

A CONCEPTUAL MODEL OF INSTITUTIONAL GOAL-
SETTING IN A PUBLIC INSTITUTION
OF HIGHER EDUCATION

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CHAPTER I

INTRODUCTION

Overview

The aim of this study is to contribute to the systematic ordering of the process of institutional goal-setting in public higher education. It attempts to describe the nature of the event and to show patterns and regularities which reduce randomness and uncertainty about the process by which goals are set. After examining the nature of goals and goal-setting, the approach will be to identify the entities involved in goal-setting in higher education, describe the arena in which they act, and describe the relationships which exist among the entities. The structuring of the elements is built on the conceptualization of the goal-setting process as a social system. Based on this fundamental structuring, patterns are then sought in the relationships between actors which add structure to the process.

The implications of a structuring of the goal-setting process are that it lays the foundation for subsequent studies which will relate particular patterns of goal-setting or particular inputs into the system with particular goal outcomes, or which will in some way systematically compare the impact of alternatives available in goal-setting.

Needs for the Study of Goal-Setting

Developments in recent years in organizational theory and in the academic disciplines which contribute to the study of organizations have

gone far in systematizing organizational and administrative practice. At the base, however, of all organizations is an implied or explicit goal or set of goals which is the reason for existence of the organization. Edward Brink has observed that "Soul-searching questions regarding the basic objectives and plans of higher education are now transcending more traditional interest in the future availability and financing of university facilities" (4:226). Review of the literature on organization and administration of higher education reveals that much greater attention has been focused on effective accomplishment of goals or on arguments for particular goals for higher education than on the process by which goals are set. Both Eckert, treating goals of colleges and universities in 1960 (21), and Perrow (60), surveying the field of organizational goals in 1968, point to the need for concepts and constructs required to do systematic study of the process of goal-setting. A fundamental set of concepts is needed in order to explain how goal-setting systems vary.

Many assumptions are implicit in organization and administration based on goals. One assumption which is often made or implied is that the goals of higher education are absolute, that they perform a common function in all societies, and that the goals may be discovered by systematic analysis. Another set of assumptions, showing an influence of simple economics, holds that goals are set by the "owners", by the parties which provide the resources for the enterprise, or by the wishes of the clients. Another assumption is that in higher education, as in medicine, the professional specialists know what is best for the profession to do. Such a list of assumptions may be expanded many times. Dobbins and Lee have observed that "one's view of decision making in the academic community is heavily coated by one's own vantage point" (18:128). The

assumption of this study is that no one of these assumptions is an adequate explanation of how the goals of an institution of higher education are set. Rather, it is hypothesized that the goal-setting process is a complex social process involving many interested parties. A better understanding of this process is needed to complement the body of organizational theory devoted to accomplishment of goals. "A consideration of the dynamics of goal-setting makes it possible to move away from analysis centered only on the officially stated purposes of an organization" (39:78).

The need for the study of goal-setting springs as well from another source. If an educator becomes concerned only with the effective accomplishment of a given goal, he becomes in many ways a technologist skilled at methods of social engineering and goal implementation. These are very important, and the goals may in fact be very worthy. But if these are the bounds of his concerns, he abdicates his role as a fellow in a humanistic endeavor concerned with the questions of moral choice.

Consideration of goal-setting is particularly timely. While some societies have an "establishment" which sets the standards, a party ideology of over-riding influence, or a theology which dictates social values, social observers such as Raymond Aron note the disintegration of social consensus in many of the Western societies with which the United States can be identified. There is certainly no consensus on the goals of higher education, or on the goals of many particular institutions. In this context, the process by which goals are established becomes of even greater interest.

Objectives

The objective of this study is to develop a conceptual model of the institutional goal-setting system in public colleges and universities.

It is expected that the model will define what goal-setting is; describe the processes of goal-setting in a social system; identify the actors, inputs, outputs, and boundaries in the process; describe the relationship between the actors which give structure to the system; and identify ways in which goal-setting processes differ.

Conceptual Elaboration versus Empirical Studies

James Coleman (12:vii) has pointed out salient differences in objectives of studies: "In the development of any science, two things are crucial: systematic empirical study and systematic conceptual elaboration." The objective of this study is conceptual elaboration. As Conrad Arensberg has said: "The gain to science is not that of a controlled experiment, where another possibility is checked off. One's reward is a better 'model', a newer, even unexpected hypothesis about factorial interconnections" (2 :32). The thrust of this study is development of a way of looking at goal-setting which facilitates further study.

The Model: Components, Requirements, Verification

In building a model it is necessary to identify what the model consists of. The model which is the objective of this study focuses on a description of the nature of goal-setting, identification of the actors who perform the roles and functions in the process, the connecting links or relationships between actors, the salient dimensions along which the relationships between actors change, the types of inputs, and in broad terms, the categories of outputs.

The model is intended to support the subsequent formulation of hypotheses which lend themselves to empirical testing. The requirements of such a model are that it be coherent, that it correspond with available observed reality, and that the analyses of alternatives and consequences

be logical. Like theoretical research, all that is demanded at this stage in regard to verification is that in principle it be possible to test it by reference to sensory data (20:315). The model must be useful. In order to stand without modification, the model must ultimately be substantiated by the empirical research which is based upon it.

Delimitations

The Level of Analysis

Goal-setting behavior can be conceived of as existing at at least three levels: (1) the level of individual persons, (2) the level of collective entities or subsystems of the larger system with which characteristics or behavior can be associated, and (3) the level of the goal-setting system as a whole. The last two levels, involving behavior of collective entities, can be described in three ways: (1) syntality dimensions which describe behavior of system, subsystem, or group as a whole, (2) structure dimensions which describe relations among individuals in groups or subsystems in systems, and (3) population traits which average characteristics of individuals or subsystems (8:63).

This study focuses on the collective entities which make up the goal-setting system, and the characteristics of structure based on relationships between entities.

No attempt is made to deny that the qualities, characteristics and psychological attributes of individual persons affect the outcome. On the contrary, these are viewed as mediating variables which must be taken into account for any particular case. Attention is given to the collective entity level of analysis in an attempt to identify significant characteristics of the process other than differences of individual persons.

Institutional Types

This study is addressed to the public college in the abstract as the most general type of institutional form. Colleges and universities have many organizational forms, and public junior colleges and technical institutes add further variety. To accommodate to this, in particular cases identification of the actors and entities concerned with goal-setting can be adjusted to correspond with differences in institutions and in patterns of external support and control. Identification of actors is treated in Chapter IV.

The Approach

It has been stated that the objective is to deduce a model of the institutional goal-setting process in public higher education. The approach taken in this study is first to examine the nature and functions of institutional goals. Then the goal-setting process is described as the interaction of components of a social system. This requires a summary examination of a system and of a social system. The basic goal-setting action is seen as an interaction sequence in a social system. Regularities in the system are seen as regularities in patterns of interaction. Regularities in patterns of interaction are examined from two perspectives. The first is interaction in the abstract, disassociated from any social, psychological, or organizational matrix. Differences in origin and response patterns are considered. Patterns of conflict resolution are examined. The role of norms is considered. The resultant dominant alternative patterns of interaction are considered to form classes of the model. Then variation in patterns of interaction are considered which can be associated with variations in the "structural" relationships between elements. These "structural" relationships are based

on such factors as relative power, relative interest in particular goal issues, and quality of information links. The dominant patterns of interaction based on structural relationships are likewise to be considered classes of the model. The interaction is conceived of as taking place within some social, political, psychological, and organizational context or environment. Except as these contextural factors have an influence on the "structural" relationship among elements, they are considered as mediating variables to be accounted for in particular cases. The process in the most general case is conceived of as a cybernetic, on-going, morphogenic process which is under constant revision.

Expected Contributions

The expected contributions of the model developed by this study and the resultant identification of process dimensions or type forms are that they will provide the bases for the formulation of productive hypotheses which will lend themselves to empirical verification in subsequent studies. The model of this study is expected to permit hypotheses that are well founded and addressed to significant questions. It is expected that the propositions drawn from the model will be of at least two kinds: those relating some aspects of the goal-setting system itself, to include its output; and those that relate characteristics of the goal-setting process to other significant aspects of higher education.

From the perspective of organization theory, the significant question is of the first type, namely, how changes in one part of the process, especially an output, may be associated with changes in another part of the process. Description of classes or configurations of goal-setting processes provides the basis for relating particular classes of goal-setting processes with types of goal outputs or concern for particular

goal issues. A valuable contribution has been made by Gross and Granbsch (33) in this area, but there is an important opportunity for refinement of differences in characteristics or types of goal-setting systems.

Other propositions of the first type might include propositions on the point of intervention or the type of intervention for effective manipulation of the process or its output, and propositions that deal with the priorities of relevance of variables of the process in determining the characteristics of the goal output.

Propositions of the second type might cover a very broad spectrum focusing on organizational problems and relating these problems to types or characteristics of the goal-setting systems.

As an incidental utility, the model, in its conceptual form and unreinforced by verification of deduced propositions, can serve as a best-available guide for use in practice for approaching problems of influencing the goal-setting process. Part of the value will derive from the explicit statement of the variables, the relationships, and the component processes. Other effects of description of the process should be illumination of such operational problems as divergent goals, ineffective goals, or operating in an environment of unrecognized or uninformed conflicting goal positions. To the degree that the model is accepted as logical by the protagonists in a goal dispute, it serves to moderate narrow conceptions of how institutional goals are set. It illustrates, for example, that the president is not able as a generality to set or change the institutional goals by unilateral action, nor is it realistic to assume that faculty or students exercise unlimited discretion without constraints from other members of the system.

Looking at the process of goal-setting promises to contribute to the very central problem of examining the goals of higher education on a continuing basis.

CHAPTER II

THE NATURE OF INSTITUTIONAL GOALS

Introduction

Archie Dykes has described institutional¹ goals as that which precludes aimlessness, disunity, and disarray (19). A number of terms are closely related: role, function, purpose, aim, and objective. In this study, goal is used as a generic term. After the usage of Ohm (54: 8), objectives will be used for specific goals used to generate means or measure progress; aims are nonoperational general statements which require elaboration; and purposes are statements which synthesize individual needs and organizational objectives. Role, a word of many meanings, in this context describes the demand upon the institution by the social environment, the internal adjustment of the institution to this environmental demand, and the way the system functions in meeting the requirements (50:219). The institutional function is considered as the role of the institution.

In this chapter, institutional goal will be defined. The concerns of this study will be illustrated by citing examples of institutional goals from the perspective of this study. Functions, characteristics and types of institutional goals will then be surveyed.

¹"Institution" is used in this paper in the organization theory sense to mean an established organization, not in the sociological sense meaning an organized way of doing something, nor as used by Parsons to describe hierarchical levels of authority (59).

Institutional Goal: Definition

Definition: An institutional goal is an input into the decision-making process which represents a statement of the dominant intention of what some collective behavior, product, or state of affairs of the institution including all its elements should be.

Effective Behavior at the Institutional Level

Consideration of collective behavior at the institutional level raises the question of whether there is such a thing as an institutional goal, or whether in higher education the activities of an institution are simply the aggregate of the colleges, departments, and institutes in pursuit of their particular goals. The latter view would see the university or college, especially the university, as primarily a name given to the location where autonomous teaching, research, and service activities are geographically clustered.

It is true that many of the major elements of a university, if given appropriate administrative capabilities and moved away from the university, could stand alone, relating to society directly through the board of regents. The goals of the separated college would then be the institutional goals. But it is also true that by chance or design departments or colleges in institutions are not structured this way. They share an interdependency based on resources, students, and services. Programs develop which concurrently or sequentially cross departmental and college lines. Desires and capabilities of students for a variety of broad types of outputs from higher education, create a demand for coherent approaches to particular types of higher education on the part of the institutions. The elements of society providing support to institutions of higher education are increasingly concerned that scarce resources not be used to

provide the same expensive offering in more places than are required, and that some apparently valuable contributions not be ignored. In order to continue to exist, the institution must satisfy to some minimum level the society which supports it. It must satisfy the members who are needed to conduct it, and it must promise to satisfy the students who are its prospective clients. In current practice these demands are reconciled to some extent at the institutional level. The reconciled statement of what it must try to do to satisfy all these requirements are its goals as an institution.

It is conceivable that the goals of an institution could be to let every department pursue its own aims with no attempt to fit these departmental aims into broader institutional aims. But this decision not to decide is in itself an institutional goal, and it is not inherent in an institution of higher education. It must be set by the process of institutional goal-setting.

Internal and Environmental Components of Institutional Goals

Samuel Gould has suggested the restricted notion that institutional goals "...interpret a college or university's own estimate of its place in the totality of higher education" (30:226). From the perspective of this study, Gould's meaning represents only the "internal" or institutional component in the goal-setting process. On the other hand, Thompson and McEwen see an institutional goal as essentially the definition of a relationship between an organization and its environment (68:146). This conception suggests a monolithic internal goal-position which does not seem to fit institutions of higher education, and does not adequately take into account that part of institutional goals suggested by Gould. Institutional goal as used in this study refers to an ordering of values

which is a reconciliation of internal purposes and a mutually satisfactory relationship between the institution and its environment.

Goals as Intentions

Simon has said that "...by goals we shall mean value premises that can serve as inputs to decisions" (63:58). If this is diagramed as a process flow, we see the goal as one input into the decision process, the decision process providing the direction for action, and the action producing results. This is illustrated in Figure 4. This is an important observation, because to infer that the goal is the logical antecedent of some observed results assumes that the decision is the objective best choice in view of the goals, that the action is carried out exactly according to the decision, and that there was perfect translation from intentions to implementation. We may conclude that the goal does not have to produce the indicated results in order to have been in fact the goal. It need only be an input into the decision-making process.

If a goal cannot be judged entirely by its results, some important questions are raised: To be a goal, must a particular value premise be an input to all decisions? To be a goal, must a particular value premise be held by everyone?

The question of the effectiveness and universality of the goal is very close to the question of the setting of institutional goals, and will be examined further in the next chapter. For the purpose of definition, a goal will be considered a dominant intention.

Scope of Applicability; Interdependence

Institutional goals are intended to apply to all elements of the institution. Cartwright and Zander, in working with small groups, have

attempted to define a group goal (7:Chapter 22). Although aimed at small groups, part of their definition fits institutional goals, namely, institutional goals apply to matters about which there is mutual interdependence, and institutional goals act on all members alike.

The Dominant Intention

A Single Event Decision

If one person is making a decision, the dominant intention is resolved internally, except in cases where the value hierarchy of the individual is not established. When a group of persons is making a decision, the dominant intention can be judged from three perspectives: (1) it can be the intention of the majority among equals; (2) it can be the intention of that group who represent the highest count when their numbers are weighted by their influence on the decision being made; or (3) it can be the logical antecedent of the decision which was made if the effect of other constraints and inputs which are non-discretionary are taken out. Since it is meant to be the intention which most influences a particular decision, it would in theory be what the participants in the making of a particular decision would identify as the dominant intention if they were qualified to recognize it.

Number of inputs.-The fact that an institutional goal is the input to a decision-making occasion which states the dominant intention does not imply that it precludes other intentions being inputs in the decision-making process. Dominance is determined not by what "enters", but by what "takes", i.e., by what is effective. Decision-making may start before goal resolution is complete. Essentially this means that there is more than one input into the decision-making process. Decision-making then becomes included in the goal-setting process, and the decision in

effect sets the goal.

A Series of Decisions

While the previous paragraph is concerned with the dominant intention in one particular decision-making occasion, the question arises as to what the dominant intention is in a series of decisions. The abstract answer is that the dominant intention is that which prevails when all decisions are considered which affect the output, support, or state of affairs of the institution. Thus, an intention input which was dominant in one decision may not be dominant, and therefore a goal, when considered from the broad view.

Degree of Deviation

The question arises as to how much deviation from a so-called institutional goal can exist before it ceases to be an institutional goal as defined in this study. Deviation has two components: individual decision occasions which are made on intentions other than the prevailing institutional goal in question, i.e., deviation in decision-making; and actions by individuals or groups of individuals which are not in compliance with decisions based on institutional goals, i.e., deviation in implementation. The later is essentially a question of compliance.

The process of deviation is intimately intertwined with the process of goal-setting. To the extent that a member of the institution does not accept an institutional goal, there will be an attempt to change him or, if necessary, get rid of him. At the same time, the deviating member is trying to alter the institutional goals. If enough of the members of the organization support the deviation, the stage is set for changing the goal rather than changing the member. The same may be said about an ex-

ternal person involved in the function of the organization.

The problem of resolving what is a goal and what has ceased to be a goal because of deviations in decision-making actions, can be handled by avoiding a dichotomy. If we are considering a particular goal area, we can speak of a goal affecting a specified amount of organizational space, or a goal in a given percentage of decisions. We might also expect unresolved goal issues.

As a minimum a goal must affect a majority of the decisions in a particular goal area, the highest segment of decisions when rated on significance, and the majority of the important participants when rated on their influence on the organization.

Product or Process

Robert Chin has pointed out the distinction between goals as a description of what is desired as an outcome and goals as what is desired to be done as a process (10). Haberstroh has used the idea of a "common purpose that serves as the unifying factor in human organization" (35:1179). Etzioni sees an organizational goal as "a desired state of affairs which the organization attempts to realize" (23:6) which sets down "guide lines for organizational activity" (23:5). Simon's conception of goals as value premises or fundamental criteria (63:58) does not appear to specify whether the criteria are about outcomes or processes.

It appears that there are large areas of direct translation between goals as product and goals as process, but description of outcome is the broader notion because it can accommodate more than one process leading to the same outcome. Because of the present limitations on the theory of

goal-setting and goal implementation, most problems cannot be rigorously outcome oriented. In such cases it becomes expedient to focus on process characteristics, and assume favorable relationships with desired outcomes. It is held, however, that the same process which describes desired products may also specify desired processes.

Aspirations versus Constraints

✓ Simon has pointed out that goals play two very different roles: they may be used to generate alternatives and proposed solutions; and they may be used in testing the satisfactoriness of proposed alternatives (63:62-3). In the one case, goals are considered as sets of constraints which are the bases for judging alternatives. In the other case, goals have the character of aspirations. In Simon's view, when we focus on the role of goals as constraints it is not difficult to identify discrete goals in organizations. When goals are taken as aspirations, Simon sees commonality reduced through a proliferation of goals from a vast number of alternatives. Simon's observations tend to emphasize the role of goals as constraints, but do not rule out the existence of commonality of commitments.

Salient Institutional Goal Issues

The nature of the institutional goals to which this study is addressed is illustrated by looking at specific goal issues. It will be apparent that some of the goal issues are concerned with the output which the institution supplies to the society, and some are concerned with the internal processes within the institution and thus indirectly concerned with the outcome. Obviously, the illustrative issues listed below may be counterposed differently, and other issues may be added.

Practical emphasis versus academic and scholarly emphasis

Research and scholarly skills versus the "well-rounded student"
 Academic excellence versus personal adjustment and "character
 building"

High selectivity versus admission of all qualified candidates

Research emphasis versus teaching emphasis

Emphasis on general versus specialized education

Classical liberal studies versus "relevant" general studies

Immediate application versus long-range application

Concern with the immediate context versus a broad derivation
 of concerns

Emphasis on teaching and research versus social action

Socialization and integration versus dissent and social
 criticism

Cultural transmission versus creativity and critical thinking

Individual realization and identification versus increased
 social value or utility

Local versus regional or national orientation

Undergraduate versus graduate emphasis

Opportunity for individual faculty career development versus
 emphasis on institutional loyalty

Functions of Institutional Goals

✓ As stated in the definition, the function of the institutional goal is to be an input into the decision-making processes. The decision-making site may be many places in the organization, or in the institution's environment. Hill and Egan have identified four major functions of organizational goals in business enterprises: (1) define the major purposes, (2) provide criteria for integration of efforts, (3) define desirable

behavior, and (4) establish standards (39:76). In the institution of higher education the institutional goal serves to coordinate and integrate the actions of the parts. It describes desirable behavior and provides guidance on appropriate use of resources. Etzioni has pointed out that goals are sometimes taken as the claim for the justification of an organization's existence for its resource demands, and sometimes used as objectives by which to evaluate the organization (23:Chapter 2).

Characteristics of Institutional Goals

Sets of goals.-Many things make up the broad purpose of most institutions of higher education, so that the statement of institutional goals is a set of goals rather than a simple charge. An important aspect of this set of goals is that it not simply contain the areas of concern, but that a preference hierarchy or set of priorities be established. As Hill and Egan have said, there is "the necessity to specify the order in which the demands will be met..." (39:78).

A hierarchy of goal systems.-Institutional goals are part of a hierarchy of goal systems which include national goals for higher education, goals of state systems of higher education, goals of a particular department of an institution, and goals of groups or individuals. The goals of a state system of higher education may be an input to or put constraints upon the goals of a particular institution. From the other direction, departmental goals would be expected to be more specific than, but congruent with, the goals of the institution.

The goals for one institution.-Institutional goals are the goals of one particular institution at a particular point in time.

Goals as intentional consequences.-Etzioni makes the explicit distinction between intended and unintended consequences (23:7). Following

Etzioni, it is stipulated that goals of an institution are what was intended, not unexpected results.

✓ Real versus stated goals.-Etzioni has developed the difference between real and stated goals, where real goals command resources, reflect actual practice, and correspond with the private aims which cannot be stated generally (23:7). For the purpose of this study, concern will be with real goals. Stated goals will not be considered goals except as they influence decisions.

Personal goals versus organizational goals.-Jacob Getzels has formulated a model which emphasizes both an institutional dimension and an individual dimension in organizational behavior (29:3). Morphet, Johns, and Reller have pointed up that one role of the administrator is to bring about congruence of formal and informal group goals (53:138). Simon has pointed out the importance of distinguishing between personal and professional or organizational goals (63:64f). There are goal decisions that are based on the utility to the participants, and there are others based on the functions of the institution. Since it is difficult in practice to separate personal motives from behavior appropriate to a role in the organization, it is well to consider that goal-setting behavior includes personal behavior. But as Simon has said, "It is convenient to use the phrase organization goal to refer to constraints, or sets of constraints, imposed by the organizational role, which has only this indirect relation to the motives of the decision makers" (63:72). Granting that there are personal goals which an organization must satisfy in order to be effective and even to survive, by institutional goal we refer to an abstraction which implies that the functional aims of the institution can be separated from the personal aims of the individuals making the deci-

sions. Personal aims will be considered an input to the goal-setting process.

Who sets institutional goals?-An institutional goal is not necessarily identified by the person who or formal body which takes a goal position. If any element of the goal-setting process takes a goal stand which fails to influence the decisions of other elements, an effective goal has not been set by that stand. Although each of the actors in the goal-setting process may espouse what he desires to be the goals of the institution, these institutional goals of particular actors may best be thought of as inputs into the goal-setting process.

Degree of specificity.-Degree of specificity is not considered a distinct characteristic of an institutional goal. To be sure, as a generality institutional goals are expected to be more specific than system-wide goals, and departments have goals more specific than the institution. But a particular institution may have institution wide goals which are very specific or very broad.

Content.-The content is not judged to be a characteristic which distinguishes institutional goals from other types of goals, although certain issues are most frequently treated at the institutional goal level.

Types of Institutional Goals

Goals may be typed in many ways. One typing which is applied to institutions of higher education has been presented by Edward Gross. He has typed goals into two broad categories and eight subcategories (32):

Output Goals

- a) Student expressive, involving fundamental change of student's character
- b) Student instrumental, involving being equipped to do something specific for or in society

- c) Research, such as new knowledge or problem solving
- d) Direct service outside the institution

Support Goals

- a) Adaptation goals - coming to terms with the environment; found in recruitment, finance matters, placement
- b) Management goals - concerning who should run the institution, handle conflict, establish priorities on output goals
- c) Motivational goals - seeking to insure a high level of satisfaction on the part of staff and students which emphasizes loyalty to the institution
- d) Positional goals - concerned with status of the institution, and quality in all programs

✓ Etzioni has classified goals as economic, cultural, or order depending on the utility of the output of the goals (22:72ff). Economic goals lead to outputs of commodities and services supplied to outsiders. Order goals are associated with control of deviants. Culture goals are subdivided into creation goals associated with research; preservation goals associated with passing on the cultural heritage; application goals associated with professional or vocational application of culture, especially arts and sciences; and social goals associated with satisfaction of gregarious needs. Etzioni's creation and application goals appear to correspond to Gross' research and instrumental goals. Preservation goals may be implied in expressive goals which involve exposing students to the great minds of history and developing social, moral, and esthetic potentialities. It would seem reasonable that Etzioni's goal categories would have sub-areas of specialization. Thus, an institution with predominantly cultural goals, such as a college, would have goals with regard to academic achievement, individual development and integration, cultural survival, political security (Etzioni places political goals in all three

categories), health of the society, physical health of individuals, and allocation of economic resources. These in turn may be subdivided.

Goals might also be typed according to the kind of behavior which would be effected by decisions made in pursuance of particular goals. For example, the categories of behavior with which goals may be associated include teaching behavior; resource allocation; individual student actions to enroll, withdraw, tolerate, or protest; academic administration; personnel actions; major allocation of functions; and law making.

Several important implications are suggested by the typing of goals. The goal-setting process may be structured differently for one type goal than it is for another within a given institution. Some actors may be primarily concerned with a particular type of goal in a given institutional context. The typing of goals is essential if it is desired to correlate types or configurations of the goal-setting process with resultant emphasis on a particular type of goal outcome.

Conclusion

This chapter has defined an institutional goal as an input into the decision-making process, and has introduced the notions of degree of intensity with which a goal is held, degree of unanimity with which a goal is supported, and amount of organizational space affected by a goal position. Functions, characteristics, and types of goals have been examined. The important implication is that there is no inherent reason to believe that the processes for setting goals will be the same for the many types of goals in one particular institution to say nothing of between institutions. On the contrary, it is suggested that a particular configuration of the goal-setting system, to be developed

in subsequent chapters, will describe the process in a particular institution at a particular time concerning a particular goal issue. To assert that the same configuration applies at other times or on other issues depends on establishing similar system parameters.

CHAPTER III

INSTITUTIONAL GOAL-SETTING

Introduction

Based on the definition of a goal developed in Chapter II, setting an institutional goal consists of determining the dominant intention which forms the "goal-input" into the decision-making process concerning the institution in question, whether the decision is made within or external to the institution. This chapter will look at a simple process that produces an "intention", identify the essential element in goal-setting, define the "dominant" intention and the notion of effectiveness of a goal, and compare goal-setting to decision-making and policy setting. It will then inventory characteristics of goal-setting that must be accounted for in a model of the process.

The Simplest Case

Alternatives

Let us examine the process of establishing a goal in a situation involving two persons. Certain account must initially be taken of the relationship of the two persons. First is the relationship between the goal positions which each holds. Let us assume that the goal position of each person combines his individual goals and needs and his instrumental goals for the activity with which the two persons are concerned. Major alternatives are either that the goal positions of each person are largely

similar before the process, or are largely in opposition. Next, there is the relationship of interdependence regarding outcomes of proposed activity. A subcategory is potential gains from mutual cooperation. Alternatives range from the case where each party can achieve his aims independently, one party increases his return by mutual goal-setting, each party increases his return by mutual goal-setting, and finally, the case where neither party can realize his goals without the cooperation of the other party. A second subcategory is vulnerability or ability to obstruct outcomes. The alternatives include the cases where neither party can obstruct the achievements of the other party, one party can obstruct the other party, and both parties can obstruct the outcome achievement of the other party. Another relationship involves resources. One subcategory is control of resources. Alternatives are that neither party can affect the other's resources, one party can affect the other's resources, and both parties can affect the resources of the other party. A second subcategory is the elasticity of the resources. Alternatives are that resources are fixed so that they must be divided, or they are flexible and each party can have greater resources through cooperation. The final relationship considered will be a blanket relationship called dominance, where dominance is the ability of one party to get the other party to do what the dominant party wants by any means in addition to the factors previously mentioned. Means of dominance include legal authority; use of force; personnel actions such as dismissal or rewards; influence based on norms, prestige, affection, or leadership, or any other means. The alternatives on this relationship are that the parties are equal, one party is dominant in some respects and the other party is dominant in some respects, one party is dominant in all respects but is vulnerable from the

weaker party, one party is dominant in all respects and is not vulnerable from the weaker party.

It is assumed for the moment that the two persons exist in isolation. Reconciliation of their goals to their environment is not considered at this time.

Ensuing Actions

In this simplest case, it is assumed that the parties are engaged in a mutual activity. Decisions will have to be made about the mutual activity. The decision is based on a goal input. What has to happen in order to establish the goal input?

One of several things must take place: (1) the two parties find themselves in agreement on a goal, based on understanding of coincident aspirations, (2) there is negotiation and compromise, based on analysis of costs and benefits or modifications of goal aspirations, resulting in a goal both parties are willing to accept, or (3) one party is able to compel the other party to accept its goal.

The first alternative implies a meeting of the minds or the forming of a consensus between the two parties based on good communications and understanding between them, and a logical recognition of the commonalities of their respective aims. A compromise between equals is a possible course. The second alternative suggests an agreement between the two parties, but not an agreement that is the inherent outcome of an effective interaction. This agreement is an acceptance based in part upon an analysis of relationships between the parties other than their communications or information link, such as the ability of one party to give rewards or restrict resources. The more influential party in this exchange is also

making an assessment of the ability and likelihood of the party who is making concessions, denying contributions or inflicting "costs" on the mutual enterprise. The exchange analysis is based on influence on outcomes, control of resources, and other modes of dominance.

The third alternative is predicated on the assumption that the party which dictates the goal can compel decisions based on the goal, and can enforce reasonable compliance with the decisions based on the goal. If other goal inputs are introduced into the decision process, the goal of the dominant party was not the mutual goal, it was only his desired mutual goal. The dominant party, to set the goal, must in the abstract be able to establish that his goal will be the goal which is the basis for decision-making. If then, the dominated party chooses to act in a way contrary to the decision based on the goal, the problem is one of compliance.

If the dominant party is unable to enforce compliance with the decisions based on his dictated goal, an absurdity results. It cannot be rationally said that a goal has been set between these two parties if one of the parties intentionally does not take the actions which would be dictated by the goal and the other party cannot alter this situation. The recognition of the absurdity described above becomes more complicated when three parties are involved and only one does not comply, or when a hundred parties are involved and some do not comply. This will be explored later.

It is obvious that dictated intensions are accepted primarily when the party being dictated to perceives itself as having no choice. An exception, of course, is when the party being dictated to is indifferent about the goal issue under consideration. When each party has a keen

concern for the goal in question, and there is fair equality between parties in that neither affects the other's resources, neither can block the other's goals, or the balance between control of resources and control of desired output places the persons in relative equality, it is unlikely that either one will accept dictated goals from the other party.

The setting of intentions based on understanding and meeting of the minds offers many benefits in involvement of each party and stimulation of maximum effort of both parties in a team approach. But it has fatal limitations when the two persons have as an objective an unreconcilable difference in goal aspirations. This method of setting intentions seems to have its greatest value when the fundamental goals of the two persons are not far apart, but the mechanics of getting together is being pursued (or not pursued) in a way that obstructs working together.

Lack of hegemony by either party, and objective differences in goal aspirations force the two persons to seek to resolve their common intentions by an exchange process.

The Elements in this Simplest Case

This case illustrates the elements of the goal-setting process. There were two actors, they had a relationship which could be structured in several alternative ways, they engaged in an interaction, and there was an outcome or output from their interaction. Although not part of the illustration used, the goal-setting process between the two persons would take place in some environment. The actors would be dependent on the environment for resources and other inputs, and, unless their goal was something for their own amusement, they would furnish some output to the environment. The fact that different individuals would behave differently was not included at this time.

The Resolution: An Emergent Outcome

In this simplest case, it would be necessary to describe the relationships between the two parties before it would be possible to "play" the interactions, either by choosing the most logical alternative at each decision point, by extending each alternative action and response of the two parties to their logical outcome, or making decisions by random probabilities. Even if interaction chains were extended to likely outcomes, it would be impossible to say with certainty who would act when, what action would be taken, and what the outcomes would be. The outcome is emergent, that is, the process itself will influence the outcome, and it is impossible to predict the outcome even if the initial conditions are known. But this simple case has introduced two very important notions: the relationship between the two parties is "structured" in a way which has been identified, and the nature of the process can be described by categorical types. Both of these factors contribute to a description of the process. Even though the results are emergent and cannot be predicted with accuracy, the process takes on structure and this structure is the basis for correlation of outcomes with types of process.

More Complicated Cases

As more actors are added to the goal-setting process, the ways in which the actors stand on the issue, the alternative decisions and actions which are open to each actor, and the resultant outcomes increase to such an extent that it becomes virtually impossible to trace a unique sequence of the process. But the nature of the process and the dimensions along which the actors were related in the simple case, provide a framework for structuring the more complicated case.

There are several salient things that must be added to the simplest

case: the question of the "dominant" intention becomes more complicated when more than two intentions are possible; the "intention" which is an input to decision-making may not be the individual goal of any participant but is an abstraction attributed to a reified social group; the mediating effects of individual differences in persons must be acknowledged, and the environment must be considered.

The Essential Criterion in Goal-Setting

We have defined a goal as essentially an input into the decision-making process which represented an intention. It is important that we make the distinction between an anthropomorphism which represents the abstract intention of the organization as a whole as opposed to the aggregate of the goals-for-the-institution as held by the individual persons and groups involved with the organization. If we wish to conceptually deal with this abstract institutional goal, it is necessary to have some way to recognize it or at least its implied existence.

We have said that actual practice is not a reliable indication of the institutional goal because of the imperfections and distortions in the dominant intention inputs to the decision-making processes, and subsequent actions based on decisions. This observation of behavior may have been adequate when dealing with two persons, and in an abstract way is adequate when dealing with the intention of a reified institution. But when we attempt to describe how this abstract institutional intention is set or recognized, the gap between observable characteristics and the abstraction becomes great. Therefore, it becomes useful to infer the institutional intention from other characteristics of institutional behavior with which it is possible to deal.

The basic assumption of this study is that the abstract institutional

goals of an institution of higher education can be inferred from an analysis of the arrangements, interrelationships, and social action patterns which give structure to the organization, and which relate the organization to the broader social, economic, and political environment within which it has its existence. The essential step in institutional goal-setting, then, is to affect the process or structure of the organization in a way which is a logical consequence of the existence of a particular goal.

Goal Effectiveness

Based on the assumption that the "institutional intention" is recognized by the "structure" of the elements of the organization and its environment, whether or not a goal is effective is determined by the degree to which it influences organizational structure. Until a goal position has influenced relationships in the decision-making process, it is a tentative goal or a proposed goal. Examples of the type of structure referred to here would be the elimination of alternatives as decision-making choices, or the allocation of resources to facilities which dictate a particular activity.

Focus of attention on structure of the organization makes the notion of the "dominant intention" coincide with the goal which is effective. To find dominant intentions, it is not necessary to compare numerical strength or relative weights of influence, but rather it is necessary to analyze which intention influenced relationships in the organization. In the same way, the goal effectiveness is not measured by percent compliance or quantity of deviation, but by analysis of changes in structure (or maintenance of structure in the face of proposed change) associated with a given goal.

Differentiation between decision-making structure and goal-setting structure is pointed out subsequently.

Social Structure

The notion of social structure is based on the proposition that there is some order and structure in social behavior, and that social behavior is not, in Inkeles' words, "a great buzzing blooming confusion" (42:37), but rather is organized in patterns. This study assumes that there is some structure to social behavior.

Variables which Describe Structure

Udy has categorized five loci of variation in social behavior (70:490):

1. The individual component.
2. The group component, referring to aspects of the process of social interaction among people.
3. The morphological component, concerned with spatial-temporal arrangements of individuals and physical size of groups.
4. The systemic component, focusing on properties of inter-relationships among activities.
5. The cultural component, comprising ideas which are learned and shared.

The structure of social behavior, Udy suggests, can be described in terms of variations of these five classes.

The question, then, is what variation is most significant in describing patterns of social action in goal-setting and in describing classes of goal-setting behavior. In an attempt to impose a kind of order on our observations by formulating a model of the process, we must select those elements which promise to be most useful in promoting understanding. As

Inkeles has said, "every model, every perspective exacts its full price from those who use it" (42:45). In Oppenheimer's words: "In order for us to understand anything, we have to fail to perceive a great deal that is there" (55: 5). Thus, from the perspective of this study it is necessary to select the types of variations of social behavior which are of primary significance in giving structure to institutional goal-setting, and leave the other variations to be treated as mediating variables in particular cases. This is not to suggest that the mediating variables are not of great importance. Rather, they are being reserved for subsequent studies while the search is made for the most fundamental and general structure of goal-setting which will support identification of classes of goal-setting systems.

Structure of the Goal-Setting Process

The goal-setting process is seen as emphasizing Udy's interaction level and systemic level. In the simplest case, two persons establish goals covering their areas of interdependency by a process of simple interaction. It is posited that patterns of interaction develop which are the roots of group norms. But it is unlikely that two people would interact on a completely neutral basis, independent of any relationships except the character of their interaction. These interactions are influenced by the cultural norms of the environment within which the interaction takes place. The interaction patterns likewise are mediated by the morphological (spatial-temporal) arrangements of the group involved. Factors outside the interaction of the two actors, plus patterns or norms of interaction established by on-going interactions, establish interrelationships between the actors and their activities. These interrelationships are, of course, affected by the individual variations of the

human beings involved in the interactions, but the relationships exist apart from and independent of the people performing the actions. From the perspective of this study, the patterns of the interaction and the properties of the interrelationships among the elements in the goal-setting process describe the structure of the process. Classes of goal-setting processes are conceived of as clusters of particular variations of the relationships which form the structure of the process. Examples of interrelationships are given in the illustration of The Simplest Case given previously.

The Structure which Defines an Intention

We are obviously considering conceptual structures of several organizational parts:

1. The structure of the elements which set goals.
2. The structure of the decision-making process to which the goals are inputs.
3. The structure of the institution itself. Again, it is stressed that this is not necessarily the formal organizational structure, but the structure of relationships and interactions between elements.

The structure which is indicative of the intentions of the organization is the structure of the process which will produce decisions. It reflects the goals.

The structure which influences the goals is the structure of the goal-setting process. Its structure is changed by the goal-setting process itself, and by feedback inputs from the rest of the organization or by any forces which change interaction patterns or relationships between elements.

The goal-setting functions, the decision-making functions, the im-

plementing functions, and other functions abstracted from an institution of higher education are performed in many cases by the same individual persons. The relationships may be set concurrently in several functional areas of an organization. It is possible to have different relationships between persons and aggregates of persons from one functional area to another, but it is hardly possible to eliminate the relationships in one area affecting the relationships in another.

In considering structure, it is necessary to separate concern for influencing of goal-setting from concern for indications of goal-setting output.

Characteristics of Goal-Setting

It has been noted earlier that as goal-setting cases become more complex, attempting to project all alternative chains of interactions becomes so complex that such a development is no improvement over observed detail. It is necessary to aggregate and simplify. In subsequent chapters, the goal-setting process will be aggregated and simplified by describing it as a social system. There are certain characteristics of goal-setting, in addition to structural relationships and interaction patterns, which are apparent in observed reality, and must be accounted for in the system conceptualization. The following are considered prominent.

Intentional Goal-Setting versus Evolutionary Goal-Setting

There are cases in which the setting of goals for the institution is approached deliberately and explicitly. In other cases, the direction of the institution and the linking structure which reveal intentions are shaped by limited and inexplicit actions which place constraints and limit alternatives.

To assume that a linear relationship exists between goal-setting and decision-making as shown in the idealized model in Figure 1 distorts what is commonly seen in observed reality. Rather than all goal questions being worked out in discrete goal-setting interactions, the issue is often raised for resolution as part of the decision-making process.

This can be better accommodated by a model which includes more in the goal-setting process, and adds a series of feedback loops to the flow chart. This will be explored further subsequently from a system perspective.

Goal Veto versus Goal Formulation

Gulick's distinction between policy veto and policy planning or execution can be applied to goal-setting (34). Some parties influence goals by initiative in goal formulation while others are influential because they can veto a goal.

Goals for New Institutions versus Goals for On-going Institutions

A new institution, in its very early stages, is dominated by the external parties who were instrumental in its establishment to fulfill some purpose. In the very early stages, there is almost no internal component to engage in deliberation on goals. In an existing institution, on the other hand, the internal forces are by comparison much stronger, the likelihood of diversity is greater, there has been expansiveness in aims, and institutional norms have developed.

Prospective versus Retrospective Goals

Katz and Kahn distinguish between goals as explicit recognition of existing practice as opposed to statements about what organizational behavior shall be (43:259).

Distinction between Output and Process

Institutional intentions may be transmitted in such forms as instructions and policy statements, resource allocations, rewards and sanctions, and quotas or criteria. These same actions may be acts in the goal-setting process which will be the stimuli for responses from other actors in the goal-setting process. The distinction between output and process rests on whether or not the structure of the organization is changed, i.e., whether the setting is consummated.

Personality and Psychological Factors

In looking at characteristics of goal-setting, it is convenient to look at situational factors which must be considered, and at personality and psychological factors which mediate the response which might be expected from analysis of the situation alone. "Social psychologists have asserted consistently that characteristics of personality act in combination with situational factors to cause behavior" (43:290). From the perspective of this study, the influence of individual human factors is recognized, but such factors will be considered mediating variables to be applied to particular cases.

Katz and Kahn have discussed psychological aspects which are predisposing factors in decision-making which apply as well to goal-setting (43:284-290). They include determination of standards and judgement by one's own position in social space, identification with an outside reference group, projection of one's own attitudes and values to others, simplified and undifferentiated thinking about the world about us, dichotomized thinking, concern with the immediate, and oversimplified notions of causation. They also examine differences in individual personalities such as ideological versus power factor orientations and concerns, emo-

tionality versus objectivity, creativity versus common sense, and an orientation to action versus contemplation (43:290-294).

It is obviously necessary to account for whether the participants are substantively competent, effective in interpersonal relationships, rational in thought, and stable in emotions.

Dimensions of Goal-Setting

Katz and Kahn have identified three dimensions on which organizational decisions can be characterized which apply to institutional goals: the level of generality or abstraction (aims versus objectives), the amount of internal and external organization space affected, and the time duration of the decision. Organizational or institutional goals would hold a positive position on all three dimensions (43:259-260).

Goal-setting, Decision-making, and Policy-setting

Goal-setting bears a close relationship to both decision-making and policy setting, but is not conceptually identical. Goal-setting is more fundamental, and the result of goal-setting is an input into subsequent decision-making. As mentioned above, in goal-setting there is no a priori framework of values against which to compare alternatives. Katz and Kahn see goal-setting as one category of policy-making, and policy-making as decision-making of two types: goal formulation, and procedures for goal achievement (43:260). Alexis and Wilson (1:Section 1) have provided a structuring of the study of organizations which uses the term decision-making to mean two things: quantitative management science research on the one hand, and organizational processes concerned with problem-solving of individuals and groups on the other. The relationship of goal-setting to decision-making is judged to be closer to social

and political problem solving than to management science methods because goal questions do not lend themselves to being described by a quantitative description of a repetitive process which can be optimized, nor have the fundamental value judgements been previously made. J. W. Forrester has described the decision-making process as consisting of three parts: (1) the creation of a concept of a desired state of affairs, i.e., goal-setting; (2) monitoring of information of the apparent actual conditions; and (3) generation of action to remove the discrepancy between apparent and desired conditions (26). Policy setting describes how information is converted into action in the decision process. It is a formal statement, a decision rule, stating the relationship between information sources and the decisions which result (26).

Conclusion

This chapter has pointed out the difficulty in identifying an institutional intention and in determining when it has been set. As an alternative, attention has been shifted from the act which sets an intention to an indication that the intention has been set, namely, the structure of the decision-making process. Social structure has been identified as the pattern of interaction and the relationships which link elements in a process.

Examination of simple processes of goal-setting and of salient observed characteristics of goal-setting has indicated that the number of alternative actions and responses in even a simple case become unmanageably large. To be useful, an approach must be taken which permits dealing with aggregates and simplifications. In the next chapter, the systems approach will be examined as a means to this end.

CHAPTER IV

THE GOAL-SETTING PROCESS AS A SOCIAL SYSTEM

Introduction

Up to this point we have looked at the nature of institutional goals and of the process of goal-setting. The analysis of the goal-setting process produced two points: the goal-setting system must be given structure in order to be analyzed, and the factors influencing goal-setting in the production of hypotheses for analysis. This chapter will seek to provide the framework to accomplish these two ends.

This chapter will survey the characteristics of a system, and of a social system in particular. The general institutional system, the goal system and the goal-setting system in higher education will be described.

Characteristics of a System

The notion of the general system derives from the striking fact that scientists and theorists working independently in many fields discovered principles and relationships which were comparable (38:38). When these similarities were examined and consolidated, certain things were common even though the diversity of the "systems" was very great. The systems all had "actors" or elements associated with the action. The entities had properties. There was interaction between these elements and they were related in some way. The system was located in some environment. The separation of the system from the rest of the environment

implied a boundary. The so-called "open" systems had intercourse across the boundary, whereas the "closed" systems did not. In the open systems, the environments furnished "inputs" to the system, and received "outputs" from the system.

The systems conceptualization has proved very useful in structuring and organizing elements for study, and in directing attention to a whole rather than to isolated relationships between elements which neglect the other relationships of these elements. The systems theory is based on assumptions of non-linearity and complex interaction among the parts (47:1). The systems notion has provided the structure for formulation of hypotheses relating to organization and administration, such as Miller's "Cross-level Hypotheses" (51).

Definition of a System

According to Griffiths, "a system is simply defined as a complex of elements in interaction" (31:116). Hall and Fagen define a system as a set of objects together with relationships between the objects and between their attributes" (36:18). Walter Buckley describes a system as "a complex of elements or components directly or indirectly related in a causal network, such that each component is related to at least some others in a more or less stable way within any particular period of time" (5:41). "The particular kinds of more or less stable interrelationships of components that become established at any time constitute the particular structure of the system at that time..." (5:41). Maccia has apparently rearranged the Hall and Fagen definition to its improvement: "A system is a set of entities together with their properties and the relationships between the entities" (47:2).

Properties of Systems

George S. Maccia has described properties of systems (47:3). A system is "open" if it receives inputs from and returns outputs to the environment. It is "regulated" if it has feedback. It is "adaptive" if exchanges with the environment lead to system survival. It is "stable" if changes in system variables remain within determined limits, and "compatible with the environment" if it survives. "Wholeness" implies that a change in one part of a system will affect all other parts and the system as a whole, whole "independence" implies that a change in at least one element of the system may be made without changing other parts of the system. If all the elements or entities are independent, the system is "degenerate". A system may have a hierarchical ordering of elements, and is "centralized" if one element or set of entities dominates its actions. "Randomness" describes the situation where factors affecting a system property are so numerous that system action is considered to be by chance. This listing is not exhaustive.

Immegart's System Types

Immegart has identified four types of systems associated with the following four theoretical perspectives (41).

1. Comprehensive system theories.-These systems focus on obvious components, the attributes of the components, and the relationship between components and attributes of components. This type of system provides a comprehensive look at the specimen in question.
2. Process theories.-These systems focus on the processing of inputs through subsystems into outputs. Such a system characterizes the input-output linkages and the transformation process.

3. Theories of system properties.-A system of this type focuses on states and properties of the system itself. Attention centers on universal characteristics of open systems.

4. Output theories.-This type system focuses on outcomes relative to the system or its environment. It represents a qualitative assessment of end product variables.

In developing a model of the goal-setting process, it is important to identify which type of system or what combination of system types the model will be based upon. In this study the concern is with the way in which intentions are set into the institution. It is posited that relationships of the entities and components will structure the goal-setting system in a way that will shape its output. This involves the first category, above. The processing of the inputs is dependent on the structure, and the properties of the system can be tied to its structure.

A Social System

Social system is a rather imprecise term which has been used to describe many levels of complexity. In the broadest sense, social system is used to identify a system which differs from such systems as biological systems, mechanical systems, other physical systems, and mathematical systems. A social system involves the interrelated actions of human actors meeting the necessities of life in a social situation. In the broad area of human social relationships there are descriptions of cultural systems, institutional systems, managerial systems, psychological systems and many others. The critical elements of the most general social system which differentiates it from other systems is that it involves social acts of human persons or aggregates of persons and relationships between these persons. A social act is defined as "the smallest

unit of directly visible action which has a reasonably clear shared meaning for both the actor and others with whom he is in contact" (42:71).

A Cybernetic Social System Model

Walter Buckley has described a feedback or general cybernetic model of a social system. It has five stages which he describes as follows:

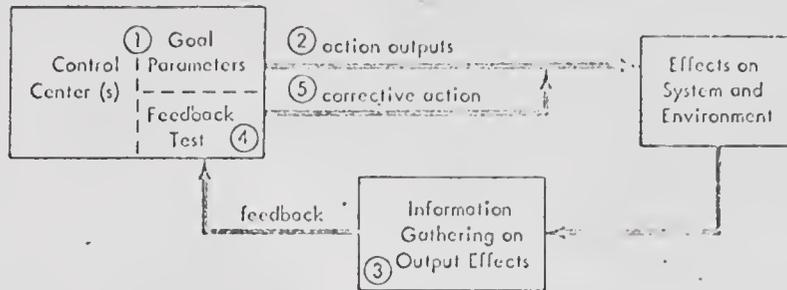


Figure 1. A GENERAL CYBERNETIC MODEL

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1) A Control center establishes certain desired goal parameters and the means by which they may be attained; 2) these goal decisions are transformed by administrative bodies into action outputs, which result in certain effects on the state of the system and its environment; 3) information about these effects are recorded and fed back to the control center; 4) the latter tests this new state of the system against the desired goal parameters to measure the error or deviation of the initial output response; 5) if the error leaves the system outside the limits set by the goal parameters, corrective output action is taken by the control center (5 :174).

Subsequently, the goal-setting system will be located in terms of a general cybernetic model of a college or university.

A College or University as a Social System

In describing the goal-setting process as a social system, it is helpful to locate the goal-setting in terms of other systems, and to cite several ways in which these systems have been described in the literature.

Attention will be focused first on the institution as a social system, then

on the total goal system of an institution, and finally on the goal-setting system of a generalized institution.

We have seen in the general characteristics of systems that an open system has actors or subsystems, inputs from the environment, outputs to the environment, a boundary, and relationships which link the actors. Using these elements, two models of a university are presented. The first, Figure 2, is Herman Koenig's model of the basic structure of a typical institution of education as a socio-economic process (46:964). The subsystems in the model are identified by functional characteristics rather than by formal structure of the institution. In Koenig's model these subsystems or "sectors" are linked by flows of services and resources. Inputs from the environment include manpower, capital resources, students, scholarships, and environmental facilities. Outputs include developed man power and such services as research, extension services, and consultation. The value of this model in this discussion is that it identifies some of the major components who will have a goal interest, and identifies two types of links between the components. It also shows the institution thoroughly embedded in an environment or social context with which it exchanges inputs and outputs and from which it cannot be separated in considering its goals.

The second model, Figure 3, is Edward Brink's model for decision-making in a university system (4:325). It is a flow model which has four sub-systems (finance, research, faculty, and students) and three types of facilities (research facilities, teaching facilities, and student facili-

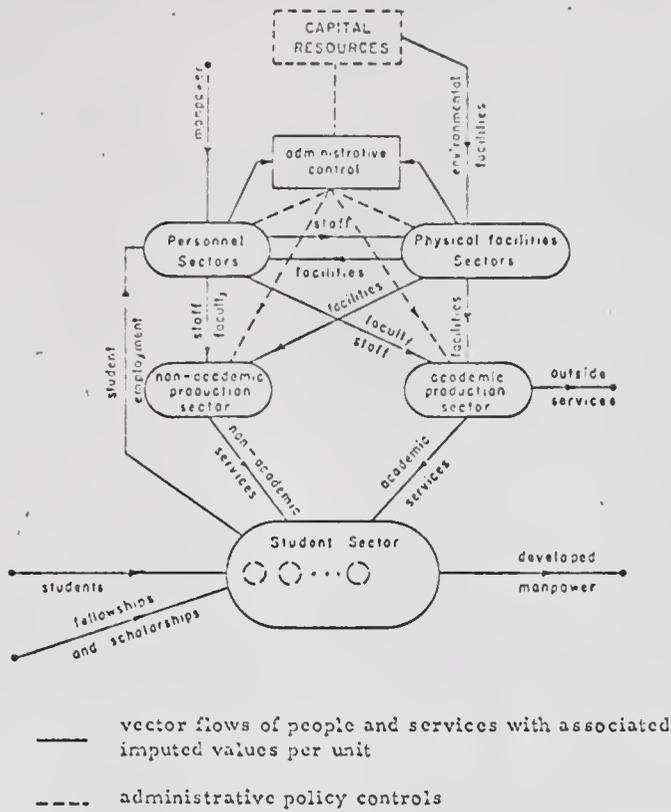


Figure 2. KOENIG'S MODEL OF AN INSTITUTION AS A SOCIO-ECONOMIC PROCESS
 By permission of The American Society for Engineering Education

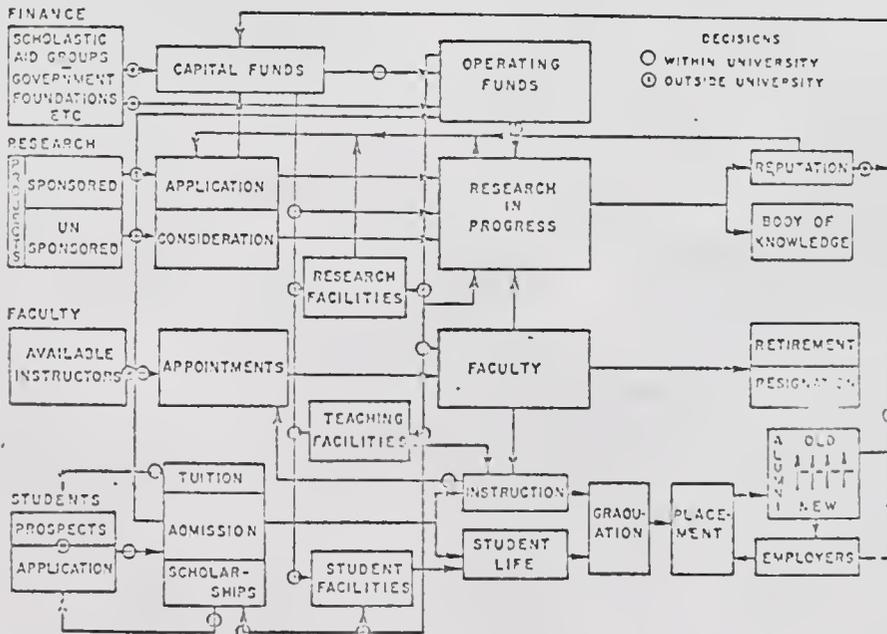


Figure 3. BRINK'S FLOW MODEL FOR DECISION-MAKING IN A UNIVERSITY
 By permission of Tavistock Publications, Ltd., London

subsystems of a university, and an amplification on the links between parts of process, both internal and external. These links include flows of resources, information, and persons. As Brink points out, parts of this model lend themselves to analysis by operations research techniques, and parts concern values, objectives, and social effects which may lend themselves to analysis by value theory. The latter parts are the ones of interest in this study.

These models suggest elements and relationships which must be taken into account in developing a goal-setting model.

The Use of Models

The use of models has been an important element in the development of the physical and social sciences. Although the physical sciences have generally been credited with leading the social sciences in rigor of method, it is ironic that the social sciences were much faster to realize that they were using models. The essence of using a model is that it provides the general conception or framework and ordering structure upon which or within which all the component elements and processes in question are related. It may be analogous to something familiar, it may be an abstract conceptualization, or it may be a mathematical or symbolic relationship.

The earliest physical "scientists" who looked at the heavens thought they saw mythological characters which fit into their general conception of the order and nature of things. Ptolemy, looking at the heavens in the second century A. D. using the model of the seven or eight concentric spheres with the earth at the center saw planets moving in loops traced by circles riding on circles, and his forecasts agreed reasonably well with actual observations. Copernicus, using a different model in the sixteenth

century, saw the planets moving in circular orbits around the sun which was the center of the heavens. Each of these astronomers attempted to order the heavens in terms of some model he could understand. The models were useful, but not necessarily "true", for even the circular orbits of Copernicus have been indicated to be elliptical by subsequent research. The question of whether there are large numbers of other stars like our sun with planets like our earth which could support forms of life depends on the model used for how planets are formed. One model sees planets as the debris from cosmic collisions. Another sees planets formed as the result of condensation of dusts and gasses in space. If the collision model is used, the probability of other systems in the celestial near proximity of earth is low. If the condensation model is used, the probability is much higher. The answer at this point in time depends on which model is used. The models may be changed again. But each model has been useful in the formulation of theories which provide a basis to order the unknown.

A significant aspect of the current use of models by physical sciences is that they are now explicit about the fact that they are using models. In earlier times, they presumed that they were dealing with "facts", and were discovering "truths" that would hold for all time. A model, on the other hand, is intended to be the best conceptualization of what is known. It is useful to the degree that it orders findings and provides the basis for formulation of new hypothetical relationships for examination and testing.

Types and Functions of Models

There are many types of models which are intended to serve different functions. Two major categories are normative models and descriptive

models (67:49). The normative models are concerned with how actors should act or how a process should take place. A typical planning model for a college or university describes relationships between resources and program activity levels under varying circumstances in quantitative terms, so that variations in one variable may be predicted based on variation of another variable (61:4). Such a model can indicate the most desirable alternative when criteria of desirability have been established. The descriptive models attempt to simulate behavior, outline the way a process actually works, or describe a set of social relationships. An example from the physical sciences would be a model in miniature of a river basin which would simulate the expected flood stage and timing when water representing a given storm intensity was introduced at various places in the basin.

Descriptive models cover a spectrum of stages of development. Advanced descriptive models may be used to predict relationships or outcomes. Models of less well understood things or actions may perform an ordering function which is the basis for further investigation. A model of the latter type may attempt to order and relate what has been observed as fragments. It may start with what is believed to be observed and attempt to describe logical antecedents by applying substantiated rules of behavior. It may start with a previous status and a subsequent status and describe the dynamics of the transition. It may focus on a series of events and attempt to identify participants or impacts on participants. One common characteristic is that at the time the model is put forward for use, the whole complex entity or process sequence has not been observed nor subjected to adequate conventional measurement because of complexity or inaccessibility of parts.

The model in this study is a descriptive model of the second type. It is predicated upon an examination of what goal-setting consists of. It is intended, then, to identify who is involved in goal-setting, and to aggregate these actors into manageable units. It is intended to relate the actors to the context within which they perform and to which they must adapt. It is intended to show ways in which the actors are related, and to suggest classes of goal-setting systems based on particular configurations of these relationships. It is intended to reduce areas of random variation adding elements of structure at any point in time. By identifying who is acting and the way these actors can be related, the model is intended to provide the structure which will support formulation of hypotheses for testing. The types of hypotheses which are based on the model are discussed in the final chapter.

The Form of the Model

Some models are diagrammatic. Some models are stated in the form of a theorem or as a mathematical formula which relates the parts. Some models are entities or processes with which the user is familiar which can be used as analogs. The model of this study emphasizes relationships. The model consists of actors in a social system and the relationships which relate (1) the actors to each other, and (2) the system to its environment. The assumption of the model is that goal-setting is the emergent outcome of a complex interaction involving persons and aggregates of persons internal and external to the institution. The cardinal principle of the model is that the way in which the actors are related gives structure to goal-setting which reduces randomness and provides the basis for hypothesizing relationships for further research. The parameters of the model are (1) the actors, including overlapping relationships and in-

dividual differences, (2) relationships between actors, and (3) input and output relationships with the environment.

The Goal System

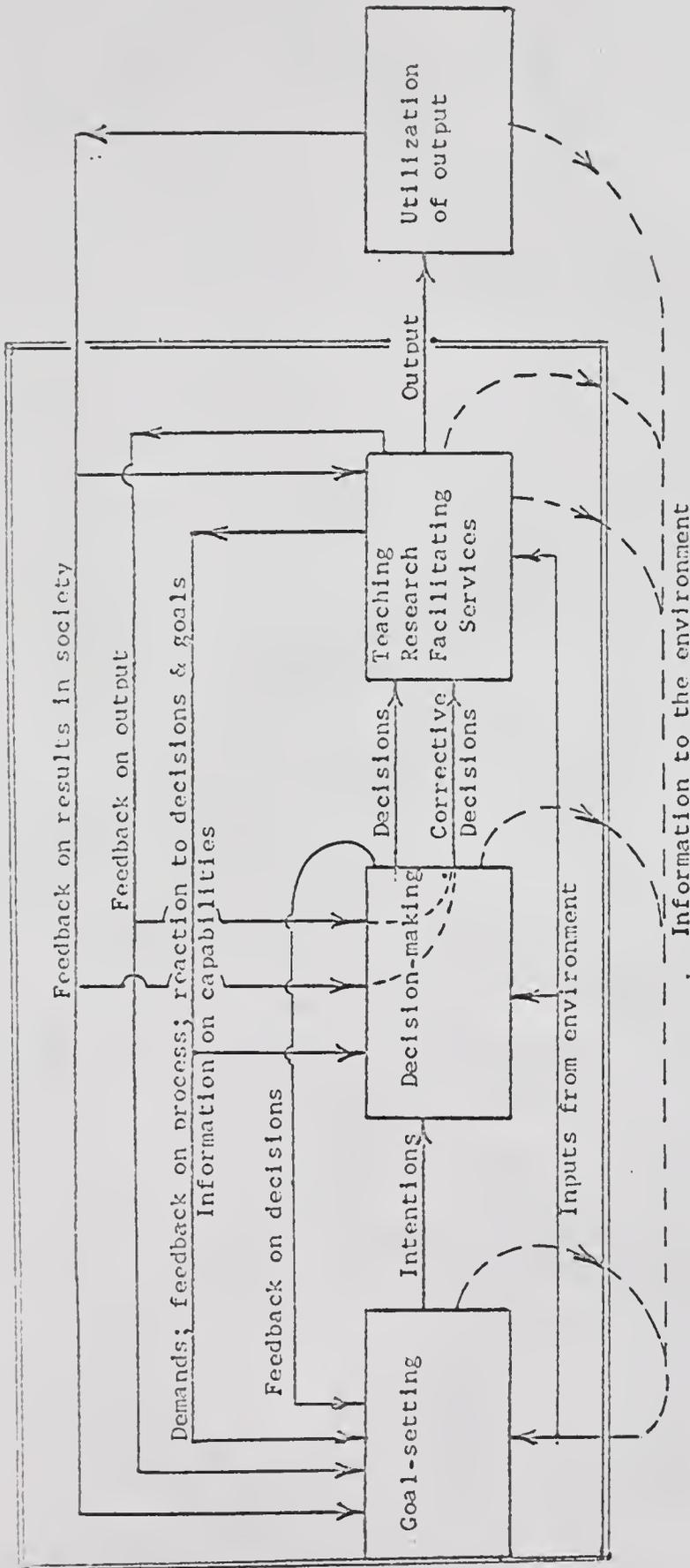
A General Model

In approaching the goal-setting system it is helpful to distinguish between the goal-setting function and the overall role of goals in an organization. The latter would include not only goal-setting, but goal implementation and output monitoring and feedback. Taking the general cybernetic model, Figure 1, and adapting it to higher education from the perspective of institutional goals, the model shown in Figure 4 results. Inputs from outside the institutional system are introduced to that part of the Control Center which sets the goal parameters, i.e., the goal-setting system. Information feedback on the output of this system is sent to the environment.

The processing unit produces outputs, which in turn have impacts. The actions of each actor are monitored by other actors and by the environment, and there is feedback on the process, the output, and the impact of the output. Part of the feedback is concerned with how well the institution approaches its goals, and part is concerned with whether the goals are the right goals. The concern of this study is with the latter. This model serves to relate the goal-setting system to the rest of the institution and to the environment in the most general case.

Principles

Obviously, this general model is too simple, but it illustrates several important principles. First, it distinguishes between feedback on deviations between output and goals as opposed to feedback on the suitabil-



Assumptions:

All actors in the goal-setting subsystem are in essential agreement.
 The decision-makers use the goal intentions without challenge.
 There is a general attempt to rationally carry out the goals.

A GENERAL MODEL OF A CYBERNETIC GOAL SYSTEM

Figure 4

ity of the goals themselves. Next, it identifies in aggregated form some of the inputs into the goal-setting process. Third, it introduces the concepts of self-regulation and self-direction. The essence of self-regulation is that the initiation of the system involves a set of rules for making decisions. The future outcomes from the system are the results of interactions under the terms of the generating rules (5:61). The alternative to self-direction would be that the designer (such as the state legislature or planning committee) would anticipate every contingency in advance, and spell out all alternatives so that a course of action would be dictated for every combination of inputs and feedbacks. According to Karl Deutsch (17:200), a self-directing system requires a full flow of information on (1) the world outside, (2) the past, with capability for recall and recombination, and (3) itself and its parts. These, then, are three prerequisites for the goal-setting system. Fourth, while the system has the capacity to change its own goals, the freedom of the goal-setting system is not absolute since it must operate within certain specific constraints included in some of the inputs from the environment.

The cybernetic goal system is the most comprehensive case. This is not to say that all elements of a cybernetic system are found in every goal system. On the contrary, feedback channels or other linkages may be blocked, imperfect, or missing. But all goal systems may be described in terms of modifications of the general cybernetic model.

Limitations

Even though this model may serve to illuminate certain systematic relations, it is obvious, as Buckley cautions, that there are "complicating factors." For instance, if we attempt to identify parts of a typical actual system in terms of this general model, it would be difficult to say

that there was only one goal-setting control center for an institution. An example might be the goal influence of discipline-oriented professional organizations or regional accrediting boards. The impact of multiple goal-setting centers is the possibility of multiple feedback loops circulating through the system simultaneously (5:174).

To assume that the action outputs are directly derived from the goal parameters is also simple. Buckley points out that the goal parameters are subject to interpretation and adaptation. There is the matter of acceptance of the goals by the operators, and the possibility of deliberate sabotage. There are also unforeseen consequences, transformation errors, "slippages", selective attention, and irrationality which may spring from faulty calculation of outcomes, communication inefficiency, random influences in subsequent decision-making processes, or "noise" in transmissions (5:123). In the typical higher education context, the relative autonomy of departments and the freedom of the individual professor would suggest a loose connection between institutional goals and action outputs.

In the information gathering stage, there are problems of ability to make accurate measurements of what has actually happened. When some problem situation begins to become apparent in society, it is extremely difficult to say that the problem can be attributed to the education system, to say nothing of pin-pointing just what aspect of the education system. Then there is the problem of the time lag. The impact of many aspects of higher education does not become apparent for many years. Finally, as Buckley points out, there is the natural tendency of those involved to see the best part of the results of what they have done and to overlook the bad parts (5:175).

The problems of feedback testing are obvious. Feedback information is not necessarily easily associated with a particular goal. There is often intransigence in the face of societal change.

Elaboration of the General Cybernetic Model

In locating the goal-setting system, it is helpful to expand elements of the general cybernetic model. Katz and Kahn have developed a categorization which elaborates on the general model. In identifying the goal-setting system, it is helpful to identify it in terms of other systems or subsystems in the organization. Katz and Kahn have described five types of subsystems in organizations: the production system, concerned mainly with task accomplishment; maintenance systems, concerned with mediating between task demands and human needs; boundary systems, one type of which is concerned with procurement and product disposal, and another type, the institutional system, which is concerned with social support and legitimation; the adaptive system, concerned with intelligence, research, and planning; and the managerial system, concerned with control, coordination of elements, and coordination of external requirements and organizational needs and resources (43:86). In such a scheme of organizational make-up, the goal-setting system is judged to span both the institutional subtype of boundary system and those functions of the managerial system concerned with "coordinating external requirements and organizational resources and needs". Katz and Kahn make a comparison with Parson's scheme of an institutional system concerned with external relations, the managerial system concerned with internal administration and allocations, and the technical systems concerned with most of the other functions of their more detailed classification. While Parson's scheme makes a very important distinction, the goal-setting system as conceived for this study specifi-

cally desires to combine the institutional system with goal concerns of the managerial system. In addition, it is desired to conceptually provide for goal-setting participation of the technical system elements, and of students which may be thought of as in some ways comparable to a client system.

The Goal-setting System

Introduction

Having located the goal-setting system as part of a general cybernetic goal system as shown in Figure 4, and in relation to the organizational subsystems of Katz and Kahn as described above, we focus on the goal-setting systems itself. By identifying the entities in this system and the points of contact between the system and its environment, we are in a position to describe the structure of the system at any particular time by describing the relationships among elements and between elements and the environment at a particular time. Subsequent chapters will examine the nature of the relationships.

The Entities of the Goal-setting System

The entities which carry on activities within a social system may be groups or individuals (64:83). These entities are identified by several names in the literature. In the literature of organization theory, complex sub-elements are commonly referred to as subsystems. Dahl, on the other hand, uses actor to describe "...individuals, groups, roles, offices, governments, nation-states, or other human aggregates" (15) with whom the action can be associated, and Singer (64) uses actor to refer to either groups or individuals. Kelman (44:592f) and Campbell (6) are concerned with the role of aggregates of persons as entities in analysis, and

Cattell (8) treats measurement of group behavior as an entity.

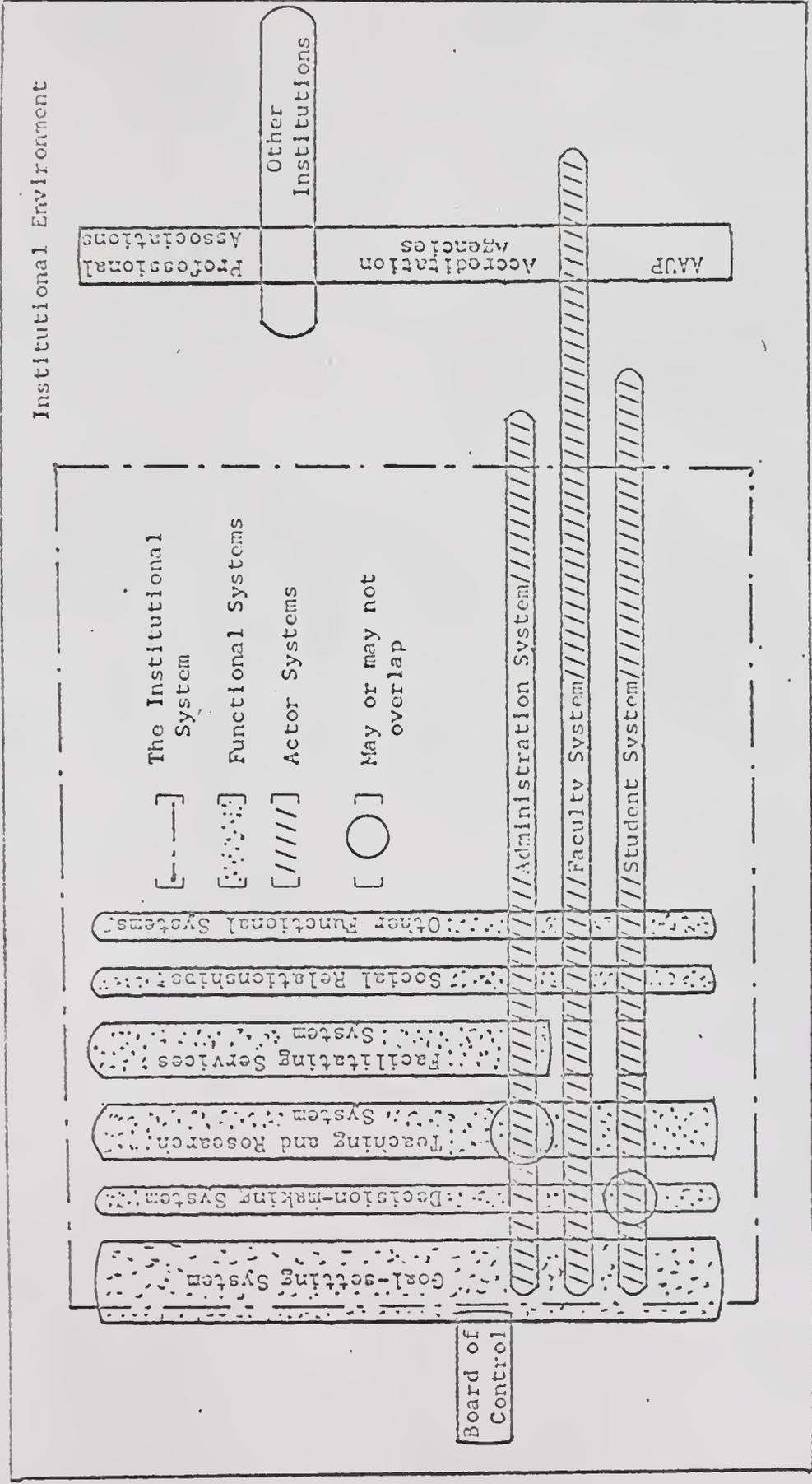
Dobbins and Lee assert that the "main constituencies" of American higher education are "students, faculty, administrators, trustees, and persons from public life" (18:xi). To cast this in the systems mold, a boundary must be identified, as discussed in the following section. In this study it will include the student, faculty, administrators, and trustees, while "persons from public life" will join other social forces as inputs from the environment.

While the aggregate entities indicated may not exactly fit the structure of a particular institution, they can be adapted by making their identification depend on function rather than on a formal status, where a student is one who studies and learns, the faculty are those who teach and research, and administrators and trustees perform the textbook functions of those respective roles. It is also apparent that the subsystems are not monolithic units. In the use of the conceptualization, the entities are to be given the properties which reflect their composite nature, as required by the particular situation. To the extent that an element has a separate analytical identity, it can be treated as a separate entity. Thus, deans may be separated from administration and faculty, and graduate faculty may be separated from the rest of the faculty.

Entities in Several Systems

The entities that appear in the goal-setting system are not thereby excluded from any other systems. On the contrary, the faculty for instance, appearing in the goal-setting system, would also have a role in a goal implementation system or a teaching system or in other systems depending on how systems were conceptualized and developed.

Figure 5 illustrates interlocking and overlapping systems.



SELECTED INTERLOCKING AND OVERLAPPING SYSTEMS

Figure 5

Subsystem as a Level of Analysis

It has been stated in Chapter I that this study focuses on the level of analysis of collective entities or subsystems which make up the goal-setting system, and that at this level attention will be concentrated on structural characteristics based on relationships between the collective entities or subsystems. It is obvious that these subsystems have internal dynamics of their own as well as dimension of behavior of the subsystem as a whole.

Specific Subsystems

The description of subsystems which follows is intended to describe the subsystems or collective entities of the goal-setting system and to suggest ways in which subsystems may vary.

The student subsystem.-Recent evaluations of the make-up of students suggests that it is important to analyze the composition of the student subsystem in any particular case. Examples of the make-up of students are found in several sources. Robert Smith reported that at San Francisco State College just over half of the student body supported the student strike and just under half supported the faculty strike (65:2). Daniel Seligman in "A Special Kind of Rebellion" describes college students as roughly divided into a 3/5 segment concerned with personal status improvement; and a 2/5 segment which tends to radical views, a disdain for conventional values, and a rejection of the measures of success which the larger segment accepts (62). R. M. Chapin, Jr. has combined The Educational Testing Service estimate that only 2% of all students are wreckers who are willing to destroy universities in an attempt to "radicalize" with Dean Franklin Ford's description of degrees of militancy as a series of concentric circles. The result estimates 2% wreckers, 6% militants,

20% protestors, and 40% concerned in the entire student body (66:45).

The impact of these observations of the nature of students as an entity in the goal-setting system is that the student sub-system may have more than one simultaneous output, or may react by segments rather than as a monolithic whole. To the extent that the internal conflicts of the actors are not resolved and are not compatible, it may be most effective to consider segments of a subsystem as an independent entity in the goal-setting system.

A student subsystem may have overall characteristics which distinguish it from other student groups. For instance, it may be well organized, practical rather than theoretical in orientation, radicalized, aggressive, or statistically described in some other significant way.

The faculty subsystem.-Notions of the role of the faculty in the life of an institution often imply a consensus among the faculty on what should be done or not done on academic matters. This idealized notion includes the suggestion that the consensus was devised by the strength of rational exchange of views. Dr. Robert Smith of San Francisco State College has made some observations on the faculty of that institution (65). They were polarized. A poll concerning support for a strike by part of the faculty showed that about one-third of the faculty supported the strike, but 64% actually opposed the strike (65:2). In the San Francisco case, the polarization was in part over racial and ethnic issues and aspirations (65:3). It also involved cleavages on ideological issues, and divisions on how to respond to problems. It could, of course, be divided to a greater or lesser degree on any identifiable issue. The faculty shows an increasing tendency to identify with professional organizations rather than with the institution. Samuel Gould sees faculty mem-

bers as concerned primarily with advancement within their own particular disciplines and concerned with improvement of working conditions (30:225).

Max Ways, in an article entitled "The Faculty is the Heart of the Trouble," describes faculty as characteristically detached from a particular community and a particular institution (71). Kerr sees faculty as divided into humanists versus scientists, young professors versus those called to graduate teaching and research, and those concerned with general education versus those dedicated to professional education (45). The faculty may be well organized or unorganized, and may vary in cohesiveness and functional unity. Identification of the characteristics of the faculty is a major step in describing the goal-setting process.

The board of control subsystem.-David Fellman observes that the role of "board" is handled in many ways. Some states have single boards, some have several boards, and several have super boards or coordinating agencies. Boards also vary in organization, powers, and patterns of behavior (25:105). Fellman points out that the tripartite "Statement on Government of Colleges and Universities" adopted in 1966 by the American Association of University Professors, the American Council on Education, and the Association of Governing Boards of Universities and Colleges outlines the role of the board as "relating the institution to its chief constituency," and "relating the likely needs of the future to predictable resources, ...obtaining of adequate funds, and long range planning" (25:114). While the board has ultimate responsibility for general supervision of academic standards, Fellman holds that this responsibility actually rests "in other hands."

Mrs. Henry B. Owen suggests another dimension along which boards may vary: awareness. As a university regent, and President of the Association of Governing Boards, she makes the observation that many trustees are unprepared for the role they must play, do not understand real changes that have taken place since their student days, lack insights on the complexities of a modern university, and have slight comprehension of the problem of their institution's relevance to today's world (57:188). She particularly regrets cases where the administration and the board have a minimum exchange of ideas.

A profile of the typical trustee has been made by Rodney T. Hartnett (69). It is based on a survey of 5,000 trustees representing more than 500 colleges and universities. The majority of trustees are elected by the public, and hold themselves accountable to their constituency and not to their campuses. They are more conservative than faculty; in their fifties on the average, but a third are over sixty; typically protestant; and most commonly businessmen with incomes over \$30,000 a year. The average trustee of both public and private institutions spent about five hours a month on trustee business, and few have read the books and journals on higher education. The majority of public college trustees felt that authority and responsibility should rest with the administrators rather than with faculty and students.

The board of control as a whole may have characteristics which vary widely in regard to such matters as openness, desire to hold power, use of authoritarian methods, intervention and meddlesomeness in institutional details, trust of subordinates, and ability to judge men.

The administration subsystem.-A hasty glance might make the administration seem more monolithic than the other subsystems, but it has many

factions as well. Millett points out that a major division is between the academic staff and the auxiliary staff which is concerned with facilitating services (52:182). Kerr points to differences between administrations in that they can be closer to the faculty or closer to the board of control (45). This could be applied to individual members or groups of administrators, and is related to the situation of some persons who are concurrently both faculty members and administrators.

Administrations, like other subsystems, have characteristic differences such as ability to react rapidly, effective internal organization and low saturation points.

The Boundaries and the Environment

In addition to the internal subsystems mentioned above, many entities have an interest in the goals of public higher education. These include legislative bodies, executive agencies of the political unit concerned, the Federal government, foundations, accrediting agencies, professional societies, employers of graduates, alumni, parents, special interest groups, taxpayers, and an abstraction representing the will of society. Since the chain of interrelationships leads on and on, it is desired to place a conceptual boundary around the primary elements, and treat relationships with elements outside of this boundary as inputs and outputs. Campbell has discussed a number of criteria for establishing a boundary (6), but they imply a search for a precise delineation which can be adequately set by more arbitrary means and subsequently adjusted if required. Several possible criteria may be applied to set the boundary. First, the goals of the institution should be a primary interest of the element in question. Second, the influence of the element of the

process should be direct rather than indirect or through another party. Third, the elements within the system should include those with high frequency of interaction. Fourth, the elements within the system should be the elements which exert the greatest influence on goal-setting.

In this study, the descriptive boundary will be considered to fall between the board of control and the legislature or agencies of state government. This is consistent with the perspective of Corson, who, in his study of governance, looked at "...scholars, students, administrators, and trustees associated together in a college or university" (14:13). The location is not critical, and may be moved to accommodate a particular situation. In this location, it permits treating the acts of the legislature, agencies of state government and the other interested parties listed above, as inputs without becoming involved with all the factors impinging in these entities. These entities are parts of the environment. The environment is more than the physical things which are outside the system. It includes economic factors and sociological factors which impinge on the system.

The Inputs and Outputs

In a general social system, the inputs consist of resources, demands, and other information. Resources include money, people (both students and staff) and things. For instance, Maccia has described input demands to an educational institution as demands for personalities of a particular type, demands for role-takers (educated or trained graduates) of a particular type, demands for information, and demand for desired commodities (47:9). We have said that the environment is not only physical but social, economic and political. The inputs, in turn, bear information on physical, social, economic, and political matters.

A distinction must be made between inputs to the institutional system and inputs to the goal-setting system. The goal-setting system essentially inputs demands for goals; information about capabilities, consequences, and resources; and sanctions or threats of sanctions in support of demands. It puts out goals and information about goals. As an illustration, the institutional system inputs resources, whereas the goal-setting system inputs information about resources. The subsystems and individual actors in the goal-setting system are also involved by overlapping memberships in distribution of resources, control of force, maintenance of internal order, and exercise of legitimate authority. The change in these factors affects relations between subsystems, and goal decisions affect these factors. But these are not the prime outputs of the goal-setting system. The relationships between subsystems will be developed more fully in the next chapter.

It has been observed earlier that individual actors and collective entities have roles in several systems. This has an impact on the conceptualization of inputs entering the goal-setting system. While some inputs, especially environmental inputs remote from the institution itself, will essentially enter the system-at-large, many inputs to the goal-setting system enter a subsystem because of the involvement of that subsystem in a system other than the goal-setting system.

The Goal-setting System as a Social System

The goal-setting system clearly has a set of social ways and is a social phenomenon as defined earlier. It involves more than the actions of individuals meeting the necessities for life. The existence of a higher education institution is based on the differentiation and specialization of human activities to meet a particular set of requirements of

life in a social system. This social action involves both social interaction between persons, and structures of social relationships.

Basic Goal-setting System: Matrix of the Goal-setting Model

The basic goal-setting system, as described in preceding paragraphs, is the matrix within which the goal-setting model is embedded and will develop. Examination of the cybernetic goal system, discussed previously, and of the overlapping systems of which actors are members shows the relationship of the goal-setting system to its environment and point out its inputs and outputs. By identifying the relationships between the composite entities of this system, the model will take internal form. Establishment of values on relationship dimensions will establish a structural variation of the model for a particular case at a particular time.

The subsystems may take a variety of actions from an inventory to possible actions. The inventory of actions include the following:

1. Propose a goal.
2. Take an action which affects goal-setting.
3. React to the goal proposal of another.
4. React to the actions, proposals, or demands of others.
5. React to an input.

The reactions may include agreement with other subsystems, negotiation and compromise with other subsystems or actors, yielding to or compelling another subsystem or actor to accept an action or idea, as discussed in Chapter III. It may also include failure to reconcile differences, and inability to enforce acceptance.

As stated above, some process flow will take place within each

subsystem which involves (1) reacting to goal proposals of others, (2) taking actions which influence goal-setting or which place constraints on possible goals, (3) reacting to acts by others, (4) taking actions which influence the relationships between subsystems.

It is obvious that this model becomes more and more complex as simultaneous demands are placed, institutional and environmental factors change, and subsystems react in a fragmented rather than a monolithic way. But a fundamental assumption underlying this model is that the alternative actions which the subsystems may take will be restricted by the relationships among the entities. Put another way, the relationships between entities at any point in time forms a structure which influences the process of goal-setting and the resultant output. In the next chapter, the relationships between subsystems will be examined.

CHAPTER V

ADDING STRUCTURE TO THE SYSTEM: RELATIONSHIPS

Introduction

The previous chapter has described goal-setting as a process in a social system. In this chapter we will add to the structure of the system by considering three things: the relationships among subsystems, and between system elements and the environment; patterns of interaction; and mediating variables.

Type of Relationship

In any organization, entities are related in some way. Some actors or entities receive instructions from others, some depend on others for funds, some must depend on others for essential information. From a systems perspective, entities may be linked by flows of resources, flows of services or people, flows of demands and information, power and authority relationships, interaction patterns, and other interdependencies. It is axiomatic that in a goal-setting system the actors will be related to each other and to the environment in several ways.

Information Links

Since the goal-setting system does not handle a physical commodity, one of the obvious links between actors is the information link. The entities must communicate with each other. Information links bring the knowledge about resources, capabilities of the institution, analysis of

expected consequences, impacts of particular goal-outputs on the organization or in the society, and intentions of other parties which lead to understanding. Hall has pointed out that one type of control in an organization or group is based on control of the information upon which decisions are based (37). Effective participation is predicated on knowledge of intentions, capabilities, and actions of others; knowledge of one's own relative capabilities; and information on feasible alternatives and probable consequences of alternatives.

The information links can have a number of characteristics. The links may or may not exist for a particular subsystem, and links that do exist may vary in quality. The communication net may vary in efficiency (43:236). Miller has examined the overload of an information link (49). Information channels may involve excessive time lag, noise, or filtering by others. They may be intermittent, biased, or otherwise distorted. Another factor, difficult to separate from information links, is the ability of the receiver to interpret a technically accurate and adequate message as meaning what the sender intended. More detailed treatment of Communication theory is given by Cherry (9).

Relative Goal Interest

It is axiomatic that the entities in the goal-setting system are related in a way that depends on their relative degree of interest on a particular goal issue. A subsystem or an entity in the environment may have no interest in a particular class of issue and therefore will not be involved in the interaction. Relative goal interest may make entities allies or it may put them in competition. Friedrich has suggested there may be common interests, complementary interests, and others (27:469). The continuum runs from common interests through

interdependent goals, complementary goals, independent goals, goals that can be achieved concurrently, goals which require another to make an alternative choice, goals which reduce the payoff of another party, goals which force another to adjust from optimum to a position still considered satisfactory, goals which threaten the vital interests of another, to goal interests which are objectively totally incompatible. The relations between actors in the goal-setting system will certainly change depending on how the goal interests are related. For instance, if no serious economic or political questions are at stake, the environmental elements can be expected to leave matters of defining good education to the institution. The emphasis on resolution in this case is then the interaction among the actors within the institution.

Relative Power of Entities

It is apparent that a relationship exists between actors and entities in the goal-setting system and its environment which is based on relative power. Power will be defined as any force that results in behavior that would not have occurred if the force had not been present (48:197). Obviously this definition is very broad and includes forces ranging from influence to coercion. Bases for power include control of information, logic and cogency of an argument, ability to affect output, ability to obstruct operations or inflict costs, the support of norms and conventions, prestige, control of granting prestige, control of rewards and punishment, influence on recruitment developed loyalties, leadership, charisma, denial of services, withholding essential information, subversion, damage to prestige of the institution, influence on prospective students or faculty, influence on sources of resources, derogatory influences on users of graduates and research, physical threat,

and any resource which enables one element to influence another. Factors affecting relative power of entities include expertise, willingness to use power, willingness to expend effort, attractiveness, interest, location and position, and time criticality (48). It may be assumed that subsystems can conceptually be compared as more powerful, equal, or less powerful in terms of any particular basis of power.

One of the bases of power is the availability of time and surplus capability to devote to questions of goal-setting. If between two parties, one has the time to devote to planning a goal-setting strategy and influencing the goal-setting process, it is expected he will be most influential. As a minimum, the party who is not available is reduced to a veto posture.

The power of an entity springing from the bases of power mentioned above can be assessed from at least four perspectives. One is an objective measure of power, which might be compared to a military assessment of two nations based on a count of the number of men and weapons of similar type and condition. The second is a measure which not only considers objective power, but attempts to measure the effectiveness with which the power can be used. The third measure includes a willingness to act. A power superiority is insignificant if the party holding it lacks a willingness to act. Conversely, a relatively weak power with a fanatic willingness to act exerts influence disproportionate to his objective power. The fourth measure is a measure of the perceived power of a subsystem as observed by other subsystems. This includes both the perception of objective power, effectiveness in using the power, and the willingness or disposition to act. In this initial formulation of the model, attention will be focused on power as measured by perceived power.

Independence of Entities in the Institutional System

Several special cases of relationships between entities exist which are judged to be based on power relationships. One is the independence of some subsystems in the institution, or the looseness of the coupling between parts of the institution. From one perspective this may be viewed as the absence of a resource dependency or susceptibility to sanctions or other influences. In addition, however, there is a degree of indifference which may exist between elements which gives the lesser party a relative autonomy which would not otherwise be suggested by the power position of the stronger party. A third circumstance is the situation where the structural relationships provide certain autonomy. For instance, the teaching of classical English literature may be the vehicle used by a professor for espousing a particular political philosophy.

This degree of looseness or tightness of coupling ranges along a spectrum that includes closely controlled systems, systems with a dominant subsystem, systems where some subsystems have veto power, systems with little interdependence, systems with few goals, and systems with poor goal resolution and non-integrated sub-systems.

Degree of Participation

Another special case of an overall relationship among entities based on power is the degree of participation of actors and entities in the goal-setting process. "Participation" includes many types of behavior from being able to state views and make requests, to effective equality in determining the course of events. The relationship between power and participation ranges from equal influence on outcomes based

on equal power to consultation based on norm or expectation that consultation take place to rational assessment of the benefits of participation on satisfaction of organization members and subsequent support for organizational policies, or to expected contributions from a broader source of information or ideas. The reason participation is linked with power in this model is that if participation is granted on any basis other than power, it can be revoked. If an administration practices joint student-administration participation on some issues because of the desirable effect this has on student satisfactions, this represents a calculated strategy by the administration. When an issue arises that is perceived by the party granting the participation to be more vital than the benefit to be received by participation, the participation will be restricted or terminated unless it is backed by power.

The Cost-reward Relationship

When a particular power link is shown to exist and even when a particular type of power is used by an actor or entity, the use of this power may or may not trigger use of another type of power by another element. It is posited for the model of the goal-setting system that a cost-reward analysis will be made by each subsystem. A subsystem which contemplates the use of a power resource to establish a goal position recognizes that the use of power will incur certain costs. Based on its perceptions of the costs, it will evaluate whether it can afford both the use of power resources and the cost incurred. The element desiring to respond will compare the costs of not acting with the costs of acting, and will attempt to evaluate whether the benefits expected warrant the cost likely to be incurred. Since the entities involved are not related to each other exclusively in the goal-setting system,

the cost may be applied in another place. The cost-reward analysis underlying the exchange theories of Homans (40) and Blau (3) is an important part of goal-setting.

Usable Power

A summary view of power relationships is highlighted by two considerations. First, entities have a broad variety of power resources which range from strong to negligible. An absolute resource must be translated into its relative effectiveness. When an entity elects to use a power resource, (1) another subsystem or entity may be able to counter the use of one type of power with other types of power, or make the use of power too costly for the gain which is expected to be realized, (2) a combination of other entities may be able to block the use of power by application of their combined power resources, or by making the use of power too costly, or (3) the subsystem may have a dominant power position, or may expect a gain which makes the costs acceptable. Second, the use of a power resource promises some gain and involves some costs. Rational use of power requires that gains exceed costs.

Usable power is a power resource which promises to be effective, and which exists in circumstances in which the entity holding the resource is willing to pay the costs of using the power resource.

Type of Conflict Resolution Behavior Practiced

The elements of the system are related differently depending on whether they practice a cooperative or a competitive type of conflict resolution. Extending interpersonal experience to interactor experience, it is asserted that the outcome is often different depending on the type of conflict behavior practiced. There are a variety of relationships

between subsystems suggested by the inventory of alternatives in conflict resolution. Feigl has suggested these seven techniques for setting value difference: persuasion, re-education, psychotherapy, compromise, segregation, coercion, and violence (24). Exchange theory suggests a negotiated resolution. Kelman suggests approaches based on altering perceptions and definitions of the situation (44). Thompson and McEwen have identified strategies for setting goals which they classify as either competitive or cooperative, with the cooperative strategies subdivided into bargaining, co-optation, and coalition approaches (68). Another alternative is "no resolution", that is, tolerance of divergent goals or action without regard to established or attempted established goals.

Interaction Patterns

The importance of interaction patterns as relationships among entities which give structure to a system is based on the assumption that social acts lead to social interactions, and that social interactions combine to form sequences which, if repeated, become established in patterns. Then by a sort of social inertia and a tendency to follow trails that have already been blazed, as it were, social interactions will have a tendency to follow established patterns.

Social relationships.-Earlier the "social act" was defined as a unit of visible action with shared meanings. If another person responds to a social act with another social act, a simple social interaction has taken place. Social interactions can combine to form interaction sequences. Sets and patterns of interaction sequences may be conceived of as constituting social relationships (42:71).

Importance of the character of the interaction.-In examining the goal-setting system in higher education, it appears that some social relationships are influenced by the character of the interaction, whereas others are influenced by factors other than the character of the interaction. The latter situation is illustrated by the fact that some relationships between entities are based on the nature of the power relationship, or the perceived nature of the power relationship, rather than on the character of the interactions involved. For analytical treatment of relationships, it is necessary to divide the relationships into those that focus on the character of interactions involved on the one hand, and those that are most heavily influenced by factors other than the interaction on the other. Relationships treated as "social relationships" will be those whose character derives heavily from the nature and character of the interactions per se.

Social relationships have been described in many ways. Inkeles distinguished between primary and secondary relationships (42:72). Distinctions can be made by quantitative aspects such as number of participants, spatial arrangement, and frequency and duration of interaction. Others such as Kingsley Davis (16) and Talcott Parsons (58) have focused on qualitative aspects of social relationships.

Orvis Collins has formulated a theoretical process of simple interaction (13). By simple interaction he means essentially interaction in the general case, consisting of origin and response, without consideration of a particular cultural matrix or of the personality of individual actors. Collins sees three types of interactions: closed events, where the response is to the originator; open events, where the response is to another actor; and non-responses or incompleting responses where the

response act is to do nothing. These types or classes may be combined. Interaction events may be serially related to form interaction sequences. Collins sees sequences as having continuity and directionality. He has presented a series of models of the ways in which events and sequences can be related.

Recognizing that the goal-setting process is a series of interactions, the significant question is what influences the linking of interaction events among subsystems into sequences. It is postulated that the pattern of interaction sequence determines the class of goal-setting system.

Collins' formulation contributes further to descriptions of interaction sequences. An origin act "opens a field" of possible responses to that origin act. Collins has called all possible combinations or responses that can occur for that origin act a "response field".

Obviously, all possible responses to any origin act in a goal-setting system are not likely to occur. The sequence of interaction will be influenced by many things. First, as Collins has pointed out, the originating actor or entity can to some extent, frame the response alternatives. Second, the responding element has discretion in his response. Third, it is postulated that there are structural relationships in the relationships between the actors which will influence the character of the interaction sequence. Fourth, Collins points out that an interaction system develops a culture which is derived from the history of the interaction system per se (13:19).

The first two influences, above, are related to the characteristics of the system elements. The third influence is related to characteristics of the relationships between acting entities. The fourth influence

is associated with the particular system.

Social relationships in goal-setting.-When social acts lead to social relationships through patterns of interaction, a precedent has been set. It may be well received by system elements, or it may generate negative reaction. To the degree that the social relationship is supported and repeated, it establishes a norm. It is posited that the primary importance of social relationships in the system model of goal-setting is their role in the establishment of a system norm, and the fact that acts and interactions will tend to follow the norm.

Social relationships or interaction patterns are influenced by other things than the character of the interaction, divorced from the influence of other relationships such as have been developed in this Chapter. But the norm-setting influence of interaction patterns per se must be considered.

Mediating Variables

The relationships described in this chapter are not the only variables that must be looked at in determining why a system behaves as it does in a particular case. The relationships described exist in some social and cultural context. A particular power relationship, for instance, may have a different overall impact in one context than in another.

In addition, individual differences of members of organizations may have a significant effect on events. Since no individual actor comes to the process tabula rasa, the interaction in goal-setting will depend heavily on what each actor as a person brings to the process. Prejudices, values, vested interests, misinformation, irrationality, and

background information gaps must be considered. The actor's perceptions are very important to the interaction: his perception of threats to what he values or wants, his perceptions of the information inputs to the goal-setting systems, his perception of his personal image, his perception of his ability to influence the group or realize his internalized goals, and his perceptions of the motives of the other actors in the goal-setting system and his affective relation to them.

One of the mediating variables that must be taken into account about a particular system is the capability of individuals. This includes native intelligence, training, effectiveness, recognition of opportunity, ability to use research, ability to handle many simultaneous problems, and ability to deal with the full complexity of the problem. Another limit of capability has its genesis in organizational structure but is manifested in personal limitations, and that is the problem of being so busy and so engaged that adequate time and resources are not available for the goal-setting problems.

Consideration of mediating variables requires looking again at the level of analysis of this study, outlined in Chapter I. An important part of the perspective of this study is the focusing of attention on collective entities in the goal-setting system, and on the relationships between these collective entities or subsystems. But it is also important to consider the mediating variables in particular cases, and not attempt to claim that relationships between entities is a complete description of the goal-setting process.

The Changing Character of Relationships

The structure of a goal-setting system based on relationships between subsystems is a dynamic and morphogenic configuration. This is

illustrated well by looking at a new institution, and looking at the same institution after a number of years. In the first instance, the influence of many subsystems is missing or weak. The goals tend to be directed by the entity which established the institution, and are further filled in by the early administrators. As the faculty begins to develop a collective "character" of its own and the various publics who the institution serves or could serve analyze their interests, they enter the process in a stronger way. Constraints and pressures which affected the new institution are modified, and the whole process of setting the goals undergoes change and development. The linking relationships change, some easily and some with great difficulty.

The changing character of relationships is an important consideration, both to the nature of the process and when ways of influencing goal-setting are considered.

Significance of Relationships Among Entities and Subsystems

This chapter has identified relationships between entities. It is suggested that by describing the relationships along these dimensions, a particular configuration or structure of the system is set up. With a given configuration, a particular outcome cannot be predicted. But the alternatives are greatly reduced. Even more important, the groundwork is laid for describing major variations in goal-setting processes. These variations or configurations are building blocks for hypothetical relationships between goal-setting and other institutional characteristics.

CHAPTER VI

VARIATIONS IN STRUCTURE OF THE MODEL

Introduction

Having described a goal-setting system and analyzed the relationships between entities which give structure to this system at any point in time in regard to a particular goal issue, a variety of alternative structures of the system can be developed from this conceptualization. The approach of this chapter is, first, to structure the goal-setting system in a way which is implied by several salient conventional models of goal-setting. Such an examination suggests several weaknesses of limited models. The second part of the chapter will examine certain specific types of goal-setting systems which are associated with particular relationships between entities.

Structures Implied by Conventional Models

Certain conventional models for goal-setting imply a particular type of structure of the relationships in the goal-setting system. Selected configurations of models which have been mentioned in the literature or advocated as desirable will be examined for implied structural prerequisites.

The Autonomous System

To make the basic goal-setting system an autonomous system it would essentially have to be independent of the environmental dictates and

dependencies tied to demands. The institution would still require capital resources, but they would have to be provided without constraints. To be completely autonomous, the institutional representatives would have to be able to levy demands for the financial resources they need and consider appropriate for the good of society and higher education. The institution would still need students. Although this is no problem in the present context, goal-setting systems cannot neglect the fundamental motivations which attract students or the factors relating to graduates being successfully placed in society. A completely autonomous system implies that the system be the sole judge on appropriateness of output.

It seems that a fully autonomous goal-setting system for higher education does not fit the realities of the way resources and people inputs are provided for most of public higher education in the United States at this time. Analysis of the benefits of autonomy for institutions of higher education suggest degrees of autonomy, however, which offer advantages. Each of these must be evaluated for feasibility in terms of the input and output relationships which it implies.

Degrees of autonomy are often purchased at the price of some other situation. For example, limitations or constraints on involvement in political or economic affairs may be laid on the institutional elements by environmental entities as a price for partial autonomy.

The Collegial and Hierarchical Configurations of the Model

The collegial model for goal-setting implies a structuring of the goal-setting system which includes some variation of the theme that all the actors should participate in goal-setting with reasonable equality in a situation leading to consensus or resolution by some means other

than arbitrary exercise of status prerogatives. It has been described as administrators, faculty and students interacting in the "...full, equitable, and rich involvement in the process of campus government..." (11:200). The benefits of such a structuring include taking maximum advantage of the contributions of all members, and mobilization of support for the output of the goal-setting process.

Such a structuring applies more to the relations among actors than relations between the system and the environment, as was the case in the autonomous system. It does, however, make it necessary for full collegiality that the environment look to the system as a whole to take responsibility for goal-setting rather than charging specific actors to exercise responsibility to the authoritative allocators of value in the environmental policy.

There are many degrees of collegiality and participation ranging from the case where the students, for instance, are merely in communication with the administration to the case where they act as equals. The case of acting as equals might best be visualized as comparable to giving each subsystem a letter identification rather than a function-related name and extending interaction chains by probabilistic means. The reality of the situation, however, is that power relationships as described in Chapter V do exist. Certain entities, especially in the environment, do have goal interests which they will support with power based on a cost-benefit estimate. Part of this cost-benefit analysis reflects the benefits of the collegial approach to resolution of goals, and the costs of violating norms or using coercive power. But it would appear that collegiality in goal-setting operates within constraints set by goal interest relationships, relative power relationships, and

commitment to practicing cooperative conflict resolution techniques.

Burton Clark suggests another limitation to a collegial model. He makes the evaluation that there is an upper limit to the size organization which can effectively practice collegial authority. Clark suggests a unit of 500 students and 50 faculty members (11:199). For most institutions this would suggest that collegial authority is most applicable within decentralized units. The probable situation is that the degree of authority vested in the collegial authority would be determined by the degree of interest of all actors and the environmental actors in the goal issue in question, the relative power or influence of the elements of the collegial authority to demonstrate the value of collegial authority and to threaten application of creditable sanctions to force vesting of authority in the collegial body, and the patterns of interaction which are well established.

The hierarchical configuration, a common organizational model, as a type form would establish a line of superiority and subordination of the elements. The inputs would come to the board of control, except as they were delegated to subordinate actors in special cases. The actor at each level might be delegated authority to make certain types of goal decisions. In an enlightened system, the status leader would consult with subordinates to gain full information and to take maximum advantage of the knowledge of the subordinates, and to make adjustments to goal needs of individuals in the organization.

This model obviously is based on hierarchy of power. As we have defined power, this includes the power to control process and quality of output to a degree which is uncommon in higher education. In addition, organizational studies have indicated that the hierarchical model is

prone to be ineffective in dealing with individual member goals and satisfactions to a degree which increases the desire to act militantly on the part of members of the organization.

The rights of the owner.-A particular type of hierarchical configuration is based on the theory that the owner or the entrepreneur has the right to set the goals of the enterprise. It is expected from this perspective that the wise owner will take advantage of the valuable contributions of the "employees", and will be sensitive to their needs and wants, especially as they affect the efficiency and effectiveness of the enterprise. The literature of organization theory abounds with discussions of the stresses which such a structure introduce into an organization, especially an organization with highly professional "employees". The literature of higher education is full of discussions of the norms of higher education in the United States which run counter to this structure, and which could only be opposed at considerable cost. The analysis of comparative power of actors in particular situations would in all probability show that a structure implementing the rights of the owner could only be realized at great cost, either in organizational stress or in quality of output.

The Faculty-dominant System

In current literature which gives attention to the important role of the faculty in decision-making in higher education, one point of view holds that the faculty should make the goal decisions. This configuration as a model is based on the assumptions that the legitimate right to set institutional goals goes to the actors who have the greatest logical or rational ability to set the goals. In this model, the faculty is assumed

to have specialized knowledge and sensitivity to the values and issues in question because of the focus of their attention. A specialized derivation of this position is based on the assumption that there are absolute or natural functions of higher education, and that these are best known by the professionals. A second variation is based on ideal functions of higher education being determinable by research and consequential analysis by educators. When the implications of this model on the goal-setting system are examined, it appears that the faculty-dominant model has the same implications on environment relations as the autonomous model had. It also has implications about the way the internal relations between actors are structured. In prevailing practice, the board of control and the administration are customarily charged with administration of the resources provided by the environment in support of output demands. In addition, they are required to be the communication link between subsystems and environmental entities, representing each to the other. It is difficult to reconcile such a structure to the faculty dominant model. A faculty dominant model is more compatible with an institutional structure which is characterized by high independence. This reflects a cost-benefit analysis, made by the entities with the greatest power resources, which places high value on contributions associated with high independence, and which anticipates a high cost in implementing a tighter connection. This suggests a structure, however, which has a major discontinuity between actors that denies each camp the benefits of integrative involvement with the other, and is therefore less to be desired than a structure which recognizes and rationalizes the interdependency of the actors.

A Student Dominant System

Traditionally, the students in the United States have been a powerless class in goal-setting. A current proposal for providing Federal funds to higher education would make radical changes in the relationships in the goal-setting system. By channelling funds through individual students rather than through institutions and permitting the student to select the institution of his choice, the environmental resources are given to the students to control. Ostar has pointed out that the Federal government would still be in the position of exercising environmental demands on the student by withholding funds from students who participated in actions deemed contrary to the national interest (56), or presumably who took programs of an "unsatisfactory" or "non-accredited" type.

Although patterns of goal-setting interaction have not traditionally emphasized the role of students, recent events have made the interests of students in certain goal questions very clear, and have demonstrated the power of students to enforce demands by means which inflict a cost on the institution or which apply coercion to individuals. A particularly interesting feature of the student use of power has been the apparent ability to use power, often very abrasive power, at a relatively low cost. As has been previously stated, a relatively limited absolute power resource which can be used with little associated cost offers more usable power than a great power resource which can only be used at great cost.

Other Types of Structure

Other types of structure or configurations of the system merit attention because they are usually configurations which, it can be argued, should be avoided. These types of structure have been derived by

considering alterations of the relationships developed in Chapter V which give structure to the goal-setting system.

Multi-modal Systems

One of the weaknesses of the general cybernetic system discussed by Buckley was that the system might not have a single control center and, thus, a single goal-setting system. The basic goal-setting system can be made into a bi-modal or multi-modal system in several ways. There may be strong opposing subsystems where each one is developing institutional goal premises and each is acting on his premises without resolving differences with the other faction. Another way of adding a goal-setting center is for factions to develop within collective entities, as when a substantial part of the faculty proposes different goals than the bulk of the faculty, and proceeds to act on these goals.

The addition of more than one goal-setting center necessitates a duplicate structure of relationships. Information of these relationships form an important input to other goal-setting centers. For instance, if there is firm environmental resource support for a dissident goal-setting system, this information enters the established goal-setting structure as a major input.

The system model suggests that a multi-modal goal-setting system, or as an alternative conceptualization an institution with more than one goal-setting center, depends on low interdependence between actors. Two salient dependencies are the dependence of the administration and the board of control on the faculty for quality output of a given character, and the dependence of the faculty in common practice on these other actors for resources. The low interdependence may be based on: (1) poor information to the administration and board of control about organizational

behavior or output, (2) lack of concern in the environment which discriminates between the goals of the various goal-setting centers, (3) weakening of the administration's strength by lack of support by the board of control or in the environment for the willingness to accept the costs of pressing for unification, or (4) lack of establishment of patterns of interaction which lead to a unified goal determination procedure.

To some extent, every actual system is a multi-modal system. The professor, as a master of some area of knowledge, directs the learning or research experience in his classroom led only by his professional judgement. In the faculty subsystem he is also given the judgement of his peers. As long as there is not reasonably close agreement on the behavioral changes which are to be made in students, in the value changes which are desirable, in the instrumental skills which are essential, or in the body of knowledge which is appropriate, it is difficult to make objective evaluations of the output of the learning experience. In the extreme case, the faculty member is influenced by such factors as resource allocations and personnel policies, but over a broad band of functions the faculty member experiences a very loose connection with the non-teaching members of the goal-setting system.

At the other pole, the formal boards of control also set goals that are actually reflected in practice such as allocations of financial resources and other administrative policy matters. Here again a broad range of effective actions which shape goals can be taken with little reaction from the faculty. We see then several alternative modes of operation for a bi-modal or multi-modal system. They range from operating in areas where no attempt is made to resolve the goal issues on an

institution-wide bases on the one hand to trying to come together on the other. In the later case, if the goals are compatible or complementary, a cooperative resolution is possible. If the goal-positions are incompatible, a competitive solution reflecting the relative power positions is likely.

Low Resolution System

Another type of goal-system is a system which produces low resolution of the differences in the goal positions of the subsystems. Such a system can be associated with at least four structural configurations: low goal interest in the goal area in question, especially on the part of the environment; weak information links providing feedback information to internal and external elements on results of low goal resolution; a power relationship in which no subsystem is able to press a resolution; and a situation where no effective relationships concerning conflict resolution measures exists. Where the low resolution can be traced to the power relationship, examination of the model suggests that the power positions of entities is nearly equal, and an analysis of benefits of resolving the question versus the costs of forcing a resolution is either disproportionately expensive or the indications are indecisive.

Systems with Weak Information Links

Two types of systems may be associated with low development of information structure: nonrational systems, and rigid systems. While a nonrational system may have other characteristics than those relating to information, the model suggests that this type system lacks the information inputs, both on conditions of the system and environment and on results of systematic research, to practice rational decision-making

in regard to goals. The model suggests that rigid goal-setting systems may lack feedback upon which to adjust.

The information link aspect of structure must be treated on a continuum. There can be effective communication, or distortion of meanings. There can be full exchanges or marginal and incremental transfers. There can be two-directional flows between all entities, or there can be selective transmissions and one-way flows. The information links may vary in all the ways enumerated in Chapter V.

Coalitions

The structure of the goal-setting system may reflect coalitions among actors. Coalitions logically involve the relationship dimensions of goal-interests, power, mode of conflict resolution, and interaction patterns. It would be expected that the coalition would be based on mutual aspirations, mutual opposition, or a negotiated position in which support at one time is bartered for support in return at another time. The coalition has as a fundamental aim the increase of power, either to achieve a general superiority, or to consolidate enough power to achieve a specific purpose. A coalition does not imply a particular type of conflict resolution relationship, but it tends to emphasize a resolution through exchange rather than consensus formation. A coalition implies interaction patterns that follow the configuration of the coalition rather than random and unstructured interaction.

Gamson has presented a theory of coalition formation (28:99ff). Gamson restricts his coalitions to "...temporary, means oriented, alliances among individuals or groups which differ in goals. There is generally little value consensus in a coalition and the stability of a coalition requires tacit neutrality of the coalition on matters which

go beyond the immediate prerogatives" (28:89). "A coalition is the joint use of resources by two or more social units" (28:90). This makes considerations of power the basis for coalition formation. An essential prerequisite to making the formation of a coalition applicable is that no actor has dictatorial powers and no actor has veto power (28:90).

The parameters of Gamson's theory reinforce the identification of relationships which link actors in the goal-setting system as presented in this study. Those parameters are the initial distribution of resources, the pay-off of each coalition, non-utilitarian preferences for actors to join other actors, and identification of the effective decision point (28:91f). Gamson's general hypothesis is that "...any participant will expect others to demand from a coalition a share of the pay-off proportional to the amount of resources which they contribute to a coalition " (28:93).

While the process of coalition formation may be an important part of goal-setting, it is not judged to be an adequate explanation of goal-setting in higher education. The first limitation is the stipulation that no actor can have veto power. The higher education context has characteristics such that there is a high independence of the technical level, i.e. the faculty, and at the same time an ultimate interdependence which gives veto power to all actors in the goal-setting system if they are willing to pay the price. Thus, as Gamson has pointed out, an actor's share of the pay-off from a coalition may be disproportionate to the resources he contributes.

The second limitation concerns the comparison of pay-offs, without adequate attention to costs. In Gamson's theory the resources are

credits which add up to controlling the decisions. Little attention appears to be given to the cost of using power and resources, whether in a coalition or unilaterally.

Coalition formulation does not seem to adequately treat two other aspects of goal resolution: the case where one actor influences another through application or threat of application of power resources; and the case where one or more actors are influenced in the course of an interaction sequence by the factors which have been observed to change persons minds in small group interaction sequences. In the case of a power imbalance between actors, it is suggested that inadequate attention is given to consideration of costs from use of power. In the case of influence through interaction, it is suggested that greater account should be taken of modifications of positions to coincide with the social expectations of the other actors, and modifications based on consensus or increased pay-offs to all participants or to the organization as a whole.

Goal-setting may include coalition formation, but it is also more than coalition formation. Goal-setting may be a process entirely between entities acting alone, and some subsystems may at some stage of the on-going process dissent from joining what would otherwise be a unanimous coalition. That is, there may be inadequate incentives to combine resources.

Coalitions may not only be formed among subsystems, but may be formed by factions inside and outside the system. For instance, a coalition may be formed between radical students, radical faculty members, and radical elements in the environment. The system may be significantly affected by such a coalition which may result in modified relationships.

Conclusions

In this chapter, we have used a model of the goal-setting process made by describing the entities involved in goal-setting as a social system, and describing variations in the structure of this system in terms of variations in the relationships between entities. The structural configurations which would be necessary to support several conventional models of goal-setting have been examined, and the type of system which would result from selected structural configurations has been analyzed.

CHAPTER VII

CHANGE OF THE STRUCTURE: AUTONOMOUS VARIABLES VERSUS VARIABLES OPEN TO INTERVENTION

Introduction

A fundamental assumption of this study has been that a goal-setting system has a structure at any particular time which is based on the relationships between entities in the system and in its environment, and that this structure will be useful in subsequent studies which will correlate relationships within a goal-setting process or will correlate relationships between the process and goal outcomes. Up to this point, the study has attempted to identify the relationships and describe significant associated structures. A final important consideration is how the relationships which form the structure can be changed or influenced by interested parties.

Autonomous versus Instrumental Variables

Gareth Williams has distinguished between variables which are autonomous and those which are subject to intervention (72:15). He has identified three kinds of variables: policy variables which are what actors or policy makers want to influence, instrument variables which are variables which actors or policy makers control, and autonomous variables over which actors or policy makers have no control (72:15). The importance of this distinction is that it focuses attention on the instrument variables open to each actor or entity, the degree of control

exercised over the instrument variables, the extent of the influence of the instrument variables over other parameters of the system, and the location of decision-making points associated with instrument variables. The suggestion is that important differences between goal-setting systems are identified by looking at the instrument variables.

Variables Subject to Intervention by Some Actor or Entity

An important question in studying a goal-setting system is what relationships between entities, which affect the structure of the system, are subject to change by some actor or entity. The following survey will consider which relationship variables are subject to change by some element by considering sample actions that are possible.

Internal and external intervention.-Some things can be done within the system. Others involve contacts with the environment. It will be assumed that a subsystem has the potential in every case to attempt to influence entities in the environment. They, thus, can change relationships which are otherwise autonomous as far as internal entities are concerned. This will not be restated for each case below.

Power Variables

Subsystems can form coalitions to change power relationships, seek out new resources, pursue clandestine goals, produce sound research in support of a desired action, abandon demands which are vulnerable to power applications, take actions which channel future actions, or change individuals in key positions.

Information Relationships

Entities can alter existing information links by increased active

participation and sensitivity, by gathering their own information, by obstructing flow of accurate information, and by specific transmission of information intended to produce specific results.

Relative Goal Interests

A subsystem can attempt to modify the goal interests of another subsystem by the application of influence or power. Alternatives range from attempts to convince another entity on the one hand, to modifications of rewards which lead the influenced party to perceive a different goal preference on the other.

Levels of Participation

Interested parties may change participation relationships by granting participation to a party who was previously not included, or by demanding participation through the use or threat of use of a power resource. For instance, the administration may include students as a counterbalance to some faculty demands.

Interaction Patterns

A dominant characteristic of patterns of interaction is precedent which becomes a norm. To make modifications in such a relationship variable is therefore partially a matter of challenging established patterns with skill, finesse, energy, patience, flamboyance, or ingratiation. In the face of an adverse power position, patterns become more autonomous.

Manner of Goal Resolution

The manner of goal resolution practiced, like interaction patterns, has the characteristics of a norm. General experience would suggest,

however, that it is easier to move from resolution by cooperative means to resolution by conflict than to move from a mode of conflict to one of cooperation or consensus.

The Impact

The significance of considering which relationship variables are instrument variables is that this is the way an interested party can attempt to alter the goal-setting process. Which variables are autonomous and which variables are subject to intervention must be determined for each particular case, but the survey above is suggestive of possibilities for examination.

CHAPTER VIII

THE MODEL AND ITS IMPLICATIONS

A Summary of the Model

In this study, a model for the setting of institutional goals in public higher education in the United States has been developed. Chapters I through III examine the nature of the functional process to which the model is addressed. Chapter IV describes the setting or locus of action in terms of a social system, and subsequent chapters examine variations in relationships among the entities which give structure to the goal-setting system. When the elements are drawn together, there are three parts to the description of the model: the locus of the action, the structure of the system, and characteristics of the process.

The Arena or Matrix of Goal-Setting

The model is based on a social system which has many configurations ranging, for instance, from a one-actor dominant system with highly filtered feedback on the one hand to a high participation system with well-developed cybernetic capabilities on the other hand. The important distinction between this social system model and legalistic or mechanistic models of goal-setting which involve a formal structure where entities or actors are endowed with status roles which program the setting of goals, is that the later models are particular configurations of the broader complex social system model. They have validity

only to the extent that they are shown to apply in a particular case.

The major subsystems in the social system model include the board of control, the administration, the faculty, and the students, or analytically identifiable sub-elements of these entities. The system is located in a social and cultural environment from which it receives inputs and to which it furnishes outputs. In Chapter IV, the goal-setting function is described as one of many functions in the broader institutional system. By being a social system, the goal-setting process shares many characteristics common to social organizations generally.

The Structure of the System

To view the process of goal-setting as a complex social system does not, in itself, provide analytical indicators which describe differences between processes. Therefore, Chapter V has identified variable characteristics of the system which influence the process and predispose the process to certain outcomes. Within the basic framework of a social system, the goal-setting system is described as being structured by relationships among entities and subsystems, including these in the environment, along six dimensions:

1. Relative interest in the goal issue in question.
2. Quality of information links.
3. Usable power and influence on the issue in question.
4. Levels of participation.
5. Interaction patterns.
6. Manner in which goal resolution is made.

The position on these dimensions describe the configuration of the goal-setting system on a particular issue in a particular institution at a particular time. It is posited that the configuration of the system will influence the subsequent interactions and predispose the system to a particular outcome. To describe these relationships describes the structure of the system. Several specific configurations of the goal-setting system which have dominant characteristics which can be used for identification have been discussed in Chapter VI. These are seen as combinations of the dimensions listed above.

Characteristics of the Process

The process of goal-setting which takes place within the structure provided by the dimensions identified above is modeled in the most general case on a complex interaction, the outcome of which is emergent. Random interaction is modified by the nature of the structure. In the most general case, the setting of the goal on a particular issue is not of necessity a discrete act by an actor in a formal position of authority, but is the result of a complex interaction. Using this model, the focus is on constraints imposed on an emergent outcome, not on describing a formal structure or an ideal process sequence. The setting of the goal is the interaction among actors and among subsystems whose outcome is identified as being the actual dominant intention which is the goal input into the decision-making processes. The outcome of the process may represent a stable resolution, but in the general case an outcome is a transient point in an on-going process.

Using the Model

The uses of the model can be grouped into two perspectives: those where it will be used to describe and categorize an action which has taken place; and those where it will be used to anticipate alternatives in an action which is yet to come.

The first step is to identify the collective entities, actors, or subsystems. The characteristics of each of these subsystems is obviously mediated by differences of the individual persons who are involved. These differences must be taken into account in a particular situation.

Having identified the issue and the actors in the system, the next step is to describe the relationships among actors. Figure 6 is a tabular description of the relationships. The unique characteristics of the goal-setting system of this institution on the issue in question are indicated in the table.

Armed with the identification of the specific goal issue, the identification of the actors concerned, and a description of the relationships structuring the goal-setting system, the researcher is prepared to move in several directions. For instance, he may examine whether the goal-setting system has the same configuration for the resolution of other goal issues. This would involve describing the relationships, as in Figure 6, for the new goal-issues and comparing salient features. A second line of investigation would involve correlation of configurations or classes of goal-setting systems, classified according to relationship structures, with types of goals or with qualitative characteristics of the resultant goals. This would involve describing a large number of goal-setting systems and their associated goal outputs

RELATIONSHIPS WHICH DESCRIBE THE CONFIGURATION
OF A GOAL-SETTING SYSTEM

Figure 6

Identification of Subsystems or Collective Entities, Figure 6

- A - Environmental Entities or Actors
- B - Regents Subsystem
- C - Administration Subsystem
- D - Faculty Subsystem
- E - Student Subsystem

RELATIONSHIPS WHICH DESCRIBE THE CONFIGURATION OF A GOAL-SETTING SYSTEM

Goal Issue in Question: _____
 Institution: _____
 Date: _____

Subsystem

I. Level of Interest in Goal Issue in Question

- 1. Very high - willing to take incisive action . . .
- 2. Medium
- 3. Slight - sees others as primary parties
- 4. None

A	B	C	D	E

II. Quality of Information Links

- 1. Almost always has accurate, timely information upward, downward, and horizontally on alternatives, capabilities, intentions, and consequences . . .
- 2. Sometimes lacks the elements listed above; or experiences noise, overload, filtering by others
- 3. Almost never has the elements listed above . . .

A	B	C	D	E

III. Level of Usable Power

- 1. Highest - can take decisive action without consultation
- 2. High - can take decisive action in coalition with others; or can veto intended goal-setting actions
- 3. Medium - must consult or negotiate with others before acting; or is able to make minor administrative decisions which reduce alternatives for actions; or is able to significantly reduce effectiveness or increase costs to more influential entities
- 4. Lowest - can request only; appeals to norms without ability to threaten sanctions

A	B	C	D	E

Figure 6--Continued

		<u>Subsystem</u>				
		A	B	C	D	E
IV.	<u>Participation Level</u>					
1.	Highest level - acted as final decider					
2.	High level - participated as an equal					
3.	Medium participation - participated by furnishing advice only					
4.	Low participation - supplied information only					
5.	Lowest level - no participation					
V. <u>Observed Interaction Patterns</u>						
A. Interaction within subsystems						
1.	A high level of general interaction among individual actors within the subsystem					
2.	High participation primarily by a power elite . .					
3.	Predominant interaction by militant activists . .					
4.	Conflict within subsystem between factions or coalitions					
B. Interaction between or among subsystems						
1.	Interaction predominantly between elites					
2.	Numerous individual actors in the subsystems interact with numerous actors in the other subsystems					
3.	Interaction is predominantly between subsystems which have high internal consensus					
4.	Interaction is predominantly between or among factions of subsystems					

Figure 6--Continued

VI. Manner in which Goal Resolution Was Made

- A. General consensus on the goal existed among the subsystems and there was no significant conflict . []
- B. Consensus did not exist and there was conflict . . []
- C. Conflict resolution was approached as follows:
 - 1. Subsystem __ dominated the decision or resolution, overruling all others []
 - 2. Subsystems __, __, __ in coalition dominated the decision or resolution []
 - 3. Conflicting subsystems __, __, & __ resolved their differences by compromise, negotiation or bargaining []
 - 4. Conflicting subsystems __, __, & __ resolved their differences by integrating their ideas and reshaping their individual goals so that no party gave up anything []

and seeking correlations between given configurations and particular goal outcomes. A related second generation study would then be to identify changes which would be indicated in a particular goal-setting system to increase the probability of producing a desired type of goal. A third line of inquiry would focus on the system itself, and would attempt explanation of why a goal-setting system is structured as it is. Questions in this area might be what would make the process cooperative rather than a confrontation, or what would result in lower stress "costs" to the organization as a whole.

The description given in Figure 6, which for sections I through IV focuses on characteristics of collective entities or subsystems, can be interpreted to provide descriptions of the relationship structure of the system as a whole. For instance, a system may be described as having a quality of information links which are (1) good for all subsystems, or (2) poor for some subsystems; a system may be described as characterized by interest in the issue in question which is (1) generally balanced, or (2) disparate; the descriptions of the usable power of the subsystems might describe a system which is (1) dominated by one subsystem, (2) dominated by a coalition, (3) polarized into two strong sides, or (4) internally balanced; or the system might be characterized by (1) high participation, or (2) low participation. Such classifications of the system as a whole provide additional states with which to seek correlations in empirical research.

The model is expected to be useful in three separate applications: research, organizational studies, and communications facilitation.

Use of the Model in Research

It is expected that this model will be suggestive of relationships

for testing, and will provide the framework for formulation of hypotheses. Three major kinds of relationships are suggested by the model which correspond to descriptive status, impacts, and causes. Examples of questions based on each relationship are given below.

1. Relationships between elements of the goal-setting process:

What actor is most influential?

Why is this actor most influential?

How can relative influence be altered?

What relationships produce what structures?

2. Relationships between structure of the system and goal outcomes:

Do certain qualitative characteristics of goal outputs correlate with types of structure?

What would have to change to change the outcome?

What characteristics of the structure can be changed?

3. Relationships between linking relationships and their causes:

What in the environment influences relationships between actors?

What can any actor do to change system relationships?

Use of the Model in Organizational Studies

To the extent that this model is built on sound propositions and is comprehensive in its treatment, it is the best available description of the goal-setting process. As it is substantiated in use, the confidence with which it can be treated as a valid description will increase. As a description of goal-setting, it may be used to describe the goal-setting process of a particular institution, and it may be used to formulate strategies for intervention in the goal-setting process.

Obviously, many of the conceptual parts of the model must be operationalized by subsequent research before they can be used in descriptive studies. Techniques for measurement of some of the relationships in the model must also be perfected by subsequent research. But even in its present form, the model is a serviceable approximation which adds structure and reduces random alternatives.

Strategies for intervention.-Some persons or parties may be interested in establishing a certain set of goals for an institution. The study suggests that in order to establish these goals, it is necessary to understand the process of goal-setting in that institution, i.e., have an adequate model of the process. The essential questions are probably who the influential actors are, what would change the relative influence of particular actors, and how this change could be accomplished. The question of who the influential actors are may be approached in several ways. Gross and Grambsch in their major study of university goals used a reputational technique based on questionnaires returned from more than 7,000 administrators and faculty members (33:21). Another approach might be a decision analysis technique which attempts to identify who habitually advocated positions which turned out to be the established goal position. A third technique suggested by the model developed in this study would be to analyze the relationships between actors in the goal-setting system in a particular institution to see who should logically be influential on the goal issue in question. The model as described in this study, combined with analysis of the actors as psychological individuals with particular strength and weaknesses, provides an ordering scheme for seeking answers to the other two questions.

The model, when adapted to a particular case, provides a description which implies why the actors exercise the relative influence which they do. (The exception, of course, is the circular case in which the relative influence of actors was determined by analysis of these relationship factors.) By using the model for a description of relationships between entities which appear to be the basis for goal influence, systematic strategies can be developed for first, testing reasons for influence and then, for taking steps to alter relative influence of particular actors.

Use of the Model as a Demonstrative Device to Facilitate Communications

It appears that in the operational context, many of the stresses of colleges and universities reflect to some small degree different conceptions of who is plotting the course of the institution. To many persons in society and in politics, and to their sons and daughters who are students, the president of a university is assumed to have much the same relationship to deans and faculty members as a general director has to division chiefs and professional employees in industry or government. To faculty members concerned with the role of the community of scholars, the president is easily blamed for constraints over which he has no control, and the desire of those who furnish the resources to participate in the articulation of the institutional role is summarily rejected. Other actors have other conceptions from which they are working. The model should serve as a tool to focus attention on the relationships of actors and entities inside and outside of the institution, and facilitate common conceptions from which to work.

From the perspective of this model, the questions (1) "What are the goals of higher education?", or (2) "What should the goals of

higher education be?" take on a new meaning. Although these are questions every man should attempt to answer, the model suggests that in the operational context a distinction must be made between the first question above and "What are the goals of this institution?", and between the second question above and "How are the goals of this institution set?" Hopefully, the goals for each sector of public higher education will reflect the view of those who objectively attempt to answer this question by consequential analysis using those values which have been predominant in cultures which are superior. The model suggests that as public higher education is currently structured in the United States, many actors and entities get to defend what they consider superior and important. The model also suggests that what the goals of an institution of higher education "should be" must be labeled as what the goals of the institution of higher education should be in the view of a particular party. The authoritative answer to the question is the emergent outcome of a social process.

Implications

The conceptual model, used in the applications described above, provides structure and identifies characteristics which permit the formulation of hypotheses involving the goal-setting process which promises to be productive in empirical studies. The conceptualization is based on principles of behavior of a social system and of emergent outcomes of social interaction, and from the conceptualization broad generalizations on goal-setting can in turn be deduced. The conceptual model suggests tentative strategies for intervention in the goal-setting process.

It is to be expected that the model itself will be morphogenic in character. Studies using the model may indicate that variations in some relationships may be inconsequential in regard to association with any major issues in question. On the other hand, some relationships which are included as parts of broader relationship classes may be found to be so significant as to warrant separate treatment. In any event, a framework is provided within which to study the goal-setting process and its significance in organizational behavior.

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BIOGRAPHICAL SKETCH

William A. Gager, Jr., was born in St. Petersburg, Florida, April 20, 1931. He was graduated from the P. K. Yonge Laboratory School, Gainesville, Florida, in 1948, and the U. S. Military Academy, West Point, New York, in 1954.

As an Officer of the Corps of Engineers, his assignments included administration of military construction projects and direction of training with an engineer battalion in Europe; participation in an exchange program with the Tennessee Valley Authority concerned especially with projection of requirements and feasibility analyses of regional development projects; civil affairs advisor to the Thua Thien province of Viet Nam; and Chief of a research and development service testing division of the Army Test & Evaluation Command. He was graduated from Texas A. & M. University in 1961 with the degree of Master of Engineering, and is a Licensed Professional Engineer.

In 1965, he enrolled in the Graduate School of the University of Florida. He worked as a teaching assistant and Graduate School Fellow until August, 1967, when he received the degree of Master of Arts in Teaching with a major in Political Science. He has been a W. K. Kellogg Fellow while working toward the degree of Doctor of Philosophy with a major in administration of higher education.

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