direct observation and experience with external events. Nature, or events in the environment, serve to provide a first order of selection among ideas in somewhat the same way that the environment serves a selection device in genetic evaluation. In this way, unworkable ideas can be excluded from a repertoire of possibilities.

The greater the disjunction of ideas and systems of thought from observable events the less those events can be relied upon to discipline ideas. Thus we anticipate that all persons hold some ideas as a matter of faith and these ideas may have significance both for action tendencies and for the organization of practices that are incomprehensible without reference to a belief in ideas held by faith. The most rigorous scientist for example, has a faith in reason. Modern man can be expected to hold beliefs that observers might characterize as being myth

and magic: myth in the sense that there are grounds for rejecting such beliefs; magic in the sense that causality is attributed to variables that have no relationships to events.

Thus, each individual is assumed to have an image of the environment with which he is interacting and each individual will learn about the relationship of action to consequences as he acts upon and, observes the environment. His image will have elements that relate to unobservables and those elements in his beliefs will be held as a matter of faith.

3. Calculation of Strategies. We assume that human beings have access to a process of reasoning where they can calculate the probable consequences of alternative courses of action. For a given outcome or objective we assume that alternative modes of action can be considered so that human beings have the capacity to act by design and to create events as artifacts. We assume that most voluntary human behavior is "purposive" in the sense of reflecting calculations about means and ends. Purposive behavior can also be viewed as being artifactual in the sense of being organized by a conception of means-ends relationships or by design. (The word artificial might be viewed as synonymous with artifactual in the sense of pertaining to artifice. Herbert Simon's book

The Science of the Artificial refers to artificial in this sense.

We prefer to use the word artifactual to convey the same ideas because of the popular connotation of the word artificial with something that is a "fake.")

4. Preferences. We assume that human beings have references to messages derived from internal indicators, experienced as sensations, feelings or emotions, to assist in evaluating events in their environment in relation to their own potential deprivation or well-being.

We assume that these internal states are genetically derived but that individual human beings will come to attach different weightings among preferences as they related themselves to the extraordinary variety of events that form the human environment.

We assume that persons learn to understand their feelings by monitoring the consequences which follow when they behave impulsively or spontaneously in response to a strong dominant feeling. We would thus expect changes to occur in individual preferences over time. Maturation is an indication of such changes.

5. Preference Orderings. We assume that the human genetic endowment gives each individual access to a large variety of internal mechanisms that provide the brain with internal readings or monitorings. We assume that there is no mechanism that translates all of these readings into a single preference scale. Thus we do not accept the assumptions in economic theory that a pleasure-pain calculus can be translated into a single preference scale called "subjective utility." Rather we assume that human beings act in relation to multiple mechanisms where the effort is made to maintain indicators within limits. So long as actions can be sustained which keep indicators within "normal" limits we assume that individuals will then be able to order their preferences consistently within limited time horizons. Given human capabilities to learn about the consequences that follow from actions stimulated by feelings we would anticipate a tendency toward reordering preferences through time.

We would also expect extreme oscillations in behavior when indicators move outside "normal" ranges. Thus we expect individuals who are physically ill to behave differently than individuals who are physically well. We can also imagine conditions of "stress" that will lead individuals to behave in "abnormal" or "irrational" ways.

6. Choice. We assume that human choice involves a combination of the calculation referred to above. For choice to occur in any meaningful sense an array of alternative possibilities must be available. Thus we assume that the calculation of conditions and consequences or means and ends is associated with the arraying of alternatives.

In turn, we assume that selection occurs as a result of both arraying alternatives and then weighing or evaluating those alternatives in relation to preferences. When these processes are combined we postulate that each individual will select that alternative which will enhance his expected net potential well-being. We say potential because individuals will sacrifice short-term well-being for a greater long-term well-being. They will also act so as to increase their good-will with others if they assume that good-will is a potential resource for increasing their own well-being. We assume that all behavior has reference to the calculation of individuals weighted by their own preferences. Thus we assume that all behavior is self-interested. But self-interested behavior need not be synonymous with "selfish" behavior.

7. Language. We assume that human behavior is organized by reference to languages. We view languages as being artifacts. The artifact of language greatly amplifies human capabilities to reason, transmit learning, extend communication and sustain complex patterns of organization. We thus expect people with access to different language systems to acquire different capabilities for development, communication and organization. Mathematics as a language system, for example, creates significant opportunities that are not available to people who do not have access to that language. Yet, people can learn

languages and gain access to knowledge through different language systems. Knowledge derived from one language system can be translated to other language systems with varying degrees of difficulty.

Language also becomes an essential tool for the observer of human behavior to gain access to beliefs and expectations about events in the environment as well as to derive information about the preferences, feelings and mental processes or thoughts of other human beings.

Languages as artifacts used in the expression of thought and in communication about events will always be imperfect representations of both thoughts and events. Given these limitations languages will never give their users a "true" or perfect understanding of "reality." The most that can be done is to select conceptions and explanations by choosing the ones that provide the best means for estimating probable consequences.

All social inquiry will require careful attention to language and the structure of meaning inherent in different language systems. The difficulties inherent in any one language system is amplified in translating from one language to another language. Languages used for different purposes will have specialized meanings that require an awareness of the context in which they are being used. Language systems which serve as a basis for structuring social relationships among persons who interact with one another will have different meanings than languages used to describe events in a social environment.

For purposes of the following discussions in subsequent chapters we assume that individuals who function as decision makers will:

1. Be self-interested in the sense that they will weigh alternative possibilities in relation to their own preferences.

2. Have preferences that may differ from the preferences of others. No individual can "know" the preferences of others and can make only tentative and limited estimates of how others will behave in relation to his own actions.
3. Have an image of events in the environment and will be able to calculate many of the probable consequences likely to flow from alternative courses of actions. No one will know all consequences of all alternatives. All decision-makers will be fallible and prone to errors.
4. Learn about the relationship of actions to outcomes as he acts and monitors outcomes. His image of events will change through time.
5. Be able to order preferences and weigh alternatives in a consistent manner within limited time horizons. As individuals learn they will modify preferences and preference orderings.
6. Choose the course of action which he expects to enhance his potential well-being.

In extending our concern with human behavior as adaptive behavior we shall turn in the next chapter to a consideration of the language and structures of authority relationships.



## THE BASIC LANGUAGE AND STRUCTURE OF AUTHORITY RELATIONSHIPS

Introduction

In our discussion of the human condition we indicated how language has greatly amplified human capabilities for learning, and how the potential variety in human behavior poses a threat of potential chaos. This threat is a serious problem for human development. Unless that threat can be foreclosed the extent that human beings can take advantage of each other's capabilities to advance their joint well-being is severely limited.

We also indicated that the threat of potential chaos can be avoided by having recourse to language systems for creating rule-ordered behavior among persons who participate in relationships with one another. Recourse to systems of rule ordering greatly amplifies human capabilities and action potentials. Large numbers of people can, then, act in concert with one another and perform tasks that would be unimaginable for single individuals acting alone. These opportunities created by rule orderings carry with them certain requirements or entail certain conditions which must be met. We can conceive these requirements or conditions as essential elements in the structure of social organization. These conditions can also be viewed as the price of social organization in the sense that they represent the terms upon which organization becomes available.

The characteristic of rule ordering is universal among human beings in the same sense that the use of languages is universal. We expect the two phenomena to go hand in hand. Languages are rule-ordered; and rule ordering is language based. Languages are rule-ordered in the sense that some forms of language behavior are indicated as being appropriate

forms of behavior among a community of language users. Other forms of sound-evoking behavior are considered to be noise and to be inappropriate for communication. Persistent use of such behaviors will be subject to sanctions among persons comprising a language community.

Similarly, many aspects bearing upon the transmission of knowledge from one generation to another involve the transmission of rule-ordered behavior. The most rudimentary experiences of a child are conditioned by parents who live in a rule-ordered society. Parents begin to orient that child to the requirements of rule-ordered behavior even before a child can understand what is involved. The child is, in a sense, initiated into a system of behavior which has a culturally-established cognitive ordering before it can comprehend the meaning of that order.

Elementary facts of life such as the elimination of bodily wastes become the subject of rule-ordered behavior at a very early age. A child is required to cope with authority figures and authority relationships before it can comprehend the logic inherent in social organization. Such conditions have a profound influence upon a child's orientation to its social milieu. Coping with authority relationships and authority figures is a critical factor in every person's adjustment to life. A child's personality bears an early imprinting derived from its efforts to cope with the prevailing structure of authority personified in its parents, siblings and other members of its kinship group.

We proceed on an assumption that rule ordering pervades the structure of human social relationships and that students of institutional analysis and design need to be concerned with a clarification of the essential structure of relationships inherent in institutions as rule-ordered

patterns of behavior. Since we view rule-ordered relationships as being artifacts potentially subject to design, we shall, in this chapter, consider the basic language and structure of authority relationships. We shall turn first to the language of authority relationships. That type of language has a somewhat different structure than other types of languages. We shall then turn to the problem of interdependence in authority relationships and the pattern of dominance that characterize these relationships.

#### The Language of Authority Relationship

The use of a language to assign decision-making capabilities implies that all such relationships have a formal referent--that the terms are known, or can be known, among human beings who maintain patterns of interaction with one another. Our use of the term "formal" in this sense implies referent to knowable rules which are expressed in language forms. Such rules can be thought of as formulae for ordering human relationships.

The term "informal" used in modern sociology and organization theory has an unfortunate implication if it implies that actions occur without reference to a language of authority relationships. Friendship circles may exist concurrently with bureaucratic work structures. Rules govern human conduct in friendship circles as well as in bureaucratic organizations. One is maintained by reference to an aggregation rule of willing consent or unanimity; the other is sharply qualified by a general structure of superior-subordinate relationships. Both have reference to particular formulae. Both are formal in the sense that we use

formal to apply to rule-governed or rule-ordered behavior. Where we refer to the use of the terms "informal" and "formal" as applied in the sociology of organizations we shall use quotation marks to identify our meaning.

In the language of authority relationships, words, as in any other language system, are assigned meaning by definition or by stipulation. Words are artifacts used for communication and their meaning has reference to some set of events or relationships in which the meaning is specified by human stipulation or convention and operationalized by human use. This principle applies to the use of elemental terms in assigning decision-making capabilities and limitations among persons participating in social relationships.

Elemental terms and relationships can be used to develop more complex terms which are constructed from elemental terms to characterize configurations of rule-ordered relationships. Such configurations can be named and characterized by words and phrases. These words and phrases represent constructed terms or constructs and cannot be considered elemental terms. Constructs may become extraordinarily difficult to specify in any simple definitional sense. Profound confusion is generated in political discourse when efforts are made to "define" constructs by reference to simple definitions contained in standard dictionaries.

"Democracy," for example, is a term that applies to a construct. Unless a person has some understanding of the necessary conditions that must exist to formulate the construct of democracy, he is likely to use the term as a code word for some attribute or characteristic that he has in mind. His use of the word may convey little or no meaning to another person who uses the term as a code word for a different set of attributes. (Extended footnote or comment re Tocqueville.)

Configurations of rule-ordered relationships that apply to a specifiable community of people are often assigned proper names. Thus, we may speak of the Jones family, the Ford Motor Company, the Republic of France or the United Nations. In each case, a general configuration of rules, subject to substantial variations, applies in the organization of conduct in families, business corporations, nation-states or international organizations. The different configurations may be concurrent with one another but be exclusive in their application to specific cases. The rules applicable to the organization of family affairs may vary from family to family within the constraints of a more general system of rules existing in family law. The constraints applicable to the organization of families may also vary significantly from one legal system to another. Family law in Arabia will vary from that in Israel and that in Portugal, for example.

The language of authority relationships thus always has referent to a specific structure of terms inherent within the law of some jurisdiction. Proper-named relationships and general-termed relationships will be interwoven with one another in ways that confound a scholar's concern with general structures of relationships rather than with specifically named events. Is it reasonable for a scholar in the United States, for example, to rely upon the published Census of Governments to determine the units of government existing within a metropolitan area? For some purposes perhaps, but not for other purposes.

#### Elemental Terms

Terms specifying authority relationships are used to assign decision-making capabilities for ordering actions and transactions. The most elemental terms thus refer to actors, actions and objects.

of human action. Actors are identified by reference to positions; actions by reference to actions and relations; and objects of human action by reference to properties.

Positions. Since individuals are the ultimate source of all actions, the language of decision making expresses individuality by reference to legal "personality." The most general office or position that an individual occupies in a society is the office of person. Any position, including that of person, implies standing with an assignment of authority or decision-making capabilities to be able to act, undertake relations and make claims on others who also have standing in the context of specifiable types of relationships. Thus, we might expect persons having standing to be able to enter into exchange relationships with one another where a seller offers a good to a prospective buyer under appropriate terms and conditions. If the terms and conditions are agreed upon, a binding relationship is created where each party in turn has standing to make claims upon the other and to make claims upon officials to enforce performance.

This basic structure of relationships where positions are specified and assigned decision-making capabilities applies to all potential human relationships. The structure of the relationships involves a specification of the reciprocal claims that can be made by one individual in a position upon others in correlative positions so that ordered relationships are maintained.

In dealing with the problem of legal\* standing, most legal

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\*We shall make frequent reference to the term "legal." We do not mean to imply a narrow construction of legality which recognizes only rules sustained by reference to "established" authorities or "formal" governments. The term can be applied to "outlaw" regimes. Thus, the question of standing is one that will be resolved by associations of individuals engaged in "organized" crime as well as those who participate in "outlawed" revolutionary parties. The condition of being "outlawed," of course, implies substantial constraint upon those who pursue organized activities.

systems will give attention to criteria or considerations that bear upon competence. A basic presumption in most legal systems is that an individual is presumed to be a proper judge of his own interests and is responsible for his own actions. This presumption rests upon a model of man who knows the effect of actions upon consequences and who is able to distinguish between right and wrong in choosing a course of action. The absence of a knowledge about actions and consequences and of being able to distinguish right and wrong would be grounds for considering an individual to be incompetent and to be denied legal standing to make decisions of his own. Individuals can be incompetent and irrational. Many legal systems make special provisions for confining such individuals to "institutions" where they are not assumed to be responsible for their own actions.

Actions and Relations. All rule systems associate authority to act or to sustain relationships to individuals occupying positions. These assignments of authority are often expressed in right-duty or power-liability terms where a legal formula assigns a right or authority to act to a holder of a position. Such formulae imply correlative duties on the part of others to accede to the claims of an individual asserting a claim to a right. Usually assignments of right are subject to limits and those not under duty occupy a position of liberty in relation to any potential claim that is beyond the limit of a right. The correlative of a liberty involves an exposure on the part of a person with a potential claim to a right who is beyond the limits of that right.

These terms are discussed more fully in the following section on "Interdependence of Authority Relationships." Here we are only

concerned with identifying actions and relations as elemental terms. Positions identify potential sources or authors of actions. Actions and relations involve an assignment of decision-making capabilities in terms of authority to act with correlative relations on the part of others to accede or defer to a right. In this sense, drivers under the terms of traffic laws are assigned "rights of way" under specifiable conditions. An individual in that position is assigned authority to act--he has the right to take the initiative in proceeding on his way. Others are under duty to yield the right of way. Terms assigning authority to act, thus, are among the elemental terms in the language of authority relationships.

Properties. Many human actions and transactions involve relationships with events in the world that become objects of actions, endeavors, transactions, and of use or enjoyment. Any legal system in ordering relationships among people must take account of these objects or events which form such an integral part of human activity. Relations among persons will, thus, be defined by reference to their respective authority to assert claims about events, things, or objects as properties.

The language of authority relationships must be able to specify terms for ordering all such events in relation to human conduct. In a most general sense, the concept of property serves as an elemental term for specifying relationships among persons as these relationships implicate objects or events as property. A law of property essentially specifies the authority of persons to acquire, possess, control, use or dispose of objects or events with due regard for the potential claims and interests of others. The notion of proprietorship

thus involves a union of the elemental terms of position and property so that a proprietor is a person who has authority to acquire, control, use and dispose of events as properties.

Those concerned with the language of authority relationships face a problem of conceptualizing the manifold varieties of events in simplified terms that are relevant for the organization of human actions and transactions. The concept of "private property" implies that such a property is appropriable by individual persons who can possess, control and use that property and exclude the interests of other individuals from the possession, control or use of that property. Distinctions between personal property and real property introduce a variable related to the mobility of property. A factor of mobility has substantial implications for ease of exchange. A public nuisance doctrine can be easily translated into a concern for social costs or negative externalities.

The concept of a common property can be crudely translated as applying to events that are subject to joint use and are shared in common by a number of individuals. Heirs, for example, have a common property interest in an undivided or undistributed estate. The interest of a stockholder in a corporation is essentially that of a share in a common property.

Areas of law such as the law of water rights involve efforts to deal quite explicitly with rights to a common property. A private property is often recognized as accruing to a use of water. Such rights, in countries following the Roman law tradition, are often

recognized as usufructory rights as against a right to the corpus of a property. A stream or a body of water remains a common property and the private right of each user is qualified by considerations bearing upon the rights of other users in the community of users.

Common property relationships typically involve recourses to basic allocational rules for ordering claims among the community of users. American water law can be used to illustrate several different allocational rules. A prior appropriation doctrine of water law follows the principle of first in time, first in right. This doctrine was developed in the desert region of the American west. The riparian doctrine allows all parties with standing, usually persons owning property bordering a water course, to make reasonable use of water subject to the right of all other proprietors in like standing to make reasonable use. Crudely put, this doctrine implies share-and-share-alike. Mutual water companies as cooperative enterprises organized to manage a common property often follow an allocational rule of rationing a supply in proportion to the shares owned by each member of the cooperative.

The range of events implicated in property relationships in the language of particular legal systems may go substantially beyond "material" or "objective" events in the physical environment. Property relationships have been extended to an asset that has been characterized as "good-will." The favorable attitude of customers and potential customers is of potential value to a buyer who acquires an established business. Furthermore, a value may accrue to an enterprise

as a going concern apart from the plant and tangible assets. In this sense, a set of organized relationships might be the subject of a property right. The employees, however, need not be a property in the sense of being under servitude to the owner.

These property relationships raise an interesting theoretical issue of whether a commonwealth or a republic might be viewed as a property relationship. Thomas Hobbes, indeed, conceptualizes a commonwealth as an artifact and deals with the relationships in a commonwealth as a set of events analogous to a thing. If it is to be "personified" or "personated" in his theory of authority relationships, it must be "represented" by some man or assembly of men who can speak with one voice in tending to that set of relationships or that "thing." This possibility has interesting implications as to who has an equity claim to the residual or surplus value of that "thing." The point is not entirely preposterous when it is recognized that the French monarchy engaged in the business of leasing or selling offices including the offices of tax collectors. The ultimate development of such a conception would occur when sovereigns would put their offices up for sale to willing buyers. Monarchies would then become marketable commodities.

These implications become farfetched when we turn to the question of who would enforce such property relationships. Organizing markets in monarchies would imply the existence of some super-sovereign or imperial sovereign. But the selling of public offices has been a well established practice in many political systems. An absence of markets in commonwealths, however, need not foreclose the possibility that robber barons might acquire commonwealths as properties to be managed so as to maximize the net worth of the proprietor. Such a proprietary theory of state may have substantial power to explain patterns of relationships in some commonwealths.

If there were to be a property interest in commonwealths, another way of conceptualizing the equity relationship would be to recognize the right of all citizens to share in that surplus as a common property. The term common wealth, indeed, implies such a conception.

Value Terms. Any system of rule-ordered behavior has reference to a number of value terms that imply moral or ethical considerations. A critical problem in any system of rule-ordered behavior is the partitioning of the set of all possible behaviors into those which are authorized as appropriate or lawful and those which are prohibited as inappropriate or unlawful. This partitioning of the set of all possible behaviors into subsets of authorized and prohibited behaviors implies a criterion for distinguishing the two subsets. Such a criterion would be used to constrain choices so that any individual would select from the lawful subset in making his individual choices or face potential sanctions in failing to do so.

Terms such as "right" and "wrong" have substantial meaning in any system of rule-ordered behavior. These turn precisely upon

criteria applicable to the partitioning of lawful and unlawful conduct. The operational meaning of "right" and "wrong" in most rule-ordered systems emphasizes the formulation and definition of injuries and wrongs which are subject to remedies and the application of potential penalties and sanctions. Distinctions between civil and criminal law turn critically upon the form of sanction or penalty. Concepts of "right" are usually implied as being outside the subset of wrongs. (Footnote to Carl Popper.)

Different types of criteria are relevant for rendering judgments in dealing with conflicts of interests. Many of the calculations turn upon demand or exchange values consistent with the methods used in economic analysis. Fairness, "equity" and "justice" become important evaluative criteria in considering the types of remedies available and in decisions bearing upon procedural consideration involved in due process of law. The American concept of "due process" is roughly equivalent to the British concepts of "national justice" in specifying criteria applicable to the adjudication of conflicting claims.

The central place of value terms in rule-ordered behavior poses a fundamental problem about the place of moral reasoning in the constitution of social orders and in phenomena that may be subject to "scientific" or "objective" inquiry. For a social order to exist and for public inquiry to be pursued in relation to the effects of value terms upon human conduct, persons observing patterns of interpersonal conduct in social systems must be able to specify referents for those value terms in discriminating patterns of conduct. There must be some basis for discriminating right and wrong, good and bad, not in an absolute sense that "good" can be directly known, but in evaluating

the consequences of human actions for the well-being of individuals. An estimate of well-being need not presume that an individual can read others' minds or know the specific preferences of others with any measure of precision, but that individuals can make reasonable estimates of what will be costly or injurious to others. Very crude interpersonal comparisons of utility are inherent in a presumption that any responsible actor must be able to distinguish "right" from "wrong." Otherwise, he would not be competent to have standing as an independent decision maker in a society.

This conclusion implies that a political science must include reference to normative or evaluative terms if we are to understand the ordering principles applicable to rule-governed behavior. This conclusion need not imply that human beings can directly know "good" in the sense that they can directly know hunger. But given an aversion to hunger pains individuals can learn to regard hunger and starvation as wrong and to regard the organization of a society that reduces the deprivations of hunger and starvation as something to be preferred or desired.

In the sense that we can learn about conditions that evoked generally preferred consequences, or at least the avoidance of evils, Jean Piaget offers the important conclusion in his The Moral Judgment of the Child that moral judgments derive from experiences with the play of games. A knowledge of the consequences which flow from modifying rules of games and the effects that those modifications have upon the play of games is, according to Piaget, the basis for moral judgments. Thus, the notions of "legality" become relatively well developed among children as they come to know the rules of games and the relationship

of those rules to the play of a game. Notions of "fairness" and "justice" develop as children acquire experience in modifying rules of a game, observe how those changes alter the play of the game and how the altered play of the game affects the outcome of the game. Some rules lead to patterns of play that are evaluated as unfair and lead children to avoid participating in such games.

Piaget's thesis suggests that moral judgment and political knowledge are both derived from experience with rules and rule-ordered behavior. By learning the consequences associated with particular configurations of rules which apply to the pursuit of opportunities in the context of particular situations or structures of events, political knowledge can be acquired and tested in human experience. From this perspective, childhood experience in the play of a variety of games under varying conditions may be one of the more important experiences in preparing children for playing the subsequent games of adult life.

#### Constructed Terms or Constructs

A large variety of constructed terms exist within the context of rule-ordered relationships. We shall refer to only three such terms--remedies, procedures, decision structures and regimes--which are of importance to the basic architecture of authority relationships.

Remedies. Any rule-ordered relationship has reference to positions and the claims that individuals can make in relation to others by reference to the assignment of decision-making capabilities inherent in any system of rules. If rules are to be operable in human conduct, mechanisms must be available for determining the application of rules to behavioral circumstances and for the enforcement of rules. The existence of a wrong implies a remedy. A system of rule-ordered

behavior necessarily entails recourse to remedies if rule ordering is to be workable or effective.

Many different types of remedies are available in different rule-ordered systems. The business of courts and judicial systems are preoccupied with the provision of remedies. Remedies are by no means limited to judicial arrangements. Particular types of remedies, their relationship to wrongs and the terms and conditions upon which those remedies are available become critical issues in thinking about the essential language and structures of legal relationships. Terms defining remedies become an essential part of the language of any legal system.

Procedures. Terms establishing order in patterns of conduct so that appropriate sequences of action are taken in processing decisions become critical terms in dealing with procedures. Such relationships imply a connection between conditions and consequences in a causal ordering. Where practices are to be organized to array means as causal conditions appropriate to the realization of some end, questions of procedure can be thought of as arraying the necessary conditions or the means appropriate to an end or objective.

In the context of legal and political analysis reference is sometimes made to the conditions that are "necessary and proper" to specifiable objectives. If the objective is to produce "fair" or "just" decisions, procedures or practices that contribute to "due process" become relevant to a formulation of procedural rules. We cannot think of these rules as necessary and sufficient because procedures can never be organized which will yield and always yield "just" decisions. "Necessary and proper" conditions, if adhered to, will have the effect of increasing the probability of "just" decisions.

Otherwise, the conditions could not be characterized as "necessary and proper."

Sometimes a criterion of reasonableness is also used as applied to the appropriateness of procedures to the realization of outcomes measured by reference to specifiable evaluative criteria. Reasoning involves an ordering of thoughts so antecedents can be connected with consequences. Procedural rules thus imply a proper ordering of events to derive particular types of outcomes. In the decision making process we might thus be concerned with procedures that are organized to yield reasonable decisions--decisions calculated to fit the circumstances of the case and yield results that are calculated to advance human well-being.

Such issues have substantial methodological implications. Many of the rules of procedure, and rules of evidence as one type of procedural rule, are based upon epistemological assumptions about how human beings learn and come to know. Where people believe in a cosmology based upon spirits as prime movers in determining events, we would not be surprised to see tabu's used as remedies, hexes as punishments and trials by ordeal or combat to determine guilt or innocence. The standards of reason and of evidence used in scholarly communities will also be used in the shaping of procedural rules in other decision-making arenas as well as among communities of scholars.

Decision Structures and Regimes. Various constructed terms will be formulated to represent aggregations of decision rules dealing with rules bearing upon the conduct of many individuals, occupying numerous positions, engaged in many activities, and regulated by procedural rules that pertain to characteristic operational patterns involved in

in a collective enterprise. Structures of positions and procedures will vary with the tasks being performed and decision-making capabilities will be distributed in ways that establish opportunities and constraints that pertain to the activities of all individuals associated with that collectivity of individuals. Here we use the term decision structure to refer to such instrumentalities as courts, legislatures, or other arrangements that perform specialized decision-making functions. By regime we mean a system of decision-making arrangements including several decision structures which are used to organize the activities of a community of individuals. Patterns of decision making in regimes may have recourse to different types of voting mechanisms, elections, different forms of voting rules and other rules that order relationships among a whole community of individuals.

The names of regimes as constructed terms represent configurations of rule-ordered relationships involving the actions and transactions of individuals occupying numerous positions. Each regime can thus be viewed as a system of relationships in which the structural and behavioral characteristics of a collectivity derive from rule-ordered behavior internal to a regime as well as to the constraints of external rule-ordered systems. To say that a system exists is insufficient to understanding the behavioral characteristics of that system of relationship. Instead, it is necessary to assess the structure of incentives supplied by rule-ordering and infer how individuals will behave in the pursuit of opportunities in the context of task environments.

The language and structure of authority relationships inherent in decision structures, or regimes, can become extremely complex. The task of specifying the operational decision-making arrangements bearing the proper-named configuration of relationships called the United States of America would be an extraordinarily difficult task. The most we could hope to do is to know the structure of some of the essential relationships organized by reference to the language of authority relationships and to infer general behavioral tendencies which will operate as individuals pursue opportunities in the world of events and are constrained by rules that order the actions and transactions of the multitudes of individuals involved.

The language of authority relationships thus provides individuals with information so that they can relate themselves to the activities of other persons and do so with a high level of confidence that they can predict how others will behave in typical situations. By knowing the rules of the road any one driver, for example, knows when he has the right of way and can proceed with reasonable confidence that other drivers will respect his right of way. He also proceeds with the expectation that when another driver has the right of way he will be under a duty to yield the right of way to the other driver. Thus, by having reference to a common system of rules each driver can proceed in an orderly way in making rapid decisions involving thousands of other automobile drivers. So long as each proceeds in accordance with the rules of the road, each has the probability of reaching his intended destination with a very high probability of success. Decision rules thus provide each individual with a cognitive mapping to guide him in his potential interactions with other individuals and provides

each with a basis for realizing his own opportunities while taking account of the interests of other individuals without being able to read their minds.

Implications for Inferential Reasoning.

Piaget's conclusions about the relationship of experience with rule-ordered games to the development of moral judgment among children raises, by implication, an interesting question about the structure of authority languages (i.e., languages formulating the terms and relations for rule-ordered behavior) for use in reasoning through inferences about the results which can be expected to occur when people act in relation to institutions as rule-ordered social systems. Individual actions are specified in relation to 1) positions, 2) allowable actions as against proscribed actions that are appropriate to 3) different types and patterns of relationships involving 4) different events as properties.

The words and propositions in authority languages do not operate automatically in human behavior so a probability estimate would need to be attached to indicate the likelihood that behavior will conform to the stipulated conditions of the rule. The calculation of this probability estimate will depend upon prospects that remedies to enforce relationships will work. Furthermore, rules rarely specify one and only one course of action. Rather they partition behavior into subsets which may give significant latitude for allowable choices.

Given the problem of assigning probability estimates and the operation of a constraint that only partitions behavioral possibilities into open sub-sets, we cannot expect institutional behavior to be fully determinate behavior in the sense that one and only one outcome will occur as a consequence of rule orderings. Rule-ordered behavior rarely involves

a one-one transformation. The most that is implied is that behavior will acquire a general pattern or tendency that can be identified by knowing the value terms that are used to partition behavioral space and order relationships among individuals.

Reasoning in the language of authority relationships thus will take on a form resembling moral reasoning where constraints can be specified, subject to a probability estimate for deviances, and these constraints can be used to characterize a general pattern of transformations which will occur when people sustain transactions with one another.

Some of these rule-ordered relationships can be understood with a high degree of specificity such as the actions and relationships of automobile drivers proceeding along a highway. Others may be ordered with much less specificity and conclusions may be derived only on a very tentative basis.

Most inferences in legal reasoning, thus, will need to be regarded as tendency statements. Such statements are not without significance for empirical research or for an informed choice about alternative institutional designs. However, we cannot expect to use the occurrence of a deviant case to falsify a tendency statement.

There is another class of statements which can be used with greater rigor. Those are statements which identify conditions which are necessary to the operation of authority systems. If a condition is indeed necessary as an independent variable, then the dependent variable will not occur in the absence of the independent variable. We, for example, have identified institutional behavior or political behavior as language-ordered behavior. This would imply that we would not expect human beings to sustain stable social relationships with

one another without reference to a specialized language applicable to authority relationships. Such a statement could be rejected by finding a single instance where human beings sustain stable social relationships with one another without reference to such a language system. We might consider such propositions to be impossibility statements.

Thus, we would expect students of institutional analysis and design to organize their knowledge in the forms of tendency statements and impossibility statements. To the extent that impossibility statements can specify absolute limits and tendency statements can specify directions and crude magnitudes, the terms and relationships implied in authority languages can be used to derive weak inferences and conclusions. For these reasons, among others, we assume that social sciences are "soft" sciences rather than a "hard" science. We can only expect to make "weak" inferences not "strong" inferences.

#### Interdependence in Authority Relationships

In our discussion of the language of the authority relationships we have indicated how individuals are assigned standing by reference to positions. Holders of positions or offices are assigned authority to assert and make claims in relation to others, subject to constraints that give cognizance to the authority assigned to others. Rule-governed behavior always has reference to interdependent relationships.

#### Elements of Commonality

Interdependent relationships among individuals who interact with one another depend upon the existence of some conditions which are

shared in common. Elements of commonality thus must exist in the maintenance of interdependent relationships and are essential elements in the basic structure of authority relationships. We shall consider three elements of commonality that are implied in translating words into effective actions: 1) common understanding, 2) common agreement, and 3) common facilities for determining, enforcing and altering decision rules.

Common Understanding. Sharing decision rules as a basis for social organization depends upon a common body of understanding. Individuals within a social organization must share common terms, definitions and expectations. Some degree of common understanding is a necessary condition for decision rules to order social relationships. Complete or perfect understanding is not, however, necessary. Ordered social relationships can be based upon common understanding of partial sets of decision rules. Substantial redundancy among individuals sharing a common knowledge of partial sets of decision rules would then be required. If individuals share no common understandings including no common terms, definitions nor common expectations, social organization cannot exist.

Within the domain of common understanding, we can anticipate other types of relationships. Where collective action is widely dispersed among many interdependent decision structures, we would expect that relatively high levels of common information and understanding are required for people to be able to pursue opportunities

in the context of different decision structures. Individuals without access to such information would suffer a serious inability in not being able to take advantage of the opportunities available to them. Such individuals would appear to be both irrational and helpless when viewed by others with the requisite information and capabilities to make strategic calculations. Similarly, individuals holding invalid conceptions regarding decision-making arrangements, such as the myth of omniscient rulers would appear to be comparably helpless in controlling their fate. Such conditions may apply to whole societies of people who drift helplessly in "anticipating the impending doom of their race" while unable to conceptualize political solutions appropriate to their exigencies. (Tocqueville: I, 231.)

We might anticipate that the choices people make about institutional arrangements will be based upon conceptualizations which they hold about institutional structures. If they proceed in a way that enables them to move in directions where consequences conform to their expectations, and if they can avoid circumstances that serve to amplify their own helplessness and wretchedness, then we should entertain the possibility that such people are acting rationally on the basis of a warrantable knowledge of institutional arrangements. If, on the other hand, they are buffeted by a continuous series of unanticipated social crises and conditions of social miseries, we might infer that such a people does not have access to a warrantable knowledge about institutional arrangements that permits them to make appropriate alterations in their institutions.

Common Agreement. In addition to the calculation of probable consequences inherent in human understanding, human choice is also

dependent upon a weighing of the preferredness of events in terms of human values. The capacity to evoke a particular set of consequences can be contemplated independently of human evaluation of those consequences as being "good" or "bad." However, when we consider human choice and postulate action by rational self-interested individuals, we expect individuals to take actions which will enhance their relative advantage in making choices from among events evaluated as "good" or "bad." Thus, we would expect individual decision makers to have a preference for outcomes evaluated as "good" as against outcomes evaluated as "bad" and to have preferences as among different potential "goods" or "bads." Each individual will select what he considers the "greater" good or the "lesser" bad in a choice as among "goods" or "bads."

To the extent that decision rules bias social relationships to enhance the probability that some individuals will always win and be able to impose costs upon losers, we would expect losers either to attempt to withdraw from participating in activities governed by such a set of decision rules or to develop ancillary strategies which minimize their costs. In short, we would expect such a structural relationship to be relatively unproductive. Persistent losers will attempt to restructure the game of life toward minimizing their exposures to the play of a game in which they cannot hope to win. Peasants and common soldiers in many areas of the world have learned how to pursue such strategies with substantial skill where the political game is overwhelmingly rigged against them.

Common agreement is not a necessary condition for a political association to exist. Coercive capabilities can be exercised in a way

that rigs the structure of individual incentives toward conformity to extremely repressive measures at least in the short-run. But, such arrangements will not provide the basis for mutually productive relationships which enable people to move toward the maximization of net well-being as reflected in both their individual and common wealth. Thus, common agreement is a necessary condition for sustaining mutually productive relationships.

If mutually productive relationships are to be sustained in the constitution of decision-making arrangements, we would anticipate that such arrangements must meet a condition of being mutually agreeable to the persons involved. Where disagreements are evoked in the course of making particular decisions or in enforcing or altering decision rules, we would expect an essential residue of agreement to apply to the choice and application of decision rules for the processing of conflicts or disagreements. If people can sustain disagreement in relation to decision-making arrangements which enable them to process their conflicts in a reasonable and agreeable way, then an essential bond of common agreement can be maintained. If there is no common agreement upon the appropriateness of decision rules for resolving conflict, then we would not expect people to have mutually productive relationships. In such circumstances, we would expect cost and risk minimizing strategies with little incentive to undertake developmental opportunities.

Common Facilities for Determining, Enforcing and Altering Decision Rules. Since decision rules are not self-generating nor self-enforcing, any pattern of social organization established by reference to decision rules must have reference to decision-making arrangements which are

concerned with determining, enforcing and altering decision rules. This condition as we indicated in chapter two is the basis for distinguishing governmental institutions from other institutional arrangements in any society. Governmental institutions are those decision-making arrangements which are specialized to determining conflicts, enforcing decisions, and altering decision rules that affect patterns of social organization.

Even if we assume the warrantability of decision rules in the sense that decision rules are appropriate means for ordering actions or transactions to realize some specifiable set of consequences or ends and if we further assume common understanding and common agreement, we cannot infer that the conditions for sustaining the operability of a set of decision rules will be met without postulating a set of common institutional facilities for determining, enforcing and altering decision rules. As conditions of common understanding and of common agreement are subject to measures of misunderstanding and disagreement, then increased reliance is placed upon recourse to common facilities for determining, enforcing and altering decision rules either as a means of attempting to reestablish the commonality of understanding and agreement or as a means for sustaining the operability of decision rules under conditions of partial misunderstanding and disagreement.

Sources of potential conflict may arise from circumstances where individuals act upon different decision rules which are potentially applicable to a particular situation. Where the consequences of acting upon contrary decision rules place individuals in a position of asserting mutually exclusive and contradictory claims, conflict

will arise. Each cannot attain a solution where each can have his own way. Recourse must be had to some type of common decision-making facility where both can present their respective causes and rely upon the decision-making capabilities of a third party to render a judgment on what rule shall be given precedence in the particular circumstance.

The commonality of the sets of decision rules involved in different institutional contexts is maintained by recourse to specialized institutional facilities for resolving conflicts by determining which one from a set of conflicting rules will apply in particular types of situations. The exercise of this decision-making capability can, in turn, have the consequence of reducing contradictions and inducing an increasing measure of consistency or coherence in the logical structure of a system of decision rules. Both the professional practice of law and judicial decision making focus especially upon problems of potential conflict of laws and upon criteria for decision making concerned with logical consistency and coherence in the diverse system of decision rules which comprise a legal system.

If a condition of human fallibility is assumed to exist, common understanding and common agreement will be insufficient to foreclose the possibility that the pursuit of one's advantage within a logically coherent set of decision rules may lead to unanticipated consequences and cause injury to others. Some measure of political constraint sustained by common facilities to determine, enforce and alter legal relationships is essential for resolving conflicts deriving even from unintentional injuries or harms that may be inflicted upon others. An individual may not necessarily be prepared to right wrongs when the righting of a wrong involves the payment of costs that leaves the

individual at error worse-off rather than better-off in the short run.

Recourse to decision makers who have authority to determine, enforce and alter authority relationships affecting the interests of others implies that any political association is based upon an unequal assignment of decision-making capabilities as a necessary condition for the maintenance of decision-making capabilities in accordance with operable decision rules. Some decision makers must be able to take decisions which can determine and enforce legal relationships affecting the interests of others. Some decision makers will, thus, exercise decision-making capabilities that are unequal with others.

A special condition relative to the inequality of decision-making capabilities exercised by persons assigned the extraordinary authority or power to determine and enforce decisions in relation to others also necessarily requires the potential use of coercive sanctions to support behavior based upon lawful conduct and to remedy wrongs associated with unlawful conduct. Thus, patterns of political organization necessarily depend upon the potential exercise of coercive capabilities. Coercive capabilities involve the lawful exercise of unequal decision-making capabilities, and have the consequence of leaving some persons worse-off rather than better-off at least in the short run. Any system of government involves the assignment of extraordinary authority or decision-making prerogatives to some officials who are able to determine, enforce and alter the legal relationships affecting others within

that society and who are lawfully empowered to use coercive sanctions to impose deprivations upon others in the discharge of their official responsibilities.

These conditions inherent in the basic structure of authority relationships leave us with a fundamental difficulty. On the one hand, an inequality of decision-making capability and a capacity to impose potential sanctions are necessary conditions for sustaining ordered relationships among human beings. On the other hand, these conditions as necessary conditions are clearly not sufficient conditions for maintaining orderly and productive relationships. The use of sanctions inherent in the maintenance of ordered social relationships may also be used as a means for compounding wrongs as well as for righting wrongs. The conditions of political constraint can be used as an instrument of tyranny as well as an instrument to sustain productive and mutually advantageous relationships. Yet, any social institution as a structure of decision-making arrangements is based upon a condition that lawful conduct can only be sustained by assigning capabilities to enforce sanctions which will necessarily deprive others.

#### Concurrent Structures of Authority Relationships

Since decision rules are not self-determining, self-enforcing, nor self-modifying, specialized institutional facilities of government must be used to provide arrangements for determining and enforcing rule-ordered relationships. The effectiveness of any particular set of decision rules for ordering social relationships will depend upon

the probability that governmental decision makers will act (or fail to act) in support of the claims made by any party implicated in a set of legal relationships. The operational effectiveness of a system of rules for ordering social relationships is, thus, subject to a contingency calculation. Actions in any one context are contingent upon whether each person may have effective recourse to alternative decision-making arrangements to determine, enforce or alter authority relationships.

The structure of legal relationships establishing the basis for social and economic transactions among individuals provides only a first order of approximation in creating organized relationships. If dysfunctional conflict arises, further determinations will depend upon those who exercise governmental prerogatives to resolve those conflicts. Recourse to governmental decision-making capabilities will, in turn, involve contingency calculations about the actions which officials may take in the different decision-making arenas or structures inherent in the process of government.

John R. Commons, drawing upon the earlier work of Wesley N. Hohfeld, distinguished between these two sets of legal relationships in characterizing "authorized transactions" as those relationships which allocate primary or substantive authority for persons to act in relation to one another; and "authoritative transactions" as those relationships which allocate secondary or remedial authority

to determine, enforce and alter authority relationships. [John R. Commons, Legal Foundations of Capitalism, Madison, Wisconsin: University of Wisconsin Press, 1959.] Both sets of transactions form essential elements in the basic structure of authority relationships. These involve the use of elemental action and relational terms as they bear upon transactions.

According to Commons, authority to act in social or economic relationships involves an assignment of a capability or a right to act to some actor with a correlative obligation or duty on the part of others to act in accordance with the rights being asserted. Rights are subject to limits. Limits upon a right define the area of decision making where a claimant stands exposed. Thus, Commons defines the limit of a right as an exposure. The correlative of an exposure is beyond the limit of a duty. A person who is no longer under duty is at liberty to act. Thus, the correlative of an exposure is a liberty.

The structure of legal relationships involved in authorized transactions can be plotted as represented in Figure 1. The correlatives refer to interdependencies among two different individuals or parties acting on the basis of a common set of decision rules. The limits apply to the respective parties. The diagonals represent reciprocal relationships. Rights and liberties define the sum of legal capabilities assigned to both parties; and duties and exposures establish the limitations assigned to both parties. Limitations function as constraints upon action, and capabilities imply opportunities to act.

Authority to Act

Party A

Party B

← CORRELATIVES →

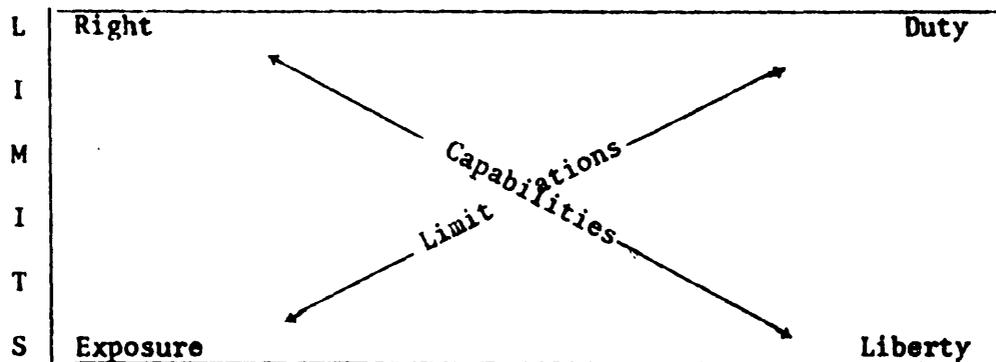


Figure 1. Structure of Authorized Transactions

A similar structure of relationships is applicable to authoritative transactions but the terminology is changed. An assignment of authority to determine, enforce and alter legal relationships is defined as a "power" relationship. The correlative of a power implies that other persons have an obligation or a liability in such a relationship. The limit of a liability is an immunity and the limit of a power is a disability. These relationships are plotted in Figure 2.

Authority to determine, enforce and alter legal relationships may vary from contractual relationships to a variety of governmental decision-

Authority to Determine, Enforce  
and Alter Legal Relationships

Official X

Party A  
and/or  
Party B

← C O R R E L A T I V E S →

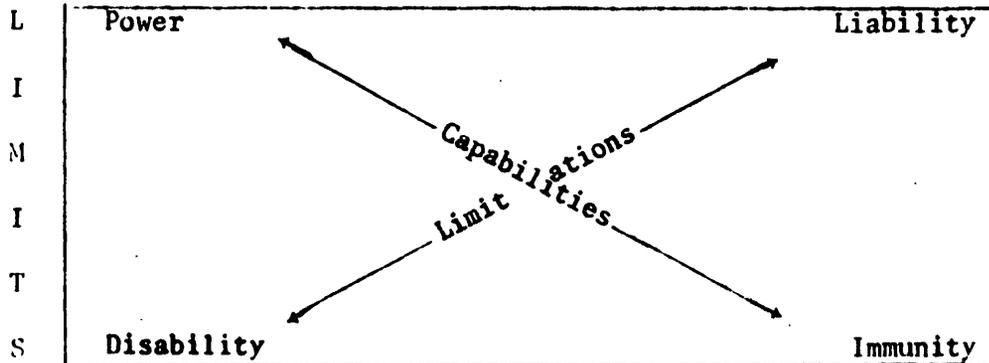


Figure 2. Structure of Authoritative Relationships

making arrangements. Under contractual arrangements, individuals may participate in a mutually agreeable arrangement to redefine or alter legal relationships to realize some mutual interest. Governmental decision-making arrangements inherent in the operation of courts, executive agencies and legislative bodies provide specialized facilities for determining, enforcing and altering decision rules under conditions which imply a radical inequality of decision-making capabilities.

Authorized relationships in the absence of agreement among the parties involved, depend upon authoritative relationships to either enforce or alter those relationships. Power relationships, thus, establish the general scenario for all decision making. The game of life is one where each player pursues his strategic opportunities and is potentially exposed to the strategic actions of others in a series of interdependent games where the rules of the game are themselves subject to change during the course of play.

Patterns of Dominance in Authority Relationships

When both authorized relationships and authoritative relationships are viewed as complementary elements in the structure of authority relationships, the relationship among the two is one characterized by dominance. For human beings to rely upon words and rules to order their relationships with one another, instrumentalities must exist for proclaiming and modifying the rules which apply to human conduct, for determining the applicability of those rules to patterns of behavior, and for enforcing performance in accordance with rules.

Means must exist for identifying such instrumentalities and thus to distinguish those rules which are to be given force and effect as against all of the other prescriptive assertions that might be made in human discourse. By being able to distinguish the appropriate authors of authoritative prescriptions, individuals can then sort out the words that are to be given special consideration in the organization of their conduct. To the extent that such words have common meaning and are uniformly applied to like circumstances, each individual can organize his relationships with other individuals in a predictable way. They can then take advantage of each others capabilities and act in relation to one another so as to enhance each others well-being. The capacity to share in a community of other individuals, take advantage of cooperative efforts and have recourse to mechanisms for resolving conflict depends upon those who exercise the special prerogatives of determining, enforcing and altering legal relationships.

The existence of governmental institutions and the dominance that such institutions exercise in relation to other institutions in society turns upon the task of giving force and effect to words in ordering

human relationships. Prerogatives of law making, determining the application of rules of law to conflicting claims and enforcing or executing laws are the special prerogatives that give those who occupy governmental offices such a dominant position in human societies. Some form of governmental institutions must exist in any human society if concepts, words and rules of law are to be given force and effect in organizing social relationships. This was well expressed by Tocqueville when he observed:

...as all persons must have recourse to certain grammatical forms, which are the foundation of human language, in order to express their thoughts; so all communities are obliged to secure their existence by submitting to a certain amount of authority, without which they fall into anarchy. I:70

The basic requirement of a structure of authority relationship is one of a fundamental inequality between those who are subject to rules of law and those who exercise the prerogatives of government for determining enforcing and altering the rules of law. While radical inequality is a necessary condition in the maintenance of rule-ordered relationships, a critical question in the design of political systems is whether those inequalities can be structured in significantly different ways. Indeed Tocqueville, following the above observation, asserts that, "This authority may be distributed in several ways but it must exist somewhere." (I-70)

The possibility that the structures of authoritative relationships can be distributed in different ways suggests that institutions of government can take on different forms. We might also expect different forms of governmental organization to generate different behavioral tendencies in different systems of government. We would expect these differences in structural characteristics to affect the configuration

of all different institutions in society which are affected by the way that governmental officials perform their function in giving force and effect to rules in the organization of human conduct. The way that governmental officials perform their functions in giving force and effect to rules of law will have a significant effect upon the organization of society, upon the range of opportunities that are available to people and the incentives that individuals have to realize those opportunities.

This chain of relationships which follow from the dominance of those who exercise governmental prerogatives implies that the choice of different forms or structures of governmental institutions will have a significant effect upon the fate of people in any society. So long as there is a relationship between different forms of government and their effects upon patterns of social conduct, the design and creation of institutions of government might then be a matter of choice. When that choice is exercised on the basis of a knowledge about the probable consequences associated with varying structural conditions we could then think of the choice of governmental institutions as being based upon a political science.

Such a design would be formulated in the language of authority relationships. A document formulating such a design would provide for an explicit distribution of authority in the structuring of authoritative relationships in a society. Such a document can be conceptualized as either a constitution or a charter for the governance of a society. But, such a document would be mere words unless mechanisms could be created to provide for its enforcement.

Whether an enforceable system of constitutional law can exist where the provisions of a constitution can be enforced as against those

who exercise governmental prerogatives is a central issue in political theory. There are those who conceptualize the essential structure of authority relationships as foreclosing the possibility of an enforceable system of constitutional law. They contend that the creation of a new set of institutions to determine, enforce and alter provisions of constitutional law in relation to those who govern would create a problem of infinite regress. A new higher constitutional authority would be required to govern ordinary governmental authorities. From this conception an effort to create a system of enforceable constitutional law is a logical absurdity because there must be some ultimate authority which is the author of a constitution or charter as the ultimate word and that authority must be responsible for determining, enforcing and altering the provisions of a constitution as the ultimate word.

Others have conceived of the possibility that the structure of authority relationships can be distributed in such a way that essential authority to establish the terms of government can be reserved to communities of people to constitute their own system of self-government where the authority of officials is subject to limits and the exercise of all governmental prerogatives can be subject to enforceable rules of law. In such circumstances, power over the extra ordinary prerogatives of government--where sanctions can be lawfully used to impose severe deprivations upon others--can be constrained by the rule of constitutional law. Tyrannical use of political authority by those who occupy public offices can be subject to limitations by an enforceable system of constitutional law. Rulers, in such circumstances would be subject to a rule of law.

The two conceptions are of radically different dimensions. Each conception would lead to quite different forms of government. The different forms of government have different structural characteristics. We would expect these structural characteristics to generate quite different consequences for the organization of human societies.

These different conceptions of the basic structure of authoritative relationships were worked out long ago by Thomas Hobbes and by Alexander Hamilton and James Madison. Hobbes conception is based upon an assumption that any system of government must have recourse to a single center of ultimate authority. Such a system of government might be characterized as having a monocentric structure. Hamilton and Madison conceptualized a system of government with many centers of authority involving a separation of powers in each unit of government and with many units of government organized in a federal system of government. Such a system of government might be characterized as having a polycentric structure. We assume that the two conceptions provide different approaches to workable systems of government. Both will be examined in the next chapter on "Constitutional Choice and the Design of Governmental Institutions."

8/8/74



## CONSTITUTIONAL CHOICE AND THE DESIGN OF GOVERNMENTAL INSTITUTIONS

The Problem of Constitutional Choice

All patterns of social relationships depend upon a radical inequality in the assignment of decision making capabilities if words are to become enforceable rules of law. If people are to have access to a common set of rules for ordering relationships with one another they must also have access to a common set of officials who will have authority to determine, and enforce legal relationships and to alter those rules as conditions may require. The maintenance of a workable set of common rules depends upon an assignment of authority to some who function as rulers in relation to those who are subject to those rules. Those who are subject to rule are "ruled" as "subjects." The relationship of government to society then is a relationship of rulers to subjects: of rulers, rules and ruled.

The problem of constitutional choice arises when we inquire whether the language and structure of authority relationships can be extended so that the constraints of an enforceable system of law can be imposed upon those who exercise the prerogatives of government. To the extent that an enforceable system of constitutional law can be conceptualized as a workable possibility, the design of a system of government can be a matter of calculated choice. We could then think of constitutional

choice and of processes of constitutional decision making and constitutional change as being the basic processes for designing, creating and altering governmental institutions. Constitutional choice would then be an integral part of the process of political development.

Not all systems of government nor all processes of constitutional choice need be consistent with the conditions which are necessary for creating an enforceable system of constitutional law. As a result we need to extend our inquiry about the language and structure of authority relationships to consider the following questions: 1) what structure of government will foreclose the possibility of developing an enforceable system of constitutional law? and 2) what structural conditions are necessary in the creation of a system of government where an enforceable system of constitutional law can be used to constrain the authority of those who exercise governmental prerogatives?

Thomas Hobbes' analysis in the Leviathan provides us with a basis for answering the first question. Hobbes formulates a monocentric solution to the problem of constitutional choice. He demonstrates that a system of constitutional law cannot apply to those who exercise governmental prerogative where ultimate authority to govern is vested in a single center of authority. Hamilton and Madison formulate a polycentric solution to the problem of constitutional choice and demonstrate that a general theory of a limited constitution can be used to maintain a system of enforceable constitutional law.

After we have considered each of these solutions to the problem of constitutional choice we shall consider the problem of constitutional change and indicate how different processes for changing governments

affect potentialities for political development. Revolutionary movements and coup d'etats will be viewed as forms of constitutional choice in addition to deliberative forms of constitutional decision making.

#### A Monocentric Solution

In reasoning through the problems inherent in the design and creation of a commonwealth as an "artifice," Thomas Hobbes demonstrates how men can use their power of reason to conceptualize rules of conduct which would enable them, if each man were to act in accordance with such rules, to realize the advantages of a peaceful society. However, he recognizes that such an exercise in moral reasoning is not sufficient to constitute a peaceful and prosperous society. Rules of conduct cannot be given force and effect "without the terror of some power to cause them to be observed . . . ." (109) He emphasized that "covenants, without the sword, are but words . . . ." (109)

The architecture of a commonwealth depends upon the creation of a "commanding power" that can cause the covenants of law to be observed. A multitude of men can become a commonwealth only if some body of men or some man provides the multitude of men with a common voice to proclaim rules of law and a common arm to wield the sword of justice. If a multitude of men are to enjoy the advantage of a common set of rules in organizing their relationships with one another there must be one system of law that provides that common set of rules. The one system of law depends upon the existence of a single source of law. Thus the creation of a commonwealth for Hobbes can be attained in

only one way:

To confer all their power and strength upon one man or upon one assembly of men, that may reduce all their wills, by plurality of voices, unto one will. (112)

Forms of government may vary depending upon who is vested with the exercise of the supreme authority of government. When sovereign prerogative is vested in one man the form of government is a monarchy. When vested in an assembly of select men it is an aristocracy. An assembly of all citizens, exercising supreme authority is a democracy or a popular commonwealth. In each case ultimate authority to govern resides in one man or in one body of men.

The sovereign, whether one man or an assembly of men must, according to Hobbes, exercise supreme authority in the sense that such authority will prevail in the maintenance of ordered relationships among all those who are subject to the laws of the commonwealth. This supreme authority is unlimited and those who exercise sovereign prerogatives have authority to use any means that are appropriate to realizing the peace and security of the commonwealth. These include judging and censoring opinions. The well-governing of opinions, according to Hobbes, is conducive to the well-governing of men's actions. Those in sovereign authority are to decide what is fit to teach, which men are to be trusted to speak to the multitudes and what books are fit to print.

The ultimate authority to govern according to Hobbes must rest with a single center of authority that is unlimited, indivisible and unalterable. Only if there is a single center of authority can there be one law and only if there is one law can a multitude of men share in the peace and security that derive from ordering their conduct in relation to a common set of rules.

Since those who exercise sovereign authority are the source of law, they cannot be held accountable to law. There can be no law that limits the authority of those who exercise the ultimate authority to govern. It is a logical absurdity, according to Hobbes, to suggest that those who exercise ultimate authority to govern can be limited by rules of law.

Since ultimate authority resides with those who govern, subjects cannot alter or change the form of government. Hobbes advises those who exercise sovereign authority that the people are to be taught, "first, that they ought not to be in love with any form of government they see in their neighbor nations, more than with their own, nor, whatsoever present prosperity they behold in nations that are otherwise governed than they, to desire change." (221) He goes on to assert that the prosperity of a people derives not from the form of government but from the "obedience and concord of the subjects:" (221-222)

nor do the people flourish in a monarchy because one man had the right to rule them, but because they obey him. Take away in any kind of state, the obedience, and consequently the concord of the people, and they shall not only not flourish, but in short time be dissolved. And they that go about by disobedience, to do no more than reform the commonwealth, shall find they do thereby destroy it.  
(222)

The sufficiency of Hobbes' solution depends upon the availability of benevolent and enlightened rulers who can identify their individual interests with the well-being of their subjects. The presumption that those who exercise sovereign authority can judge what is fit to teach, and that prosperity derives from obedience and concord gives little consideration to problems of error and the consequences which follow from erroneous actions. Only in the conclusion to his discussion

of the commonwealth does Hobbes warn of the dangers of error:

There is no action of man in this life that is not the beginning of so long a chain of consequences, as no human providence is high enough, to give a man a prospect to the end. And in this chain, there are linked together both pleasing and unpleasing events; in such a manner, as he that will do anything for his pleasure, must engage himself to suffer all the pains annexed to it; and these pains, are the natural punishments of those actions, which are the beginning of more harm than good. And thereby it comes to pass, that intemperance is naturally punished by diseases; rashness, with mischances; injustice, with the violence of enemies; pride, with ruin; cowardice, with oppression; negligent government of princes, with rebellion; and rebellion, with slaughter.

If assumptions of benevolence and enlightenment are replaced by assumptions of fallibility and self-interest, there is no assurance that the interests of those who exercise sovereign prerogatives will coincide with the well-being of subjects. On the contrary those who rule and those who act as favorites, counsellors and agents of those who rule have an incentive to maintain and defend their special prerogatives as against those who are ruled. As Joseph Brudsky, the Russian poet, observes, ". . . virtually every state sees its citizens either as slaves or as enemies." "state" stands above society and rules over society. The ruling class dominates the exercise of governmental authority and, through that dominance, controls the allocation of values in a society. Obedience and concord give way to tyranny and alienation. Consent is lost; and oppression is gained. Oppression evokes resistance; and resistance, repression. The failure of those who govern gives way to those who seize control over the center of authority and proclaim themselves as the new sovereigns.

The iron law of oligarchy inherent in Hobbes solution to the constitution of a commonwealth led Robert Michels to contemplate the

following fate for mankind:

The democratic currents of history resemble successive waves. They break ever on the same shoal. They are ever renewed. This enduring spectacle is simultaneously encouraging and depressing. When democracies have gained a certain stage of development, they undergo a gradual transformation adopting the aristocratic spirit, and in many cases also the aristocratic forms, against which at the outset they struggled so fiercely. Now new accusers arise to denounce the traitors; after an era of glorious combats and of inglorious power, they end by fusing with the dominant class; whereupon once more they are in turn attacked by fresh opponents who appeal to the name of democracy. It is probable that this cruel game will continue without end.

The prevalence of revolutions and coup d'etats in much of the contemporary world suggests that monocentric constitutions ruled by fallible and self-interested men will generate a dynamic where there is an antithesis of interests between rulers and ruled. The antithesis evolves into a struggle and when a propitious opportunity arises new rulers are prepared to seize the reigns of authority. Governments are changed by accident and force rather than by reasoned choice. Those who seize power defend their prerogatives as unlimited, indivisible and unalterable. The integrity of "sovereignty" is maintained despite the succession of revolutions, coup d'etats and political struggles. The more things change; the more they remain the same.

### A Polycentric Solution

#### The Concept of Constitutional Government

The possibility of deriving an alternative solution to the problem of constitutional choice -- choice of the fundamental structure of government -- depends upon whether the language and structure of authority relationships can be extended to include reference to processes of constitutional decision making and to the formulation of constitutions as fundamental laws for the organization and

conduct of government. The concept is ancient but the design of a system of government that would be capable of enforcing rules of constitutional law in relation to those who govern is of more recent origins. The solution to that problem was worked out by Americans in the course of organizing the United States of America in the latter part of the 18th century. Alexander Hamilton explicitly stated the problem when he observed in the first paragraph of "Federalist No. 1"

. . . it seems to have been reserved to the people of this country, by their conduct and example, to decide the important question, whether societies of men are really capable or not of establishing good government from reflection and choice, or whether they are forever destined to depend for their political constitutions on accident and force. If there be any truth in the remarks, the crisis at which we are arrived may with propriety be regarded as the era in which that decision is to be made; and a wrong election of the part we shall act may, in this view, deserve to be considered as the great misfortune of mankind.

Hamilton viewed the American effort in constitutional decision making as an experiment to determine whether men drawing upon "the general theory of a limited constitution" could design and create a system of government based upon reasoned choice.

Alexander Hamilton and James Madison provide the best explanation for that solution in The Federalist when they wrote a series of newspaper articles about the new system of government formulated in the U.S. Constitution. Their explanation is an a priori analysis of the probable consequences which would follow from adopting a constitution formulated in the language of authority relationships. The power of their explanation is demonstrated by the circumstance that The Federalist, nearly two hundred years later, is still the major classic for understanding the operational characteristics of the American system of government.

The solution to the problem of constitutional choice as explained by Hamilton and Madison draws upon much the same intellectual foundations as Thomas Hobbes uses in his formulation. They too recognize that words expressed on paper parchments will be no more than "advice or recommendation" if there is "no penalty annexed to disobedience."

(91)

The task of conceptualizing a system of government which can be based upon a system of enforceable constitutional law arises only in a democratic society. If citizens are to conduct the affairs of government through open public deliberation and through officials who are the agents or servants of the citizenry, then a community of citizens will be required to establish rules about the conduct of the community's business. If the citizenry meets in assembly then rules specifying, 1) the eligibility of who are entitled to participate in assembly deliberations, 2) the time and place of meetings, 3) the procedures that apply to the conduct of business in an assembly, 4) the pluralities of votes that are required to take different types of decisions, and 5) the authority that is to be assigned to those who act as the officials and agents of an assembly all become a part of the fundamental law in a simple democracy. The basic rules for the organization and conduct of an assembly are the primitive components for a constitution in a democratic society.

Democracies since early antiquity have been recognized as being vulnerable to internal imperfections if they become large and vulnerable to external attack if they remain small. The conduct of any assembly is subject to the technical constraint that only one speaker can be heard at a time. The larger the assembly the proportionately less

voice each member can have in its deliberation and the greater reliance must be placed upon the officers of an assembly to set the agenda and control the deliberations. Thus, Madison observes that "In the ancient republics, where the whole body of the people assembled in person, a single orator, or an artful statesman, was generally seen to rule with as complete a sway as if a sceptre had been placed in his single hand." (382) The iron law of oligarchy, thus, reasserted itself in the constitution of a democratic assemblies.

Montesquieu had conceptualized a confederation as offering the promise of reconciling the problems of internal imperfection and external defense if constituent republics could be kept small. Small size avoids the dangers of oligarchy and the loss of voice so inimicable to democratic institutions. Numerous democratic republics could then join together to provide for their common defense and to deal with other matters of common concern in a confederation of democratic republics.

The American solution relied upon processes of constitutional decision making in formulating the fundamental law for constituting republics and reiterated that process of constitutional choice to apply to concurrent, overlapping republics in a federal system of government. A compound republic, as Madison called it, creates the basis for extending the principle of self-government to all political associations. By combining a number of key structural elements it was possible to formulate a system of government where the provisions of constitutional law could be enforced in relation to those who exercised the prerogatives of government.

Elements in the Design of Constitutional Government

Several basic elements in the structure of authority relationships are necessary for creating and maintaining a system of enforceable constitutional law. These include special attention to the legal status of constitutions and to the political status of processes for constitutional decision making. In addition, an enforceable system of constitutional law depends upon careful attention to specific types of provisions to be contained within a constitution. Maintaining the enforceability of a system of constitutional law, in turn, depends upon access to a theory of constitutional choice in deciding when and how to challenge the actions of governmental officials and how to alter the provisions of a constitution in light of changing conditions. We shall examine each of these factors in turn as they relate to the design of a system of constitutional government that can establish and maintain an enforceable system of constitutional law.

#### Special Status of Constitutions and Constitutional Decision Making

If citizens in a democratic society are to retain ultimate authority over the choice of decision-making rules that apply to the conduct of government, then the terms and conditions that apply to those rules need to be given separate legal and political standing. Madison distinguishes a "constitution" from a "law,"

A constitution is "established by the people" and is "unalterable by the government," while a law is "established by the government and is alterable by the government." (348) This distinction implies that the government in a constitutional republic does not have the prerogative of defining and altering its own authority. This prerogative is established through a distinct decision-making process identified as constitutional decision making.

If constitutional decision making is to be exercised by citizens

in a constitutional republic then arrangements need to exist where citizens can participate directly in efforts to formulate and revise the provisions of constitutions. Processes of constitutional deliberation can be conceptualized as involving a recommendatory process that is separate from a ratification process. Mechanisms such as constitutional initiatives where constitutional amendments are proposed by a petition of citizens, constitutional conventions and constitutional proposals advanced by recommendation of governmental authorities are among the methods used for proposing constitutional changes. The ratification process can be accomplished through constitutional referenda or other extra-ordinary processes which enable citizens to exercise control over ratification apart from those who discharge the ordinary governmental processes of determining, enforcing and altering ordinary legal relationships. The provisions of a constitution, thus, must be subject to formulation and alteration in accordance with decision-making processes that are unalterable by governmental authorities acting on their own initiative. Otherwise those governmental officials will be capable of modifying their own authority and would not be subject to enforceable limits established by the citizens in a democratic republic acting as constitutional decision makers.

Processes of constitutional decision making involves the choice of decision rules that apply to the conduct of government in a democratic republic. They do not involve the taking of operational decisions in the sense of selecting personnel, spending money, building public works, and managing public affairs. Since operational decisions are not taken as a part of the constitutional decision-making process less urgency exists to take decisions quickly. Decision rules reflecting a

higher level of consensus than simple plurality voting might be also used for processes of constitutional ratification when decisions lack immediate urgency and the costs of potential errors are extremely high.

We can now conceptualize how "ultimate" authority to govern can be exercised by the citizenry in a democratic republic. Citizens must retain ultimate authority over the provisions of constitutional law that pertain to the conduct of governments. The terms of constitutional law are alterable by citizens acting collectively and are unalterable by governmental authorities acting alone. The task of maintaining and enforcing limits upon governmental authorities is essential in a constitutional republic. Establishing the special status of constitutions as fundamental law and the inviolability of popular control over processes of constitutional change are the first essential elements in creating a system of constitutional government.

#### Constitutional Assignment of Authority to Govern

A constitutional government by definition involves limits upon those who exercise governmental authority. In addition to the limits which make a constitution unalterable by a government acting alone, the general structure of constitution is concerned with assigning decision making capabilities for the conduct of government so that no authority is unlimited and all authority is subject to limits. If limited authority to govern is to be assigned among members of a constitutional republic that authority must be distributed among diverse decision makers.

The first division of authority involves a reservation of constitutional authority to all persons functioning in a constitutional republic. A principle of equal right which presumes that the authority which each person would extend to each other person can be formulated as the basis for assigning constitutional authority to persons. Prerogatives reserved to individuals would imply correlative limitations upon officials who are assigned the special prerogatives of determining, enforcing and altering legal relationships.

An assignment of constitutional authority reserving to individuals the authority to decide what is fit to learn and what can be communicated to fellow citizens is essential prerogatives if citizens are to sustain free and reasoned discourse with one another and exercise essential prerogatives of government in a democratic republic. Commensurate limitations would need to exist to prevent governmental officials from interfering with these essential constitutional prerogatives of citizens.

Other constitutional prerogatives of citizens would include reference to the participation of citizens in various aspects of the political process. Eligibility to serve in public office should presumably be broadly available to all citizens. Election to office should be established on principles of representation that require officials to be elected by their fellow citizens. Access of citizens to governmental decision making processes and the obligation of officials to consider citizen demands need specification in relation to authority to petition for the redress of grievances, and constitutional entitlement to due process of law and to equal protection of the law. Provision for citizen participation in essential government processes including

trial by jury, and citizen oversight of the discharge of public trust by governmental authorities through instrumentalities such as grand juries are among the basic constitutional provision that reserve essential prerogatives of government to citizens.

Finally constitutional prerogatives of citizens regarding the exercise of rights to property and the right to enter into contractual relationships are essential for the maintenances of social relationships and voluntary associations among persons in a democratic society. Property law and the law of contract establish the basis for most social relationships among individuals in a society. People in a democratic republic have a constitutional interest in property and contractual relationships if people are to be able to govern their own affairs.

In addition to defining the constitutional prerogatives of individuals with correlative limitations upon the constitutional prerogatives of governmental officials, a constitution for a democratic society, if it is to serve as an enforceable system of constitutional law, will depend upon an assignment of governmental prerogatives among diverse sets of officials so that each set of officials is subject to limits inherent in the prerogatives exercised by other officials. A system of enforceable constitutional law depends upon a separation of powers so that those who are responsible for rendering judgment in determining the application of both ordinary law and the provisions of constitutional law can do so with independence of those who are responsible for law making and for law enforcement. If the principle in equity that no man is a fit judge of his own cause in relation to the interest of others is to apply to the conduct of government, then those who

exercise prerogatives of law making and law enforcement cannot be judges of their own causes of action. An independent judiciary that is capable of rendering judgment in enforcing the claims of citizens in relation to their essential prerogatives as against officials who may usurp constitutional authority is an essential requisite to creating and maintaining an enforceable system of constitutional law.

If we assume that the behavioral implication of rules of law are publicly knowable and can be subject to common understanding by a community of individuals, then functions of law making can be separated from those of executing and enforcing law. If laws are publicly knowable and create grounds for action that are of essential interest to citizens, then citizens should be entitled to remedies that can mandate essential actions by executive authority or can enjoin improper actions by executive authorities.

So long as laws are publicly knowable and subject to common understanding then processes of law making, law enforcement and adjudication of conflicts over law can be assigned to separate sets of authorities and still meet the condition of being one system of law that provides a common set of rules for ordering relationships among citizens in a democratic republic. Where laws are poorly formulated and based upon ambiguous terms such defects are more likely to be revealed where authority is limited and individuals are free to contend about the meaning and ambiguities of law. Hobbes recognized that bad laws were "traps for money" that contributed to the corruption of political systems. However, he failed to see the importances of conflict, and argumentation as providing a basis for reconsidering the defects of legislation.

## The Actions of Citizens in Maintaining and Enforcing a System of Constitutional Law

A constitution and processes of constitutional decision making are means for citizens to exercise fundamental prerogatives in participating as rulers in a democratic society. Each citizen as a ruler participating in processes of constitutional choice and in exercising constitutional prerogatives of participating in different processes of government is also subject to the rules of his making. The effectiveness of a democratic constitution depends upon the capacity of citizens to enforce limits upon officials and to prevent officials from colluding to usurp the authority of government and transform a democratic constitution into an effective monarchy or aristocracy, to use Hobbes terms. The facade of constitutional forms can be used to conduct plebiscites where people sanction the exercise of unlimited authority by those who exercise governmental prerogatives. If one citizen possesses himself of unlimited authority and gains the consent of his fellow citizens in doing so he becomes a legitimate monarch in Hobbes terms. "The death of the people" in a democratic society occurs when they can no longer exercise decisions which maintain limits upon the prerogatives of officials. (Citizen: 97)

If a constitution is to be an effective basis for organizing a system of government, citizens must be sufficiently knowledgeable about the theory of constitutional choice so as to maintain effective limits for those who exercise governmental prerogatives. In the final analysis a system of enforceable constitutional law depends upon citizens who are prepared to pay the price of civil disobedience in being willing to challenge the constitutional validity of any official action and face punishment and official displeasure if their cause is not affirmed.

Key officials are relatively few in number and may find it in their interest to take actions which countervene constitutional limits to their authority. Yet official actions are presumed to be lawful until adjudged otherwise. In challenging the actions of officials that he considers to be constitutionally invalid a citizen in a constitutional republic must assume the risk of defying authorities and of advancing his contention for consideration by other authorities and by his fellow citizens. A constitutional republic can be maintained only so long as citizens scrutinize the actions of officials and challenge the actions of officials when those actions exceed the limits of constitutional authority. But such challenges must be based upon reasoned and non-violent contention if there is to be a basis for the exercise of reasoned choice in the governance of human societies.

#### Reiterating the Process of Constitutional Choice

The American Constitution of 1787 was based upon an assumption that peoples in different democratic republics can share a variety of common interests that require collective organization to deal with common problems. While any one community of interest will require a common set of rules for acting in relation to that community of interest, diverse communities of interest can be organized through the concurrent instrumentalities of diverse political regimes. The process of constitutional decision making can be reiterated for each different community of interest. Reiteration of the process of constitutional choice for creating concurrent units of government with overlapping jurisdictions is the basis for organizing a federal system of government.

A federal system of government, thus, is one where people have recourse to multiple units of government in organizing a system of government where each unit of government is subject to the provisions

of constitutional law that define the prerogatives of citizens and officials so that no single set of officials is capable of exercising ultimate and unlimited authority for the governance of society. Different sets of officials are assigned prerogatives to determine, enforce and alter legal relationships subject to limitations. Those who are assigned prerogatives to function as officials are assigned an unequal authority where they can enforce rules of law in relation to all persons who are subject to those rules. But the persons who are subject to rules of law retain essential constitutional authority to establish the fundamental law that applies to those who govern. A symmetry of relationships is established. Citizens retain essential prerogatives to function as rulers in formulating and modifying the fundamental law. Citizens are also subject to the actions of officials who are assigned authority to determine and to enforce legal relationships subject to those rules of fundamental law.

#### Conclusion

Thus a system of government where the provisions of constitutional law can be enforced as against those who exercise the prerogatives of government can be conceptualized as a possibility. The realization of that possibility depends upon a number of conditions being met as technically necessary conditions for creating such a system of government. We, thus, come to the conclusion that different forms of government can exist. Those different forms will give rise to different developmental opportunities in human societies.

But the games of life like any other game depend both upon known rules of a game and the willingness of people to play in accordance with commonly understood and accepted rules of a game. There are

always those who will attempt to develop strategies where they can come to dominate a game and assure themselves of always being among the winners. Institutions of government are especially vulnerable to such strategies. Those who exercise governmental prerogatives are in a relatively unique position to rig both the rules of the game and to enforce or fail to enforce the rules of a game. Madison recognized this possibility when he observed that "in every political institution, a power to advance the public happiness always involves a discretion that can be misapplied and abused." (260)

#### Solutions Based Upon Erroneous Conceptions

Different solutions to the problem of constitutional choice are possible. Thus different patterns in the structure of authority relationships can exist in the creation of technically viable or operationally feasible systems of government. Essential differences in structural conditions would be expected to yield different types of social consequences and to evoke different developmental possibilities.

Since the period of the American and French revolutions an assumption has prevailed that an inherent right exists on the part of any people "to alter and abolish" an existing government which has failed to satisfactorily discharge its public trust and "to institute a new Government, laying its foundation on such principles and organizing its power in such form, as to them shall seem most likely to effect their Safety and Happiness." (Declaration of Independence: Solberg, 34)

If this assumption of a right to revolution is to be a workable basis for creating and changing institutions of government then the formulation of appropriate terms and conditions will be plagued with

all of the problems inherent in the language and structure of authority relationships. For words to be effective they must be subject to a common understanding. In the case of a constitutional republic it is citizens who are the ultimate authorities that need be capable of enforcing limits upon those who wield the coercive instrumentalities for maintaining "law and order." If political arrangements are to facilitate the pursuit of mutual well-being (Safety and Happiness) then the structure of authority relationships must meet the requisites of a fair game and be a mutually agreeable arrangement. Furthermore, if institutions of government are to be subject to the provisions of constitutional law, a structure of authority relationships must be devised so that arrangements will exist for determining, enforcing and altering the provisions of constitutional law.

Subject to these constraints inherent in the essential language and structure of authority relationships, the choice of decision rules that are to apply to the conduct of government would require access to a general political science. Such a political science presumably would enable constitutional decision makers to array different structural conditions, specify the probable consequences which would flow from each alternative so that constitutional decision makers could then choose among the different sets of possibilities.

In principle, constitutional choice depends upon a political science that enables constitutional decision makers to consider the range of alternative decision rules and decision structures that can be included within a constitution. The design would reflect the choices made. Implementation of a design would provide a test of the conceptions and calculations that were used in selecting design components.

Presumably the range of possibilities can be affected by new conceptions. The generation of new knowledge will affect the range of alternatives available to constitutional decision makers. Human imagination can, unfortunately, contemplate a wide range of possibilities that extend into the realm of fantasies and dreams and need not be limited to workable conceptions. Unworkable conceptions will lead to empirically erroneous inferences and generate consequences which diverge radically from expectations.

The history of the 19th and 20th centuries has been so plagued by revolutionary conceptions of different types of political arrangements that political assertions contained in different "ideological" formulations have been assumed to have no explanatory or "truth" value. When choices are based upon formulations that have little or no explanatory or "truth" value we can anticipate as Tocqueville did that people making such choices will be "unable to discern the causes of their own wretchedness," and will "fall a sacrifice to the ills of which they are ignorant." (I:231) Erroneous conceptions would be likely to generate harmful consequences that are inimicable to human well-being.

The Russian revolution, as reflecting the political theory and actions of Vladimir Ilyich Lenin and indirectly of Karl Marx, has provided the most important experiment in constitutional choice during the twentieth century. In order to understand the relationships between actions and theory we shall briefly examine what the constitutors did in constituting the new political structures that were associated with that revolution. We shall note the relationship of these actions to the theory that informed their efforts to create a new structure for human society. Finally we shall speculate about whether the experiment has demonstrated the warrantability of the theory.

Constitution of a Revolutionary Movement

In the pamphlet What is to be Done? Lenin formulates his basic thoughts about the practical problems of organizing a revolutionary movement. He sees the struggle as ultimately a military one that will be decided by a highly disciplined fighting organization. The essential nucleus for that organization can be created by the establishment of a revolutionary newspaper. The network of agents to supply information for publication serves as an extended intelligence gathering apparatus. Frequency of publication and regularity of distribution provide evidence to others about the success of a revolutionary movement in establishing an organizational base for its activities. Such an apparatus provides the essential command structure or "scaffolding" for the larger revolutionary movement. (21)

Lenin views "strict secrecy" as an essential requisite for a revolutionary organization. Mass organizations cannot hope to attain strict secrecy. A revolutionary organization must be a highly selective organization composed of a limited number of highly trained professional revolutionists rather than being broadly inclusive of all those who were opposed to the regime. Lenin contends that the active participation of the masses will be greatly amplified--increased tenfold--by the extent that a small number of professional revolutionaries centralize the "secret work" (140) -- essential decisions about revolutionary tactics -- of the revolutionary movement. Centralization of the secret command functions will give a unity to revolutionary efforts that will greatly increase its effectiveness.

Lenin also emphasizes the importance of the leadership to be exercised in a selective party of professional revolutionaries. He indicates that "society" advances very many people who are "fit" (142)

for revolutionary work. They are the ones who have developed a consciousness of tyranny and oppression and are prepared to fight absolutism. But these people are but a multitude of individuals -- they are not a "people" (142) in the sense of being able to take collective action. They are not a people, "Because we have no leaders, no political leaders, we have no talented organizers capable of organizing extensive and at the same time uniform and harmonious work that would give employment to all forces, even the most inconsiderable." (142) A unified leadership of a few professional revolutionaries is necessary "in order to unite all of these tiny fractions into one whole, in order, in breaking up functions, to avoid breaking up the movement, and in order to imbue those who carry out these minute functions with the conviction that their work is necessary and important. . . ." (143)

It is the concept of organizing the essential leadership function as a separate organization possessed of strict secrecy, specialized training, access to intelligence that make them into "an army of omniscient people." (164) With extensive contacts capable of reaching out to larger multitudes of people, a vanguard of professional revolutionaries can command a revolutionary movement. This separate organization of the leadership and command function is the embryo of a new sovereign.

Lenin quite explicitly rejects the application of "broad principles of democracy" (152) to the organization of revolutionaries. Broad principles of democracy presume for Lenin two conditions: 1) full publicity and 2) reliance upon election in selecting leadership and in making decisions. Democracy requires full publicity in which the political arena is as open to public view as the stage in a theatre if every person is to decide for himself who to elect to office. Full publicity, the principle of election and general control by voters

leads to a process of "natural selection," Lenin observes, where each person will find "his proper place," do what he is "best fitted" to do, feel "the effects of his mistakes" and "prove before all the world his ability to recognize mistakes and to avoid them." (153)

But what application do these democratic principles have for a revolutionary struggle against the Russian autocracy? In that circumstance Lenin contends that broad democracy is a "useless and harmful toy." (154) Any attempt to practice broad democracy will only facilitate the work of the secret police. Instead, "the only serious organizational principle the active workers of our movement can accept is strict secrecy, strict selection of members and the training of professional revolutionaries" (155) to assume leadership of the revolutionary movement.

The revolutionary apparatus proposed by Lenin involved a stable organization of leaders composed of a restricted membership of professional revolutionaries organized apart from the larger multitude of individuals in the working class and in other classes of society who form the mass of the revolutionary movement. The organization of the vanguard of professional revolutionaries depends upon strict secrecy, specialized training, centralization and discipline. It provides the essential intelligence, communication and command structure for a fighting force organized in accordance with principles of a military organization.

A successful revolution required revolutionists to seize the state power of the existing autocracy and to crush and destroy the existing apparatus represented by the bureaucracy, the army and the police. A new apparatus of control would be created where the revolutionary party as the vanguard of the revolutionary movement would perform the critical leadership function in forging a new state apparatus based upon a dictatorship of the proletariat.

At the strategic level of discussion Lenin's analysis calls for a highly disciplined, centralized, military-type organization capable of capturing the fortress of the existing autocracy. Success would require the destruction of the existing state apparatus and the creation of a new structure of authority controlled by the revolutionary party as a highly disciplined, centralized, military-type organization. The revolutionary party had been fashioned as a command apparatus that was capable of engaging in a struggle against the command apparatus of the existing state on its own terms. In a sense the revolutionary party had been created as a mirror image of the autocracy it sought to destroy. Military discipline is required to combat forces organized by military discipline. What, then, made the Russian Revolution such a radical departure in political organization and political development?

#### The Constitution of a Classless Society

Lenin's explanations for the tyrannical behavior of the Czarist regime in Imperial Russian turned on the theses advanced by Marx and Engels. They viewed the state as a product of society at a certain stage of development where that society is the subject of insoluble contradictions represented by irreconcilable class antagonisms. The state is created as an instrument of power which places itself above society and increasingly separates itself from society in order to repress conflict and keep order in society. Class antagonisms have their roots in private ownership of the modes of production in which the capitalist class is able to use its control of property to exploit the working class. The state is the organ of the capitalist class to maintain its domination over society. The bureaucracy, the standing army and the police are the principal instruments of state power organized for the suppression of the working class.

The institution of private property is viewed as the source of irreconcilable class conflict. The state is developed by the capitalist class as an instrument of domination over the working class. In Lenin's words, "the state arises when, where and to the extent that the class antagonisms cannot be objectively reconciled. And, conversely, the existence of the state proves that the class antagonisms are irreconcilable." (8)

Given this explanation, the task of the revolutionist is to seize power and to crush and destroy the traditional apparatus of the state. Earlier revolutions had failed because they had concerned themselves with representative institutions of republican government and had failed to break up the executive apparatus of the state as reflected in bureaucratic and military organization. According to Marx, all revolutionary efforts in France prior to the revolution of 1848 had served only to bring the executive apparatus of the state to "greater perfection instead of breaking it up." (25)

On the eve of the October Revolution, Lenin urged that a successful revolution required that the revolutionists seize state power, crush and destroy the existing executive apparatus. A new apparatus of control would be created where the working class could exercise state power through the dictatorship of the proletariat. The oppressed majority would now eliminate the exploiters, and undertake the reconstruction of society by expropriating private property on behalf of all working people. With the elimination of private property the basis for class structure in society will have been removed. A classless society will emerge and the state will wither away. Removing the basis for irreconcilable antagonism between classes will remove the need to rely upon the instrumentality of the state to moderate conflict and

maintain order in the presence of these irreconcilable antagonisms.

The radical thrust of the Soviet revolution lay in altering the basic structure of property rights. Private property was expropriated and eliminated as an instrument of exploitation. If the Marxian theory of social classes and class exploitation were correct a classless society should arise and the state should wither away.

Milovan Djilas, a leading member of the Yugoslav Communist party, reviews the aftermath of the Communist revolutions and concludes that members of the revolutionary party had instead become the new ruling class in Communist countries. Those who seized state power in effect became the new state. The members of the successful revolutionary party became the new ruling class capable of using the instruments of state power, and control over state ownership of property to rule the masses of workers and peasants in Communist societies.

The new ruling class in Soviet society has all of the attributes that one might expect when fallible and self-interested rulers exercise the prerogatives of Hobbes' sovereign. Alterations in the structure of property rights has substantially modified the structure of social relationships in Soviet society. But the authority of those who are capable of determining, enforcing and altering legal relationships was not subject to limits that can be enforced in relation to the standards of constitutional law. Rather, that authority was unlimitable and unalterable by those who were subject to Soviet rule. The fundamental structure of social classes arises from the relationships of rulers to the ruled and is grounded in the structure of authority relationships. The new ruling class created as a highly disciplined military-type organization become the new autocracy to replace the old.

The Fruits of the Soviet Revolution

The realization of a classless society and the withering away of the state have not been among the fruits of the Communist revolutionary movement. The state apparatus persists but under the control of a new ruling class. Marxism did not supply a new theory of constitutional choice that would enable men to constitute a classless society. Hobbes' theory of sovereignty is sufficient to account for the structure of government and the relationship of rulers to the ruled in Communist societies.

The Marxian emphasis upon property rights, however, points to a critical variable in the organization of social relationships. Property rights involve a structure of authority relationships which assigns decision making capabilities to individuals or collectivities of individuals to act in relation to events that are the object of property relationships. Further discussions of property rights and property interests will be pursued in chapters VI and VII.

Solutions to problems of constitutional choice can be based upon erroneous conceptions. Solutions which are based upon empirically warranted conceptions may, however, not be appropriate to all changing circumstances. The maintenance of an enforceable system of constitutional law, thus, depends upon being able to introduce elements of constitutional change so that political structures can be accommodated to changing patterns of interdependencies in human relationships.

Constitutional Change

Human capabilities for learning as we indicated in chapter II imply that new possibilities are being evoked as human learning is

extended into new frontiers and as human knowledge expands. Not all conceptions as we have indicated about the Marxian conception of a classless society need be workable or empirically warranted conceptions. Erroneous conceptions are possible. When erroneous conceptions exist the question arises about how relationships can be reconceptualized to develop a workable solution. Error correction always implies alteration, revision and change.

Furthermore, an instrumentality that was designed for one purpose may be conceptualized by others as offering the potentiality for serving quite different purposes. Madison's warning that any political institution involves an exercise of discretion which can be misapplied and abused also applies to efforts to develop a system of constitutional rule. Potential rewards or payoffs may be such that men will attempt to form coalitions where a single coalition can dominate all centers of authority in a democratic society and establish themselves as exclusive ruling class capable of dominating the allocation of values in a society. When such coalitions form, the maintenance of our enforceable system of constitutional law may be foregone unless political structure can be altered to reduce the probability that such coalitions will be successful in maintaining long-term dominance. Altering political structures in a system of constitutional government depends upon the formulation of appropriate changes in the terms and conditions of a constitution as expressed in the language of authority relationships.

In addition we can anticipate that technological capabilities generated by the growth of new knowledge will create new patterns of human interdependencies that give rise to new communities of interest. If these communities of interest are to be organized by reference to

authority relationships new structures of governmental institutions may need to be created. Problems in the development of international organization, for example, have their roots in changing patterns of interdependencies that impinge upon multi-national communities of interest. The development of the United Nations, the European Community and the Organization of African States might be viewed as constitutional efforts to evolve new structures of relationships for the organization of multi-national and international affairs.

Any effort to change the structure of governmental institutional arrangements can be viewed as a method of constitutional change. The substance of the change depends, not upon the words used or the rhetoric employed but upon both the words and conceptions employed and the means that are employed, for giving force and effect to words in the organization of human relationships.

Revolutionary rhetoric may promise the creation of "new societies" but those who confront the tasks of building that new society must accomplish that task through the language and structure of rule-ordered relationships. The new sovereigns can force subjects to conform to their prescriptions. However, the task of developing the knowledge and skills that will enable communities of people to fashion constitutional solutions that are appropriate to a system of self government where an enforceable system of constitutional law can be used to design governmental institutions on the basis of reasoned choice is much more difficult to realize.

No constitutional solution is immutable or eternal. Constitutional revision and constitutional change will be a recurrent task. That task in turn depends upon a knowledge of the probable consequences which will flow from the choice of alternative possibilities. Political

development, except for the happenstance of trial and error, will depend upon the warrantability of the knowledge that is used in the formulation and design of governmental institutions.

While the problem of constitutional change is one that confronts people in any society, the short-term problem confronting students of institutional analysis is to estimate the probable consequences that will flow from the particular constitutional solution attained in any particular society. The most general level of analysis will involve estimates of the constraints that limit the discretion of those who exercise governmental prerogatives and their capacity to translate decisions into effective action. An absence of constraint on the exercise of discretion and an inability to translate decisions into effective action will mean that official pronouncements are little more than meaningless rhetoric. An absence of constraint on the exercise of discretion and an ability to translate decisions into action give no assurance that discretion will be exercised to facilitate the well-being of subjects. Unconstrained exercise of governmental prerogative has the probability of compounding wrongs rather than righting wrongs. Unconstrained authority will also enable those who exercise the prerogatives of government to dominate the allocation of values in a society and to exploit the subject population. Members of a ruling class can exploit their prerogatives to enhance their own well-being subject only to the constraints that limit their authority and to the range of opportunities that are available to them.

If we assume that the problem of constitutional choice can be potentially solved in a way that permits enforceable limits of constitutional law to be imposed upon those who exercise the prerogatives of government we are then confronted with the problem of how institutions can be

developed which enable individuals to order their relationships with one another in mutually productive ways. This requires us to give attention to the critical importance of the structures of events which are the objects of human action. We expect institutions to vary with different structures of events that are the objects of human action. Chapter V will make a series of distinctions that can be used to distinguish different classes of events as these relate to the organization of human enterprises. In Chapter VI we shall see how those distinctions relate to the organization of institutional arrangements in a market economy. The analysis will be extended in Chapter VII to consider the organization of institutional arrangements in a public economy.

STRUCTURES OF EVENTS: VARIETIES OF GOODS AND  
ORGANIZATIONAL PROBLEMS IN DEVELOPMENT

Introduction

In chapter 2 we considered the human condition in relation to patterns of adaptive behavior. Language introduced a new dimension in human evolution and development. Language is a means of organizing and transmitting learning as knowledge and greatly amplifying human potentials for adaptation and development. If all of the potential variety inherent in human learning were to be randomly exploited, human beings would confront a threat of potential chaos. Instead human beings have used language as a tool for creating order out of chaos. Language has been used to interpose constraint into human relationships and organize human conduct. The language and structure of authority relationships used to order social relationships were discussed further in chapter 3. In chapter 4 we examined different solutions to the problem of constitutional choice and how we would expect these solutions to affect the organization of human societies.

In this chapter we shall focus upon the structure of events which are the objects of human relationships. Adaptive behavior always implies covariant behavior where an adaptive organism is able to vary its behavior in response to events in its environment in order to realize essential values. We assume that the environment is composed of a manifold variety of events which become the objects of human action.

The potential variety inherent in the manifold structures of events existing in human environments will require different calculations and patterns of conduct to realize developmental opportunities and possibilities.

Events in the world must be dealt with on their own terms. Strategic actions concerned with the control or transformation of events in one's environment require a knowledge of those events and of the consequences which can be expected to follow from different ways of acting upon events. Most of human knowledge about events in the world is relevant to the transformation, development and use of events for human purposes.

Different types of events, in turn, entail quite different constraints that have significant implications for the organization of human enterprises. Some opportunities can be realized by individuals acting alone. With voluntary exchange occurring among individuals a wide range of possibilities can be realized in an economy composed predominantly of individual entrepreneurs. Other developmental opportunities, however, require coordinated joint activities among many individuals. These conditions give rise to organizational or institutional arrangements that need to be appropriate to the tasks at hand. Thus variations in structures of events will create problems for the organization of human actions. Variations in the structural characteristics of different organizational arrangements will need to be considered in light of variations in structures of events. This chapter will focus upon some general characteristics of structures of events that can be expected to affect the choice of strategies that individuals will pursue in realizing developmental opportunities associated with the control and use of events for human purposes.

Some Preliminary Definitions and Distinctions

Events for which individuals have preferences can be conceptualized as "goods;" events for which individuals have aversions can be conceptualized as "bads."\* Lasswell and Kaplan define a "value" to be "a desired event" (Lasswell and Kaplan, 1980:16). Their definition of a value is the equivalent of our definition of a good. Thus we assume that all values if defined as desired or preferred events can be conceptualized as "goods." In this sense a good is anything of value. A good may be a discrete and tangible thing or "commodity." A quality of the environment including an attractive view of a landscape may also be viewed as a value or good. So may a set of relationships among human beings which might be characterized as "peace" as against "war, or as "freedom " as against "repression." "Good will" as we noted in chapter 3 can be viewed as an asset subject to conveyance as a property right. Where "peace" or "freedom" can be realized only as a consequence of appropriate forms of human action we can view such "goods" as being the "products" of human effort. Some "goods" may thus be viewed as "intangible" values. Individuals may, for example, have an interest in a contract which can be viewed as a good - an event for which one has preferences. A service is simply a different name for a good that is usually associated directly with some human action or behavior and is not as durable as most "material" goods.

The events for which individuals have preferences may be "natural" events in the sense that they occur in a state of nature without reference to human action or human intervention.

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\* Footnote or addition to text from Walden II (Brian to supply)

Rain, may be a purely natural event. Other events may be "artifacts" in the sense that they were fashioned at least in part by human choice and human action. In such circumstances human choice and human action intervene to alter or transform some structure of events into an artifact, a product or a modified structure of events. If we assume that human action involves a calculated effort, then we might anticipate that the modified structure of events has been created to reflect human preferences. Modifications might occur either to yield a greater good or a lesser bad.

The attachment of preferences to an event can be conceptualized as independent of an event itself.

Rain, for example, may be a purely natural event for which individuals may have either preferences or aversions depending upon the circumstance. Rainfall in the presence of a severe drought is likely to be valued quite differently than rainfall in the presence of a severe flood. The same rainfall occurring in a given region may also be desired by some individual and not by others.

The term "value" is also used to refer to human preferences as measures of value or as criteria for choice apart from the events with which those preferences are associated. When the term "value" is used in this sense, one can speak of the fact-value problem and consider the factual content of events apart from values as measures of preferredness or as criteria for choice. Value in this sense is thought of more as standard, measure or criterion that can be arrayed in relation to events. Lasswell and Kaplan's definition of a value as a "desired event" focuses upon the attachment of a value to an event rather than upon a value as a standard or measure for arraying events into "goods" and "bads."

When we refer to criteria of choice we shall refer to either "principles of selection" or "evaluative criteria." Each evaluative criterion is a principle of selection when used to chose among alternatives.

Some of the social science literature uses the term ethnicity to explain variations in attitudes and behavior. Ethnicity is usually defined as the values held by discrete communities of people. Such use of the term "ethnicity" implies preference orderings. We assume that when reference is made to ethnicity in this sense that differences in preference orderings are being referred to as an explanatory variable.

Preferences are subjective experiences which human beings can "learn" about through the use of language and by experiences in chosing different courses of action. Preferences thus can be learned by the information transmitted from one generation to another. A community of people sharing a similar cultural tradition can be expected to have reached a whole series of settlements about preference orderings that are transmitted from one generation to another as a part of the accumulated learning of the individuals who have formed that culture. Many of these acquired preference orderings are taken for granted and are not explicitly weighed in the choices individuals make in the daily routine of life.

While events can be conceptualized apart from the attachment of human preferences to those events, the pervasiveness with which we associate the word "goods" with preferred events implies that human perception is significantly biased toward associating preferences with events. In the case of products or artifacts the element of human preference or human valuation gets built into a product or artifact itself. Some one or some combination of individuals has transformed events to yield a product that

reflects their preferences and their estimates about others' preferences.

A product or an artifact, thus, represents a union of fact and value.

Human relationships to many "goods" will be critically affected by a principle of scarcity. When events for which individuals have strong positive preferences are scarce then one individual's use and enjoyment of those events will constrain their use or enjoyment of other individuals. At the same time, actions to increase the supply of any given good will require the expenditure of time, effort and other goods to produce the increased supply. Justification for that effort will depend upon the level or intensity of preferences because any effort to produce more of a given good will necessarily require that other goods be expended or foregone. Thus, any choice involves costs. The costs inherent in any choice can be represented as the opportunities that are foregone as a consequence of that choice.

In a most general sense the term "price" has also been defined as the terms on which alternatives are available. This is the equivalent of saying that a price is equal to foregone opportunities. Money prices are only an imperfect approximation to price as defined here. A money price takes account only of the values measured in money as a medium of exchange. Everything exchanged for money can be measured by the money value it commands in a competitive market. If perfect competition were to exist and all values were measurable in money then the money price would be a means of assigning an equivalent measure to the value of different goods and services. A money price in a market economy is also a constraint on the behavior of anyone who exchanges money for goods. He acquires a good for himself and makes other opportunities available to the vender. Calculations bearing upon human preferences become important considerations in thinking about how human beings related to themselves to one another and to structures of events in a world plagued by scarcity. However, we shall

give minimal attention to such considerations in this chapter.

The sets of events that individuals confront in their environment are exceedingly complex. Any inquiry into their nature must have reference to structuring principles so that we can begin to make some basic distinctions. One possible focus would be to deal with the technical transformation of events in order to yield desired effects or products. In this sense, much of scientific and technical knowledge can be mobilized to conceptualize production strategies that are appropriate to the realization of some particular set of desired effects or products. The production process for making shoes, for example, will differ significantly from the production process for making bread. In chapter I we identified such problems as being technical problems subject to "engineering" solutions.

Since our focus is upon institutional analysis and design we will not focus upon those aspects of events that pertain primarily to the technical production processes. However, we cannot ignore the circumstance that any form of organization will be required to come to terms with production processes. Patterns of conduct will vary with production technologies.

Similar types of institutional arrangements can be used to organize enterprises which produce a variety of different goods and use different production processes. Any one type of organization can be relied upon to create enterprises capable of producing many different products. The same organizational forms, for example, can be used to create enterprises concerned with the production or distribution of shoes, bakery products, cereal grains or hardware. Yet the production processes for each of these products will vary significantly.

The characteristics of goods that create problems for the design

of alternative institutional arrangements are of a more general magnitude that apply to many different goods. The critical factor relates to the potentiality for the control of events by an individual. A critical factor affecting the potentiality for an individual to control events is associated with an attribute which we shall refer to as divisibility. A good is divisible when it can be identified, controlled and used as a separable or isolable unit. Where indivisibilities exist a variety of problems arise in the organization of human efforts to produce and consume such goods. Human actions and human interests become interdependent and require organization. Thus organization in a most general sense is an effort to order interdependent actions and interests.

Problems of Divisibility or Packageability as an  
Essential Characteristic of Goods and Services

Divisibility pertains to the degree that an event as a good or service is separable or isolable as a unit which can be subject to independent control and use. Our interest is in patterns of human behavior that are related to the development and use of events as goods. In considering divisibility as a characteristic of goods we need to consider the individual as a basic unit of measure. Those events which can be separated or isolated as distinguishable units and can be subject to a high degree of independent control by individuals will be considered "highly divisible goods."

Those which individuals cannot effectively control as separable units will be conceptualized as having elements of indivisibility. Elements of indivisibility are subject to many variations and meaningful distinctions are difficult to make. To simplify discussion we shall rely upon the device of representing the polar opposites: highly

divisible goods and highly indivisible goods. These can be represented as "purely" individual or private goods and as "purely" collective or public goods.

Most of the events for which individuals have preferences would be arrayed somewhere along a continuum between these polar opposites. We shall turn to some of the patterns that are characteristic of intermediate goods after considering attributes associated with the "polar opposites" or the "pure types."

When events are arrayed along a continuum of divisibility and indivisibility where a man and his potential for independent control is used as a measure or yardstick, the two variables of size and form become important considerations. Very small or microscopic events, such as bacteria may be isolable into separable units in some absolute sense. In a practical sense that pertains to human action, the task of identifying and controlling those events as separable units may be relatively difficult. The relevant level of consideration for human action then may be at a level that relates to populations of bacteria that may be used in the making of breads or cheeses or confined or irradiated as in the prevention of diseases.

Structures of events that are amenable to human control may also be very large. Given modern technologies, efforts to control floods, improve navigation and develop water resources may be facilitated by treating an entire river system as a relevant structure of events. River systems may reach continental proportions impinging upon the welfare of many different communities of interest.

The form of events is also a variable of importance if we define form as varying from a highly fixed or stable form to a highly ambient

or free flowing form. Solids, liquids and gases can be arrayed on such a scale. Land is a more stable and less ambient form than water; water is a more stable and less ambient form than air. Yet, land, water and air may each be important qualities that have significant effects upon human welfare and upon developmental opportunities to improve human well-being. The problem of exercising independent control over events that are highly ambient or free flowing and are large in scale will pose substantial difficulties in the organization of human enterprises which are concerned with the development and use of such events either to advance human "welfare" or to reduce human "illfare." Factors both of size and form interact to affect the divisibility or packageability of events as potential goods.

#### Highly-Divisible, Individual, or Private Goods

Divisibility or packageability is a characteristic that has many ramifications for the operation of human enterprises. These ramifications will be examined in relation to 1) measurement and quantification, 2) exclusion, 3) subtractability of consumption and 4) appropriability.

#### Measurement and Quantification

Highly divisible goods are by definition easy to unitize. Goods which can be easily unitized are also easy to measure. If the quality of each unit is equivalent to each other unit, calculations associated with the use of number systems can be applied to quantify and account for the production, exchange and consumption of such goods and services. Calculations about production costs can be easily made to facilitate

management control. Commodity inventories and flows can also be calculated to aggregate information about gross production, available inventories and gross consumption for regional, national or world markets. Such calculations can also be used to maintain a system of accounts for the operation of any enterprise.

Some events which are highly indivisible in a natural state may be rendered highly divisible by packaging technologies. Liquids and gases can be packaged in containers and rendered divisible at a cost. So long as an appropriate technology is available for packaging events and the costs of packaging are sufficiently low in proportion to the value of the good then divisibility can be attained for all practical purposes.

#### Exclusion

Goods, which are highly divisible or packageable into equivalent units, can usually be subject to exclusion in the sense that one individual's control and use can exclude another person's control and use. Where exclusion is easy to obtain and exclusion costs are low any one person is able to retain control of such a good or service. He is able to exclude anyone else from enjoying the benefit of that good or service until the other person offers terms and conditions that are agreeable. An exchange of the good or service can then occur under conditions that are mutually agreeable to the two parties. Each offers something of value. When measured by individual preferences the value gained exceeds the value foregone and each is left better off as a consequence of the voluntary exchange.

The operation of the exclusion principle associated with highly divisible goods is the basis for market organization. Goods are

exchanged for a price and price represents the value of foregone opportunities so long as one person's possession and control is exclusive of another person's possession and control.

### Subtractibility of Consumption

The operation of an exclusion principle between buyers and sellers is sometimes distinguished from subtractibility of consumption. Subtractibility of consumption occurs when one person's use, enjoyment or consumption exhausts the utility of a good and prevents others from using, enjoying or consuming that unit of a good. Presumably any good that is highly divisible into equivalent units which can be directly consumed would also be highly subtractible in consumption.

Problems arise when goods are not totally consumed and residuals accrue as by-products of consumption. These by-products may impinge upon others in ways that either decrease or increase their potential welfare. The basic law of the conservation of energy leads us to expect that consumption will never be perfectly subtractible. However we can consider some goods like an apple or an orange to be highly subtractible in consumption where a view of a distant landscape is much less subtractible in consumption.

### Appropriability

Goods, which are easy to unitize or packagable and can be subject to independent control and use by individuals, are also highly appropriable in the sense that they can be subject to an easily definable and enforceable property right. Assignment of authority so that someone is responsible for the possession and use of particular goods and services is an important consideration in the allocation and exchange of goods and services among individuals. Appropriability in the sense of establishing easily defined and enforceable rights becomes an

important characteristic of goods that reduce potential conflicts and disagreements over who has lawful claims to ownership over properties. Where goods are not easy to unitize and where different individuals make simultaneous use of a good, potential for conflict will be high. Highly appropriable goods are most amenable to establishing private property rights where possession by one person is exclusive of its possession by other persons.

If all goods were easy to unitize or package into equivalent units and were subject to independent control by individuals, problems in organizing human enterprises would be relatively simple. However, many events in the world that impinge significantly upon human welfare do not have these characteristics. Those are the events that pose the more difficult problem for the organization of productive efforts in a political economy.

Complete Indivisibility: The Case of the Pure  
Public or Collective Good

In the contemporary literature of public goods an emphasis has been placed upon the definition of a public good as one that is subject to joint or collective consumption. Paul Samuelson in an early article on "The Pure Theory of Public Expenditure" defines a public goods as a good which is subject to joint or collective consumption where any one individual's consumption is non-subtractible from any other individual's consumption of that good. It would be possible, for example, to think of one person's enjoyments of the benefits of national security as being non-subtractible from any other person's enjoyment of the benefit of national security.

If such a public good were also subject to non-exclusion then that good would be available for anyone to use under conditions where his use did not subtract from its use by other individuals. If conditions of non-subtractibility of consumption and non-exclusion were to apply in an unqualified sense we would have something that might be characterized as a pure public good. John F. Dales has commented that the only case of pure public good -- in the sense that any one person's consumption is fully non-subtractible from any other person's consumption and that non-exclusion generally prevails -- that he can identify would be the "good" associated with the force of gravity. No one can be excluded from enjoying that good nor does any one person's enjoyment detract from its enjoyment by others.

Such a pure public good would also have the attribute that it can not be unitized and quantified in relation to equivalent units. Rather it might be measured by some attribute or characteristic such as force of attraction that applies uniformly within a domain. Thus Samuelson has noted that a "public consumption good differs from a private consumption good in that each man's consumption of it is related to the total by a condition of equality rather than of summation." (Samuelson, 1955: .) If these conditions of nonsubtractibility, nonexclusion and equality were to apply generally we would probably have a circumstance where principles of scarcity would not apply either. Such goods would exist as constants and be free goods to be used without stint. Pure public goods then would be goods that are freely available without economic effort on the part of the user. Partial subtractibility, partial exclusion and degrees of inequality are, however, likely to apply to most collective or public goods produced by human effort.

Varying Degrees of Divisibility and Indivisibility

Rather than treating indivisibility as an absolute quality that applies to "pure" collective or public goods we propose to consider varying degrees of indivisibility and how conditions of partial divisibility or partial indivisibility affect potential patterns of organization in the development of such events as goods and services relevant to human welfare. Where degrees of indivisibility prevail we might think of varying degrees of collectiveness or publicness as occurring in different types of public goods and services.

In considering varying degrees of divisibility, size becomes a critical variable. Where an event is sufficiently large that it is available for use and enjoyment of many individuals simultaneously, boundary conditions may either exist or be created where exclusion can occur in denying access to a good that is subject to joint consumption. In other situations boundary conditions may not be so precisely defined or the costs of exclusion may be sufficiently high that goods are subject to joint consumption without exclusion. Yet the domain relevant to such events may impinge upon an area of limited territoriality. Boundaries may be created in assigning costs for the provision of such a good. In addition, patterns of use may also exist where there is jointness among multiple uses. Jointness among multiple uses may also be accompanied by jointness among multiple products where elements of control can be exercised to modify the supply of a joint product to respond to variations in demands for joint uses. We shall first consider the type of goods and services which is

subject to joint uses or consumption where exclusion can be attained in denying entry or access to the joint facilities or common pool resources. The second type will refer to goods and services which are subject to joint use or consumption where exclusion is too costly or difficult to attain but where joint use occurs in a limited territorial domain. Some people are benefitted; others outside the domain are not. This second type of goods subject to joint use or consumption without exclusion in a limited territorial domain is probably the most general type of collective or public good encountered in a public economy. We shall then extend the characterization of this common type of collective or public good by adding elements of complexity to include 1) multiple joint uses 2) multiple joint products, and 3) multiple joint uses of multiple joint products where elements of jointness occur in both consumption and production.

Goods Subject to Joint Use or Consumption with Exclusion.

Jointness of use or consumption occurs in relation to a large variety of goods where access to the good is subject to exclusion. This type of good typically involves a facility that is jointly used by many individuals but access to the facility may be subject to exclusion. These range from theaters, auditoriums, stadiums, parks, playgrounds, recreational facilities, common carrier transportation facilities, many types of public utilities, highways, and communication facilities. Where exclusion can occur as a condition for gaining entry or access to a facility that is subject to joint use or consumption, a price or a toll can be charged for entry. Such facilities can be feasibly organized in the private sector. However a number of problems arise in the development and maintenance of such facilities that may lead to their

organization in the public sector as an alternative arrangement. When organized in the public sector such facilities are amenable to user charges which can generate revenues to defray at least a portion of the costs entailed in operating and maintaining such facilities.

Investment decisions about the size of such facilities and pricing decisions regarding the charge for access or admission are subject to substantial lumpiness. Added investments normally require proportionate large increments of expenditure and contribute large increments in supply. Supply cannot be easily adjusted in small increments. If demand for such facilities are subject to growth over time a facility that is large enough to accommodate future growth will have surplus capacity when first constructed. The direct cost associated with the use of that surplus capacity may approximate zero. However as demand grows such facilities may be subject to congestion and the costs of alleviating that congestion may be relatively high.

Where such facilities are non-existent or limited in supply, potential users may have an incentive to contribute toward the supply of those facilities so that they can exercise the option of whether or not to make use of such joint facilities. Public investment might then be viewed as buying an option where each resident of a community would be willing to contribute provided other residents who benefit from such options also contributed their share to the venture. The option value in having a theater, auditorium, stadium, highway, communication facility or a public utility available may be such that the presence of such a facility once it is available is not subject to exclusion. Each person is free to decide for himself whether to use once it has been provided for others.

Goods and services subject to joint use and consumption with exclusion are difficult to measure. The number of persons served, tickets sold or tolls collected can be easily calculated but such measures are not measures of the good or service per se. Qualitative factors come to the fore in describing characteristics or attributes of such goods or services. The number of performances in the case of theaters, is not as important as the quality of performances. Quality may vary significantly from performance to performance. Furthermore the conduct of the users or consumers of such services can significantly affect the quality of the product for each user.

Joint-use facilities subject to exclusion may be sensitive to a circumstance where one individual's use may impair its use by other individuals. Consumption of a joint benefit provided in a common facility may then be partially subtractible. The use or enjoyment of such a facility may depend upon the formulation of a set of rules that apply to the conduct of users in relation to each other and upon arrangements for the effective enforcement of such rules. Such facilities are apt to be treated as public or semi-public places that are subject to police surveillance and to the exercise of police powers whether by private security forces or public police forces or a combination of both.

Some joint use facilities that are technically subject to exclusion may involve sufficiently high exclusion costs that decisions are made to provide such facilities without exclusion. Ease of access to a highway system, for example, may be inversely related to potential costs of exclusion. The cost of exclusion for toll roads is reduced if the points of entry are few in number. Easy entry would greatly increase costs

of exclusion. A community of people might consider the costs of exclusion to be sufficiently great that they would prefer free access with the costs of highway construction and maintenance payable in the form of compulsory taxes. In such a case the problem of constructing and maintaining highways takes on the characteristics of a good or service subject to joint use without exclusion.

Goods or Services Subject to Joint Use or Consumption Without Exclusion in a Limited Domain.

When individuals are domiciled within a domain where they jointly use or consume a good or service, within that domain, the condition of exclusion will usually not apply. The good or service is used or consumed jointly over a domain that applies to a community of individuals.

A wide range of public sector activities are concerned with goods or services subject to joint use or consumption without exclusion in a limited domain. Police protection, fire protection, control of contagious diseases, air quality control, water quality control, water resource management, public welfare services, and some aspects of public education might be thought of as goods or services subject to joint use or consumption without exclusion in a limited domain. A moment's reflection would put national defense or national security in essentially the same category. Defense measures are also primarily oriented to the security of a limited domain: a nation-state or a multi-national community subject to collective security arrangements.

The provision of "law and order" that is associated with the structure of authority relationships discussed in chapter 3 also meets the definitional criterion of a good or service that is subject

to joint use without exclusion within a limited domain. No system of law with its associated institutions of government is universal in the sense of applying equally to all people everywhere. The institutions of government as common facilities for determining, enforcing and altering legal relationships and are subject to joint use by the community of people within the jurisdiction of that government. In this case the tangible events "produced" by these facilities is the ordered patterns of human conduct which enable individuals to act in relation to one another in predictable ways and to realize a range of other values which derive from organized efforts.

#### Absence of Exclusion and the Holdout or Free-Rider Problem

The absence of exclusion implies that an essential condition applicable to market organization does not exist and that aspects of a good or service are freely available to anyone living within that domain. Efforts to produce such a good or service will entail costs but the costs cannot be recaptured by the voluntary payments of willing buyers. Since aspects of the good are freely available if provided for others, some individuals can be expected to take advantage of the opportunities created for others while minimizing their own costs in doing so. Some individuals will have an incentive to withhold their contribution and to function as "holdouts" or "freeriders" so long as others bear the cost of supplying the jointly consumed good or service.

The decision rule of voluntary agreement or willing consent that applies to transactions in a market economy will fail, because of the holdout or freerider problem, to secure an ample supply of such a public good or service. If some individuals are successful in pursuing a holdout strategy other individuals will have an incentive to follow their example. The joint good will then either be provided at an

insufficient level or will not be provided at all. This circumstance can lead to what Garrett Hardin has called "The Tragedy of the Commons." Each individual takes advantage of the opportunities that become freely available while minimizing his own net cost in doing so. Thus, individuals who take account of their own net welfare potential by discounting the value of goods that are freely available to them will be led to make decisions which fail to take appropriate account of jointly used goods and services.

Individuals confront a paradoxical problem in relation to goods or services subject to joint use or consumption without exclusion. When an individual calculates his net welfare as minimizing costs while taking advantage of opportunities that are freely available to him he will not satisfy his demand for jointly used goods that cannot be subject to exclusion. The pursuit of a maximizing strategy will not yield a maximization of net welfare unless decision making arrangements are organized so that each individual's choices are constrained by calculations that take account of the preferences and interests of others.

The basic problem in the organization of all institutions and in the organization of rule-ordered behavior more generally is to constrain the choices of each individuals so that interests of other individuals are taken into account in the decisions that each makes. Men will maximize their net well being only if they have access to an appropriate array of institutions so that each individual has incentives to take account of the interests of others as he selects alternative courses of action.

Mancur Olson in his Logic of Collective Action examines in

considerable detail how the calculations associated with individual choice and voluntary agreement give rise to collective inaction or institutional failure in supplying goods subject to joint consumption without exclusion. If groups are small enough where each individual can keep an accounting of every other member's contribution to the joint effort to supply a collective benefit then individuals might be in a position to exert sufficient coercive pressure upon each other to maintain the viability of a joint effort. As groups grow in size the probability of success in pursuing a holdout strategy increases. Each individual may also see little direct relationship between his individual contribution and its effect upon the joint effort. Following a least-cost calculus he becomes less willing to expend his effort when its effect upon the joint or collective benefit becomes imperceptible as groups increase in size. A joint effort to supply a good subject to joint use without exclusion has a high probability of failure as group size increases and voluntary agreement prevails.

#### Coercion

Yet the provision of goods that are jointly used or consumed but not subject to exclusion may significantly affect the well being of each individual who would benefit from the provision of such a good or service for the relevant community of individuals. Each individual might benefit to such an extent that he would be willing to pay his share of the cost if each other individual could be compelled to bear his proportionate share of the cost. To avoid the holdout problem, each individual would then have an incentive to create an organizational arrangement where everyone would be forced or coerced into paying his proportionate share of the burden for a good or service to be jointly used or consumed by the relevant community of users. Organizational arrangements competent to require each individual to

assume his proportionate share of the burden would be vested with a power to tax and to impose extraordinary sanctions to enforce its power of taxation. Such organizational arrangements would have a structure of authority relationships similar to that involved in the organization of a government.

#### Limited Domain or Territoriality

The condition of a limited domain specified in the type of good or service that is subject to joint use or consumption without exclusion implies that the structure of events which is perceived as a potential good is of limited territoriality and impinges upon a limited community of potential beneficiaries. The community of potential beneficiaries can be distinguished from larger populations which will not benefit from the provision of the joint public or collective good. If the community of potential beneficiaries is to be distinguished from the larger non-benefitting population then boundaries will need to be established to distinguish the territorial domain appropriate to the community of potential beneficiaries.

This circumstance implies that conditions of partial exclusion can occur in specifying territorial boundaries which distinguish between potential beneficiaries and those who will not benefit. Partial exclusion in establishing boundaries for a collective enterprise will be most effective when the individuals who benefit are a relatively fixed or stable community of users domiciled within a given territory. Where users are themselves ambient or free moving and cannot be excluded from enjoying the benefit of goods available for joint use or consumption, the task of drawing appropriate boundaries becomes more difficult. Highway users, for example, may, in part, occupy fixed locations adjoining a particular street or highway and also be

ambient or free moving users who avail themselves of other streets or highways. Boundaries which include the community of potential beneficiaries would have reference to a different territorial domain for thoroughfares than for residential streets.

The partial or weak ordering that applies to specification of boundary conditions where beneficiaries can be distinguished from non-beneficiaries implies that some limited form of "packaging" can occur in the provision of a public good or service. The package is specified in relation to a territorial domain. In the case of water resource management and air pollution control, joint use within a territorial domain may be defined in relation to the geographical characteristics of watersheds and what we might call airsheds. Police and fire service, on the other hand, are more closely related to patterns of human settlement and patterns of interaction within and among human settlements.

The condition of limited domain permits variable production strategies to be pursued in relation to variable environmental conditions and variable preferences among different communities of people. A partial ordering can be attained by reference to boundaries that specify conditions of inclusion and exclusion for packaging the territorial domain applicable to a good that is jointly used or consumed within those boundaries.

#### Partial Subtractability

Goods which are subject to joint consumption without exclusion in a limited domain may also be partially subtractible in the sense that conditions may exist where one individual's use, or use by a number of individuals may impair or subtract from the use or enjoyment of that good or service by other individuals. Complete complementarity or non-subtractibility of uses rarely, if ever, occurs. A policeman

responding to a particular call is not available to respond to another simultaneous call for service. If an ample supply of policemen are available, a police department may respond to simultaneous demands for service by dispatching several policemen. This condition, however, implies that there are problems where partial subtractibility exists of proportioning supply to demand and of ordering relationships among users so that potential conflict among uses and methods of use can be minimized.

Where a good is freely available each individual has little incentive to calculate the opportunity costs for others in his demand for the good or services. Various forms of rationing, queuing or efforts to constrain use by reference to rules and regulations may be required to allocate uses among the community of users and of proportioning supply to demand. In the absence of exclusion, pricing cannot be used as an effective mechanism to proportion supply to demand. In the absence of separable consumption, prices cannot be used to ration use or consumption among individual consumers. Substantial problems in articulating and aggregating demands, in proportioning supplies to demand and in ordering relationships among the users occur when collective or public goods are subject to joint use or consumption without exclusion under conditions of partial subtractibility.

#### Measurement Difficulties

The problems of articulating demand and of proportioning supply to demand in the provision of a good or service that is jointly used or consumed within a limited domain is complicated by the measurement difficulties associated with such goods or services. Such goods cannot be unitized and quantified in the same sense that highly divisible individual or private goods can be unitized and quantified. Instead

measures are usually some attribute or characteristic that is quantified to give some indication about the state of affairs applicable to a joint good as a structure of events. The quality of the atmosphere, for example, may be indicated by specifiable parts per million of pollutants. Not all potential pollutants can be systematically counted. Some particular chemical elements or compounds are usually selected which will serve as a proxy measure for the general quality of the atmosphere. The output of police services is also difficult to measure and rates of criminal victimization, speed of response and other such measures can be used as proxy indicators to measure police performance. However such measures cannot be quantified to indicate the yield of different police departments in the same way that bushels of wheat can be quantified to indicate the aggregate yield of large numbers of wheat farmers.

The performance of each policeman cannot be directly related to the rate of criminal victimization in a community. As a result, factors of production cannot be as effectively managed in a police department as those factors of production can be managed on a wheat farm. If individual policemen and police department managers make mistakes in managing a department they are less likely than a wheat farmer to directly bear the consequences of that mistake. The costs of mistakes are more likely to be borne by the users of police services.

#### Appropriability

The conditions where only weak or partial exclusion, partial subtractibility and difficulties of measurement apply to a good subject to joint use also implies that such goods will be difficult to appropriate and treat as a separable property. Individuals will find it difficult to establish a property right where the value of the good could acquire an exchange value that would contribute to the net worth or well being

of individual members of the community.

Since investments in goods of joint benefit to a community of individuals might be conceptualized as a common wealth accruing to that community of individuals, the economic rent derived from the surplus of benefit over cost would be realized by those who have a locational advantage in relation to the domain of that joint good or service. Such advantages would be difficult to realize unless costs can be proportioned to benefit and user preferences are taken into account in the provision of services. Since benefits are difficult to monitor in any precise way, and costs cannot be directly assigned to beneficiaries, the task of establishing transferable rights to public facilities subject to common use depends upon attaining some measure of exclusion in gaining access to benefits or values to be derived from those facilities. Failure to establish any measure of exclusion would suggest that demand will grow to a point where the marginal net value of the good will reach zero or assume negative proportions. The tragedy of the commons in such circumstances remains a recurrent threat.

If partial exclusion can occur in establishing the territorial domain of a community of beneficiaries, access to community facilities can be partially limited, if benefits can exceed costs and if demand for such services exceeds the supply available among alternative communities then those who enjoy a locational advantage will realize an economic rent in relation to land values. The possibility of deriving an economic rent from efficient performance in the supply of collective or public goods and services can lead individuals to regard public expenditure decisions as investments in capital assets as well as expenditure for joint services. If costs for such investments can be transferred to others some may be in a position to derive windfall gains through capital expenditures made by others.

Most public goods and services will be subject to joint consumption where partial conditions of exclusion may occur at least in specifying boundary conditions for the relevant community of users. This type of exclusion is however quite different than the exclusion that occurs in a market where a seller can exclude a buyer's use or enjoyment of a good or service if he does not pay the price demanded. So far as the individual is concerned he cannot be excluded from enjoying the good or service so long as it is made available to others within the relevant community of users. With appropriate boundaries he can however be included among the community of beneficiaries who are taken into account in levying taxes and in organizing decision making arrangements for articulating demand, proportioning supply to demand and in regulating uses or methods of use. These relationships can take on added complexity as conditions of multiple joint uses, multiple joint products and multiple joint uses of multiple joint products are added to goods and services subject to joint use or consumption without exclusion in a limited territorial domain.

#### Jointness of Use Among Multiple Uses

The conditions applying to joint use and consumption without exclusion may be substantially complicated where a good or service is subject to multiple uses. A highway for example may be used by pedestrians, bicyclists, automobile drivers and truckers. One type of use may be threatened by other types of use. Heavy congestion of a highway by automobile traffic may force pedestrian and bicycle traffic off the road. Or conversely pedestrians and bicycle traffic may seriously impair the volume and speed of automobile traffic. The use of a stream to discharge wastes may impair the use of the same stream for recreational purposes.

Problems of collective decision making become increasingly complex as the interests and potential conflicts increase among users making different uses of a good or service subject to joint use or consumption where exclusion is difficult or costly to attain. Problems of drawing appropriate boundaries to include diverse sets of users, of assigning costs among the diverse users, of articulating the demands of different sets of users, and of making and enforcing rules in relation to the different patterns of use all become more difficult as patterns of use increase.

#### Jointness of Supply Among Multiple Products

Most production processes involve multiple factors of production and multiple outputs. Those products which are highly divisible and of positive economic value can be treated as packageable products and as marketable commodities. Those products that cannot be packaged and subject to exclusion are byproducts that will be subject to joint use and consumption by those who are affected by that byproduct. If the byproduct has a negative value it can be viewed as a "bad." Economists generally use the term "negative externality" to describe byproducts which impose costs upon others. The smoke and other pollutants discharged into the atmosphere or the waste products and pollutants discharged into sewerage systems would be among the negative externalities or byproducts which accrue as a joint product in most production processes. The existence of an architecturally attractive building to supply a marketable service may generate a good for everyone who derives an aesthetic satisfaction from having that building as a part of the landscape. In this case the building is a positive externality and is jointly supplied with the other goods and services which are rendered by such a building.

Factors related to pollution control efforts and the regulation of architectural standards may become the object of collective action to affect the yield of joint products. Penalties and special control measures may be imposed to reduce the yield of negative externalities and subsidies may be used to increase the yield of positive externalities.

#### Jointness Among Multiple Uses of Multiple Products.

The most complex problems arise where there is jointness among the multiple joint uses made in relation to a bundle of products subject to joint supply. These circumstances frequently arise where water resource systems are subject to intensive development. Multiple joint uses may include different patterns of use associated with navigation, fishing, recreation, waste disposal, flood control, municipal water supply, irrigation, and the generation of hydro-electric power.

Several of these uses may be associated with diverse production strategies where an effort to increase the supply of one service may impair supply for another service. The different uses may impinge upon somewhat different communities of users. A community of fishermen may be quite disparate, for example, from the community of persons using hydro-electric power produced by the same stream.

Different products may also be more or less divisible or indivisible. Fish may for example be easily packaged and sold as a separable commodity. Yet a stream as a productive fishery may be highly indivisible resource subject to joint use by large numbers of fishermen. The production problems in managing a stream as a fishery may be quite different than managing the same stream for the production of hydro-electric power. Hydro-electric power in turn can be metered and sold

as a commodity that is subject to exclusion and is subtractible in many of its consumption uses. The complex patterns of interdependencies involved in the production and consumption of water related services involves high potentials for conflict and require recourse to complex structures of organization.

### Conclusion

Economic development requires that human beings come to terms with a manifold variety of events in advancing human welfare. Every effort to control events and to transform events into economic goods and services requires a knowledge of those events and their transformation. Knowledge is the basis for arraying the means that are appropriate for producing desired results.

Our effort here has been to focus upon broad classes of events that create quite different problems for the organization of human efforts. Goods that are highly divisible and packageable so that they are amenable to possession, control and use by individuals pose quite a different problem for human organization than goods that are subject to joint use and consumption under conditions where exclusion cannot be attained and where one persons use and enjoyment does not subtract in equal proportions from another persons use and enjoyment. The case of the pure public good stipulates conditions where we would expect market failure to occur.

The conditions of joint consumption are apt to be accompanied by varying degrees of exclusion and conditions of partial subtractibility. As these conditions vary with variation in the size of the territorial

domain and the population affected by joint use and consumption we can begin to contemplate a large variety of potential public goods and services. As these conditions vary we can expect variations in the potential repertoire of institutional arrangements that are appropriate to the organization of human enterprises to facilitate their development and use.

The array of different types of goods and services that affect the potential welfare of people in a modern society will require recourse to an array of different types of institutional arrangements. In Chapter 6 we shall examine some characteristic patterns of institutional arrangements.

8/5/74

## THE ORGANIZATION OF INSTITUTIONAL ARRANGEMENTS IN A MARKET ECONOMY

Self-Interest, Goods and Constraints

Thomas Hobbes long ago wrote that the object of every man is his own good. In modern economic theory the same type of assumption is usually made that individuals will act to maximize their own net advantage, net profit, net welfare or net income. This assumption implies that an individual calculates benefits and costs and will choose the course of action which will lead to his own greatest net advantage, profit or well-being. That the object of every man is his own good, however, is an insufficient condition to assume either that each man will realize his own good or that a society of men will realize their joint good.

Hobbes also demonstrates how men living without legal constraint in a state of nature will evoke conflict where each man is at war with every other man. In Hobbes' state of nature, the bounty of nature is viewed as being subject to common use by each and every man; and all goods in nature's bounty are freely available for the taking. There would be no legal standing, no property rights--no mine and thine. Each would take what he could get and be prepared to defend what he had got. The principle of scarcity would lead to conflict and conflict, and in the absence of orderly ways to process conflict, would lead to war. This war in a state of nature is of a special type -- the war of each man against every man. Even organized warfare depends upon the operation of legal constraints.

The consequences of men living in a state of nature -- without legal constraint -- according to Hobbes would include the following:

... there is no place for industry; because the fruit thereof is uncertain: and consequently no culture of the earth; no navigation; nor use of the commodities that may be imported by sea; no commodius building; no instruments of moving and removing, such things as require much force; no knowledge of the face of the earth; no account of time; no art; no letters; no society; and which is worst of all, continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish and short, (82)

Total absence of legal constraint or total absence of a structure of authority relationships enables Hobbes to conceptualize a perfect state of non-development.

Hobbes' analysis has its counterpart in Kenneth Boulding's contemporary work on "The Pure Theory of Threat Systems." Boulding demonstrated how the structure of a threat -- If you (B) don't do X, I (A) will do Y to you -- is the presentation of a choice between two bads on the part of the one being threatened. The person being threatened (B) then is confronted with the problem of testing reality. The threat of doing Y will also involve costs for the threatener (A). The threat may be a bluff and the only way to test reality is to call the bluff. The individual being threatened (B) in testing reality is also free to pose a threat by indicating that if A does Y then B will do Z.

An exchange of threats has a tendency to escalate where the options go from bad to worse. Each individual in minimizing his own costs at each move in the exchange selects a strategy that, in fact, will amplify costs or generate a greater net evil. It is these dynamics that lead to the phenomenon of warfare which is a classical example of a negative-sum game where the greater the expenditure of effort by each of the combatants the worse off each combatant becomes.

The tragedy of the commons associated with a public or collective good which is used or enjoyed in common and where no single individuals

in a community can be excluded from enjoying the benefit if it is provided for some gives rise to a similar set of dynamics as we saw in Chapter V. Any one individual is free to withhold his contribution and to continue to enjoy the common good or service if it is supplied for others under a set of decision rules when involuntary payments cannot be imposed. If some succeed in pursuing a holdout strategy others will have an incentive to follow suit. As individuals pursue their own individual net advantage in such a situation they will act so as to deprive themselves of a satisfactory supply of those goods and services which they enjoy in common with a larger community of people.

If the goods available for joint use are supplied by nature as in the case of a natural water supply system, an oil pool, localized atmospheric conditions or other qualities of the environment, the same tragedy of the commons will occur when aggregate demand beings to exceed supply. Each user has an incentive to use the common resource freely without considering how his use or method of use imposes costs upon others. Free use by pumpers in a ground water basin, for example, will lead to the lowering of the water level as demands exceed supply.

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The lowering water level will increase pumping costs. If continued, some pumpers will be driven out of business with no compensation for the abandonment of their interests. The costs of enduring such deprivations may lead some individuals to have recourse to threats against other individuals who refuse to go along in joint efforts to ration supplies or joint efforts to develop supplementary supplies. As threats and counterthreats escalate among neighboring proprietors sharing the use of a common source of water supply their common wealth may again be eroded to the point where everyone becomes a loser.

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The condition that man is the object of his own good is not a sufficient condition to yield a supply of goods that will, in fact, realize his own good so long as scarcities prevail. Men are, instead, confronted with the task of devising institutional arrangements where each individual is required to take account of the interests of others as each pursues his effort to realize his own good in a world plagued by scarcities.

No single structure of institutional arrangements will suffice so that men can take account of each other's interests in supplying the array of goods and services that each individual considers important for his own well-being. Each individual has a demand for a diverse array of goods and services of different types. Many are highly divisible and are subject to separate use or consumption. Others cannot easily be divided and are used or enjoyed in common. But the goods and services enjoyed in common may vary radically in size and form. Some may be sufficiently small that they are enjoyed only by members of the same family. Others may be enjoyed by neighbors who share the use of a common water supply. Others may involve national and international communities of interest.

Different types of institutional arrangements will facilitate actions which take account of different sets of interests. As a consequence pursuit of developmental opportunities will be significantly affected by the array of institutional arrangements that are available to the people in any society for organizing patterns of relationships with one another.

All institutions can be viewed as decision-making structures for organizing transactions among different individuals. If transactions can be viewed as having potential value to each individual involved in the transaction the relevant community of individuals to be taken into account can be determined when each individual affected by the transaction has had a voice in the decisions that are taken. Goods that are divisible and subject to separate use and enjoyment will involve a much smaller community of interest than those which are used and enjoyed in common. We would thus expect different types of goods and services to require access to an array of different institutional arrangements. One type of institutional arrangement will facilitate the production, exchange and use of some goods and services but will fail to provide a satisfactory structure for the provisions of other types of goods and services. One type of institutional arrangement may suffice under conditions where supply exceeds demand, but other institutional arrangements may be required when demand exceeds supply. The fit of appropriate institutional arrangements to meet the demand and supply conditions for varying types of goods will require a knowledge both of the capabilities and limitations to be associated with different types of institutions.

The criterion that we consider appropriate to the choice of institutional arrangements is the one that yields the best results from the perspective of the different individuals who are involved in the set of relationships. Best can be viewed as the ratio of benefits over costs but benefits and costs are measurable in

relation to preferences. Solutions must thus take account of the interests and preferences of the individual involved. Where benefits equal and exceed costs such arrangements offer the prospect of being mutually productive relationships for each individual involved.

In this chapter we shall turn to the organization of institutional arrangements that are characteristic of a market economy. The basic element in market transactions involve property rights and contractual relationships. Such elements depend however upon other supporting institutional arrangements including common legal instrumentalities or governmental institutions, common media of exchange, standards of measure and information services, and a supporting infrastructure of other common facilities. When these elements in a market economy are met a market structure manifests self-regulating characteristics that enable each individual to take account of the interests of others-- to realize his own good while enabling others to realize their own good. Realizing the good of each individual in such circumstances will contribute to their joint good. Substantial alterations in decision making arrangements can occur and still maintain the self-regulating characteristics of a market economy. Those alterations when combined with changes in other elements comprising the essential structure of market institutions can significantly constrain or eliminate the self-regulating characteristics of a market economy. These changes will contribute to institutional weakness and institutional failure of market structures.

The Organization of Basic Institutional Arrangements in a MarketEconomyProperty Rights

In Chapter V we defined individual or private goods as highly divisible goods which are organized into units or packaged in a way that enabled individuals to exercise effective control over possession, exchange and use. Such goods are easy to measure and quantify. Others can be easily excluded from enjoying the benefit to be derived from such a good. One person's consumption precludes another person's consumption. Finally such goods are highly appropriable in the sense that they are easily subject to a definable and enforceable property right. One person's ownership and possession normally excluded ownership and possession by other persons.

A good which meets these characteristics can be considered to be a private or individual property. So long as the above conditions are met its possession and use affects only the interest of its possessor and user. Others can be excluded from its use and enjoyment so long as an appropriate structure of law exists to establish private property rights where individuals can distinguish what is his and what is someone else's. The law of property rights, in effect, allocates goods; and highly divisible goods are readily subject to separate and exclusive possession and use.

Private property rights involve an assignment of authority or decision making capabilities to individuals who have legal standing as the holder or possessor of those property rights. Property rights

enable individuals to decide what they will do with the good that is the subject of a property right. Such rights are subject to limitations in the sense that the law of property rights will not enable a property owner to use a good, for example, a hammer, to cause injury or harm to others. Other individuals are under an obligation or a duty to accede the rights of the lawful owner. But others are not under a duty to endure injuries or harms that may be associated with the unlawful use of a good that is subject to an individual property right. Thus, the possession, control and use of a good as a property right is subject to provisions in the language and structure of authority relationships which defines the decision making capabilities of an owner vis a vis others.

#### Contractual Relationships

The law of contract pertains to the authority of individuals to alter legal relationships with one another. A contract is a legal relationship that alters legal relationships, and, in this sense, is a primitive form of legislation. The terms of a contract become a mutually binding set of terms that individuals agree to in ordering their relationships with one another.

All contracts are based upon an assignment of authority that is associated with having independent legal standing or authority to enter into such relationships with others who also have independent legal standing. In a most general sense the law of contracts turns upon the law of persons in establishing the criteria that pertains to undertaking contractual relationships. A person must, for example, meet standards of competence in being able to know the probable

consequences of his actions, and the differences between right and wrong. A person who meets the criteria of competence is presumed to be the best judge of his own interest and to be liable for his own commitments, obligations and actions.

A contract then is a legal undertaking where each party agrees to terms for altering legal relationships with one another. A market transaction usually takes the implicit form of a contract where a buyer and a seller alter legal relationships by transferring ownership of a good that is subject to a private property right from one person to another.

So long as the good has the attributes of an individual or private good -- highly divisible, measurable, subject to exclusion, subtractible in consumption, and appropriable -- the relevant community of interest to a contractual arrangement is the buyer and seller. A contract to be valid must represent the agreement of each party entering into a transaction. The relevant decision rule then is unanimity among the parties entering into a contractual relationship.

A contractual relationship thus requires each of the parties to a contract to take account of the interest of the other. The act of taking account of the interest of the others is first realized through the condition requiring agreement. Misrepresentation and fraud would normally be grounds for invalidating a contract as not taking proper account of the interests of others. In addition contracts are based upon an assumption that an exchange occurs so that something of value is exchanged for something else of value.

If each party entering into a contractual relationship is presumed to be a competent judge of his own interest then the value gained would be expected to exceed the value foregone. Exchanges can occur when the subjective preferences of each individual for the goods exchanged diverge from each other. Under that condition each party will be better off for the exchange having occurred. Yet each will have taken the others interests into account by virtue of the value exchange for the good that each acquired.

A combination of property rights and contracts provide a decision making structure which enable a multitude of diverse individuals to attain an extraordinary variety of mutually agreeable exchanges and mutually agreeable relationships. However, those decision making arrangements will be insufficient to operate by themselves. They depend upon the existence of other supporting institutional arrangements.

#### Supporting Institutional Arrangements

Property right and contractual relationships provide the basic structure of decision making arrangements that is appropriate to a large number of transactions in a market economy. From our prior discussion of the language and structure of authority relationships we know that property rights and contracts will depend upon other decision makers to take appropriate actions in determining, enforcing and altering those rights and legal relationships. In addition the ease of transactions will be affected significantly by the existence of a medium of exchange, standard measure and the availability of information to individuals who engaged in market transactions.

This also includes reference to such infrastructures as roads and transport facilities, communication facilities and other types of facilities that are subject to common use and significantly affect market transactions.

#### Legal Instrumentalities or Governmental Institutions

The existence of a set of rules providing for a structure of property rights and for contractual relationships depend upon the existence of institutional facilities that provide for the formulation and maintenance of that set of rules. As the chain of market transactions become more extended with greater specialization in economic activities and with a larger array of goods and services that are made available in a market economy, the participants in market transactions become increasingly dependent upon the services rendered by governmental institutions for determining and enforcing legal relationships as conflicts arise. Law and the exercise of legal discretion by law officials becomes an increasingly important variable in development as specialization increases and the chains of economic transactions become more extended.

If each party to a transaction can have a high degree of confidence that the discretion of officials will be exercised in a consistent or reliable way that uses uniform criteria in construing the meanings of legal terms to like patterns of conduct and relationships, then each party has a basis for establishing stable expectations or a high level of predictability about his economic relationships with others. Uncertainty is reduced; and the potential cost or risks associated with uncertainty will be less. Under such circumstances, law and the exercise of legal discretion will facilitate development.

If the exercise of legal discretion is inconsistent or unreliable and is subject to substantial uncertainty, participants in market transactions will be less confident about being able to enforce their claim to a right. The potential costs or risks of enforcing performance would increase. Instead of being confident about his authority to decide on the basis of a property right, a proprietor would instead stand exposed in making claims against others. The exercise of legal discretion implies as James Madison has observed implies that " a power to advance the public happiness involves a discretion which may be misapplied and abused." (260) Corrupt officials can use laws as "traps for money" to enrich themselves rather than to facilitate stable economic transactions among individuals in an economy. Law and the discretion exercised by law officials can, in such circumstances, become an impediment to development rather than a facilitator of development.

As a consequence of this relationship between law and development, the structure of governmental institutions and their relationship to property rights and to contractual relationships need to be viewed as crucial variable in the development process. If individuals find the enforcement of property rights to be too costly in relation to the benefit to be realized, the basic integrity of any system of property law will itself be subject to serious erosion and degradation. The quality of any system of law depends upon the ease and confidence that potential litigants have in being able to command the services of impartial officials who discipline their discretion by reasoned analysis and explicit public criteria of judgement. A system of rights

based upon reasoned analysis and explicit criteria of judgment form the basis for a common public understanding by litigants and the larger community of people who rely upon rules to order their relationships with one another.

If the language of legal relationships is not tested by contention and litigation then that language system will lose its usefulness for ordering relationships among the individuals who are subject to those rules of law. Even worse those who have special access to the favor of officials are in a position of gaining decisions which support their claim to right and deny the claims of others who do not have special access to favorable discretion by officials. Any effective distinction between an unlawful and a lawful taking of property may depend solely upon who has authorized the taking. The performance of law officers in discharging their governmental prerogatives of determining, enforcing and altering legal relationships is a crucial variable in the development and maintenance of a market economy.

#### Common Media of Exchange, Standards of Measure and Information Services.

Economic transactions in a market economy depend upon the availability of a medium of exchange or money system, upon common standards of weights and measures and upon the availability of common sources of information to facilitate economic transactions. These services are subject to joint use by all participants in a market system and thus take on the characteristics of a public or collective good or service. Where the exercise of discretion in such matters is not subject to constraint and disciplined by explicit standards and reasoned judgment we can expect additional impediments to arise that

will deter individuals from the use of market transactions and encourage them to rely upon a subsistence economy.

#### Supporting Infrastructures of Other Common Facilities.

Apart from the availability of common facilities such as media of exchange, standards of weights and measures, and information which directly assist market participants in undertaking transaction with one another, the existence of other common facilities for organizing factors of production and for moving products that are the subject of market transactions will also affect the operation and performance of a market economy. The movement of products by the provisions of common road and transport facilities is of importance if market arrangements are to involve an extended flow of goods and services. The availability of common facilities to aid in aggregating common factors of production may also be important in the development of a market economy. Individual farmers, for example, may find it necessary to rely upon common drainage facilities where water is in abundant supply and common irrigation facilities where water may be needed for agriculture in an arid climate. The access to such facilities and the costs associated with the use of such facilities will have a significant effect upon the availability of goods and services to be exchanged in a market economy.

If the cost of constructing a road is to depend upon the voluntary agreement of every land owner through whose property the road traverses, each proprietor will have an incentive to secure the highest possible price. Each land owner would be free to hold out and attempt to capture a lion's share of the benefit that would accrue from the construction

of the road. The road becomes a viable facility for transporting products to market only so long as no one maintains a holdout position. So long as holdouts persist the failure to acquire a right of way would prevent the completion of the road as a common thoroughfare.

Each adjoining owner on the other hand would derive an advantage if a common standard of value could be established for acquiring the right of way necessary to construct a road. Costs would be reduced and if the road were supplied by a non-profit enterprise all adjoining proprietors would benefit by lower costs in transporting their products to more distant markets.

This same type of relationships applies to the organization of most public utilities. Public utilities are generally suppliers of services that depend upon the availability of common facilities where access by any one user is normally limited to one supplier. The problem of gaining access or acquiring a right of way is usually plagued by the same holdout problem associated with the provision of a public or collective good. The exercise of governmental prerogatives to acquire property by forced purchase through the power of eminent domain is usually necessary in establishing the feasibility of such enterprises.

Once established, such enterprises usually occupy a monopoly position in relation to the users who are served by the common facility. The costs of providing fully duplicate sets of common facilities may be so great that competitive suppliers cannot afford to enter into competition with an established supplier. Unless profits are limited to "fair" return or unless such enterprises are organized on a non-profit

basis they may be able to exercise sufficient power over the market to capture the economic surplus or potential profit that might otherwise be derived by their customers. Monopoly suppliers of essential utility services are potentially in a position to capture an economic surplus as a producer profit rather than share that surplus with its customers.

Public utilities, thus, supply goods and services that are subject to joint use where exclusion can be attained. The failure of such goods to meet the criteria of individual or private goods and services means that they are subject to provision with varying degrees of power over the market. Such market power is often accompanied by some measures of public regulation. This public regulation may occur in the form of rules constraining the operation of a private enterprise or by relying upon some non-profit form of public enterprise to supply the service. Public regulation may also come to be dominated by the interests of the industry being regulated. In that circumstances, regulatory authority can be used as an enforcement mechanism to police the assignment of boundaries to service areas, restrict rivalry among contending monopolists, and enforce cartel agreements.

#### The Supply of Market Conditions as the Provision of a Set of Public Goods or Services

Successful operation of market institutions thus depend upon the performance of common institutional facilities supplying 1) legal or governmental services to maintain and enforce legal relationships, 2) common media of exchange, standards for measure, and information services and 3) the infrastructures for other common facilities. Market economies do not occur "naturally" but require relatively

sophisticated political systems to supply the service infrastructures that make market mechanisms workable for extended chains of economic transactions. Markets can be used by individuals to exchange a large variety of goods and services but the supply of the conditions that facilitate the operation of market institutions is jointly used or consumed by each market participant. The supply of market conditions involves the supply of public goods or services even though those public goods or services are used to facilitate the exchange of private goods and services.

Self-Regulating Characteristics of a Market Economy.

If all of the above elements -- highly divisible goods, an appropriate structure of property rights, contractual relationships, an impartial and reliable legal system, and a reliable system of joint services for the maintenance and support of a market economy -- can be met, a system of market transactions will manifest substantial self regulating tendencies. The price paid in a market transaction represents an exchange of value where the buyer receives a good while surrendering a claim to the money that will buy an equivalent value of other goods and services. The seller receives money or credit which represents a potential claim upon other goods and services while the buyer receives the good for which he "spent" his money or credit.

Prices in a money economy represent a means for rationing goods among all potential buyers where each buyer determines how he will ration his income among the array of goods and services that are available to him. Price becomes the mechanism for coordinating demands

among all potential users of goods and services. If demand increases and supply remains constant we would expect an increase in price in order to balance out the various demands.

If conditions of entry are open to all individuals who wish to enter into transactions with one another, individuals will have incentive to produce goods and services where the price is such that they can derive a net advantage that more than covers the cost of producing the good or service. So long as producers are free to enter markets in competition with other producers, competition will have the effect of pressing prices toward the costs of production and narrowing the range of surplus or producer profit. An advantage of lower prices is gained for buyers, and the surplus between market price and what an individual might otherwise have been willing to pay accrues as a consumer surplus.

The competitive pressure among producers will give a short-term advantage to any producer who is able to reduce his costs of production. Each producer will have an incentive to adopt any technique that improves the productive efficiency of other producers. Producers who do not remain competitively viable will be forced out of business if they cannot lower costs of production to meet the price offered by their competitors. A "perfectly" competitive market will be a self-regulating mechanism balancing supply and demand where price becomes the equilibrating factor that requires each person to take account of the opportunities that are foregone in the choices that he makes. Prices also permit each person to take account of the interests of others so long as each party to a market exchange

calculates the costs of opportunities foregone. The rule of unanimity or willing consent inherent in contractual relations provides each person with an opportunity to say "no" if the terms of the transaction are not agreeable to him.

Market mechanisms enable people to negotiate an extraordinary number of mutually agreeable arrangements at relatively low costs so long as reliable market conditions prevail and goods are fully packaged or unitized. Market arrangements will be insufficient to take account of the interests of each individual when goods are not fully divisible but are subject to jointness of use among a community of individuals.

Altering the Structure of Decision-Making Arrangements in a Market Economy.

Our discussion of the organization of institutional arrangements in a market economy has referred to individuals participating in market exchanges where each transaction is the subject of a contractual relationships and the relevant aggregation rule is unanimity among the contracting parties. Increasingly, large-scale business firms are the parties to many market transactions and we need to account for differences in institutional arrangements between individual market transactions and the relationships involved in a large-scale enterprise organized as a business firm. Consideration also needs to be given to types of organization existing among enterprises producing for a market economy.

A distinguishing feature of a business firm is that relationships within the firm are organized by reference to a command structure where

many individuals assume the position of employees subject to the supervisory control and direction of an employer and his managerial staff. Instead of relying upon market transactions to organize

day by day activities, the simple business firms relies upon a command structure characteristic of bureaucratic organizations where subordinates act with reference to instructions from superiors. All employees are encompassed into an integrated command structure accountable to the employer as a single center of authority.

#### Coase's Theory of the Firm

R. H. Coase in a classical article on "The Nature of the Firm" offers an explanation for the introduction of a command structure characteristic of business firms within a market economy. The transaction cost of negotiating a contract for each and every transaction involved in the conduct of a business can assume substantial proportions where complex processes are involved in the conduct of a business. Under such conditions some individuals can reduce transaction costs if they entered into long-term employment contracts with employees where the employee agrees to obey the instructions of the employer in the organization of his work efforts. The employee is assured of longer-term employment and gains an advantage over the circumstance where his employment depended only upon short-term market transactions. Subject to the constraint of the long-term employment contract, the employee agrees to obey the instructions

of his employer in the organization of his work efforts. A business firm substitutes managerial control in the organization of its personnel in order to reduce decision costs represented by the expenditure of time, effort and foregone opportunities which would otherwise be spent on negotiating market transactions in aggregating each element among the factors of production.

Coase anticipates limits to the size of business firms when the costs of using a factor of production purchased in the market would be less than adding a new component to the firm to produce that added factor of production. A firm, for example, might employ the services of a lawyer through a market transaction rather than employ lawyers within its own legal division.

As more employees are added Coase also expects management or supervisory costs to increase. A point will be reached where the potential savings on the marginal employee by reduced transaction costs will not exceed the added management costs required to supervise that added employee. No net savings would, then, accrue to the employer. If a firm becomes too large, an employer might also fail to see some of his opportunities and not take best advantage of his potential opportunities in the allocations of his work force. Another entrepreneur with a smaller, more efficient firm would thus have a competitive advantage over the larger firm which had

exceeded the limits of scale economies in firm size by allowing management costs to exceed the savings to be realized through reduced transaction costs.

Coase's analysis gives reason to believe that altering the structures of decision-making arrangements in the organization of business firms can enhance efficiency in a market economy. Transaction costs can be reduced to a point by relying upon long-term employment contracts and management control in the allocation of the work force. The managerial "authority" of the employer is subject to the limitations inherent in the long-term employment contract. His discretion is also limited by the competitive pressure of the product market. Within those constraints an employer in a business firm can exercise authority over his employees. But, this authority is subject to substantial limits in a competitive market.

#### Alchian and Demsetz' Theory of the Firm.

A more recent article on the organization of business firms by Armen A. Alchian and Harold Demsetz emphasizes the advantage that derives from organizing production as the joint efforts of a team. A number of individuals working as a team may be able to produce more than the same number of individuals working separately. Increases in productivity may accrue both from specialization of efforts and from jointness of effort. Jointness of effort, in particular, can lead to significant increases in productivity when accompanied by large-scale tools of production which enable a few men acting jointly to produce at a higher level than many individuals acting separately.

This jointness of productivity inherent in teamwork suggests that each individual in the team shares in a proportionately higher yield by making use of the joint efforts of each of the other members of the team. Each contributes his own efforts but the productivity of the team is to be measured by the difference in the yield of their joint efforts as against the yield that each would realize by working separately. The difference represents joint return to the team as against the return that each would derive from working alone.

Alchian and Demsetz suggest that the problem of jointness in the productivity of a team of workers is subject to the same type of holdout or free-rider problem that is characteristic of public goods. The net increase in productivity is yielded by the common efforts of the team. Any one worker may find it to his advantage to shirk his efforts and functions as a free-rider in the production process on an assumption that his share of the joint product will remain constant. If some workers function as successful shirkers or free-riders we would expect others to follow suit. The productivity of the team would decline.

The proportioning of work in a team effort, monitoring of performance, and the proportioning of reward to performance become critical factors in increasing team productivity and in avoiding the free-rider problem. The productivity of the team will depend upon authority to reallocate works responsibilities, assign rewards for performance and impose sanctions in avoiding or reducing the magnitude of the free-rider or shirker problem. The organization of teamwork in a joint enterprise introduces the basic problems inherent in the structure of authority relationships in any collectivity. To

enhance the net yield of the joint efforts inherent in teamwork, the members of a team are required to relax the rule of unanimity and to assign authority to some member or members of the team who will now have authority to determine, enforce and alter working relationships within the team. The task of organizing firms as productive teams poses a problem in constitutional choice where the organization of decision making arrangements becomes one of constituting productive teams as economic enterprises.

A critical question in the constitution of productive teamwork turns to the issue of who should share in the net return derived from teamwork as against each individual working separately. Alchian and Demetz emphasize that the constitution of a business firm can be built through a structure of contractual relationships where one party is common to all contracts and that one party has a residual claim or property right to the earnings of the enterprise as a productive team. If we refer to this party as the team manager, the constitution for the team might be derived from contracts between the team manager and the members of the team. The team manager would also be responsible for all other contractual relationships in the factor and product markets and would be responsible for allocating work, monitoring performance, and assigning rewards to team members. As the owner of the residual claim or property right to the surplus earnings of the enterprise the manager would derive the surplus profit or bear the loss derived from the productivity of the team. Incentives would exist for the manager to enhance productivity and increase his net return. A business firm with a single person functioning as team manager might be characterized as a sole

proprietorship.

If a sole proprietor were to alter the constitution of a firm by selling shares in his residual claim or property right to the surplus earnings of the enterprise we would have added another component in the organization of a private corporation. Shareholders would then confront a problem where managers might now function as free-riders or shirkers with less concern about the profitability of an enterprise when shares to the profits are widely distributed. Shareholders to minimize their exposure to shirking by management would, in turn, reasonably insist upon a voice in the selection of management personnel and in management policies and to a right to sell their equity interest to other potential buyers. Exposure to cross-pressures of a market for shares or equity interests and to the competition of other managers willing to assume management responsibilities would reduce propensities for shirking or free-riding among managers.

The Alchian and Demsetz argument is consistent with the argument advanced by Coase. They anticipate increased productivity to accrue from teamwork in addition to savings realized by reduced transaction costs. They call particular attention to the problems of monitoring performance and of proportioning rewards to productivity. Where performance is relatively easy to monitor we would expect lower management costs. On the other hand, we would expect high management costs or a high potential for shirking where performance is difficult to monitor. These management costs and potentials for shirking imply limits to the gains that can be derived from teamwork. Such limits can be tested by the competitive viability of production teams when the outputs are marketable commodities sold in a competitive market.

The Alchian and Demsetz analysis might be extended to teams of teams where management teams would undertake the task of monitoring the performance of other types of production teams. Again the efficiency of such arrangements can be tested by their competitive viability in a competitive product market. Otherwise no reality testing mechanism would be available to determine when increasing management costs and potentials for shirking had exceeded the gains to be realized from team production.

So long as competitive pressures exist in the product market to lead producers to bid against one another in offering commodities to potential buyers at lower costs it is possible to conceptualize the nexus of interests involved in the organization of production teams as being constituted by a network of contractual relationships. Conceptualizing the possibility does not necessarily mean that all problems of bargaining will be resolved by unanimous agreement in which all parties consider their share of the net return to team productivity to be a reasonable or fair allocation. The net return is a joint product. A rule for equitable allocation of a joint product or a common good does not exist apart from the common agreement of the community of individuals who share interests in that joint product or common good. While common agreement is possible under the conditions of unanimity inherent in contractual relationships, common agreement will not necessarily occur among all potentially interested parties. Conflict is likely to occur and the conditions of unanimity that are applicable to contractual relationships may be insufficient to resolve conflicts among the individuals who share interests in the yield of a joint enterprise.

When conflicts cannot be resolved by unanimous agreement contractual relationships no longer suffice for dealing with the interests of individuals who participate in productive teamwork. Parties to unresolved conflicts will seek recourse to governmental decision makers in an effort to reformulate rules defining property rights in relation to the joint enterprise, reformulating the rules applicable to contractual relationships and in specifying the terms and conditions applicable to the chartering of organizations as joint enterprises. Modifying the structure of decision making arrangements to allow for organized teamwork in a market economy thus requires consideration of alternative patterns of corporate organization realized through the structure of legal arrangements which are developed as a matter of public policy by governmental authorities.

Alternative Structures of Residual Authority.

Alchian and Demsetz identify the critical center of authority in the constitution of a business firm with one party who is the common party to all contractual relationships involving team productivity. They identify the common contracting party as the appropriate holder of the residual claim or the residual property right to the joint earnings of the team. The common contracting party or manager becomes the common center of authority for determining the competing claims of all potential claimants who have an interest in the joint yield of the firm as a productive team subject to the constraint of market conditions affecting the relevant factor and product markets. Alchian and Demsetz' common contracting party is, in effect, the "sovereign" in a sole proprietorship.

The common contracting party need not however be the holder of the residual claim or property right to the net earnings of the enterprise. The residual claim as we noted earlier might be partitioned and sold as shares so that investors might acquire shares in those net earnings. Residual authority in the sense of holding the residual claims can be vested in shareholders composed of investors, workers, customers, suppliers, or governmental officials. The selection of managers and the policies pursued by managers would then be subject to the constraints exercised by those with residual authority for determining the operating policies of the enterprise.

The behavioral characteristics associated with different patterns of corporate organization among economic enterprises might thus be related to varying structures of authority depending upon how residual authority is distributed among different constituencies. An investor controlled corporation might be expected to place different constraints upon management decisions than a worker controlled enterprise, for example. Worker self-management in Yugoslavia would be expected to affect the conduct of enterprise in different ways than where investors are assigned residual control. Yet if both types of firms are competing in the same product market we would expect them to be subject to similar types of constraints.

The exercise of residual authority over the control of management policies will depend critically upon whether individuals holding residual authority have the capabilities or interest to monitor performance. Otherwise, shirking will occur among those exercising residual authority. It would also be reasonable to expect

shirking to occur among management and among the work force when shirking occurs among those who exercise residual authority. We could not expect very efficient performance from such enterprises. The way that residual earnings are distributed, the relative ease or difficulty in conveying residual interests and of gaining access to essential information for monitoring performance are variables which will significantly affect the exercise of residual authority and control over the performance of an enterprise.

Consumer controlled enterprises, or consumer cooperatives, for example, will probably work best where those who exercise residual authority are relatively highly concentrated in specific marketing areas served by such an enterprise. Dispersion increases information and communication costs and increased the probability for shirking among the members who hold residual authority.

When differences exist in the way that economic enterprises are organized, and when these differences are expected to affect conduct and performance, an opportunity also exists for the institutional analysts to determine whether such expectations are borne out by experience. Carefully controlled comparisons of differently-organized production efforts where different production teams are performing the same type of production tasks should permit controlled observation to determine whether the expected differences are evoked in the performance of the different enterprises. Rhetoric about capitalism, communism and socialism does not significantly modify the tasks involved in producing wheat, milking cows, baking bread or in manufacturing tractors. How teamwork is organized, monitored and rewarded so as to realize greater productivity and reduce the costs of shirking are universal problems in all organized efforts. We need to know how the distribution of authority in the organization and conduct of teamwork affects performance.

Knowledge derived from inquiries about different patterns of organization in the constitution of economic enterprises would, in turn, enable entrepreneurs and public decision makers to select or chose from an array of possibilities. Given the constraints of particular circumstances, one form of enterprise might be expected to yield "better" results than another form of enterprise depending upon the evaluative criteria used.

#### Alternative Policy Constraints

The "constitution" of economic enterprises can also be significantly affected by the exercise of public authority in redefining the bargaining power among the different participants who function in the nexus of contractual relationships maintained by any enterprise. Bargaining power may be redefined by altering the assignment of rights, duties, liberties and exposures of the parties who regularly maintain contractual relationships with one another. Bargaining power may also be effectively modified by limiting or expanding access to remedies available through public authorities. This may be done formally by changing the rules of access to remedial actions. Such modifications may be accomplished effectively by the decisions taken by those who exercise authority in granting or denying remedies.

Rules bearing upon "limited liability" corporations imply that the potential liability of those exercising residual authority and holding claim to the residual earnings of a corporation is subject to limits. These limits imply that other participants who function in the contractual nexus are limited in the claims that they can

make upon those who exercise residual authority in a corporation. Limited liabilities for one set of contracting parties implies increased disabilities for other contracting parties.

Provisions of law relating to unionization and collective bargaining modify the structures of relationships pertaining to the negotiation of contractual relationships between workers and employers as elements in the constitution of productive team relationships. The work force, or elements within the work force, under conditions of collective bargaining negotiate as a team in working out contractual relations with the management of the enterprise. Opportunities for individual workers to function as free-riders or shirkers and not contribute to the joint efforts involved in collective bargaining poses difficulties in organizing collective bargaining efforts. Closed-shop or union maintenance contracts are efforts to "solve" that problem. Similar opportunities exist for individual union members to function as free-riders or shirkers in monitoring the performance of collective bargaining agents. Such circumstances may in turn provide opportunities for collective bargaining agents to shirk in the exercise of their bargaining efforts. Unless viable competition exists in the product market, such opportunities for shirking may generate significant inefficiencies in the organization of work efforts.

Similar opportunities exist to modify bargaining power in product markets. Rules defining fair trade, providing remedies for fraud, and for the enforcement or non-enforcement of liability for performance have a significant bearing upon the terms of trade in product markets. These provisions of law will affect the nexus of contractual relationships among market participants. They affect the basic allocation of authority to those who function as the common contracting

parties for the organized teams participating in a market economy.

Finally, provisions of law can have a significant bearing in determining who has access to special prerogatives and bargaining positions in a market economy. Conditions applicable to the chartering of corporations can significantly constrain access to authority for organizing joint enterprises, for securing limited liability, and for the exercise of special prerogatives authorized in law. Exclusion from access to such prerogatives may stand as an effective impediment to the pursuit of economic opportunities.

### Conclusion

The institutional arrangements in a market economy enable large numbers of individuals to work out an extraordinary variety of mutually agreeable transactions and relationships with one another. Market structures, thus, have an essential place in the organization of economic relationships in any highly developed economic system.

Such systems work well in facilitating transactions and economic relationships where the goods and services have the characteristics of an individual or a private good. They do not work well in proportioning costs and organizing relationships where goods are subject to a jointness of use or consumption. When exclusion cannot be attained we would expect the institutions of a market economy to manifest serious problems in failing to supply such goods and services.

Market institutions also depend upon relatively sophisticated legal systems with well developed laws of property rights and contracts and well developed legal institutions that are capable of enforcing such laws in reliable and consistent ways. Well developed legal institutions depend upon publicly knowable criteria and procedures for

determining the meaning of legal terms. The failure of such institutions to exist and to make their services readily available to market participants will significantly increase costs of doing business and reduce the willingness of people to maintain economic relationships with strangers.

The relationship of law and of institutions concerned with determining, enforcing and altering legal relationships become increasingly important as business enterprises are organized as teams engaged in joint productive efforts. The constitution of such teams through the allocation of residual authority and the proportioning of authority among those who maintain contractual relationships with team managers become extraordinarily complex patterns of legal relationships. Opportunities to exploit such relationships by shirking and shifting costs to others are substantial. If team efforts are to work to the advantage of everyone involved in the network of relationships the existence of sophisticated legal and political institutions is a necessary precondition.

In addition, the viability of economic enterprises operating in a market economy will be significantly affected by the provision of common facilities that serve as essential infrastructures for each enterprise. Roads and transport facilities, water supplies, communication facilities, and a variety of such common service facilities are important factors affecting the success of each enterprise operating in a competitive market economy. Such services are not effectively provided under competitive market conditions and require recourse either to public provision or provision under conditions of public regulation. Again the performance of the public sector significantly affects the potential performance of a market economy.

In Chapter VII we shall turn to an examination of the organization of institutional arrangements in a public economy. The structure of events inherent in a public or collective good situation requires recourse to quite different institutional arrangements than those characteristic of a market economy.

## VII

### THE ORGANIZATION OF INSTITUTIONAL ARRANGEMENTS IN A PUBLIC ECONOMY

#### Introduction

Property law and contract law plus the supporting structure of public or governmental institutional facilities provide the essential elements in the organization of a market economy. These institutions will fail to provide a satisfactory array of public goods and services. The defining characteristics of public goods and services as we indicate in chapter V is joint use or consumption where a number of individuals use or enjoy the benefit to be derived from a good or service simultaneously. Some joint consumption goods are subject to exclusion in the sense that access to the good or service may require the payment of a toll, admission or access fee before an individual can participate among the community of users that jointly use the service. Such goods or services can be supplied by either private or public institutional arrangements. The choice of which type of institution to rely upon will be affected by calculations that apply to particular types of service.

The more difficult problems in the design of institutional arrangements for a public economy apply to joint use or consumption goods where exclusion is infeasible for either technical or economic reasons. Exclusion becomes technically infeasible when no form of packaging is available for excluding individuals from using a good or service. The technology for controlling the atmosphere is so relatively limited that exclusion becomes technically infeasible except in air-conditioned buildings. In other instances exclusion may be technically feasible but sufficiently

costly that costs of exclusion exceed benefits and exclusion is economically infeasible.

Where exclusion is infeasible and goods are subject to joint use and consumption, then the benefits of such goods are available to anyone in the relevant domain to enjoy freely. We would expect market institutions to fail in supplying such goods and services because the producer could not derive a payment that would cover his costs. The user can hold out since the good is freely available to him if it is produced for anyone in the relevant domain. An entrepreneur seeking to supply such a good or service on a purely voluntary basis would fail unless he can "force" the beneficiaries to pay.

Individuals who are concerned with the development of an enterprise that is capable of supplying a public good or service are confronted with quite a different problem in the design of appropriate organizational arrangements than individuals who produce marketable commodities. The exchange relationship in supplying a public good or service involves a community of individuals. Contractual arrangement will not suffice to maintain such extended exchange relationships. Instead, the individuals who wish to organize a public or collective enterprise are confronted with a problem of constitutional choice where some will be authorized to take decisions which can "force" or "compel" others to pay their proportional share of the costs for the operation and maintenance of such an enterprise.

The process of constitutional choice in forming a public or collective enterprise may, however, be based upon substantial unanimity if the community of users have reason to believe that such an enterprise can be organized under terms and conditions where benefits will exceed costs for

each person involved. "Substantial" unanimity does not mean absolute unanimity because the marginal holdout would threaten the viability of the enterprise.

In the following discussion we shall consider several factors associated with the nature of public goods which must be resolved in organizing a public or collective enterprise. The particular solutions to these problems of organizing a public undertaking can vary significantly in form. We would expect these variations in form to affect the performance of public or collective enterprises. Some of these variations will be considered. We shall then turn to problems of public sector organization where a large array of public goods and services are being supplied to many different communities of users.

Elements in the Organization of Public  
or Collective Enterprises

Territoriality and the Domain of Jurisdiction

The characteristics associated with public goods imply that the community of people who make joint use of some good or service will be located in a domain that will have a spatial or territorial dimension. Several different aspects of territoriality can be identified. First is the field of effects that is associated with the benefits that are to be derived from some structure of events. These may be quite precise or may be quite ambiguous as indicated in chapter V. The field of effects may be natural in dealing with events in the environment; or cultural in the sense of devising some artificial facility to serve a community of people. Boundary conditions which internalize that field of effects would be the appropriate set of boundaries.

The community of people who are affected by that field of effects is another aspect of territoriality that pertains to the organization of a collectivity. The community of people who are affected might be defined as the relevant public. The field of effects pertaining to a particular facility or resource need not have the same boundaries as the benefitting community. Water from a ground water basin, for example, may be transported outside the local watershed or the users of a highway need not be residents of an area that is immediately tributary to that highway.

A third aspect of territoriality can be specified if we refer to the political jurisdiction that is taken into account in making decisions about the management and operation of the enterprise responsible for supplying the relevant public good or service. This political jurisdiction might be defined as the relevant political community.

A fourth aspect of territoriality would establish the domain that would be subject to the levy of assessments or taxes. Again the assessment or taxing area need not conform to the same territorial domain represented by the political community, the public or the field of effects that are associated with a public good or service.

Mancur Olson has formulated a principle of fiscal equivalence which implies that the costs and benefits can be internalized if these four different aspects of territoriality were to coincide with one another. A failure to attain a good fit will have consequences that can be anticipated. If the taxing area is less than the benefitting public, some beneficiaries will function as free riders and will not bear their proportionate share of the cost. If the political community includes a large unaffected population, extraneous factors will be introduced into

the decision making process, and the costs of decision making are likely to become unnecessarily high. If the affected public is less than the taxing area, some taxpayers may be assessed cost for which they receive no benefits.

Establishing the territorial boundaries that define the domain of jurisdiction for a collectivity is a problem of substantial significance in affecting the potential success of such a collective enterprise. Procedures bearing upon incorporation, annexation, merger, separation and disincorporation involve decisions about boundary conditions and territoriality. Requirements of petition by potential beneficiaries and judicial remedies for those who fail to benefit are among the procedures that can be used to secure appropriate decisions on territoriality and boundary conditions.

#### Scope of Jurisdiction

Since fields of effects pertinent to different public goods will vary, a solution to the problems of territoriality and domain of jurisdiction for some public goods and services will not apply equally well to all different public goods and services. A solution to the problems of territoriality and domain of jurisdiction will as a corollary involve the specification of the scope of jurisdiction in the sense of specifying the type of public purposes or public services that are to be the objective of collective action. General assignments of authority that are unlimited in scope can be expected only in conjunction with general governmental jurisdictions which assigned prerogatives over determining, enforcing and altering legal relationships. Such law-making and law-enforcing functions may be general, but authority to produce particular public goods and services must be related to particular production

functions and the control over discrete sets of events in the working environs. Jurisdiction over water law, for example, is quite different than jurisdiction over discrete water works that produce a particular array of goods and services some of which are subject to joint use and consumption.

#### Allocation of Authority for Collective Decisions

Since a community of individuals is involved in the joint use or consumption of public goods and services, a critical issue in the organization of any public or collective enterprise involves the allocation of authority among the individuals comprising such a collectivity. It is this problem that requires recourse to constitutional choice. If the community of individuals is to act in concert with one another, they will require recourse to a set of decision makers who have authority to act on behalf of the collectivity. This set of decision makers will be assigned prerogatives where sanctions can be mobilized to enforce the payment of taxes and conformance to rules. The problem of constitutional choice in the organization of a public or collective enterprise is similar to that involved in the design of governmental institutions. Fundamental inequalities will exist where some are assigned prerogatives that involve the legitimate use of sanctions which can be used to impose deprivations upon others.

The charter for a self-governing public enterprise can be formulated upon much the same principles as the constitution for a democratic society where authority is distributed so that officials are subject to the terms of a charter as enforceable rules of law. Residual authority in a public or collective enterprise will reside with those who have authority to formulate or revise the basic provisions in the charter of such an enter-

prise. This residual authority may, for example, reside in the citizen-consumers who form the community of users.

If residual authority is to reside in the citizen-consumers who form the community of users the charter for a public or collective enterprise would 1) specify defining criteria to establish the standing of those citizen-consumers as decision makers, 2) specify their authority in a) proposing and ratifying changes in a charter, b) the selection of officials who would act as agents on their behalf, c) reviewing, monitoring, approving or disapproving actions taken by those officials as agents, and 3) specify remedies that are available to individual citizen-consumers to enforce their individual claims or protect their individual interests in relation to the actions taken on behalf of the collectivity. Residual authority can be exercised by citizen-consumers only to the extent that they have the information, authority and effective capabilities to monitor the decision and actions that are taken by those who manage the production team that is engaged in the provision of the public good or service.

The charter for a public or collective enterprise will also specify the decision making authority of all different sets of officials that are assigned special prerogatives to conduct the affairs of the enterprise. In the United States, charters for such enterprises typically call for a board of directors to exercise continuing policy direction and monitoring responsibilities on behalf of the constituent community of citizen-consumers, an assessor to establish the basis for assigning charges and taxes, a treasurer to manage fund, an auditor to maintain control of accounts, an attorney to advise on legal relationships and a general manager to exercise the authority of serving as the key contracting party in putting together the factors of production, allocating responsibilities among team members, monitoring performance and meeting the terms and conditions established

by the constituent community of citizen-consumers and those who act on their behalf. The charter serves as a basic contract for defining the residual authority and special prerogatives of those who act on behalf of the collectivity. If the full community of individuals who are affected by the provision of the public good or service is taken into account in the provision of a charter, then that charter can be construed as being the equivalent to a set of contractual arrangements which have internalized relationships so that the set of quid pro quo exchanges are maintained within that community of individuals.

#### Taxing and Fiscal Authority

When exclusion is infeasible in the provision of a public good or service a reliance upon normal market arrangements where an individual buyer is required to pay a price to acquire a good or service can no longer hold. Instead authority must be established for assigning and collecting charges that are levied against all members of the benefiting community. Each member is not allowed to determine whether he will pay for the good or service. The viability of a public or collective enterprise is increased if holdout position can be foreclosed and each potential beneficiary can be required to bear his proportionate share of the cost. So long as benefits exceed costs the provision of goods subject to joint use will be to the economic advantage of each individual and to the community of individuals who share in the joint use.

Taxation or coerced pricing is however plagued with difficulties. No assurance exists that taxes will be proportioned to benefits. The burden of taxes may be allocated so that some assume a disproportionate share of the costs in relation to the benefits that they enjoy. Others may derive disproportionate benefits while assuming a small burden for costs.

Proportioning or distributing costs among the potential beneficiaries involves distributional inequities when done unfairly and costs are not proportioned to benefits.

Disaggregation of tax payments from the use or enjoyment of a public good or service may also mean that the good or service is made freely available for anyone to use. The user would have incentives to use the good as though its marginal value approximated a zero price. Public facilities may thus be subject to excessive use with misallocation accruing from overinvestment and overdevelopment. If water supplies are provided as a charge against the general treasury paid from general taxes, each water user, for example, will have little incentive to economize in the use of water or in keeping plumbing in good repair. Where water is metered and revenues are paid for the amount of water used, demand upon water supplies drops dramatically. Where goods and services are freely used and where use is disassociated from the payment of costs for the opportunities foregone the consumption and supply of quasi-public goods is likely to result in allocational diseconomies or allocational inefficiencies.

These difficulties inherent in the exercise of taxing authority suggest that a community of citizen-consumers concerned with constituting a public or collective enterprise would want to give careful attention to the provisions of a charter or constitution specifying authority to tax, to make public expenditures and to incur bonded indebtedness. Such provisions might specify the particular forms of taxation and limitation upon the exercise of taxing powers. Where compulsory user charges or use taxes that directly proportion costs to benefits can be relied upon, constitutional decision makers might specify reliance upon such taxes and place correlative limits upon the use of other types of taxes. Limits upon the creation of indebtednesses and the requirement of special authority

to create indebtedness is a way of constraining the exercise of taxing authority and to assure public scrutiny of major expenditure decisions. Appropriately designed provisions bearing upon the exercise of taxing authority and authority to make major expenditure decisions can provide significant constraints upon the tendencies toward distributional inequities and allocational inefficiencies.

#### Articulation and Aggregation of Demand

The use of taxes or coerced prices means that everyone within the jurisdiction of a public or collective enterprise is required to pay a proportionate share of the costs in operating the enterprise. Payment of taxes provides little or no information about the preferences or demands of the users of a public good or service except to indicate their unwillingness to endure criminal sanctions and forced dispossession of property for non-payment of taxes. The payment of a price in exchange for a marketable commodity on the other hand permits a buyer directly to express his preference or demand by his willingness to surrender money value for a commodity.

The absence of a direct quid pro quo relationship under conditions of a market exchange means that alternative mechanisms must be created that require producers of goods subject to joint use and enjoyment to take account of user preferences if consumer demand is to be calculated in decisions to supply public goods and services. Since the good is subject to joint use and cannot be partitioned so as to satisfy the demands of each user, mechanisms must also be created for translating or aggregating individual preferences into a collective expression of preference that will tend to satisfy a calculable range of preferences.

A standard method of articulating demand among citizen-consumers of a public good or service is to select officials who are responsible for making collective decisions about the supply of a public good or service on the basis of elections where each citizen-consumer is assigned a vote. A vote provides the citizen-consumer with an opportunity to express his preference among the candidates being considered for a position and provides candidates with an opportunity to formulate a set of policy positions which will appeal to the preferences of a sufficient number of voters which, if he is successful in formulating his appeal, will secure his election to office.

A combination of factors--the form of franchise or vote, the form of representation, conditions of candidacy, and the aggregation or voting rule for determining the successful candidate--will affect the reciprocal relationship between voters and representatives. This reciprocal relationship between representatives and constituents provides a means for translating voter preferences into collective decisions about the supply of public goods or services. Variations in each of these factors can be expected to have some effect upon the articulation and aggregation of demand for public goods and services, but each factor will interact with the other factors in the interdependent relationships between those who vote, those who are elected and the decisions that each takes in selecting the alternatives that are available for choice.

The particular forms of franchise, modes of representation, conditions of candidacy and voting rules for determining a choice will be among the provisions contained in the charter for a public enterprise engaged in supplying a public good or service if traditions of democratic control are to be exercised in collective choice. Such provisions may well be

supplemented by other provisions requiring referenda on basic issues, allowing for initiative legislation to be decided by franchised voters and permitting franchised voters to recall elected officials. Requirement of public notice and public hearings may be supplementary methods to allow individuals to express preferences regarding collective decisions.

The existence of such mechanisms to articulate and aggregate preferences and to translate those preferences into collective choices about the level or quality of public goods or services to be supplied means that those responsible for the management of a public enterprise are subject to political constraints that provide public entrepreneurs with a proxy for demand as expressed in a market. Preferences can only be known as they are expressed in some overt act of choosing. In the absence of exclusion, alternative mechanisms must be created in the organization of public enterprises if entrepreneurs are to be required to calculate preferences in taking account of demand for the good or service that is being produced.

#### Proportioning of Supply Among Diverse Users, Uses and Patterns of Use

If we assume that a basis exists for financing the supply of a public good or service and methods are available for articulating and aggregating preferences into an aggregate demand that is translated with a collective decision to supply a public good or service of a given level or quality, a further problem arises in proportioning that supply among the various users who make joint use of the good or service. If different users make diverse or multiple uses of the good or service, then the supply will need to be proportioned among those diverse uses or patterns of use. As we noted in chapter V conditions of partial subtractibility are likely

to apply to most public goods and services so that some uses or patterns of use will impair other uses or patterns of use. Yet public goods and services cannot be packaged in a way that allows for full subtractibility in each users consumption or use.

The absence of exclusion and the condition of partial subtractibility means that a public good or service is relatively accessible for anyone to use or enjoy without each individual being required to calculate the foregone opportunities that are inherent in his use or patterns of use. This condition can lead to misallocation or allocational inefficiencies as we have already noted. The condition of partial subtractibility means that one use, which can impair or subtract from other uses, will cause an erosion or degradation in the value of the good or service for other users.

The difficulty in handling the allocational problem is apt to mean that the supply of public goods and services are alternatively confronted with problems of overinvestment or congestion. If sufficient supply is made available to satisfy all demands at zero price, overinvestment and overdevelopment are likely to be the consequence. If expenditure decisions are made to take account of the value of money for alternative uses and services are supplied at zero price, we would anticipate high demands in relation to supply and we would expect congestion to occur.

In the absence of market prices or use taxes as proxies for market prices, the condition of congestion gives rise to a problem of rationing. One form of rationing is to rely upon queuing where time spent in waiting one's turn is a means of calculating the opportunity costs inherent in the level of demand for the good or service. Forms of reationing other than queuing may be relied upon either to constrain demand or to proportion the available supply to use by the allocation of quotas or shares to each user.

An alternative method for proportioning use among potentially conflicting uses and patterns of use is to partition uses and patterns of use in accordance with a system of rules that allows each user or set of users to use or enjoy a common facility as a common good or service by acting in a way that will minimize conflict with other users and patterns of use. Rules of the road partition patterns of use among pedestrians, automobile drivers, truck drivers, etc. Load limits, size and weight of truck are among the rules that partition pattern of use so that truckers limit their use in relation to the interests of other users. This means that any public or collective enterprise which supplies a good or service that is subject to joint use by a community of users will need to rely upon rules for ordering conduct among the community of users so that potential conflicts among different uses and patterns of use are minimized.

The constitution of a public or collective enterprise will thus require reference to authority to formulate rules of conduct, to determine the application of such rules and to enforce rules in ordering patterns of conduct among those who make use of public facilities. Such rule-making and rule-enforcing arrangements need not be confined to the decision making arrangement internal to a public or collective enterprise but may include recourse to the legislative, judicial and executive remedies that are available through other instrumentalities of government.

The requirement of rule-ordering as a means of partitioning uses and patterns of use among a community of users making joint use of a public good or service implies that managing the supply of a public good or service is critically affected by the degree of common understanding and the sense of common agreement among the community of users that rules and regulations are reasonably related to the existential situation in which

they find themselves and a realization of values that enhance the joint well-being of the individuals involved. In the absence of such conditions actions designed to advance the welfare of others may be perceived as a source of unreasonable impositions and deprivations.

Reliance upon rules to order patterns of conduct among those making joint use of a good or service implies that those who are subject to rule become subjects and those capable of making and enforcing rules become rulers. Thus, the relationship between citizen-consumers of public goods and services to those who supply such goods and services may become one of rules, rulers and subjects. The organization of public or collective enterprises is thus confronted with all of the problems involved in the organization of a system of government.

#### Remedies

The organization of public or collective enterprises to supply public goods and services where exclusion is infeasible are subject to a wide variety of institutional weakness that can lead to high costs or injuries being imposed upon individuals. If such costs or injuries are to be constrained, the constitution of public or collective enterprises will need to be subject to provision for remedies where individuals can seek redress for those costs or injuries that may be imposed upon them. In appropriate decisions regarding boundaries establishing the territorial jurisdiction, inappropriate constraints upon the scope of authority, inappropriate allocation of authority for taking collective decisions, for exercising powers of taxation, the articulation and aggregation of demand and the proportioning of supply among diverse uses and patterns of use are among the conditions which can be expected to generate unreasonable costs or injuries to individuals affected by collective action.

The availability of remedies pertaining to potential sources of institutional weakness or institutional failure will depend upon the constitution of decision making arrangements among other instrumentalities of government. Some political systems may provide little opportunity for remedies other than an appeal to a superior administrative authority. Other political systems may provide for a variety of constitutional, political, legislative, judicial and administrative remedies.

#### Management of Supply

At the core of any public enterprise is the performance of some production function which will use factors of production to generate some good or service as an output. In the case of a public good or service production will, by definition, affect a community of individuals who jointly use or enjoy that good or service in common. The production of a good or service that is being jointly consumed by a community of individuals will frequently involve the efforts of a number of individuals who function as a team in supplying that good or service. Where teamwork is required a team manager or entrepreneur becomes the key contracting agent in proportioning factors of production, in allocating work among team members, in monitoring performance of individual members and team performance and in allocating rewards that are proportionate to effort. The argument advanced by Alchian and Demsetz applies to a public manager or entrepreneur as well as to a private manager or entrepreneur except that a public entrepreneur rarely faces the task of meeting product competition in a sellers market and of making a product available that will satisfy buyers who are free to maintain an arm's length relationship, say "no" and patronize a competing producer.

In the absence of a product market, the charter or constitution of a public enterprise and the more general structure of remedies available through other governmental institutions establish the terms and conditions within which public entrepreneurs calculate their risks and opportunities. In the absence of constraints, a public entrepreneur may be able to exercise the prerogatives of an unconstrained monopolist who is potentially capable of imposing criminal sanctions and seizing property for non-payment of taxes. With appropriate constraints a public entrepreneur will pursue those alternatives that will accrue benefits and advance the common wealth and prosperity of the community of people who are being served.

The difficulties inherent in measuring a public good or service and of assigning a value for the worth of a public good or service in the absence of market prices means that the tasks of public management are rendered more difficult than managing a private enterprise. A public manager cannot know when the costs of managing the last added employ equals or exceeds the savings to be realized in relation to alternatives available in the market. If he is unable to measure output, a public manager cannot determine the contribution of any member of the production team or its yield, and he will find it difficult to proportion rewards to effort. Shirking in public employment is difficult to prevent.

Furthermore, rewards to public managers are rarely allocated in relation to the net yield of the production team but are usually allocated in proportion to the size of the work force and to the size of the budget. Such conditions, unless effectively constrained by the authority exercised by citizen-consumers and their representatives, are likely to generate incentives for inefficient solutions among public enterprises.

Effective operation of public enterprises where management is constrained to search out efficient solutions to production problems will depend upon the capacity of public managers to monitor performance, and upon those vested with residual authority--the community of citizen-consumers and their representatives -- to monitor the public managers and the performance of the production team supplying a public good or service. This condition brings us back to the importance of territoriality and the establishment of appropriate boundary conditions in organizing public enterprises. If boundaries are appropriately drawn so that the community of individuals that share in the use of a joint good or a joint service can have reference to a common pattern of experience in relation to those who are assigned responsibility to take collective decisions, then there is a possibility that citizen-consumers and their representatives can effectively monitor the performance of a public enterprise.

Size becomes a critical variable in monitoring performance. If task environments vary so that different production strategies are required to proportion supply to demand then we would expect management failures to occur in the operation of public service agencies. If demands vary and if the constituent population is large, we would expect mechanisms for the articulation and aggregation of demands to lose or filter out essential information. Where serious congestion arises in the use of public facilities, we would expect some users and some patterns of use to drive out other users and patterns of use. The aggregate value of public goods and services will then be subject to serious degradation or erosion. Reliance upon new managers to police other managers may simply escalate the costs of management and diminish the resources available in proportioning other factors of production.

Variant Solutions in the Constitution  
of Public Enterprises

Considerations of territoriality, scope of authority, allocation of authority, articulation and aggregation of demands, proportioning of supply among users, uses and patterns of use, remedies and management of supply are all subject to variant solutions. Our prior discussion has approached each of these considerations from evaluative criteria of proportioning costs to benefits and of supply to demand. By relying upon a theory of constitutional choice that is consistent with that formulated by Alexander Hamilton and James Madison, it is possible to conceptualize a set of relationships where a collectivity can be constituted that will internalize the relationships inherent in the supply of a public good or service. Under those conditions a quid pro quo relationship can be sustained where it is possible to proportion benefits and costs and supply and demand among the individuals associated with that collectivity both as producers and as consumers so that each individual's well-being and their joint well-being are advanced.

Conceptualizing that solution does not foreclose the possibility that other solutions can exist. The condition of voluntary agreement or willing consent must be relaxed and correlative provisions must be made to compel beneficiaries to bear the necessary costs associated with the supply of a public good or service subject to joint use where exclusion is infeasible. That condition can be met under a wide variety of conditions.

None of us have the knowledge or experience to begin to specify the range of variations which exist among different forms of public or collective enterprises. We do know that the essential language and structure of authority relationships requires access to decision making arrangements

where words can be given the force and effect of law. Such conditions imply fundamental inequalities in decision making capabilities and those inequalities can be constrained only by reference to other authorities and to the structure of remedies that may be afforded by constitutional law. Under those conditions, we assume that the constitution of any public enterprise can be analysed by determining the particular structure of authority relationships that exist in attaining solutions to each of the elements that require consideration in the constitution of a public or collective enterprise. If those elements are taken together with a knowledge of the production function being performed, we assume that it will be possible to estimate the probable effect of a particular set of institutional arrangements upon the well-being of representative sets of individuals as well as upon the collective well-being of the community of individuals involved. Such assumptions can only be tested by experience.

If collective enterprises are not constituted in a way that facilitates the well-being of different sets of representative individuals as well as the aggregate community of individuals involved, and inquiry into the essential structure of any collective enterprise will seek to elucidate the solutions attained in relation to each of the elements involved in the organization of a collective enterprise. Such an assessment should enable the observer to identify patterns of dominance that foreclose structural modifications which will move toward a better balance of benefits and costs and of supply and demand. If such modifications do not occur, one would infer patterns of dominance which foreclose such possibilities. Under those conditions, the organization of a collectivity will not possess error correcting capabilities, and we can expect the pattern of organization to be subject to serious problems of institutional weakness and institutional failure.

The Organization of Relationships Among  
Multiple Enterprises in a Public Economy

If a variety of different potential public goods and services exist in many different sizes and forms, human societies will be confronted with the task of organizing human activities to realize these potentialities. To produce or to control for some result requires that the factors of production or the means be arrayed so that the desired transformation or control of events be realized. In a world with a multitude of potential public goods and services which affect the potential well-being of diverse communities of individuals, some forms of organization will be required in any public economy for organizing relationships among communities of individuals who jointly use such goods and services and teams of individuals who supply such goods and services.

Potentials for conflict among individuals engaged in the supply of public goods and services are high. Boundary conditions may be such that external effects abound. If the effects are negative, conflict is apt to arise from those who are adversely affected. If the external effects are positive, problems may arise in developing arrangements for fiscal transfers in order to assure an appropriate level of expenditure. Uncompensated positive externalities are apt to result in levels of underinvestment in such externalities if they are a matter of regular occurrence. The producer has little incentive to make investment to yield an optimum flow of positive externalities. Conflicts over the imposition of taxes, the enforcement of rules and regulations and over the quality of facilities and services being supplied publicly are among the other potential difficulties that arise in a public economy. These conflicts will require recourse to governmental officials who exercise authority over the

determination, enforcement and alteration of legal arrangements bearing upon the conduct of such enterprises in any society.

Since the conduct of most public enterprises involves essentially the same structure of authority relationships that is inherent in any system of government--i.e. unequal allocation of decision making capabilities, taxing authority, rule-making authority, etc.--pattern of organization among multiple enterprises tends to derive from the solution attained to the problem of constitutional choice. Where sovereignty resides in a single center of authority that claims to exercise ultimate and unlimited authority over domestic political affairs the predominant tendency is to rely upon a heirarchy of authority in an integrated chain of command accountable to that central authority to organize relationships among the many individuals and teams of individuals who render services to discrete populations.

Residual authority in relation to any scale of operation is, in effect, claimed by a superior authority who, in turn, is accountable to a superior authority who exercises residual authority in relation to him until the chain of command has reference to some ultimate center of authority. These patterns are subject to variation depending upon the degree of self-governing authority extended to communes within the constraint of general rules of law pertaining to local government. Where residual authority is claimed by citizens within a system of government and where processes of constitutional decision making and provisions of constitutional law are used to maintain limits and to govern the authority exercised by governmental officials, quite different patterns of organization will be relied upon to order relationships among the multiplicity of public enterprises existing in such a system of government.

Max Weber has used the term "bureaucratic administration" to refer to the system of control developed for ordering relationships among public service agencies in a "monocratic" political system where residual authority is claimed by some single center of authority. We shall follow Weber in using the term bureaucratic control to discuss that pattern of relationships in such a political order. We shall refer to patterns of democratic control to discuss relationships among multiple enterprises in a political order governed by a constitutional system with a polycentric structure.

#### Bureaucratic Control

A hierarchy of officials extending from the smallest work team supplying a public service through intermediate officials to a single center of authority in a monocratic or monocentric political system can be used to organize relationships among the multiple enterprises in a public economy. For each level in an organization the official exercising managerial control is accountable to a superior authority exercising residual authority until some ultimate central authority is reached at the seat of government. Such a system of control affords the possibility that each set of work teams supplying a public good or services will do so in relation to uniform standards of performance throughout the country.

The smallest-sized production team comprises the ultimate producers who render a service to a community of users. A single school that serves the residents of a village or commune, the police contingency responsible for the provision of police services or the work force responsible for the maintenance of public health services, welfare services or public work facilities represent the primary production units engaged

in supplying a good or service that is jointly used by the residents of a village or commune or some similar domain that comprises the level where producers supply consumers.

Control over the ultimate suppliers of services who make them available to the ultimate consumers in a system of bureaucratic control is attained through various ministries or departments of government that are specialized to exercise control over a particular type of public services. Educational services are likely to be organized through different ministries than police services and public works. These ministries or departments of government, in effect, extend from the work team supplying the ultimate consumers to the center of government in a single chain of command.

In the French administrative system the ministries and departments supplying particular types of public services are considered to be the technical services. In addition to the technical services the French administrative system has reference to a second hierarchy of authorities where a set of prefectoral officials is assumed to exercise a general residual authority for each political subdivision in the country. A prefect as an official assigned general residual authority in a province or department is responsible for exercising general control over all

instrumentalities of government operating within the confines of that province. The prefect is the surrogate for the sovereign whether that sovereign is an assembly, a king, an emperor or a president.

A sub-prefect performs a similar role in each commune and is accountable to the prefect of the relevant province. Prefects in turn are accountable to the chief administrative officer responsible for internal affairs and to the Council of State as a quasi-judicial body composed of high administrative officials responsible for the

adjudication of conflicts arising under French administrative law.

French administrative law is broadly equivalent to public and constitutional law in the sense of determining the limits of official discretion in the discharge of public responsibilities.

Each work team supplying a set of public goods and services to ultimate consumers or users is thus accountable to a dual command structure. One operates through the technical service where school teachers, for example, would be responsible to an education ministry, but each school within a province would also be subject to the authority of a prefect and his sub-prefects. Any exercise of discretionary authority on the part of those responsible for the ultimate supply of services in aggregating factors of production, in reallocating work loads and in assigning rewards or sanctions would be subject to review by prefectoral authorities as well as the authority of superiors in the relevant technical service.

Such a system of administrative control places a premium upon the routinization of conduct in relation to formal rules and regulations promulgated by central authorities. Little consideration is given to user or consumer preferences in rendering a public service and information about the diversity of user preferences among different communities tends to be excluded from the formal calculations taken into account in supplying a public good or service.

Given the difficulties in measuring the output of public goods and services administrative superiors will find it difficult to monitor performance except for selective indicators that may be used as proxy measures of performance. If production teams behave in ways to earn increased scores on those indicators, there may be little relationship between indicator scores and overall quality of performance. Education,

for example, may become an exercise in drilling students for high test scores on standardized examinations rather than developing skills that are useful for a lifetime of learning.

Systems relying upon highly centralized controls in organizing relationships among multiple production teams are usually confronted with a problem of maintaining a monopoly of authority over the supply of public goods and services. The existence of mutual aid societies or voluntary associations that supply joint benefits to members is usually subject to close legal scrutiny to foreclose the development of alternative sources of supply. Formal organizations capable of rendering joint services to community residents are usually subject to licensure and to close scrutiny by prefectoral authorities. Purely "informal" arrangements among immediate neighbors are difficult to eliminate and secret societies or outlaw societies may also escape control by those who exercise a formal monopoly over the supply of public goods and services.

All systems of bureaucratic administration as all other forms of organization are subject to imperfect controls. Gordon Tullock in The Politics of Bureaucracy demonstrates that systematic loss of information and control will occur in any bureaucratic structure if career opportunities depend upon recommendation of superior officials. Under that condition a subordinate will advance information to his administrative superiors which will enhance prospects for advancement and repress information that would deter his advancement. The operation of such a constraint in filtering information at each level of organization implies that those responsible for central direction of an administrative service will be taking action on the basis of seriously distorted information.

The same filtering process can be expected to operate in communicating instructions from superiors to subordinates. The combined effect will produce significant disparity between actions and pronounced goals or objectives. Thus a phenomenon of goal displacement can be expected to characterize highly bureaucratized administrative systems. The lack of effective measurements over outputs and mechanisms for signalling consumer satisfaction or dissatisfaction creates extensive opportunities either for substantial shrinking throughout the public economy or for deriving side payments by the extension of special favors to those who are willing to reciprocate with favors in return. Highly centralized systems of bureaucratic administration are especially vulnerable to bribe bargaining and corruption. Corruption usually means the erosion of standards of public conduct. Whether that erosion is "good" or "bad" when measured by the preferences of those subject to the standards of public conduct is an entirely ambiguous matter depending upon the evaluative criteria used to assess standards of public conduct.

If the standards of public conduct governing those who supply public goods and services deviate significantly from the preferences of those for whom the services are being supplied, we can expect substantial alienation and latent hostility to be generated in a society. It is these conditions where radical disparities between officials and subjects or between the state and society become manifest. Life can be constrained by circumstances where every effort to improve conditions involves a potential exposure to increased deprivations.

#### Patterns of Democratic Control

In a world composed of complex structures of events and relationships we would expect many of those events to have the characteristics of public

goods and services which come in many different sizes and shapes. Where both production and organizational technologies are relatively advanced, we would expect a democratic society where communities of people are relatively free to constitute themselves into self-governing collectivities to have many different units and agencies of government to supply the array of different public goods and services. Such enterprises would be governed primarily by reference to their internal structure where citizen-consumers are capable of exercising effective constraint upon those who supply public goods and services so that costs will be constrained in relation to benefits and supply will be proportioned to demand.

However, patterns of relationships among diverse units and agencies of government may be subject to substantial conflict so that social arrangements will need to exist for organizing or coordinating relationships among diverse enterprises in a public service economy. We assume that each unit of government or collectivity is relatively autonomous with independent authority for financing, for aggregating factors of production and making decisions about levels of service to be supplied, and for adopting rules to proportion patterns of use to the available supply of a public service and initiating actions to enforce such rules. Managers can have recourse to management controls over personnel within a production team but no single hierarchy of authority exists to exercise residual authority over all production teams in all public enterprises.

In a public economy composed of a large number of autonomous self-governing public enterprises no two enterprises are likely to have precisely the same territorial domain and scope of jurisdiction. Each will exercise a limited monopoly with its particular service area, but that monopoly will pertain to a limited range of services. Many jurisdictions will involve

overlapping jurisdiction in the sense that a large scale water production agency, for example, may provide services that are jointly used by a number of communities where water is distributed by smaller distribution agencies.

Where ample overlap exists among diverse units of government and public agencies, many cooperative arrangements can be developed through a variety of different "informal" and "formal" contractual relationships. So long as some agencies are organized to foreclose the operation of a holdout on the consumption side, public agencies can use contractual relationships to buy and sell services between one another and realize some of the potentialities for self-regulating tendencies that are inherent in market arrangements. The buyer is never the individual consumer but the collectivity that is organized to act as a buyer and financier for a public service which will be used or enjoyed in common by all residents of the community. The production of a service may either be supplied by another public agency or by a private producer supplying the service under terms of a contract for a whole community of users.

Where economies of scale can be realized on the production side, small units of government acting as collective purchasing agents can contract with large-scale producers to supply the needed service. Very small communities might, for example, contract with an adjoining municipality or a county police department to supply it with patrol services. Alternatively a small municipality with its own police patrol force may contract with other jurisdiction for supplemental criminal investigation services, crime laboratory services, dispatching services or detention services.

Conversely if economies of scale are exhausted at a relatively small scale on the production side but benefits accrue to a much larger

consumption unit, the equivalent of contractual arrangements can be developed to permit fiscal transfers or so-called grants-in-aid to supplement the level of expenditures that would otherwise occur and facilitate a higher level of service to satisfy the demand for external benefits. Economies of scale in elementary education is exhausted in relatively small production units--elementary schools. Yet the benefits may have substantial significance for a productive labor force and enlightened citizenship in a national society. Contractual relationships between buyers of educational services representing the nation as a consumption unit can arrange for a level of expenditure and output to meet national demands while leaving primary responsibility for production decisions to be taken by the local production team and the officials representing its constituents. In the same way a national interstate highway system can be built through contractual arrangements where construction services and maintenance services are produced by subordinate units--state highway departments--but financed by national taxes paid by highway users.

Contractual arrangements can also be developed among service producers operating at any given service level to exchange in-kind services, provide mutual aid in the sense of coming to each others assistance or to act jointly as a team when the occasion arises. All service agencies face peak demands in service loads which cannot be fully accommodated by having their own resources in reserve. Mutual aid agreements enable coordinate police departments, for example, to come to each others assistance when special exigencies arise. So long as these demands tend to balance out over time each department will gain by going to the assistance of other departments and by being able to call upon their assistance when the

need arises. Similar arrangements may exist for coordinated teamwork in undertaking road blocks to assist a department in apprehending a fleeing suspect or in coping with emergencies that may affect several communities.

Where cooperation occurs on a recurrent basis and involves coordinated teamwork among multiple police agencies, patterns of contractual relationships may be organized on the basis of a voluntary association where producers of public services meet regularly to work out, review and test the details for joint operating arrangements. A variety of different fire fighters associations, peace officers associations, water users associations, education associations, etc. represent producers associations among public service agencies that work out problems of mutual interest as "informal" contractual relationships. Sometime these are formalized by the official resolution of each of the cooperating agencies.

Reliance upon cooperative agreements may even be extended to the constitution of a new form of public enterprise which will serve the joint needs of a number of other public enterprises. Municipal water departments overlying a ground water basin may find it to their advantage to organize a ground water management and replenishment district which can cover all demands being made upon the basin and foreclose the possibility of a holdout occurring among some one of the water producing agencies that draws its supply from such a basin. In such a case each water producer may have an incentive to join in a cooperative effort so long as that producer has an assurance that all other producers will be required to join in the undertaking. In such a case they may participate jointly in preparing the legislation to authorize the creation of a new joint water agency.

Where large numbers of both public and private agencies engage in extensive contractual relationships with one another to act jointly in

supplying a similar type of public service to a common clientele or common service area, the numerous agencies can be conceived as being part of a public-service industry. In this sense we might think of a police industry, fire protection industry, education industry, health services industry, transportation services industry, social services industry and other public service industries as comprising a public economy for any given service area such as a metropolitan region or a nation state.

The structural characteristics of public service industries can be distinguished by the amount of overlap or horizontal differentiation and the size of territorial domain in relation to vertical differentiation. The smaller the territorial domain the greater the vertical differentiation at any given level of horizontal differentiation. Structures of public service industries might vary from those with no vertical or horizontal differentiation where one agency exercises a complete monopoly position in relation to a general service area to a high degree of both horizontal differentiation and vertical differentiation at all levels of organization.

Where alternative agencies are available to supply similar services on a contractual basis, competitive pressures can exist in the contractual relationships maintained by public service agencies. So long as these competitive pressures are sustained by increased efficiency in producing a service, rather than transferring costs to other taxpayers, competition can have the same self-regulating tendencies in a public economy as will occur in a market economy. The difference is that the market exists among public service agencies rather than in the supply of services to individuals. The absence of exclusion forecloses the use of marketing institutions in vending services to individuals. Once a community is organized as a collectivity with power to tax, it can then function as a

buyers' cooperative to purchase the supply of a public good or service which is then subject to joint use or consumption by anyone in a community of users.

The possibility of competitive pressures that enable public service agencies to search out more efficient solutions under quasi-market conditions should enable economic analysts to determine whether the more highly monopolized public service industries are more or less efficient than more highly differentiated or fragmented public service industries rendering the same type of service. Would we expect a fully integrated metropolitan police force, for example, to perform more or less effectively or more or less efficiently than a highly differentiated police service industry serving a similar metropolitan area? Contradictory theoretical arguments can be arrayed. By being able to specify varying industry structures the question becomes one that is subject to empirical investigation to determine which argument is supported by evidence.

Where contractual relationships among relatively autonomous self-governing public enterprises give rise to extensive cooperative arrangements with competitive pressures, we would expect self-regulating tendencies to occur in much the same way that self-regulating tendencies occur in a market economy. Tocqueville noted such a tendency in Democracy in American when he observed:

Nothing is more striking to the European traveler in the United States than the absence of what we term the government, or the administration. Written laws exist in America, and one sees the daily execution of them; but although everything moves regularly, the mover can nowhere be discovered. The hand that directs the social machinery is invisible.

In effect, Tocqueville is saying that a substantial component of "government" is occurring as officials work out cooperative arrangements

with one another under conditions that are constrained by a knowledge of what represent reasonable limits to the respective bargaining positions. By negotiating arrangements within those limits, mutually productive relationships are worked out among the various interests involved.

Charles Lindblom has recognized the same patterns in a study of Bargaining: The Hidden Hand in Government. He developed this thesis further in a treatment of "noncentral coordination" by "partisan mutual adjustment" in his The Intelligence of Democracy (25-34). Roland McKean has also examined the issue of "The Unseen Hand in Government." Whether there can be an "unseen," "hidden" or "invisible" hand in the affairs of government that manifests similar tendencies to that occurring in a market economy is the subject of a subsequent exchange between V. P. Duggal and Robert Bish.

The possibility that extensive contractual relationships among autonomous self-governing collectivities can give the appearance of an invisible hand by manifesting self-regulating tendencies for ordering relationships among diverse enterprises does not foreclose the possibility that conflict may also exist. Conflicts where the action of one agency or unit of government imposes injuries or external costs upon others outside its boundaries may manifest all of the dynamics of escalating threats and counterthreats that are inherent in many conflict situations. Such situations are not amenable to resolution by voluntary agreement through contractual arrangements but require recourse to the specialized institutional facilities of government that are concerned with determining, enforcing and altering legal relationships among parties to a conflict. Law-adjudicating, law-enforcing and law-making institutions of government assume an especially significant role in conflict resolution wherever

cooperative arrangements break down and conflicts escalate into an exchange of bads.

The constitutional solution to the distribution of governmental authority among diverse decision structures will determine how institutions for conflict resolution are organized in any political system. In France such conflicts are subject to determination through the system of prefectorial administration or by determination at the cabinet level. In the United States, a large proportion of conflicts between different governmental units are subject to adjudication in the ordinary law courts in accordance with general provisions of public and constitutional law. Equity procedures allow courts substantial discretion in formulating equitable solutions to controversies at issue between public service agencies. Judicial remedies are available to enforce such solutions in relation to the contending parties.

A reliance upon judicial remedies as a means of resolving conflicts among different autonomous independent units and agencies of government means that each is able to articulate its case independently and is bound by the reasoned judgment rendered in a court of law in relation to the general rules of law that are applicable to the case at hand. Conflicts are adjudicated by reference to general rules of law and the autonomy of each of the contending parties is maintained in relation to the other. The ultimate accountability of each is to its citizen-consumers who are also the ultimate holders of residual authority in relation to the system of constitutional law that binds judges, litigants and citizens alike. Relationships among diverse public enterprises can thus be maintained by reference to the rational calculations that are inherent in a general system of law.

Conflicts internal to any particular unit of government may be resolved by the administrative or deliberative mechanisms which exist within that particular unit of government. When conflicts internal to a particular unit of government impinge upon issues involving the allocation of authority under charter or constitutional provisions and are not resolved amicably to the interest of the contending parties, recourse may still be had to judicial remedies.

Conflicts among different public jurisdictions may be of sufficient magnitude to require basic reformulations of law. In that case recourse to legislative or constitutional remedies in relation to a larger unit of government that includes all of the conflicting parties within its domain or territory may be necessary to attain resolution of the dispute.

The effectiveness of arrangements for conflict resolution in any system of government is essential in specifying limits to bargaining and potential holdout positions. If public entrepreneurs can anticipate limits to their respective bargaining positions which will be enforced by appropriate judicial or administrative remedies, then they will have incentives to search out less costly solutions within those limits. A combination of both arrangements for conflict resolution and arrangements for cooperative agreements become necessary for organizing relationships among multiple self-governing public enterprises operating within a democratic society.

#### Conclusion

The conditions of joint use or consumption where exclusion becomes infeasible require recourse to a different structure of enterprises in the public economy than are feasible in a market economy where exclusion applies. Jointness of use or consumption requires that consideration be

given to territoriality in establishing the domain of jurisdiction for a public enterprise and in specifying the scope of jurisdiction.

Jointness of use and the absence of exclusion within that domain requires that the constitution of decision making arrangements involve an allocation of authority for taking collective decisions that are subject to the same principles of constitutional choice that are inherent in constituting the authority for a system of government. An unequal distribution of authority is required so that some can take decisions that can "force" others to discharge their responsibilities in relation to the supply and use of the good or service enjoyed in common. Authority over taxation and fiscal relationships is essential to foreclose potential holdouts. The requirement of compulsory payment implies that institutional arrangements other than market prices must be developed to provide for the articulation and aggregation of demands and the translation of those demands into collective choices. The proportioning of supply among different uses and patterns of use requires reference to rule-making and rule-enforcing authority.

Remedies in turn must be available to citizen-consumers if they are to be able to enforce demands upon producers of a public good or service. If these powers and constraints operate to enable entrepreneurs to proportion costs to benefits and supply to demand, public enterprises can be created where quid pro quo relationships can be maintained among relevant communities of interest that are mutually productive for everyone involved. Such a solution need not foreclose other solutions which can be exploited for the advantage of some to the disadvantage of others.

The problem of coordinating relationships among multiple public enterprises in a public economy is a difficult problem confronting the government of any society. A system of control by a hierarchy of officials in a bureaucratic system of administration is one mechanism for attaining

coordination. Alternative structures are available in democratic societies where the authority to govern is subject to an enforceable system of constitutional law which disperses governmental prerogatives among diverse centers of authority and among multiple levels of government. The two systems have radically different structures and manifest different patterns of conduct.

Each is vulnerable to problems of serious institutional weakness. Michel Crozier in his study of the Bureaucratic Phenomenon refers to the "vicious circle" that manifests itself in highly centralized bureaucratic systems. Such systems tend to maintain established routines without being able to respond to changing conditions and demands short of a revolutionary crisis (175-208). But he also observed that decentralized system can generate a "vicious circle arising from the conflict engendered among numerous autonomous units (236). Such a system depends upon mechanisms of conflict resolution to break the vicious circle of escalating threats, counterthreats and exchanges of bads.

Thus all societies are required to cope with problems of institutional weakness and institutional failure. Efforts to cope with such problems require diagnostic skills in identifying the institutional conditions which generate characteristic social pathologies. Whether or not remedies may be available depends upon a capacity to modify the structure of institutional arrangements existing in any society. Whether a society is capable of pursuing error correcting strategies will depend upon the arrangements that exist for modifying the structure of institutional arrangements within that society.

## VIII

### COMPLEX ORDERINGS

The structure of institutional arrangements in a market economy and in a public economy have been examined on an assumption that complex configurations of organizations will be required to supply extensive arrays of different goods and services in relation to diverse preferences. Simplification in organizational arrangements implies constraint both on the variety of enterprises and on the variety of potential goods and services that can be supplied to members of a society. The process of modernization is associated with growing bodies of knowledge, an increasing array of possibilities, increasing specialization and division of labor, more extended chains of transactions and increasing patterns of interdependence amid high potentials for conflict. Patterns of increasing variety and specialization call for complementary patterns of coordination and exchange relationships if interdependencies are to be ordered in mutually-productive ways. The process of modernization thus depends upon the development of complex patterns of multi-organizational arrangements.

Modern societies cannot hope to solve their problems through the availability of omniscient and omnicompetent leaders who will know what to do in meeting any exigency or in coping with any problem. The varieties of problems are too great for any one person or any single group of persons to cope with them all. Instead, decision-makers are confronted with the problem of using decision-making processes as methodologies for conceptualizing problems, arraying alternative courses of action and for choosing among alternatives on the basis of

**explicit** evaluative criteria. Decision making structures and procedures can entail an ordered process where decision makers can learn to solve problems rather than know the solutions without reference to procedures and processes.

In considering the complex orderings inherent in multi-organizational arrangements we shall turn to the development of concurrent structures or multiple arenas inherent in structures of political systems. We shall then consider how the existence of multiple arenas affects the choice of strategies among individuals, firms and organizations operating in a multi-organizational environment. Finally we shall consider the effect of multiple arenas and organizational arrangements upon the methodology of decision making.

#### Concurrent Structures as Multiple Arenas

Our discussion of the basic structure of authority relationships in Chapter III emphasized that any effort to develop rule-ordered relationships depended upon the existence of decision-makers who can exercise extraordinary prerogatives in giving force and effect to words in ordering human conduct. Ordinary relationships that are authorized under the provision of rules depend upon a structure of remedies that apply to the enforcement of those rules. Rules without enforceable remedies are mere recommendations or words and do not bind men's actions.

The solution to this problem entails the assignment of authority to some decision-makers who can determine, enforce and alter legal relationships so that other members of a society can have recourse

to a common set of rules in ordering their relationships with one another. The differentiation of authority positions associated with what Llewellyn and Hoebel call "law-jobs" occurs in relatively primitive cultures in the context of families, clans and tribal groupings. As societies become more differentiated and complex in their structures the distinction between government and society, between officials and subjects becomes more pronounced.

This differentiation of legal relationships into official and non-official, governmental and non-governmental is the basis for Commons' distinction between authorized transactions and authoritative transactions. System of social relationships, thus, involves two types of decision-making arrangements. One involves the capacity of individuals to enter into ordinary relationships with one another. Provisions of contract law and of property law establish the ground rules for most social relationships and these usually depend upon a rule of voluntary agreement or willing consent in working out joint relationships. These rules establish the basis for ordinary transactions and apply to marketing, friendship circles, voluntary associations and many family and kin relationships. The first order of decision-making in any society is the joint relationships that ordinary individuals can establish with one another.

But the maintenance of these ordinary relationships depend upon enforcement mechanisms and is the raison d'etre for the creation of governmental institutions. Thus, the capacity to enforce claims to rights in ordinary social relationships depends upon access to remedies afforded by officials capable of mobilizing sanctions to enforce decisions. The decision rules applying to the availability

of legal and political remedies thus is quite a different "game" conducted according to quite different decision-making arrangements than those that apply among ordinary members of a society dealing with one another. In such circumstances ordinary members of a society will take account of their potential exposures to the actions of officials in dealing with other ordinary individuals. Decision-making is always subject to contingency calculations that take account of the actions of others especially when those actions have significant implications for each individual's welfare potential.

Even at this simple level social relationships have reference to concurrent structures: 1) those which form the basis for market organization and other ordinary social relationships where the rules of contracts and property rights prevail and 2) those which provide the arrangements for determining, enforcing and altering rules that apply to ordinary social relationships. Each individual acts in light of his potential access or exposure to contingencies in alternative decision-making arenas.

The radical inequality inherent in the exercise of governmental prerogatives gives rise to the possibility that those who function as rulers will be able to dominate the allocation of values in a society and make others the subjects of their rule. The opportunity inherent in this possibility has been sufficiently attractive to those who become rulers that political tyranny is a persistent threat for all members of the human species. The sword of justice can easily become an instrument of tyranny and repression.

A search for a solution to the problem of tyranny has involved a long and persistent quest for a method of imposing a rule of law upon those who function as rulers. Unless official discretion can be constrained there is no assurance that the integrity of a system of rules will be maintained. Unlimited discretion can instead be used to enhance the power and well-being of a ruling class at the expense of other members of a society. Yet the possibility of enforcing rules of law as against rulers appeared to be a logical absurdity: an insolvable problem or an impossibility. A solution to this problem was formulated in the course of American efforts to develop an enforceable system of constitutional law as we have seen in Chapter IV.

A long tradition of prior efforts to interpose constitutional constraints upon the conduct of government have involved an increasing differentiation of governmental decision-making structures and a parallel formulization of decision rules that apply to the conduct of decision-makers participating within the context of those decision-making structures. If the critical problem in the maintenance of rule-ordered relationships is one of enforcement, then executive arrangements can be viewed as the essential core of government. The development of other governmental decision-making structures can be viewed as concurrent structures designed to limit the discretion of executive officials.

There is nothing inherent in nature that ordains the creation of legislative bodies or courts of law. However, if the actions of law enforcers and those subject to law are to be informed by the same sets of publicly knowable rules, an advantage can be gained by

differentiating the function of law making from law enforcement. Further, an advantage can be gained if the application of law by enforcers is subject to determination as to the propriety of its application. Law enforcement under such circumstances becomes subject to constraints of law making and law judging. The capacity to alter and modify law and to judge the application of law means that legislative and judicial remedies become available to members of society apart from reliance upon direct processes of executive action. The process of differentiating and formalizing law-making, law-enforcing and law-judging functions of government can be expected to vary significantly from one society to another and thus to affect the structure of opportunities available to the members of different societies.

Patterns of organization in representative democracies extend the differentiation of decision structures to include formalized arrangements for the selection of the personnel who exercises prerogatives of law making. Provision for elections, including the size and nature of the constituency, form of ballot, selection or nomination of candidates and voting rule for determining who are winners in such elections, are among the formalized rules that apply to the arena of electoral politics. These rules determine who may enter the contest, who votes, and how the contest is to be determined or decided. Success in the electoral arena may in turn serve as a qualification for those who are entitled to participate in the legislative arena.

Representative legislative bodies in many of the constitutional democracies may also be assigned authority to determine who are

designated to exercise basic executive authority to superintend the executive instrumentalities of government. Parliamentary governments, for example, are based upon a series of interrelated contests where citizens elect representatives and those representatives select a party leader who designates representatives of his party to superintend the conduct of executive agencies. In non-parliamentary democracies, the selection of key executive officials may also depend upon popular election and upon electoral politics.

The organization of law judging instrumentalities, apart from law enforcement, may be subject to substantial differentiation. The institution of the jury provides means for selecting a representative panel of citizens to assist in judging cases and to maintain the openness of judicial proceedings to the scrutiny of citizens in the larger society. Use of juries in judicial proceedings requires that professional lawyers and officers of the court present evidence and address arguments that enable ordinary citizens to reach decisions in the application of law to particular cases. Since the judging function involves rendering of judgments in particular cases representation on jury panels can be gained through random selection procedures rather than relying upon plurality voting rules. Judicial arrangements may be further differentiated in relation to types of proceedings. Criminal proceedings, for example, may be differentiated from civil proceedings. Actions for recovery of damages in torts may be distinguished from actions involving equitable remedies. Different remedies are made available through the application of quite different methodologies that apply to criminal proceedings, for example, as distinguished from equity proceedings.

Who may initiate judicial proceedings and who is potentially subject or immune to those proceedings is a significant variable in establishing legal limits upon the exercise of authority. If enforcement

actions can be initiated only by executive officials and if those officials are immune to actions against themselves, the range of judicial discretion is small and the range of executive discretion is correlatively large.

Where efforts are made to maintain a high degree of control through executive instrumentalities such efforts will be subject to serious limitations in advanced societies. Each individual is limited in his capacity to acquire, use and act upon information. Efforts to assign tasks, monitor performance and exercise control will require the differentiation of executive activities having to do with planning, accounting, assignment of personnel, the securing of information and intelligence and the exercise of other control measures. Different control structures will have concurrent authority with their own set of decision rules that affect the operation of other decision-makers functioning among the executive instrumentalities. Individuals working in such a system of controls find their exercise of discretion to be bound by the scrutiny of many other decision-makers. Each is subject to the constraints of a matrix of control mechanisms. Managers in the Soviet Union, for example, are required to come to terms with controls exercised through the planning apparatus, the party hierarchy, the secret police as an information and intelligence system and the state apparatus exercising ministerial control over the operation of particular enterprises. Except for those at the very top each manager is constrained by the requirements of multiple control structures and he may have little confidence that those control structures will themselves be constrained by publicly knowable rules of law in the exercise of discretion.

The executive apparatus in the American Federal government is subject to similar controls by an array of different executive agencies. Fiscal controls are exercised through budget, accounting and auditing procedures which are conducted through different agencies. Personnel controls, controls over legal authorizations, controls over the assignment of property and over purchasing and other contract arrangements are all subject to scrutiny by different executive agencies. Any one agency is constrained by the actions of other agencies that affect budgeting, accounting, auditing, personnel transactions, legal authorization property inventories and contractual arrangements.

In highly constitutionalized political systems each decision-making structure or arena will operate so that knowable rules of law apply to the exercise of decision-making capabilities within each arena. The assignment of decision-making authority to various potential participants, rules specifying conditions of entry and exit, rules for ordering and processing decisions and rules for determining a decision can all be specified and known in advance. Choices of strategy can then be made in light of the different anticipated opportunities.

The structure of authoritative relationships is by no means confined to the "formal" decision rules that apply to the taking of decisions by authoritative agencies or decision structures. The rules of written consent or voluntary agreement may be used as an alternative structure for undertaking joint relationships among those individuals who occupy official positions. The coexistence of decision-making arrangements which can be effectuated by voluntary agreement implies that various forms of voluntary association will occur at all levels of decision-making and

that redundant networks are likely to permeate the "formal" authoritative structures that comprise the government of a society.

The coexistence of decision-making arrangements which can be effectuated through voluntary agreement implies that various forms of voluntary association may occur at all levels of decision-making and that redundant networks are likely to develop in relation to other decision-making structures. The most highly formalized bureaucracy, for example, is likely to be permeated by networks of so-called "informal" structures that are based upon voluntary agreement and reciprocity among the participants. Cliques, factions, circles, alliances, and coalitions will permeate any large bureaucracy. Such voluntary associations may become "formally" organized so that Federal-Provincial Conferences in some federal political systems take on the characteristics of a joint legislative or constitutional decision-making structure. A Conference on Uniform State Laws may also function as an "informal" national legislature.

In highly constitutionalized political systems all decision-making structures will be governed by reference to knowable rules of law ranging from electoral laws and elections as decision-making structures to constitutional law and the decision-making arrangements for amending or revising the provisions of constitutions. The concurrent structures inherent in legislatures, executive control agencies, judicial bodies existing among different levels of local, provincial and national governments in federal systems implies that multiple decision-making arenas exist within an ecology of games. A polycentric political system is one where no single set of decision-making structures is allowed to dominate. Each is constrained by the availability of alternative remedies so that a rule of law can be enforced in relation to all decision-makers functioning within

that system. A monocentric system is one where ultimate authority to exercise governmental prerogatives including those of specifying the terms of constitutional authority resides with a single set of decision-makers. Their inability to maintain control through simple command structures means that redundant command structures create a reality of concurrent arenas for most individuals functioning in such political systems.

### The Pursuit of Strategies in Concurrent Arenas

The opportunities available to any individual will depend upon his capacity to enter into and enforce decisions in relation to the configuration of transactions that affect his well-being. The political feasibility of undertaking any course of action depends upon his capacity to make and enforce decisions that are consonant with his objectives. If this capacity is limited to the confines of a family or kin relationship then his effective political realm is limited to that social domain. If this capacity reaches out to a national or multi-national domain then that becomes his effective political realm. The more extended the realm and the more diverse the structure, the more varied the range of opportunities that become available to individuals in complexly ordered political systems.

In exploring the effect of the structure of decision-making arrangements in different arenas upon the choice of strategies we shall focus upon the special problems that are associated with the exercise of leadership or entrepreneurship. Leadership or entrepreneurship can be conceptualized as equivalent terms which refer to the organization and maintenance of team efforts in order to derive joint benefits

from cooperative action.

We assume that patterns of leadership or entrepreneurship will vary in relation to the opportunities that derive from the structure of decision-making arrangements in different arenas. Leadership or entrepreneurship in a business enterprise vending marketable commodities will involve different strategic opportunities than leadership or entrepreneurship in a public enterprise supplying a non-marketable commodity where exclusion is not feasible. These relationships, in turn, are somewhat different than the patterns of leadership involved in the organization of a political party as still a different type of enterprise. Payoffs for the organizers of political parties are established by the decision-rules inherent in electoral laws and how such laws determine "winners" in electoral contests. The conditions of entrepreneurship for organizing a revolutionary party where revolutionary parties are unlawful is vastly different from the conditions of entrepreneurship in organizing a lawful political party.

#### Private Entrepreneurship in Competitive Industries

As we have seen in Chapter VI, an entrepreneurial opportunity arises when someone can gain an advantage by organizing the productive process as a team effort. Coase emphasized that an entrepreneur is able to reduce transaction costs and derive an advantage in not being required to negotiate every transaction with each worker. Instead he relies upon management control within the terms of a long-term employment contract and gains the advantage of being able to assign and reassign workers to different tasks. Alchian and Demsetz emphasize the increased productivity that can be derived from joint team effort. In both cases an opportunity exists to gain a net advantage

by altering production strategies within the constraints of market choice.

Private entrepreneurs in a competitive industry face multiple decision-making arenas in dealing with factor and product markets. The factor markets are those where an entrepreneur functions as a buyer and is concerned with mobilizing the resources or the means of production. An entrepreneur functions as a seller in a product market. He is constrained in his choice by conditions existing in both the factor and product markets. His entrepreneurial opportunities depend upon his capacity to transform the factors of production into a product and to derive an economic surplus or profit from the value added through the production process. The degree of his competitive exposure will depend upon the entry of other potential producers offering an equivalent product in the same product market.

Factor markets and product markets may vary in their degree of competitiveness or the degree of monopoly power exercised by a single dominant producer in a given market. The strategic opportunity available to any particular entrepreneur will be affected by the structure of the factor markets relevant to his enterprise and the degree of competitive pressure existing in the relevant product market.

Within the constraints of factor markets and the product market, the degree of entrepreneurial discretion is further established by reference to property law and the assignment of residual claims to the assets or earning power of an enterprise. The surplus of earnings over costs is represented in the net capital worth of assets plus

the profits distributed to those who are defined as owners of the enterprise. In the case of a sole proprietorship these interests would be represented as an exclusive property right. The property right of the proprietor in that case establishes the decision-making authority of an entrepreneur within the constraints of the relevant factor markets and product markets.

The capacity of an entrepreneur to enforce his claims under the law of property rights becomes a critical condition in maintaining his proprietorship and the viability of an enterprise. If property rights are defined so as to include both the place of work and the place of domicile and residence on the part of the work force a proprietorship can be extended to prerogatives of rule over company towns or peasant villages. A private property right can in such cases become a system of private government where the only limits upon proprietary authority are those that can be enforced by workers or peasants against the sole proprietorship of the land owner.

Under these circumstances redefinitions of property right imply redefinitions of proprietary authority available to entrepreneurs. Different forms of enterprise thus vary with the assignment of residual authority over the assets and earning power of an enterprise and how the residual authority is distributed among the individuals sharing interests in the common property. Where investors are vested with residual authority, the enterprise would be a profitable corporation. Where workers or the producers of some other factor of production control the enterprise and share in the benefit of any surplus, the enterprise becomes a producers' cooperative. Where consumers own the residual property interest and services are supplied

to those consumers at cost, the enterprise is a consumers' cooperative. A local self-governing public corporation where residual authority is vested with the community of citizen consumers is highly analogous to a consumers cooperative except that residence within the boundaries of its jurisdiction involves compulsory membership. Other public corporations may be governed by those who are the agents of central political authorities. Residual authority and a share in the corporate holdings as a right to a common property may be distributed to any combination of the above configuration of interests. The essential difference between worker self-management in Yugoslavia, party management in the Soviet Union or investor-controlled enterprises in the United States depends upon 1) how residual authority over corporate or collective holdings is distributed, 2) the development of working arrangements for sustaining productive teamwork among those engaged in the production task, 3) the terms that apply to the organization of factor and product markets, and 4) the pattern of regulation and control exercised by governmental authorities. Meeting the terms and conditions applicable to each of these different types of authority relationships implies that any entrepreneur will be required to work out favorable decisions with many other decision-makers who function in different decision-making arenas where decisions are taken under varying types of decision-rules. Maintaining the political feasibility of any enterprise or maintaining ones position of leadership or entrepreneurship in an enterprise depends upon meeting the terms and conditions for agreeable working relationships with all of those who can potentially affect the success or failure of the enterprise.

In the American context a private entrepreneur functioning as a

manager of an investor-owned corporation is confronted with the structure of authority applicable to the governance of the corporation as reflected in its charter and by-laws. A board of directors representing shareholders will be a major set of decision-makers sharing in the policy decisions of the corporation. Shareholders and potential shareholders in turn have options that are reflected in the organization of markets for corporate shares or stocks. A manager of a corporation thus stands exposed in relation to the relative standing of shares of stocks in security markets. Poor earnings may pose a threat to the standing of the enterprise and the accumulation of excessive capital reserves may invite a takeover raid by a competitive entrepreneur.

Working relationships for sustaining production teamwork among those engaged in the production process involves that development of working arrangements under mutually agreeable rules. Failure to sustain agreeable arrangements may lead workers to search out alternative employment. Unionization of the labor force, collective bargaining and the development of adjudicating mechanisms to resolve grievances among workers may become elements in configuration of decision-making mechanisms affecting the organization of an enterprise.

The pattern of organization in factor markets and product markets is likely to vary for each type of commodity that is being bought or sold. Reference to factor markets and product markets are thus generalized terms referring to discrete decision-making arrangements which may have quite different implications in the choice of strategy for an entrepreneur.

Finally the configuration of governmental decision-making and enforcement mechanisms will involve many different discrete authorities. Any one entrepreneur may be required to secure affirmative decisions

in relation to a number of different authorities operating at different levels of government.

The effect of concurrent arenas on the choice of strategies by an entrepreneur can be conceptualized in alternative ways. An accepted convention in organization theory is to refer to an organization as comprising a decision-making system. The usual referent is to the structure of authority that focuses upon management control of the production team. The board of directors, corporate officials, management and the work force are viewed as being within an organization. That "organization" is then viewed as operating within an organizational and societal environment where linkages are maintained with other organizations and decision-making systems. Such conventions may be useful from many points of view. An entrepreneur, for example, may find it useful to distinguish an organizational realm as within his proprietary authority as against other realms where he must come to terms with other "authorities." But workers are apt to conceive of the "we" and the "they" in quite different terms; and a union may be as much their enterprise as the management system used to organize and monitor the work of the production team.

The linkages are nothing more nor less than other decision-making systems which operate under varying decision-rules. Linkages afforded by market arrangements may be quite different than the linkages afforded by planning and regulatory agencies or by adjudicatory mechanisms for resolving conflicts. Decision-makers in each case are individuals who are pursuing opportunities that depend upon the decisions that can be taken by others.

Whether an entrepreneur will pursue strategies that are "internal"

to an organization or strategies that are "external" to an organization is quite problematical. Altering the terms of trade in factor or product markets or modifying the structure of property relationships may create opportunities that are equal to or greater than any strategy that is available in reorganizing production possibilities "within" an enterprise.

Any entrepreneur operating within a competitive market, for example, may seek to alter the terms of trade by reducing the monopoly power exercised by any producer in a factor market or reduce the competition pressure that he is exposed to in the product market. In addition to pursuing economic options by finding alternative sources of supply or by undercutting competition among competitive vendors, an entrepreneur may seek to modify the terms of trade by securing a change in the rules of the game through legislative and other political remedies.

One strategy would be to develop regulatory control over pricing and service policies in monopolized industries on an assumption that the buyers or consumers in that industry could secure a proportionately larger voice in the regulatory process. An alternative strategy would both create different forms of enterprise such as a cooperative or a public, non-profit enterprise where the economic surplus would accrue as a consumer surplus. Whether the elimination of the "profit" motive will dampen incentives to search out more efficient solutions is problematical in a highly monopolized industry.

An entrepreneur in any particular product market may also have incentives to constrain competitive pressures and to seek recourse to diverse political arenas to limit entry through the exercise of licensing authority and to constrain price cutting. This strategy

is to introduce collusion with the product market and to increase the degree of economic power exercised by producers in that market. The success of such strategies depends upon a capacity to enforce cartel agreements and to dominate the decisions of regulatory agencies that have the authority to control entry to a product market and enforce pricing and service policies in that industry.

The pursuit of a strategy to increase competitive pressure in a factor market and to decrease competitive pressure in a product market is a rational strategy when viewed from the perspective of an entrepreneur who is seeking to increase his own degree of choice. Monopoly enterprises in the electric utility industry, for example, are not adverse to a high degree of competition in the labor market. Laborers, on the other hand, will favor increased "organization" in the labor market and the supply of electrical energy by either regulatory pricing politics or non-profit institutional arrangements which allow a larger portion of the economic advantage to accrue as consumer surplus rather than as producer surplus.

#### Political Entrepreneurship

Efforts to rig economic games depend upon strategic opportunities for entrepreneurs to organize political coalitions which can gain dominance and maintain that dominance in relation to the rule-making and rule-enforcing structures of government. Where access to the exercise of governmental prerogative is controlled by election to key governmental positions, an opportunity may exist for a different type of entrepreneurial initiative in putting together the components of an organization that can win elections and thus dominate the exercise of governmental decisions.

Instead of offering a product to be sold in a market exchange

with potential consumers, a political entrepreneur is confronted with the task of offering a slate of candidates to the voters in a political jurisdiction. His capacity to slate candidates depends upon whether he can increase the probability of winning elections when candidates function as a team in seeking election as against each candidate independently seeking election to office on his own initiative. An entrepreneur, who is able to put together the components of organization which assures his slate a high probability of success in winning elections, creates the potentiality of using his influences to secure favorable decisions for clients who need favorable action by governmental authorities. Clients in turn will offer an exchange of favors, support, services or financial contributions that will help maintain the operational feasibility of a political organization that will be able to slate candidates and win elections on a continuing basis.

Once conditions exist where an entrepreneur with a continuing political organization has a higher probability of success in winning elections than individual candidates seeking election on their own initiative, opposition candidates then have an incentive to form an opposition slate and develop organizational capabilities that will enable them to challenge the winning coalition. Competitive rivalry among contending party organizations will then dominate governmental policies so long as the electorate is able to exercise a discriminating choice among the contenders. Competitive rivalry among contending party organizations in such circumstances will lead party organizers to search out programs that will be responsive to the choices of a discriminating electorate.

Alternative possibilities exist for contending party organizations to work out a collusive cartel to avoid competitive contention over policies that give advantage to established party organizations and constrain entry to new contenders. Competitive dynamics can be preserved over a variety of public service policies in response to constituency demands while preserving control over policies that preserve stable organizational conditions for each of the established parties. Under such circumstances two party competition can take on the characteristics of a collusive duopoly where both parties will collude to preserve control over slating procedures and the maintenance of the established party organizational structures with high entry costs for a new party to enter as a potential rival.

One party may in turn attempt to dominate all decision-making centers and control all essential governmental decision-making. M. Ostrogorski has documented the strategies pursued by political entrepreneurs in putting together the configuration of organizational capabilities where they were able to dominate all essential political structures for maintaining a system of machine politics and boss rule. Political bosses in New York City were able to dominate legislative, executive and judicial decisions despite the existence of a constitutional system providing for a formal separation of powers.

If one party can dominate the processes of constitutional decision-making the opportunity may then be available to establish a system of government where opposition parties are outlawed and a single party is able to control access to all formal positions of government. Once such a structure exists it is then possible for such a party to gain dominance over all "formally" established economic enterprises and

social organizations and for the single dominant party to monopolize all essential leadership or entrepreneurial positions in a society. A ruling party then becomes a ruling elite capable of monopolizing the allocation of values in a society through its exclusive control over recruitment, and control over leadership personnel.

Rivalry then occurs over control of party leadership among the party factions that bring together nascent coalitions capable of dominating the essential control structures in the society these include the police, the military services, the mass media and the work force in essential utility, transport and communication systems.

Opposition parties under a one-party system are outlawed and those who attempt to organize outlaw coalitions are confronted with all of the problems involved in organizing an outlaw regime. Such a regime will require its own system of entrepreneurship. Such entrepreneurs are required to mobilize personnel and other essential resources for putting together an organization that will have the capabilities for preserving the autonomy of the outlaw society while maintaining an appeal to a constituency of potential supporters. Such outlaw societies are confronted with all of the problems of political organization including the development of rule-making and rule-enforcing mechanisms that exist in any larger society. A revolutionary party, if it is to succeed, needs to command all of the capabilities inherent in any political community. A revolutionary party in a sense is a shadow government which acquires the capability for government in the course of its struggle against the established government. A successful revolutionary party has every incentive to preserve a one-party system once it is successful in taking over the reigns of government. Revolutions then become means for changing the personnel who exercise the

prerogatives of a ruling elite in one-party states.

The potential for dominance by entrepreneurs who can put together winning coalitions is great where such coalitions can use the lawful instruments of coercion to enforce their own dominance. As a consequence all democratic societies are confronted with the problem of how to disaggregate the structure of authority so as to maintain the separation of civil and military authority, legislative and judicial prerogative from executive authority or of "political" prerogatives from "administrative" prerogatives.

#### Public Entrepreneurship

Persons assuming leadership or entrepreneurial tasks in organizing and maintaining teamwork in the production of a public good or service will face tasks similar to the private entrepreneur discussed above but in the context of a different configuration of authority relationships. Instead of demand being articulated through market mechanisms, public sector organization will rely upon elections and other types of communication mechanisms such as calls for service, public hearings, petitions, and complaints. The opportunities for political entrepreneurship discussed above implies that anyone exercising entrepreneurship in the supply of a public service will be constrained by policies pursued by those who win elections.

Public entrepreneurs also face the constraints of different factor markets. Intermediate organizations may be established so that a government can function as an exclusive buyer in dealing with particular factor markets. In that case civil service agencies, purchasing agencies, property management agencies, printing agencies may be created to control public personnel transaction, purchases, property

assignments, and printing services. In addition to meeting the constraints of factor markets, a public entrepreneur will find his entrepreneurial efforts constrained by the policies and decision-making arrangements existing among these different "auxilliary" or "management control" agencies.

Public revenues are generally derived from taxes. Where legislative bodies are constituted to represent citizen-consummers, producers of public goods and services will normally find their financial resources constrained by budgetary and appropriation processes which are subject to consideration in a variety of different decision structures. Legislatures serve as a proxy in representing the interests of consumers or buyers in public-sector decision-making.

The actions of entrepreneurs producing public services will also be monitored by a variety of different agencies. Financial transactions, and legal transactions are regularly monitored by accounting and auditing agencies and by legal departments. Actions of officials may also be subject to challenge in courts of law and discretion may be constrained by the availability of judicial remedies.

When producers of public goods and services operate within the context of concurrent governments in federal systems of government, the number of concurrent decision-making arenas that affect the pursuit of strategic opportunities can become rather large. In such circumstances administrative personnel responsible for the production of public goods and services face complex calculations in maintaining the political feasibility of their enterprises. Favorable decisions must be sustained through the changing political fortunes of those

who form the winning coalitions in electoral and legislative politics, those who dominate relevant executive agencies and those who entertain different causes of action submitted for adjudication. Each entrepreneur is required to establish an independent political base with a latent coalition of support that commands substantial consensus among the potentially affected decision-makers in order to either maintain the political feasibility of his enterprise or of his position. Under such circumstances, public entrepreneurs find their political survival dependent upon "cultivating the political grass roots." In a radically different structure of authority we might expect entrepreneurs engaged in the production of a comparable public service to be overwhelmingly oriented toward winning favor with their superiors rather than cultivating "grass roots" support among their clientele. Entrepreneurship among those engaged in the supply of public services will vary with patterns of bureaucratic and/or democratic controls discussed in Chapter VII. The stronger the degree of democratic controls the greater the preoccupation of public entrepreneurs with their degree of public support. The stronger the degree of bureaucratic control the greater the concern with those occupying positions of higher authority.

In a democratic political system with substantial dispersion of authority among different decision structures and one that has recourse to multiple autonomous units of government in a highly federalized political system the degree of choice exercised by any one public entrepreneur will be subject to substantial constraint. Competitive rivalry by other public agencies and by private vendors

may create substantial exposure for any particular entrepreneur. Alternative producers are available to supply any particular community of users and competitive pressures may give some -- the nominally more efficient -- an advantage over others.

Public entrepreneurs, like private entrepreneurs may seek to modify the basic rules of the game so as to reduce their exposure and increase their latitude for choice. Coalitions of public entrepreneurs as executive and administrative personnel of different agencies of government may, for example, seek to reduce their exposure to democratic controls and to strengthen the assignment of the authority to the executive instrumentalities of government. The maintenance of a viable executive-administrative coalition may depend upon stable tenure and job security provisions for those occupying different entrepreneurial positions concerned with the supply of public goods and services. The elimination of potential competitors in any service area can be accomplished by the reorganization of local and provincial governments. The exclusion of private or voluntary association organized to supply a common service to membership can be enforced by license arrangements and the transfer of common properties to the exclusive control of the state with a monopolization of authority by central state officials.

### Conclusion

If individuals are motivated to take advantage of opportunities that may be available to improve their well-being or net welfare potential we can anticipate that they will pursue strategies within constraints interposed by the structure of relevant decision-making

arrangements. Opportunities will always exist for some to attempt to alter the structure of authority relationships so that a few can dominate the allocation of values in relation to the many. Monopolization of economic power and the monopolization of political authority are apt to go hand in hand.

If human societies are to avoid the circumstance where governments become instruments of tyranny and the human condition becomes one of bondage, the design of governmental institutions must be such that dominance by any single center of political authority is foreclosed and that people acquire the requisite level of political consciousness and political capabilities to maintain limits upon the exercise of discretion by governmental officials. The necessary ingredients involve an agreement upon the essential criteria of choice that are to be used in the design of political institutions, in evaluating the performance of those who are exercising the special prerogatives of government, and in taking individual decisions to act in one way rather than another.

The interaction between structure and process in complexly ordered institutional arrangements become critical considerations bearing upon the methodology of decision-making. To the extent that rules of procedure and criteria of choice can be developed and can command essential unanimity among members of a society then we have the possibility of being able to devise rules of the political game where both knowledge and moral judgment can be used to inform choice and to guide human actions.

Structure and Process as Elements in the  
Methodology of Political Decision Making

If words are to be given force and effect in ordering human relationships those words should be subject to formulation and definition so their meaning is understandable to persons who are subjects as well as those who are the author of prescribed rules. The public meaning of terms should be accessible to any person who is capable of using language as an instrument for organizing trains of thought about the implications that flow from stipulated definitions and rules of action. The terms should have like meaning in like circumstances.

If these conditions are to apply, structural conditions that require legislators to formulate terms in a language that is capable of being construed and interpreted by others would imply that standards of executive action are to be gaged against the standards of legislative enactment. If a legislature has given careful attention to legislative draftsmanship then the standards of legislation establish both the legal basis for executive action and for remedies when executive actions beyond the limits of legislative authorization. Where publicly knowable standards of legislation, and of law more generally, exist, executive actions can be tested against those standards whenever anyone or any set of interests contend that their essential rights have been impaired by such action. The enforcement of law can thus be subject to scrutiny and assessment by judicial authorities. The judiciary is able to consider both reasoned argument over conflicts of law and over conflicting interpretations of law as well as the assessment of evidence regarding the events that occurred in any particular case. The claims of any individual under

publicly known rules of law can be construed as well as the claims of any official.

Since all words refer to classes of events, the task of classifying and coding events as instances of particular cases will always entail ambiguities. Many of these ambiguities may involve borderline judgments as to whether an instance belongs in one class or another class. In an era when chickens were raised as a barnyard fowl and each village, town or city depended upon local supplies, the raising of poultry products would properly have been classified as intrastate commerce in the American economy, for example. When agribusinesses produce poultry product in factory-farms and sell products in interstate and international commerce it is not judges who are being pernicious in rendering decisions when they classify poultry farming as interstate commerce but the changing nature of events can be conceptualized in relation to quite different scales of economic transactions.

However, the legal interests of different parties can be critically effected by standards for classifying and coding events in relation to legal terms. Extending the availability of judicial remedies on the part of an independent judiciary allows varying interpretations to be presented and requires that the exercise of discretion is subject to public justification. The authority of the judiciary depends upon its capacity to render judgment in accordance with reasoned arguments that are subject to the critical scrutiny in the community of legal scholars, by representative citizens serving on petite and grand juries and by members of the community more generally.

So long as political decision-making is mediated in relation to making, enforcing and judging publicly knowable rules of law

the integrity of the political process can be maintained by reference to a contention and argumentation that has reference to the meaning and construing of law rather than doing the charismatic will of leaders who claim to be the instruments of spiritual or magical mystique. The knowledge of the behavioral implications of rule of law turn as much upon argumentation, experimentation and evidence as the rules that apply to the enterprise of scholarship in the conduct of scientific communities.

Disaggregation of law-making, law-enforcing and law-judging processes gives rise to further opportunities for ordering these processes in accordance with rules of procedure that are designed to affect the quality of public decisions. The task of rule-making applies to the formulation of generalized rules. Deliberation is concerned with an assessment of the likely consequences which can be expected to follow from acting upon alternative rules or conceptions. If dominant coalitions can control the agenda and proceedings of legislative bodies, deliberation can be preempted and consideration of alternative policies can be foreclosed from public consideration. Legislators who are not free to choose on the basis of their own reasoned assessment are in no different position than scholars who are not free to profess their own reasoned analyses.

The task of rule enforcing involves a translation from the general rule to specific instances while the task of law judging involves an assessment of the application to the general rule to specific cases. Taken together the processes of law enforcing and the processes of law judging permit an ex post evaluation of the consequences flowing from the application of rules in comparison with the deliberative assessment of the anticipated consequences.

Open debate and deliberation in the course of separable law-making, law-enforcing and law-judging processes provides further opportunity for members of the community to assess the operation and performance of those who exercise the special political prerogatives of government and to establish a publicly shared knowledge of the relationship between rules of law and the consequences which follow. The generality of law, the uniformity of its application, the soundness of its conception in relation to consequences which follow all serve as a basis for evaluating the reasonableness of law and the legitimacy of its claim to being a proper rule of action. Law mediated by such tests of experience becomes the basis for translating and perfecting moral reasoning and moral judgment in relation to the existential conditions in human communities.

Where the methodological implications arising from the structure and processes associated with a disaggregation of law-making, law-enforcing, and law-judging functions can be realized it becomes possible to design political systems so that the principle of "natural" justice that no man is a fit judge of his own cause in relation to the interests of others can be extended to all political authorities. This principle of "natural" justice can be fully realized only where members of a political community undertake the basic prerogatives of constitutional choice and reserve unto themselves the task of devising and revising the terms of government so that all officials are subject to the terms of an enforceable system of constitutional law.

A system of government viewed from a methodological perspective

becomes a set of arrangements for organized learning where concepts are advanced, implications pursued, actions are taken and evaluated in light of experience. The conception inherent in a policy can be treated as a hypothesis and the actions that follow can be treated in the nature of an experiment. The knowledge that accrues is a public knowledge when members of a community are able to test their own experience against the implications that were anticipated in prior argumentation. Each person in turn can make claims to rights with confidence in his ability to secure performance from others in accordance with publicly enforceable standards of law.

When things go wrong and events diverge radically from expectations, new explanations are called for to make sense out of the new exigencies. If the context of such inquiry is a public inquiry directed to a diagnostic assessment of the sources of institutional failure and a consideration of prescriptions for institutional reform, the basis exists for a public deliberation over questions of constitutional change and constitutional revision.

However, in all of these exigencies, the basic structure of authority relationships which require that some be assigned prerogatives to enforce rules in relation to others will always create a circumstance where some will attempt to gain control over those prerogatives of government and rig the game to their advantage. So long as secrecy becomes paramount in the conduct of government, public decision can be preempted by collusion among insiders to the detriment of those who are not privy to the councils of government.

Privy councils can then dominate public choices and members of the larger society become the victim of tragedies which they must endure for want of a knowledge of either of the causes of their wretchedness or of the potential remedies that might be available to them.

These principles of public deliberation in rule making, rule enforcing and rule judging can all be qualified by standards of constitutional law so that no one is allowed to be the judge of his own cause and can be amplified through a reiteration of the process of constitutional choice exercised by different constituent communities. Redundancy in independent problem solving capabilities enhances error correcting potentialities. A failure on the part of some decision makers will still allow for independent actions on the part of other decision makers.

Recourse to a federal principle becomes the logical complement of a system of constitutional rule if members of different constituent communities are to enforce provisions of constitutional law as against those who exercise the prerogatives of government. It is under these conditions where it is possible to take "men as they are" and "laws as they can be" and contemplate a political order that "admits of organizing principle(s) that (are) both justifiable and conducive of stability" so that justice and utility can be reconciled at every point. (Rousseau p. 1)



## THE PRACTICE OF INSTITUTIONAL ANALYSIS AND DESIGN

Our consideration of institutional analysis and design has proceeded at an elementary level. We have called attention to basic elements or variables: 1) people, 2) the language and structure of authority relationships, 3) the structure of events or situations that people attempt to control as goods and services, 4) structures of organizational arrangements for supplying an array of both marketable and nonmarketable goods and services, 5) the effect of complex orderings upon the choice of strategies in modern societies and 6) the problems of institutional weakness and institutional failure. The task of drawing upon these considerations to engage in an analysis of institutional arrangements or to assess alternative possibilities as the basis for choosing which possibility is appropriate for the realization of stipulated objectives is plagued with difficulties.

The Problem of Language and Illusion

Perhaps the most fundamental difficulty arises from the circumstances that institutions are built upon words that are used to order relationships among human beings. The referent for the words or language used in developing a structure of authority relationships is human behavior or human conduct as these bear upon configurations of transactions and social relationships.

Critical aspects of institutional behavior are not directly observable as overt behavior. Some aspects involve human understanding and thus involve images, conceptions or "pictures" in people's minds. These aspects have unobservable subjective referents. Other aspects impinge upon large numbers of individuals whose behavior is not subject to simultaneous observation. We cannot for example "see" a corporation or a unit of government. But, we can see individual persons or groups of persons.

In the case of family we can see the individuals comprising a family and the dwelling where those individuals share a common habitat. The structure of authority relationships and the exercise of decision-making capabilities among the members of a family are much more difficult to observe. These are reflected by understandings and stipulations shared by its members. The analyst who wishes to understand a particular family as a set of decision-making arrangements is required to gain access to the language used by members of a family and to learn about the ways that they conceptualize and express their relationships in dealing with one another.

Unfortunately language can be the source of as much misunderstanding as understanding. In efforts to simplify communication simple words can be used to characterize complex relationships. The word "government," for example, can be used to refer to relationships among millions of people. The simplicity of the word can obscure the complexity of the relationships involved in any system of government.

The difficulty of relating rules to conduct and conduct to outcomes, pay-offs or consequences in the larger patterns of social relationships means that individuals find it difficult to calculate probable effects and to understand the structure of interdependencies existing in the larger society. Something called society or the state is apt

to be as illusive and amorphous as the most ambiguous terms in theological discourse. The illusiveness of an empirical referent for something called society or the state is apt to be greatly exaggerated when the rhetoric and contention of different players in "real-life" games convey grand allusions and contradictory messages that have little relationship to the observable events that ordinary individuals experience in their daily lives.

If the imperfect conditions in the play of real-life games are now compared to idealized conceptions or utopian images, the development of political mythologies can replace an empirically grounded political consciousness where actors can compare alternative sets of rules and structures and assess their effects upon strategies and the expected outcome of the game. The realm of political mythology is one where idealized images or pictures in our minds are used to conceive of how ideal players will play ideal games. Conceptions of perfect games are contrasted to the imperfect conditions of "real-life" games. All of life becomes a comic tragedy and ordinary mortals become bumbling idiots, scheming rascals and irrational fools. On the basis of any criterion, the play of "real-life" games when compared to ideal games will be unfair, inefficient, ineffective and subject to human error.

The use of ideal models to criticize the structure of existing social institutions will view any social condition as a potential pathology and will view any society as being "sick." The analyst who views the conditions of human society in relation to ideal models is apt to take on the perspective of an omniscient observer who assumes that he can "see" the "whole picture," "know" what is good for people, and plan and predetermine the future course of events with perfect foresight. If such analysts could only function now as omnipotent rulers the utopian conditions of the ideal model could be translated into the perfect

society.

In The Myth of the State, Ernst Casirer emphasizes the importance of what he calls the technique of modern political mythology as a pervasive type of phenomenon associated with political rule in many modern societies. Slogans become a substitute for reasoned analysis. These slogans are given mythical status where faith is attached to slogans through a presumption of social imperatives. The impossible becomes an imperative; and the slogan symbolizing the imperative acquires the attributes of magical words.

Decision-making in the technique of modern political mythology, is transformed into rites conducted upon a stage of political pageantry. The drama inherent in the political pageantry reaffirms faith by frequent reiteration of slogans as magical words to exorcise the evil men or evil forces which impede the realization of the impossible and reaffirms the devotion of the faithful to the imperative necessity of the impossible. In the meantime power is manipulated in mysterious ways far removed from the facade of political pageantry.

Anyone who has been an observer of events in human societies will recognize the fact of pageantry, mythology and illusion as elements of social reality. Unfortunately, language and illusion are inextricably bound together. Words are human artifacts devised to "symbolize" and stand for events and relationships which serve as their referents. Words, thus, are "fictions" created to stand for something else.

All efforts to use language, whether in scholarly or political discourse, is subject to a tyranny of words. But the problem is compounded in the study of institutional arrangements because all institutions are built upon a language of authority relationships.

Authority relationships are word-ordered relationships and depend upon human agents to give them force and effect.

In this chapter we shall be concerned with the strategies that can be followed to reduce the danger that words create gross illusions as we engage in the practice of institutional analysis and design. The danger will never be eliminated, but we may be able to learn why people behave as they do without having to assume that men are inherently evil or irrational. The strategies that we shall consider are 1) the use of methodological individualism as the basic point of departure, 2) shifting units and levels of analysis to take account of specific types of institutional arrangements for facilitating joint efforts, and 3) comparing alternative structures under like circumstances to assess the effects of structure upon performance. After considering these strategies of institutional analysis we shall conclude with a consideration of institutional analysis and design.

### Analytical Strategies

#### Methodological Individualism

To avoid gross oversimplification by assuming that we can talk about "governments" as though they were simple actors in a world drama, we prefer to use individual human beings as our basic unit of analysis in considering the structure of institutional arrangements. The use of individuals as the basic unit of analysis is sometimes referred to as methodological individualism. Our preference for taking the perspective of individuals is simply an effort to use a single common denominator in studies of all different types of institutional arrangements.

Abstract discussions about something called society or the state must make sense as these involve the structures of social relationships that individuals have with one another. We prefer that analysts be as specific as possible in identifying the behavioral referent in considering social conduct rather than to make allusions that "society prefers" or the "state requires." We prefer to assume that individuals are the instrumentalities through which "societies" function and cultures are acquired, transmitted and changed. We view "customs" as the strategies evoked in response to the structures of decision-making arrangements which individuals have learned to pursue over time.

From the perspective of methodological individualism we prefer to take a simplified conception of individuals and to assume that they will learn to pursue strategies in light of the opportunities that are available to them. As a result we prefer to assume that any particular individual will learn how to differentiate his behavior so that he can act with a reasonable level of success when buying and selling in a market, when serving as an employee in a large organization or when considering what strategies to pursue in his support or opposition to some political measure being considered by governmental officials.

We do not consider it useful to conceptualize "economic man" as being different from "organizational man" or "political man." Rather we assume that the differences in perspective, attitudes and strategies sometimes associated with "economic man," "organization man" and "political man" are reflections of the differences inherent in the institutional structures characterized by market arenas, bureaucracies or those political arenas that have reference to electoral, representative

and legislative institutions. Individuals learn how to adjust their choice of strategies and their patterns of conduct to deal with the opportunities inherent in differently structured situations.

We need, however, to anticipate that some individuals will have skills, risk-taking or risk-avoiding propensities, and other preferences which imply that not all individuals will succeed equally well in all different types of institutional arrangements. Thus, we might expect some individuals to sort themselves out to pursue opportunities in a market arena, as against a political electoral arena, a bureaucratic organization, or some other type of institutional setting.

Under these circumstances we might expect processes of self-selection, personnel recruitment and promotion policies to sort out people so that the individual characteristics may vary among businessmen, politicians or administrative functionaires. Factors or variables of personality may thus interact with institutional considerations to accentuate certain types of strategic behavior.

Since institutional arrangements constrain behavior and give rise to opportunities that are structured in relation to incentives and deterrents we can also expect institutions to have an effect not only upon patterns of conduct but upon the attitudes, expectations and predispositions of persons who function within the constraints of particular institutions. Since governments or governmental officials have the capacity to mobilize lawful sanctions in coercing individuals to conform to demands being made upon them, it is relatively easy to cross a threshold where coercion or the threat of coercion affects the calculations of individuals subject to governmental action so that costs are anticipated to exceed the benefits to be derived from

particular governmental actions. Under such circumstances individuals may perceive themselves as being left worse-off whenever they expose their hand to invoke the services of governmental officials. Alienation, reticence and latent hostility may be stimulated in response. Particular types of institutional structures thus can be expected to affect the attitudes and personality characteristics of individuals. These effects are sometimes recognized as giving rise to particular personality types which are sometimes associated with "national character." Presumably the configuration of institutional arrangements existing in a national society will affect the attitudes, expectations and behavioral patterns of the people who pursue opportunities and cope with the constraints inherent in those institutional arrangements.

Alexis de Tocqueville in various writings on France, for example, reflects upon the dominance of French bureaucracy and its effects upon the feelings of hostility and alienation that French citizens have toward governmental officials and upon their feelings of suspicion and distrust for fellow citizens. When confronting periodic crises, these same conditions of alienation and distrust lead individuals to rely all the more upon strong forms of coercive action in order to cope with the crises at hand. A repressive bureaucracy can engender alienation and reticence which leads to increased demands during crises for the use of stronger authority to coerce collective actions in critical exigences.

Institutional arrangements can evoke characteristic attitudes and behavior patterns and those attitudes and behavior patterns can reinforce demands for the maintenance for the institutions that evoke the attitudes and behavior patterns. It is possible for political institutions to evoke a pervasive sense of misery among population and for

that population to demand actions that strengthen the hands of those who generate the misery. It was these circumstances that lead Tocqueville to observe: "In France there is only one thing we can't set up: that is a free government; and only one institution that we can't destroy: that is centralization." (Recollections p.xvii)

The greater the disparity between the cultural background and experience of an observer and the persons whose experience he is observing the less he can rely upon his own assumptions about expectations and preferences in taking account of individuals as functioning elements in any social system. Individuals act in light of their accumulated learning; and the accumulated learning acquired by anyone living in any given society represents an extended body of knowledge and associated practices. Access to the body of knowledge used to explain and rationalize patterns of organization and conduct can only be acquired through the vehicle of language and an effort to translate from one language to another.

The interdependence between characteristics associated with individuals as personalities and structures of institutional arrangements suggests that there may be varying degrees of knowledge and understanding about institutional arrangements and the degree of self-consciousness or awareness that persons have about those structures. The patterns of learning associated with the acquisition of knowledge about how rules come to be known and understood has been the subject of an important study by Jean Piaget. Access to all forms of learning depends largely upon language.

Jean Piaget indicates that rules first become known by acquiring the motor or behavioral skills associated with the actions prescribed

by rules. The practice of rules is the first level of knowledge associated with the learning of rules. The basic connection between rule and conduct is established by training in organized practice directed to the performance of particular tasks. Rules and the logic of a game are externally given until an individual has acquired skill in the practices associated with play of a game. Once skill has been acquired the play of a game continues to be pursued within the established or prescribed rules of a game as players test variations in strategies within the confines of those rules. Rules are taken as given. Infractions of rules are dealt with by an appeal to some unilateral authority who knows the rules and is expected to judge or adjudicate the infraction.

Piaget contends that quite a different level of knowledge begins to develop after individuals have acquired skill in the play of a game and have explored different permutations of strategy within the confines of given rules. They begin to conceive of alternative sets of rules and the consequences that follow from the choice of strategies, the play of the game and the payoffs for the different participants under different sets of rules. A second level of knowledge develops which Piaget calls consciousness of rules. Games then take on a different characteristic where a part of the fun of playing games is the opportunity to devise new rules and to pursue the strategies made available by the new structure of the game. The level of consciousness that develops from being able to conceptualize and compare different sets of rules enables players to calculate the likely consequences and evaluate the likely effect of rule changes upon the play of differently structured games in terms of common evaluative criteria such as fairness. It is at this level of consciousness that players of games begin to develop autonomous

capabilities for moral judgment and begin to view the rules of games not as externally given but as being based upon mutual consent and mutual respect. Referees may still be used to determine rule infractions but now the referee can be selected from among peers who together with the players can stipulate the rules that are to be used in the play of any particular version of a game.

Piaget's observations are important because they emphasize different levels of learning, the importance of conceptualizing alternative sets of rules and of experiencing the implications which follow as the basis now for the formulation of alternative rules and the design of new variations in the structure and play of games. Piaget's studies applied to children and their play of the game of marbles. The same principles can be conceptualized as applying to all institutions and in the play of "real-life" games.

The translation of Piaget's observations to some of the larger and more complex games of life become difficult because those games may be played by millions of people. In such circumstances no one player can directly comprehend or observe the implications which follow either from existing practices or from alterations in the rule upon the play of a game as it affects all other players in the game. For most people, "real-life" games acquire their reality in the context of neighborhood, village or work group. If these are externally given and subject to unilateral control by external authorities, relatively little opportunity may exist for the ordinary individual to participate in self-governing associations where innovations in rules can be conceptualized and be selected on the basis for mutual consent and mutual respect. Without this opportunity individuals may have little chance

to test alternative conceptions by experience and develop a sense of reality about the consequences likely to follow from different rules.

"Real-life" games have long accumulated tradition of rationalization and explanation that serve as logical structures or frameworks for conceptualizing the ordering of relationships among individuals in a society. These logical structures are rooted in efforts to explain "proper" relationships among individuals and serves as a basis for conceptualizing the differences between "right" and "wrong." As we have indicated in chapter 3, an individual who is not able to distinguish "right" from "wrong" in any society is not considered to be competent to function as a decision maker in that society.

We assume that standards of right and wrong are learned from the earliest experiences in childhood when parents and other adults have reference to such standards in training the young in "proper" patterns of behavior. Such rudimentary conditions as eating practices and toilet training practices involve authority relationships where sanctions are mobilized to secure conformance to acceptable standards of behavior. Criteria for distinguishing right from wrong are likely to be imbedded in religious and moral teachings as well as the prescriptions of a legal system.

As individuals generalize the roles taken by different players in games and acquire a capacity to take the perspectives of others as they play the different games of life, moral reasoning assumes a generality in which the standards of "right" and "wrong" and standards of "fairness" can be used in evaluating the rig of real-life games and the effect that these games have upon the fortune or misfortunes of different players.

Individuals who function within a society can be expected to be aware of the claims that they can make upon others and the relative degree of exposure that they will have to the claims made by others. This reflects their conception of the opportunities and constraints that derive from existing structures of authority relationships and the expectations that individuals have about the decisions that will be taken by officials if remedies involving authoritative sanctions are invoked. Where individuals always expect to be losers regardless of the nature of the contest we would expect little incentive to do much more than to bear burdens of misery.

From the perspective of methodological individualism we assume that individuals within a society will have a relatively realistic assessment of the structure of incentives and deterrents that are built into the structure of institutional arrangements as they play "real-life" games. The way such games are organized and affect life chances and life prospects need clarification as individuals function both as producers and as consumers of the array of different private and public goods and services that contribute both to individual and communal well-being. How conflicting interests are articulated or repressed and how conflicts are resolved become critical means for determining how rule-making and rule-enforcing functions are performed and with what consequences. Do the referees help maintain the fairness of real-life games or do they facilitate pay-offs to a dominant coalition of favorites and patrons?

#### Shifting Units and Levels of Analysis

Joint effort or teamwork involving a number of individuals is a

critical factor in human development. These joint efforts may include joint production, joint consumption or a combination of both. Joint production would involve teamwork to supply some service for others. Joint consumption would occur when those who wish to procure the use or enjoyment of some good or service that would be jointly available for a number of individuals. Many circumstances involving joint production efforts by those who are also consumers. Students, for example, are always essential joint producers of educational services.

Wherever teamwork occurs institutional analysts will want to know what difference teamwork makes in the well-being of the individuals involved and how the performance of differently organized teams can be compared with one another. Methodological individualism is retained because individuals are the basic elements or components of a team and the pattern of teamwork can be understood by reference to players, rules, practices, strategies and pay-offs associated with the play of a game. However our focus shifts to try to deal with the team as a going concern and to assess the performance of the team as a joint effort.

Most team efforts can be understood only in relation to two or more sets of rules and games. One set of rules applies to the organization or constitution of the team as collection of individuals organized to pursue joint efforts. This game might be viewed as the game within the team. Most teams involve a differentiated and unequal assignment of authority among those who are players on the team. This applies whether the team is a family, a business firm, a unit of government, a political party, a military force, a church, or any other collective endeavour.

The other set of rules pertains to the game being played between or among different teams. This might be viewed as the game between teams. The game being played, for example, by business firms in a market economy where a large number of independent teams are competing with one another can be specified in terms of a set of rules that apply to those who compete in any given product market. The performance of each team can be assessed in relation to its success in competition with other teams. In dealing with economic enterprises, most will also operate in a variety of different factor markets and in the context of various policy constraints and political structures. So long as the focus is upon a given product market, comparisons can be made of team performance where the conditions of factor markets and policy constraints are assumed to apply to all firms in that product market. Such conditions may not hold and cartel arrangements and public policies may significantly affect the viability of different teams.

The rules of the game that apply to the game being played between or among teams may involve many different types of team efforts. The efforts may be among security and military forces that are playing games of alliances, defense, threat and counterthreat, collective security and war. Or it may be among political parties in their efforts to win elections and organize governing coalitions. Or the rules of the game may apply to two or more agencies competing with one another for personnel, funds and other resources within the bureaucratic control mechanisms maintained by the executive apparatus of a government or a large business firm.

The game that applies to the organization of a team, how team members distribute their efforts, and allocate their rewards or payoffs

must be considered apart from the play of the game between or among teams and how that game affects the relative standing of the different teams. The game between the team may exercise a sufficient dominance in patterns of team play that teams will have incentives to acquire capabilities that have a favorable effect upon the play of any rival. In such cases, the constitution of each team will then be dominated by the play of the game between teams. If these results tend to be beneficial and improve the well-being of members of a society then the pressures toward uniformities in the constitution of the different teams will lead to development of institutional structures that were fashioned by the "necessities" or "pressures" derived from the play of the game among teams. The game between teams can thus exercise an "invisible" or "hidden" hand in "governing" the game within each team.

Where the rules of the game being played between teams generates consequences where they yield a predominant harvest of adverse consequences, an option that can be pursued is to modify the rules of the game and attempt to transform the game into one that yields an improved harvest of consequences. Such considerations turn to rule-making and rule-enforcing capabilities and how those capabilities are related to operation of rules in the game being played between teams.

Efforts to focus upon studies of team efforts, whatever the nature of that team effort may be, will depend upon clarifying the game within the team and the game between teams. This type of analysis can be extended to an effort to view any given set of teams as playing multiple games among multiple sets of teams. A particular team organized as a labor union may, for example, be engaged in games with other labor

unions, with employers, with political parties, legislators, government agencies and courts. Its pay-off as a team may derive from its capacity to play each game and it may not be in a position of dominating the play of any one game. Conversely, a team may be able to dominate the play of some one game by forcing out other players and use that position of dominance to dominate the play of other games.

We can also conceptualize circumstances where the play of games involve the joint efforts of many teams. In such cases an analysis might shift to the level where one is concerned with the performance of teams of teams in much the same way that one had examined teams. The team of teams will have reference to the game within teams, within the team of teams, and among the teams of teams. Alliances in relation to security blocks, industries composed of numerous firms each serving the same product market, confederations of trade unions and the bureaucratic apparatus of a state as it coordinates and controls numerous administrative agencies might each for analytical purposes be viewed as a team of teams.

Any type of team effort and its relationship to patterns of interactions with other teams can thus be subject to analysis by shifting the focus to the games within teams and the game among teams and how the two sets of simultaneous games interact with one another. to affect performance. The key problem in institutional analysis is to be able to specify alternative structures and determine how those alternatives will affect variability in performance.

Comparing the Effects of Structural  
Variations Upon Performance

Given the simultaneous play of a number of different games that have a potential effect upon the performance of any team effort, the effect of the structure of any particular institutional arrangement can only be established by attempting to hold some conditions constant while comparing other conditions that are subject to explicit variation. Furthermore, comparisons can only be made in the context of operational conditions in the "real" world.

Comparisons of "real-world" experiences with idealized conceptions or models will always be to the advantage of the ideal. If the "waste" and "inefficiency" of a market system is compared with an idealized model of the perfectly planned and perfectly coordinated bureaucracy, market structures will always rate only a poor performance. If the idealized bureaucracy is recognized as being the equivalent of a fully-integrated monopoly structure, somehow the image changes and we can begin to think of the possibility of comparing highly integrated monopolies with structures composed of a large number of relatively independent teams constrained by the rules of the game applicable to the game between teams.

The obverse can also prevail where the performance of governmental bureaucracies is compared with an idealized conception of how a perfectly competitive market system will work. "Real-world" bureaucratic performance when compared to the perfectly competitive market solution will always appear seriously wanting.

Institutional analysis, thus, must always be disciplined by inquiry in "real-world" situations where the effects of alternative structures under comparable empirical conditions are systematically compared.

Political consciousness as Piaget

has emphasized can develop only in light of comparing alternative sets of rules or alternative sets of institutions to see what differences alterations and alternatives make. Such comparisons can be made only under like circumstances where other conditions are held relatively constant. Presumably a high level of political consciousness that can be organized as an explicit body of knowledge would be a political science.

The strategy of inquiry we are suggesting is the equivalent of the experimental method. The objection can properly be raised that the experimental method cannot be used in human societies where human lives are manipulated to serve the ends of experimentation. Indeed we accept this objection. Science should inform human choice rather than subject human beings to servitude in the conduct of scientific "experiments."

The equivalent of the experimental method can be used if we take advantage of the great variety in institutional arrangements both within and among different human societies. The problem is to specify a range of conditions that can be held constant, or relatively so, while specifying some institutional conditions that are subject to known variations. If, in theory, we have reason to believe that those variations in institutional conditions will evoke predictable behavioral consequences, we can then secure evidence to determine whether those structural variations evoke the predicted variations in performance under similar circumstances.

If we are to investigate team efforts and attempt to determine how differences in team structures will affect performance what

factors would we want to hold constant? We shall consider four such factors: 1) resource base, production technologies and outputs, 2) other environmental conditions, 3) socio-economic characteristics of populations; and 4) concurrent institutional arrangements.

Factors to be Controlled or Held Constant

Resource Base and Type of Good or Service Being Produced and Used.

Any team effort is usually undertaken to do some task in the sense of realizing some "objective," "purpose," "end-in-view," "goal," "output," or "product." The first task in considering any team effort thus is to ascertain what the team is doing in the sense of the type of good or service being produced in relation to available resources, and how one might measure the output, product or yield of the team effort.

Presumably whatever a team is seeking to do in the sense of realizing some objective it will seek to proportion the means that are appropriate to the realization of that end. If the output or product can be specified we can then examine the resource base and the production process that is used to yield that product. An institutional analyst must thus become knowledgeable both about team structure and the task that is being performed by the particular team or teams being investigated. How well teams perform their tasks is a critical consideration and that cannot be known without a knowledgeable understanding of what is being done and how the choice of different options will affect team performance.

If we can now hold the resource base, and type of good or service relatively constant by having reference to similar conditions we will have an opportunity to compare the performance of different production

teams by examining the strategies they pursue in exploiting production possibilities and how these strategies affect outputs and net effort and performance. For example, in the central valleys of California and Chile opportunities would exist to compare the performance of a variety of differently organized production teams and teams of teams in the supply of water services for irrigation and other uses under somewhat similar environmental conditions. Privately-owned, profitable water companies, cooperatives or non-profit, mutual water companies, public water districts with varying structures, local government water agencies, state water agencies, and Federal water agencies operate side by side in the Central Valley of California. Similar patterns, to the extent that they exist might be investigated among the latifundia and the minifundia in the Central Valley of Chile. Investment patterns, production technologies, quantity of water produced, price, other water service conditions and their relationship to agricultural productivity might be investigated. Comparisons among the enterprises within the California water industry can be made with more careful control than comparisons between the systems of water resource development and administration in California and Chile.

Comparing performance implies that outputs and production strategies will in fact vary because of the effect that institutional incentives and deterrents have upon the choice of strategies made by each team and its members in organizing patterns of conduct. By analysing the resource base, production possibilities inherent in known technologies, an analyst can attempt to account for the choice of some possibilities and the exclusion of other possibilities. His knowledge of the rules of the game in the presence of similar resource base, and similar

production possibilities should enable him to derive inferences and generate hypotheses about how he expects team structures to affect conduct and performance.

When resource base and production possibilities are taken into account and patterns of conduct cannot be explained in light of the opportunities that appear to be available in the structure of institutional incentives the analyst can use an investigative approach to attempt to account for any apparent anomalies. Such a search strategy on the analysts part may require him to investigate the effect of other constraining institutions. The formulation of a plausible explanation to account for anomalies may lead an investigator to press on to different levels of analysis and to identify the constraining influence associated with the different level of analysis. The investigation of that problem will in turn depend upon a comparison of how alternative structures at that level of analysis create varying opportunities and constraints given a comparable resource and production possibilities. The plausible explanation becomes a new conjecture which needs to be tested in relation to its congruence with theoretical inference and its empirical warrantability.

Research by Martin Abel and Leo Hurwicz to determine the effect of different types of institutional arrangements upon supply of water for the irrigation of rice in southeast Asia is based essentially upon this type of design. Their concern is to take variable institutions in

Taiwan and other areas in Southeast Asia and compare the effects that variations in the structure of institutional arrangements have upon the terms and conditions of water supply and upon agricultural productivity.

Teams efforts need not be indigenous efforts, but may represent the efforts of production teams maintained by a national ministry in a highly centralized bureaucratic structure. Are the local teams maintained as an extension of the national bureaucracy better able to develop the resource base, procure factors of production, and supply water services to meet the demands of users than teams organized as water-supply cooperatives to serve water users? Which of the two sets of teams is best able to accommodate to the demands of other communities of users including those concerned with maintenance of stream flow and water quality control and secure "comprehensive" development of available water resources. Wherever we assume that the structure of team efforts will make a difference, the principle of controlling for resource base and type of good or service being produced can be used to determine what differences varying patterns of team organization have upon the choice of production possibilities and upon output or performance.

Difficulties will arise in the measurement of outputs, especially in the supply of public goods and services. Those goods and services are frequently of the sort that are not easily isolable, divisible, packageable or quantifiable. Proxy measures may need to be used as indicators of outputs and in such cases reliance upon multiple indicators or multiple measures will reduce the problems of distortion that are likely to occur.

In measuring the output of police services, for example, reliance upon

the rate of reported crimes as an inverse measure of performance is a notoriously unreliable measure of performance. The rate of reported crimes can decline when police fail to do their job, fail to report offenses, report offenses as lesser crimes; and the rate of reported crimes can increase with increased vigilance on the part of police. Data in relation to criminal victimization among the population served, response to calls for service, speed of response or elapsed response time, degree of follow-up, ratio of warrants issued to warrants applied for, and several other indicators can all be used as indicators of police-service outputs.

#### Other Environmental Conditions

For any particular inquiry environmental factors beyond those considered to be a part of the resource base may be a factor that can be expected to affect the task that a team faces. The architecture of buildings and the design and landscaping of public spaces can, for example, affect the production of police services; and patterns of land ownership can affect the supply of water services. Such factors may be difficult to identify. Any effort to deal with institutional analysis must be sensitive to the possibility that other environmental conditions can affect team performances and would need to be taken into account in controlling for those factors.

#### Socio-Economic Characteristics of a Population

Socio-economic conditions, as measured by socio-economic status or SES variables are important factors that bear upon any team effort. These confound the problem of analysis because they relate to several different components of any study. Socio-economic characteristics of

a population may comprise the resource base when we are concerned with the production of social services such as educational services or police services, for example. The task faced by the teams producing educational services will vary with the educational level of the general population in the community being served. These variables or conditions may also be reflected in the characteristics of those who form a team and may affect its capability as a team. Finally the socio-economic characteristics of a population may be reflected in the variable level of demand for different goods and services or for different qualities in the goods and services that are supplied.

Because we would expect the socio-economic characteristic of a population to affect several aspects of any team effort, these factors need to be accounted for in any research design. Wealthy people with high social status, high levels of education and professional training have the skills to manipulate most institutional arrangements to their advantage. The way that teams are organized can be expected to have a much greater impact upon the opportunities of the less well-to-do members of a society.

#### Concurrent Institutional Structures

Wherever team efforts are the subject of inquiry we always confront the problem of considering the play of simultaneous games: the game within the team; and the game among teams. The game among teams may be played out in a variety of differently structured games or arenas. These games may be competitive games in market economies, collusive games in forming coalitions against common adversaries, constrained rivalry within hierarchies dominated by higher authorities, adjudication among litigants in courts of law, or bribe-bargaining among corrupt

officialdoms.

The structure of the game being played among the teams may have a substantial effect upon the choice of strategies by teams and how the game is played in larger arenas. If efforts are made to assess the variable effect that structure of the game within a team has upon the performance of the team, the structures of the different games being played among teams must be held relatively constant. This can be accomplished by carefully specifying the level of analysis, indicating what level is being used for making comparisons and then selecting units appropriate to that level of analysis from within the jurisdictions that are controlling in relation to the game being played among the relevant teams.

A comparison of the operation of police agencies within a metropolitan area is greatly simplified if those police agencies have reference to a single system of criminal justice. Such a criminal justice system would include common prosecutors, common courts, the same criminal law and the same standards of laws that apply to police officers rather than different criminal justice systems with varying criminal laws and varying laws bearing upon the conduct of police.

Games among teams may also be investigated where the rules of the game are allowed to vary over time or over similar types of games. Differences in patterns of water law and the effect of that water law upon the formation of differently structured enterprises or teams might be investigated, for example, among states or nations that have similar resource and environmental patterns but explicitly variable law. Whether rights are allocated equally among adjoining property owners or by priority on the basis of first in time first in right

could, for example, have a significant effect upon the structure of enterprises that are organized to develop supplies of supplemental water. Those who share rights equally may find themselves equally exposed to shortages in periods of drought and thus be more willing to enter into a joint enterprise to increase the available supply than where the risk of shortages is borne exclusively by low-priority proprietors. High priority proprietors, assured of an adequate water supply in times of shortage, may have little incentive to share in the costs of supplemental supplies.

Where particular rules are changed either among different decision making arenas (the game between teams) or at some point in time within a given arena efforts to examine the effects associated with such changes can be viewed as a change in policy constraints bearing upon the conduct of teams functioning within that decision making arena. The operability of that rule or policy change can only be established by reference to those authoritative structures that have rule-making, rule-enforcing and rule-determining prerogatives for the relevant jurisdiction or jurisdictions.

The various factors that need to be controlled or held constant are in a sense factors that need to be taken into account. The appropriate accounts can be developed only by a knowledgeable specification of relevant data. Institutional analysts, who are not able to develop appropriate accounts to specify resource base, production technologies, outputs, other environmental factors, socio-economic characteristics of the population and concurrent institutional structures that provide the common institutional setting, will be confronted with a morass of variables where they then cannot account for the variable effects of varying institutional arrangements.

Independent and Dependent Variables

Any "thing" or any team, organization, association or other organized effort can be conceptualized in a vary large number of different ways. Unless inquiry is to be engaged in a random trial and effort way, institutional analysis must have some way to sort out problems and specify what conditions can be expected to have a variable effect upon outputs, consequences or performance. The capacity to do so depends upon the application of human reason to calculate the probable effects or implications which follow when individuals are confronted with characteristic opportunities in the world of events and have recourse to specifiable rules of a game that constrain some choices and facilitate the making of other choices. Characteristics of rule systems and the structures of independencies, dependencies and interdependencies among those participating in rule-ordered relationships can be specified as variable conditions, or as independent variables, that can be expected to affect the choice of behavioral strategies in human conduct. These variables can be characterized as structural variables pertaining to the different structures inherent in different institutional arrangements. The relationship of that conduct to a flow of consequences which will be of potential value both to the actor and to others who may be affected by those consequences can then be indicated. When the flow of consequences is measured in relation to some evaluative criteria or measure of value we can then speak of performance and assess the relationship between structure and performance.

Fortunately, large bodies of literature are available in characterizing many different structures of institutional arrangements with related arguments about the implications which associated with the use of those institutional arrangements for the organization of human

conduct. Many of these characterizations and arguments are subject to frequent reiteration as legislators and other political decision makers consider proposals for modifications in the structure of institutional arrangements. Most political arguments contain reference to an explanatory political theory whenever specifiable conditions are associated with problematical consequences in any diagnostic assessment or whenever a prescription is advanced to alter some specifiable condition in order to transform the consequent state of affairs into one that evokes more benign results or consequences. The association of conditions and consequences in an effort to explain reasons for policy changes can be viewed as an inference which can be stated as a hypothesis and be subject to empirical research to determine whether the inference holds in the practical world of experience.

Since the preoccupation of legislators and other political decision maker is with the formulation and alteration of rules in order to evoke patterns of conduct or behavior which yield desired results, the realm of political discourse and political deliberation have reference to the same phenomena that are the object of inquiry in institutional analysis and design. Both are plagued by the disparity between inferences derived from the idealized structure of theoretical reasoning built upon the fictions of language and the predictable patterns of probable consequences which occur in practical world of human experiences when those concepts or theories are being acted upon to organize human conduct. The critical contribution of the analyst is to be able to compare alternative structures or structural variables and supply evidence as to whether the theoretical inferences or arguments are empirically warrantable or whether the arguments and inferences are firmly held

beliefs and presumptions but lacking in empirical warrantability.

What Cassiner has called "The existence method of modern political mythology" would suggest that some of the explanatory arguments offered to justify changes in institutional arrangements will not stand the test of critical theoretical scrutiny or empirical warrantability. However, arguments advanced to justify changes in institutional arrangements cannot be dismissed out of hand but must be carefully examined for their merit. Some of the more important advances in the history of science have been advanced by individuals who have been marginal to orthodox traditions of scholarship. Darwin, Freud and Einstein to mention a few did not do their original work among traditional communities of scholars. The works of Thomas Hobbes, Alexander Hamilton, James Madison, Alexis de Tocqueville, V. I. Lenin, Milovan Djilas, and Mao Tse-Tung have been preoccupied with the use of theory in the constitution and reconstitution of human societies. The explanatory theories they use must be examined on their merit to determine whether fundamental new conceptions are being advanced relative to the constitution of different human societies. These are the men who have engaged in the practice of political theory and in the conception and design of fundamental political experiments.

The arguments of constitutional decision makers, legislators and political decision makers generally are likely to be strongly oriented to the circumstances that apply to particular situations in unique times and places. That circumstance need not foreclose the possibility of translating from an argument relative to a particular time and place to a more general explanatory language. Diagnostic assessments of a problematical situation and proposals to transform that

problematical situation into some preferred state of affairs offer explanations both about conditions and consequences and how alterations in antecedant conditions will transform the consequences into an altered state of affairs. It is precisely at these points where proposals for political change take on the nature of a political experiment and where the conceptions being acted upon can be tested by the harvest of consequences that they yield.

It is important to recognize that the transformations are occurring in the change of institutional arrangements or rule sets rather than in production functions that generate a specific array of goods and services. Our preoccupation is with the way that the rules structure the play of games within teams and among teams and what effects this varying structures have upon the performance of teams assuming that we can control for resource base, production technologies and outputs. Our preoccupation is with variable institutional structures as independent variables and with performances as dependent variables.

Since the works of Hobbes, Montesquieu, Rousseau and many of the other traditional political theorists there has been a strong emphasis, for example, upon the relationship of size of population and the viability of democratic institutions. Montesquieu expressed the problem in the following terms: "If a republic be small, it will be destroyed by a foreign force, if it be large, it is ruined internal imperfections." Explanations for why large republics will be destroyed by internal imperfections have been elaborated in various political arguments.

Montesquieu and Rousseau advance the suggestion that a confederate republic provides a means for resolving the dilemma; and the argument in The Federalist demonstrates how varying sized political structures can function concurrently in the government of a democratic society. These arguments have substantial relevance for proposals being considered and acted upon in Europe, North America and other parts of the world for the reorganization of local governments by eliminating or consolidating smaller units of local government and creating substantially larger units of local government. These actions are being justified upon arguments that highly visible candidates in larger units of government will be more accountable to voter choice and that large scale units will be able to supply services more efficiently.

If size of population served by local government jurisdictions can be arrayed as a variable and differently sized jurisdictions rendering similar services to similar populations under similarly situated circumstances can be compared in relation to the quantity or quality of service being rendered then assertions about size and performance can be subject to empirical inquiry. If a criterion of responsiveness

can be identified as an important evaluative criterion in a democratic society and responsiveness or lack of responsiveness is defined to be a relationship between the supply of a service and the preference of the population for that level or mix of service it becomes possible to compare variously sized jurisdictions and their relative responsiveness to constituency preferences. Similarly when costs are calculated in relation to levels of services supplied it becomes possible to compare the performance of differently sized local units of government in terms of their relative efficiency where efficiency is defined as the ratio of service levels to costs.

An increasing body of empirical research indicates that for at least some public services an inverse relationship exists between size of local governmental jurisdiction beyond the threshold of populations in the range of 50,000 to 150,000 and performance when measured in terms of relative responsiveness or relative efficiency. This evidence provides a basis for challenging presumptions about the increasing efficiency of large-scale bureaucracies in at least the provision of some public services and for reconsidering theories of bureaucratic organization that do not consider costs of management and control systems and the loss of information associated with elaborate control structures. If the evidence supplied by this empirical research continues to hold, we might expect patterns of local government reorganization to give rise to poorer performances when measured in terms of responsiveness or efficiency. Rather than improving the quality of services preferred by constituents under given cost conditions these reorganization efforts may be accompanied by eroding qualities of services, increasing costs for services rendered, the supply

of services that do not match the preferences of constituents or some combination of these factors.

The variable of size in the above discussion is only one variable that has a postulated relationship to performance. Where that variable is treated as an element in different theoretical argument and the theoretical arguments lead to contradictory conclusions we have an opportunity to test different explanatory arguments. If research dealing with the effects of different structural variables drawn from the different structures of contending arguments provide consistent evidence to support one and reject another we would then have reason to believe that the one argument or theory is a better analytical tool than another argument or theory.

The possibility that a political science can contribute to political consciousness or political knowledge arises when analysts have grounds for concluding that not all sets of intellectual tools are equally good or equally irrelevant but that choices can be made about what sets of intellectual constructs provide the more powerful tools for deriving inferences and reaching conclusions which are empirically warrantable. In such circumstances the methods of political reasoning or political thought can be disciplined by the methods of scientific inquiry. Such methods offer the prospect of supplying an alternative to what Ernst Cassirer has called the method of modern political mythology when has been the source of so much human tragedy in the contemporary world.

### The Practice of Institutional Design

The design and creation of any artifact depends upon a capacity to array the means or the conditions that are appropriate for realizing

the desired results or consequences. If we assume that the efforts to create any structure of organized relationships that enable people to maintain regularized and productive relationships depends upon the ordering of decision making relationships in relation to stipulated rules of conduct then the effort to develop organizations, enterprises, associations, governments or any type of institution depends upon a capacity to conceptualize how the appropriate structural conditions can be arrayed so as to produce the appropriate results.

The choice of decision rules and decision structures is however only one of the components that must be taken into account in the design of institutional arrangements. The design of any particular institutional arrangement must take account of the skills or capabilities and the preferences or interests of the persons who chose to become associated with the development of an organization or institution. They must have a sense that their participation in the effort will be worth their while before they will make an expenditure of effort that is necessary to create a viable enterprise.

The design must also take explicit account of the nature of events which are being manipulated to yield some product or output. The organization of an enterprise must always take account of the production function that is being performed as a joint team effort. The nature of the good or service being produced is also a critical factor in the design of institutional arrangements. Whether goods and services can be packaged and sold under market conditions or are freely available to a community of users once they are produced will enter into the calculation of any designer in considering the feasibility of a private enterprise as against some form of public enterprise which

can levy and collect taxes and enforce rules and regulations in relation to those who are the users of those goods and services.

The design of any particular type of organizational or institutional arrangement will need also to take account of related institutional arrangements. No institution in the modern world exists without reference both to the limitations and capabilities that are afforded by the existence of other institutional arrangements. Authorized relations always exist in structures of authoritative relationships. Authority may be distributed in many different ways to those who are the rule-makers and rule-enforcers in a society. The design of any particular enterprise or organizational arrangement would need to take account of the remedies that become available to those associated with the enterprise and those affected by the enterprise. The claims that others can make and enforce represent potential exposures and risks for those who are designing a new enterprise or a new organization.

Institutions unlike plants and animals cannot be transplanted from one habitat to another. Concepts and ideas can be communicated among individuals in different societies of people. Even this process of communication from one language to another and from one cultural tradition to another may pose serious difficulties. The new concept or idea that bears upon the structuring of human relationships must be translated into terms that derive their meaning from the prior learning, prior experiences and prior associations which form the context for thinking about the new concept or considering the new idea. The bearers of new concepts and new ideas must assume the burden of communicating with others in terms and conditions they understand.

If the concepts or ideas associated with the development of a new

institution can be communicated to others in another society or culture, the concept or idea must now be translated into the elements of design that take account of 1) the skills, capabilities, interests and preferences of the people involved, 2) the organization of inputs, production processes and a yield of outputs, 3) appropriate relationships to potential users or communities of users and 4) the fit of that designed in relation to the interests of all of those who may take policy decisions affecting the claims and counter claims that may be made by those both within and without the enterprise. The primary tasks associated with the creation, operation and modification of institutional arrangements must be exercised by people who are involved in the social relationships that comprise the joint effort.

When the design and development of institutional arrangements are undertaken by individuals who are not indigenous to a particular society or culture, the results can only be that of building dependencies in relation to mechanisms of external control. Only when those who function in a society are capable of designing and building their own structure of institutional arrangements can they have the prospect of attaining self-governing capabilities. And such possibilities depend upon knowing how to array the appropriate institutional means to the realization of those results. The world will be made safe for democracy only when people among the different societies of the world acquire the capabilities for being their own organizational artisans and know how to design and build institutions that are appropriate to the realization of their own objectives.

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