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ABSTRACT

The problems of management within the university community are discussed with consideration given to various facets of creative management. The nature of conflict is defined as a struggle over values and claims to scarce status, power, and resources in which the aims of the opponents are to neutralize, injure, or eliminate their rivals. The university administrator who wishes to perform effectively must be cognizant of the potential sources of conflict, identified as communication, structure, and personality and behavioral factors. The three sources are interrelated and conflict situations usually involve elements from all three. Methods for avoiding or resolving conflict are discussed and a model for university management outlined. It delineates five main sub-divisions of managerial work: statement of the goals; design of an appropriate organizational structure; design of a reward system based on the goal system; use of available technologies to help the unit meet its goals; and building of good interpersonal relationships with subordinates, peers, and superiors. Each of these sub-divisions is examined in detail. It is suggested that mutual commitment to conflict management between faculty and administrators should result in a more centralized decision making process and increased cohesion of the university community. (LBH)

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CONFLICT MANAGEMENT: AN AID FOR UNIVERSITY DEVELOPMENT
IN A TURBULENT ENVIRONMENT

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Throughout the twenty-five years following World War II higher education in America expanded rapidly—and somewhat randomly. The percentage of high school graduates attending college rose from around 10% to approximately 50%; in absolute numbers, from 1.2 million in 1945 to 8.5 million in 1970 and the percent of GNP devoted to higher education rose from a fraction of one percent to 2.5% (1). However, during the last five years, societal norms and values have changed drastically and universal access to higher education has become a reality; at the same time competing societal priorities are limiting and affecting the patterns of funding at local, state and federal levels. Thus the American post secondary educational system in the mid-1970's is commonly considered to be a stationary or steady state situation. Some people within and outside the system have interpreted this to mean that the internal status quo will be rigidly maintained, i.e. that the system will become static. Prevailing environmental conditions certainly mandate that the equilibrium level of the system be stabilized at present levels or even reduced, but all systems which are to remain viable, from sub-atomic to the cosmic, must exist in a state of dynamic equilibrium.

During the last few years educational institutions have been forced to move away from their traditional closed system toward an open system mode of operation. The external and internal variables which influence educational institutions functioning as open systems are heterogeneous and dynamic. The maintenance of the components of the educational open system in a state of dynamic equilibrium will require extraordinary

managerial skill and leadership. The ensuing conflicts which will arise as a consequence of the dynamism and change within the system will result in a substantial redistribution of power. The challenge for university administrators will be the provision of effective management of that conflict and the exercise of positive leadership to ensure that the overall institutional power base, i.e. autonomy, is not diminished in any way.

The Nature of Management

At the annual meeting of the American Council on Education in San Diego, October, 1974 a considerable portion of the program was devoted to a discussion of various facets of creative management. For a very long time, university administrators have resisted the concept of applying management techniques to their own organizations. Perhaps this has been due to a general lack of understanding of what management really is! Harold Koontz, a professor of management in the Graduate School of Business at the University of California, has defined management as

"the art of getting things done through and with people in formally organized groups, the art of creating an environment in such an organized group where people can perform as individuals and yet cooperate toward attainment of group goals, the art of removing blocks to such performance, the art of optimizing efficiency in effectively reaching goals." (2)

This definition of management could serve equally well as a definition of university administration. In fact there is no fundamental difference between management and administration; both are arts. Management is a term traditionally associated with profit-making organizations, administration with non-profit organizations. It is perhaps the tools of management or the management sciences, such as operations research, systems theory, management information systems, that have caused such antipathy. However, as Perlman has noted (3) management tools can be of

considerable use to those in the non-profit sector, provided that their limitations are realized.

If it is accepted that management is an art, as stated by Koontz, then it follows that vision and imagination are also essential characteristics of a manager. Once the vision has been effectively communicated to one's subordinates, then the manager is functioning as a leader (4). Implicit in this concept of management and leadership is the ~~obligation of all managers to train and develop their human resources (4,~~ 5). Therefore, organization development clearly becomes one of the most important aspects of the work of all managers; unfortunately it is one of the most neglected aspects in the university setting.

The Nature of Conflict

Numerous scholars from diverse disciplines have attempted to define conflict. As a result many definitions and conceptualizations exist (6,7), based on their authors' value systems. Throughout this paper Coser's definition of social conflict will be used (8):

"a struggle over values and claims to scarce status, power and resources in which the aims of the opponents are to neutralize, injure or eliminate their rivals."

As Bailey has noted (9), there are many types of and ways to classify conflict. Conflict may exist at all levels within society; intrapersonal, interpersonal, and intergroup.

Traditionally, in the western world, conflict has been viewed as something to be avoided at all costs. Civilized persons simply do not involve themselves in conflict situations and as Maslow has noted our society in general has

"a fear of conflict, of disagreement, of hostility, antagonism, enmity" (10).

Conversely, American sociologists in the pre-World War II years considered conflict to be a fundamental and constructive part of social organization, and the dysfunctional or negative aspects of conflict to be merely indicative of the need for social change and structural reform. As Cooley stated

"conflict of some sort is the life of society and progress emerges from a struggle in which individual, class or institution seeks to realize its own idea of good" (11).

In the succeeding decades sociologists began to direct their attention toward the continuation of the smooth functioning of existing social structures, i.e. toward the maintenance of the status quo. Talcott Parsons in particular, considered conflict as a social disease. Industrial sociologists, and classical organization theorists such as Mayo, Fayol, and Urwick, also thought of conflict as a dysfunctional aspect of organizations and the classical bureaucratic model of organizations ignored conflict; if conflict did occur, it was attributed to problems involving the personalities of the conflicting members and members were urged to modify their behavior to better fit into the organization.

The classical or traditionalist school of thought was followed by the behavioralist or human relations school. Behavioralists believed that if a person in authority could relate well to other people, then all organizational problems would automatically disappear. Thus scholars such as Argyris, Likert, McGregor, and Bennis, accepted the idea that conflict was an inherent part of interpersonal relationships and directed their attention toward research into effective means of conflict resolution. It is only in the last five years that the underlying philosophies of the behavioralists have been questioned. Robbins, in particular, advocates a positive approach to conflict (12). This interactionist philosophy states

that ~~conflict is~~ a necessary component of effective organizational operations and if absent or minimal, should be stimulated. Thus the interactionists believe that the effective management of conflict (by stimulation of resolution as the situation requires) will be an essential activity in all viable organizations in the future.

The Management of Conflict

The university administrator who wishes to perform effectively must be cognizant of the potential sources of conflict. With this knowledge in hand, he can perceptively scan the system and its environment and identify developing areas of conflict and areas seemingly devoid of conflict. His response to the conflict level should be the result of cool and careful weighing of possible alternatives. Only in this way can he manage conflict in an artistic way to optimize the outcomes.

Robbins has identified three main sources of conflict (12):

1. *Communication.* In today's society of specialists, communication across disciplinary lines is often difficult. Each specialist has developed his own jargon and his own parochial view of the organization in which he works. It thus becomes difficult for faculty members in a professional school, such as engineering, to communicate effectively with a faculty member whose scholarly interests center on medieval literature. Semantic difficulties abound. In large universities dissemination of information becomes a problem. Information is filtered through several administrative layers, each of whom will make judgements as to what should be passed.

on and what should be withheld. Many governance problems in the university are due to poor communication.

2. Structure. The organizational structure is essentially representative of the work flow in the organization and also determines the flow of personnel interactions. Poor organizational designs may delineate administrative positions in which it is impossible for anyone to function effectively. For example, a position such as a director of undergraduate programs, with no direct line authority over the personnel who may teach in his unit, cannot be expected to make a substantial impact on undergraduate programming. He has no formal authority and thus no formal power. Any power which he may acquire will be informal and due principally to his personal charismatic qualities.

Students of organizations have found that organizational structure should be dependent upon the type of task being performed by any given unit. Routine tasks in which the performance and outcomes are highly predictable, are best administered in a bureaucratic manner, e.g. an office concerned with purchasing in a university; the faculty members engaged in research on the other hand can best be managed in a more participative

mode, since their work is highly unpredictable.

Interdependence is another major structural cause of conflict (7, 13). For example, within the curriculum of a professional program, the quality of and mode of presentation of subject matter in the basic science courses affects the ability of the students to handle the professional science courses. Conflict often arises between professional faculty members and those from the basic science areas regarding the curriculum.

3. *Personality and behavioral factors.* As a general rule, those organization members who are authoritarian, dogmatic, rigid and lacking in self-esteem are likely to generate conflict. Personal dissatisfaction with one's role or uncertainty about specific aspects of that role will lead to conflict. Varying individual perceptions of a given situation can generate intrapersonal conflict, which will lead quite rapidly to interpersonal conflict and thus impact on the organization.

These three sources of conflict, communication, structure and personal and behavioral factors, are very interrelated and conflict situations usually involve elements from all three. For example, generally the larger the organization, the greater the likelihood of the existence

of organizational conflict at any given time; size is the structural source of conflict but that in turn affects the adequacy of the communication networks and the probability of a divergence of values between organization members. Conversely, the stimulation of conflict through one of the above three sources of conflict will usually result in changes not only in the source, but also in the other two; e.g. as an administrator releases ambiguous or erroneous information, changes and conflict are likely to occur both in individual attitudes and organizational structure.

An administrator must also be knowledgeable about the effective methods of resolving conflict so that it is not allowed to escalate to a dysfunctional level. How can conflict be resolved? (12, 14, 15)

1. *By withdrawing or avoiding*--this may be a reasonable approach on a short-term basis in situations where emotions are high.
2. *By smoothing*--differences are not confronted and emphasis is placed on commonalities of the situation.
3. *By compromising or bargaining*--results in a decision which is sub-optimal for all involved.
4. *By dominating or forcing*--the use of formal authority by a manager can resolve conflict among his subordinates as also can the use of majority dominance, i.e. the democratic process.
5. *By altering the human variable*--attempts to alter the behavior of individuals involved through education as a part of organizational development.

6. *By altering structural variables--*a variety of methods may be used, decoupling of conflicting members, increasing organizational slack, institution of a formal appeals system, redefining role responsibilities, etc.
7. *By problem solving or confrontation--*there is an open exchange between conflicting parties.
8. *By establishing superordinate goals--*shared goals are established which require mutual cooperation of multiple groups.

The first four methods of conflict resolution will reduce the levels of conflict to varying extents, but they fail to address the underlying sources of conflict directly and their effect is usually temporary. The last four methods, if sensibly used, do try to deal with the sources of conflict directly and are those which should be utilized by those attempting to manage artistically as described by Koontz (2). Burke's research (15) in this area indicated that problem-solving or confrontation is probably overall the most effective means of conflict resolution, irrespective of the cause of the conflict.

External Environmental Conditions Intensifying Conflict in the Academy

Recent papers by Glenny (16) and Kerr (17) have reviewed and discussed both the internal and external pressures which are affecting educational institutions today. Glenny believes that few institutions today are in a state of equilibrium and that steady state conditions do not exist, nor are likely to exist in the system of higher education for the next twenty years. Both Glenny (16) and Kerr (17), however, believe that the key to institutional survival during the next two decades will

be the emergence of new administrative styles to deal effectively with the inevitable conflicts that will arise.

Most universities and colleges across the nation, both private and public, are facing financial crises. Higher education, like health care delivery, is a labor-intensive system and thus is very sensitive to the current inflation. At the same time, public attitudes toward education are changing. Education is no longer regarded as a top priority item and competes much less successfully than previously with health, the environment, welfare, transportation, etc., for federal, state and local monies.

Many institutions are also finding it difficult to maintain a stable enrollment level. Although the absolute size of the pool of college-age youth in the country will continue to increase through 1980, the rate of increase will steadily decline. The size of the pool will peak around 1980 and thereafter the number of 18-21 year olds will decline markedly, probably to about 2/3 of its peak value. The percentage of high school graduates enrolling in college has dropped slightly since 1963 (16) and there is little indication that the percentage will rise substantially in the next few years. The numbers of part-time students attending college has been increasing. However, these students generally require more services, such as counselling, during their program of study and thus are more expensive to educate.

In a rapidly changing technological society, the job market for college graduates is constantly changing. New career avenues open up, while others close down almost completely. Short-term cyclical changes in the job market occur in many areas, engineering being an excellent example. Two or three years ago engineering graduates were having difficulty finding suitable jobs; today the demand exceeds the supply of

qualified personnel. Today's students are quick to respond to job market trends and thus enrollments in many programs fluctuate widely from year to year. Trends may be noted but academe, being organized on a rigid disciplinary basis, is ill equipped to respond to rapidly varying student demands.

State agencies usually develop the budget for public institutions and appropriations for private institutions on a unit cost basis. In a time of increasing enrollments, this budgeting format assured adequate financing for those institutions. As enrollments decline, unit costs tend to increase due to fixed overhead costs related to physical plant maintenance, core administrative staff, and core faculty. The increased unit costs will result in louder and more insistent calls from the public and the legislators for increased accountability. However, ultimately, as Glenny (16) points out,

"the value premises and attitudes of the public and policy makers determine the level of support and commitment to continue."

This clearly points to the need for those who occupy leadership positions to focus their attention on the institution-environment interface and to develop new, creative, entrepreneurial ways for the institution to respond to and impact upon its environment. In other words, the institutions must change to function as open loop systems while still maintaining sufficient internal stability for faculty to continue their teaching, research and scholarly activities. Community colleges have always been responsive to the needs of the public they serve, while large research universities have traditionally remained somewhat aloof. Thus, the change and conflict occurring in institutions of higher education during the next few decades will be felt most keenly in the large research universities.

Managing the University in a Turbulent Environment

During the 20th century, there has been general increase in the power of the faculty in institutions of higher education and a corresponding decrease in central control. Trustees have delegated the majority of their authority to the central administration, the faculty, and to a lesser extent, the students. In turn, the central administration has, to a large degree, espoused the collegial model of university governance and favored widespread faculty and student participation in decision making. Faculty have been given this power because it is presumed that their technical and professional expertise will enable them to play a vital role in the decision-making process. Arendt's view of the faculty stands in sharp contrast. She believes that the intellectual and scientific communities

"cling with greater tenacity to categories of the past that prevent them from understanding the present and their own role in it";

they also

"lack experience in all matters pertaining to power" (18).

The diffuseness and ambiguity of power resulting from this wholesale delegation has led organizational theorists Cohen and March (19) to characterize the university as an "organized anarchy" in which decision-making can best be described using the "garbage-can" theory. This type of participative management, although favored by many faculty and administrators, has very often seemed to lead to "the rule of Nobody"; everyone is involved in decisions and, therefore, no one person will admit his responsibility. Those who wish to complain cannot localize the responsibility and conflict is resolved by avoidance. This situation leads to frustration of the faculty, students and general public and is, in part,

the cause of increased faculty interest in collective bargaining. As Hobbs (20) has noted, the participative mode of management in universities is often punctuated by unpredictable eruptions and is analogous to the operation of a defective pressure cooker.

The collegial model of university governance is functional only when the university is functioning as a closed system with abundant financial resources. The more recent models of governance, Baldrige's political model (21) and Cohen and March's organized anarchy model (19), are essentially descriptive models and are of limited use to an administrator seeking to effectively manage a university in the mid-1970's. As pointed out by Richman and Farmer (22), the problems faced by a university attempting to adapt actively to a turbulent, dynamic environment are not unlike those faced by the industrial sector. Corporate management has been struggling to find solutions for several years, while university administrators are, in most cases, just beginning to realize the extent of the problems.

A Model for University Management

Weisbord (23) recently developed a model which can be used for a systematic study of management in both the industrial and university setting. This model delineates five main sub-divisions of managerial work

- *statement of the mission and goals of the unit managed*
- *design of an appropriate organizational structure*
- *design of a reward system based on the goal system*
- *use of available technologies to help the unit meet its goals*

-- building of good interpersonal relationships with subordinates, peers and superiors

All five subdivisions are interrelated and interdependent; if, for example, the utilization of technological hardware is increased to help the unit reach its goals more effectively, then the network of interpersonal relationships will change and at the same time changes in the structure and reward system may be necessary. The manager must also assess the effects of the environment upon his unit as a whole and upon the five subdivisions individually within the unit.

At the level of an academic department, the environment to be scanned is made up of the following hierarchy: the school, the university, the region, the state, the nation, and in some cases the world. The most immediate environment, i.e. the school in this case, is the one that must be scanned most thoroughly; the school and university as a whole should themselves be in a reactive stance with respect to the extra-academic environment. Overall, the effective manager must be knowledgeable about the pulls and pressures of both the internal and external environment of his unit. Due to his background, the academic manager will probably be more receptive to internal pressure from his faculty than to that from external sources; these forces are often diametrically opposed and, as the manager tries to achieve a balance, he will experience considerable role conflict. It is essential that the manager not allow his intrapersonal conflict to impact on the functioning of either his unit or of others. This type of conflict, which often occurs at the department chairman level in universities, can be most effectively resolved by the personal development of the manager, carried out either informally or formally through educative sessions. Traditionally, little is done to train departmental chairmen or any other

university administrator to carry out their new duties effectively. On-the-job-training is a potent learning experience but this learning would be more effective if supplemented by some formal instruction such as seminars, discussion groups, etc.

Conflict management from the viewpoint of We Lord's model (23) is categorized as part of the sub-division dealing with interpersonal relationships. Therefore, this paper will consider in turn each of the other four sub-divisions, their interactions within the university and with the external environment, and the overall role of the manager in the stimulation or resolution of conflict with respect to these four areas.

Statement of Mission and Goals

It is of prime importance that all universities have a clear sense of mission and a set of well defined goals which are consistent with the available resources; both short-term and long-term goals are needed. Many faculty and administrators are of the opinion that it is impossible to state operational goals for a university (24, 19); and since goals cannot be set in any meaningful way, it is obviously impossible to monitor and evaluate the progress of a university toward achieving these goals. Conrad (25) has noted that typically

"the concept of goals refers to a more or less explicit and consciously recognized value system that lists and ranks in order the objects or conditions to be produced by the on-going activities in the organization and serves as a criterion for decision making. Formal goals...are not characteristic of universities: we do not find a more or less conscious value system that is utilized in university decision-making processes."

The lack of a set of goals plus the over-reliance on the collegial mode of governance has led to very haphazard decision-making in universities.

The top administrators have often tended to make what Barnard (26) terms

negative decisions, or decisions not to decide. Once a set of goals is established for an institution, it then becomes essential that administrators make positive decisions, i.e. decisions to do something or not to do something. Positive decision-making, however, stimulates conflict and administrators must be prepared to control and manipulate the conflict to maintain the optimal level.

Several studies have been made of the goal systems of universities during the last few years (19, 21, 27) and Richman and Farmer (22) have reviewed and summarized the results obtained. They believe that the goal pursued with the greatest vigor as evidenced by budgetary expenditures is that of protecting the faculty, i.e. the tenure, prestige, job security and academic freedom of the faculty. Other goals which are ranked highly are undergraduate education, financial support, faculty benefits, graduate education and research. Recent research carried out by Pelton, Miller and Smith (28) at the State University of New York at Albany shows that a relatively small proportion of the budget is allocated to undergraduate education and that those who teach predominately undergraduate classes receive a lower salary and are less likely to be awarded tenure than those involved principally in graduate education and research. Salancik and Pfeffer also found in their research at the University of Illinois, that the power of individual departments within the university is directly related to the size of the budget received (29), the department's ability to obtain outside grants, national prestige and the size of the graduate program (30). These research studies are supportive of Richman and Farmer's hypothesis that research and graduate education are high priority goals at state multiversities and high prestige private schools; undergraduate education ranks eighth and tenth in priority, respectively, at these institutions.

The goals established internally by faculty and administrators of large research universities are often at odds with the ideas and wishes of the major supporters of the university. The major supporters are the state government, federal government, professional accrediting agencies, parents and alumni and manpower users. Each of these groups has its own set of preferred goals for the university (22); for instance, both parents and alumni and the state government, rate jobs for graduates, cultural assimilation and undergraduate education as the three highest priority goals which should be pursued by the university. None of these goals are among the top three actually pursued by the university.

The academic administrator must thus attempt to walk a precarious line between the faculty and the external supporters. However,

"the potential for conflict depends on the extent to which required resources are shared, the degree of interdependence and the perceived incompatibility of goals" (7).

As long as money was plentiful, goal diversity and incongruence could be accommodated within the organization; the slack was high and provided adequate buffering between conflicting units and the external publics. Thus, for quite a number of years, the tactic adopted by university personnel dealing with the conflict generated by goal incompatibilities, has been that of smoothing. The president and his top staff have stressed the positive things that the university is doing for the state or nation via their research and graduate programs and tended to gloss over the lack of attention generally given to the undergraduates who comprise the bulk of their student population. It appears that in the next decade smoothing will not suffice and the university must begin to deal with the underlying problems. A clear set of goals, showing more responsiveness to external pressures, must be defined by the university community. The

task for administrators then becomes one of internal change initiation; this process will stimulate conflict which administrators must be prepared to manage effectively.

How can a large university go about the task of setting goals which are responsive to both internal and external needs? Faculty have a set of professional norms and values which are difficult to change and in a large university the backgrounds and interests of faculty are almost as varied as those of the students they serve. The formulation of realistic goals which can include all these diverse elements is an administrative challenge and will be extremely time consuming. It is generally agreed in the profit making sector that goals cannot be established unless the top management is strongly supportive and committed to the venture. At the same time, there must be participative decision making concerning goals involving the lowest levels in the hierarchy. Typically, academics have little knowledge about how to set realistic goals for a unit, and even less knowledge about how to mesh the unit goals within the framework of the overall university goals. Thus goal setting should be preceded by training sessions for departmental chairmen and deans. Top administrators should also be involved in these sessions. The sessions should cover not only the techniques of writing goals but also ways in which the administrator should work to influence the attitudes of individuals and the climate of the unit, i.e. some effort should be made to point out ways in which the human variable may be altered as a means of resolving or relieving the conflict that the goal-setting process will generate.

Goal setting will anger and upset many faculty. However, there are few jobs available in higher education today and it is unlikely that faculty will choose to leave the university. Faculty are

essentially locked in, unable or afraid to exit; those who are tenured will, therefore, begin to exercise their voice option, and complain loudly in an attempt to thwart the institution's effort to set goals. Faculty use of voice has traditionally been viewed with much trepidation by administrators who have generally sought to either avoid or suppress this type of conflict situation. Hirschmann (31) has noted that

"the short run interest of management in organizations is to increase their own freedom of movement; management, will, therefore, strain to strip the members-customers of the weapons which they can wield, be they exit or voice, and to convert, as it were, what should be a feedback into a safety-valve. Thus, voice can become 'mere blowing off steam' as it is being emasculated by the institutionalization and domestication of dissent."

However, if university administrators ignore the faculty voice, then there will be little loyalty or commitment to the goals of the university. Without faculty commitment little or no progress will be made toward the goals.

Ultimately, chairmen must persuade faculty that goal-setting at the departmental level is a desirable and necessary process. Higher level administrators, such as deans, must use their formal authority and reinforce their chairmen's stance. It would seem that the conflict stimulated by initiation of a goal-setting process can be maintained by the use of mild authoritarianism by superiors, while at the same time being controlled via a combination of resolution techniques, such as problem solving and the establishment of superordinate goals. Problem solving or confrontation involves a frank discussion of problems and areas of disagreement by faculty and administrators. After a few sessions, the conflicting units or persons may agree to collaborate. If problem solving proves an effective means of controlling conflict, then it is likely that

the conflicting parties will establish superordinate goals and thus a degree of mutual interdependency. Both problem solving and superordinate goal setting are very effective means of reducing conflict caused by ineffective communication or semantic problems; they are less effective methods in situations involving basic differences in values and personality factors. However, the very act of talking and working with one's adversary often lowers the conflict to acceptable levels.

The value of faculty and administrative commitment to superordinate goals has already been demonstrated in a number of private schools which have been struggling for survival. In these instances change has occurred rapidly and new goal systems have been instituted as traditional liberal arts colleges have revamped their curriculum to provide a career-oriented thrust. The primary superordinate goal has been to survive. In the face of perceived external threats to institutional survival, the academic community draws closer together and group cohesion increases. As a corollary, the group tolerates and may even welcome an increased degree of centralization of power. If goals are clearly stated and priorities set, then faculty are prepared to allow the top administrators to lead the institution through difficult times.

Richman and Farmer (22) in their latest book attempt to develop a quantitative methodology for analyzing and dealing with power within a large state university. Their model indicates that as the open system mode of operation mandates changes in goals and priorities, there are striking changes in the balance of power within the system. Since power in a university is expansible, and is not a zero sum game, the power shifts do not necessarily mean a loss of absolute power by the faculty. The model clearly shows that the power exercised by the trustees and

central administration will increase and thus there will be a greater centralization of power in the near future. Faculty will retain their collective power although it is likely that individual power will diminish. Cohen, March and Olsen's garbage can model of university decision-making (32) has also been used to examine the power shifts which occur when organizational slack decreases. Slack provides buffers between areas of the university with differing values and technologies and the reduction of slack thus causes problems. The garbage can model shows that in widely divergent types of institutions, the reduction of slack necessitates a move toward a more hierarchical decision structure; discontent and confusion increase as the power shifts occur, but subsequently diminish as a new organizational model is adopted and accepted by faculty and administrators.

It seems clear from the above research and analyses that "the current vacuum in leadership" (33) will be filled in the near future. If university administrators respond to the various environmental pressures adequately, then academic leadership will remain within the university; if they do not, then it is likely that public officials will take the initiative and write legislation to ensure that the necessary changes are made, both in private and public sectors.

Design of Organizational Structure

Once the mission and goals of the university have been clearly articulated, administrators must turn their attention to the organizational structure. If new goals have been set, then it is likely that the structure will need to be modified to enable organization members to work constructively toward achieving those goals. Organizational charts indicate the formal decision-making structure in an organization and

should be constructed so that the work can be done with optimal efficiency. Superimposed on the formal structure is an informal network which also has a substantial impact on the efficiency and smoothness with which the organization operates. If the formal structure is impeding operations, as it often seems to be in large universities, then managers and workers may set up informal arrangements and groupings to get the job done.

As noted earlier, the university in the 1970's is operating in a turbulent field environment. The university exhibits dynamic properties not only internally among its own subsystems, but also with respect to the field within which it is situated. Kingdon (34) states that

"an important characteristic of organizations responding to conditions of the turbulent field is their need to enter into collaborative and cooperative relations to reduce the area of relevant technological uncertainty; thus dissimilar organizations tend to become positively correlated."

This need for collaboration has stimulated the formation of consortia of educational institutions such as the Pittsburgh Council for Higher Education, regional and state planning commissions, and the Education Commission of the States. The potential for conflict in such relationships is very high and unless superordinate goals are established and internalized by those involved, then the collaborative efforts are doomed to failure. Universities, especially those which receive substantial portions of their funds from governmental sources, are in some cases also seeking to develop more formalized cooperative interactions with state and federal agencies in an effort to consolidate contractual agreements on research and policy studies carried out for the agencies. These types of collaborative efforts are, however, still in an embryonic stage of development but represent a move toward what is termed "mutual

growth" in Land's transformation theory of growth (35).

Universities must also adapt internally if they are to interact effectively with the complex and uncertain turbulent external environment. To date, adaptation by universities has been principally in the passive mode. Complexity has been dealt with by segmentation, fragmentation, dissociation or some combination of these methods. Segmentation occurs when the top level administration pursues goals which are different from and incompatible with those pursued by the faculty at the departmental level. The complexity is such that the various levels within the university have incomplete knowledge and thus differing perceptions of reality. Fragmentation usually results in a loss of goal continuity. Dissociation occurs when differentiation of tasks occurs to such an extent that each unit pursues its own goals irrespective of their impact on the total system.

The dysfunctional aspects of the passive adaptive mode can be illustrated by reference to the education of health professionals. Clinical aspects of medical education are hospital based and managed by the directors of medical service in the various hospital departments, but these directors often have little formal relationship with the respective departments in the medical school. This segmentation may cause glaring deficiencies in the overall educative process of the medical student. Fragmentation and dissociation are rampant in the education of allied health professionals. In response to the demands resulting from the knowledge explosion and rapid technological advances in the health field during the last twenty years, categories of health professionals have mushroomed; at the present time, there are 125 primary classifications and about 250 secondary classifications (36). The training programs

for these professionals occur in all types of post-secondary educational institutions. The tasks ultimately performed by the graduates from many programs may be almost identical but the educational programs are operated as very separate and distinct entities and the graduate from any given program has neither lateral nor vertical mobility in the health care system. Thus, this type of passive response to the environment has locked the institutions, their graduates, and the health care system into an inflexible pattern.

Organizations with clear short term and long term goal systems can adapt actively to the turbulent environment if top management exerts strict control over resource allocation. Active responses impact upon the environment and the resultant feedback allows the organization to modify its goals, insofar as it wishes, and to remain responsive over long periods of time.

There are three basic ways in which an organization may be structured. The first is task or discipline oriented and is the oldest, most conservative model. It is typified by the traditional departmental structure of the university. The second is program or project oriented and has been used only to a very limited extent in the academic setting. Recent examples of this type of structure are the Womens Studies and Black Studies programs which utilize faculty from diverse disciplinary backgrounds. These interdisciplinary programs have been merely added onto the fringes of classical university structure and the faculty who teach in such units are often considered to be anti-intellectual renegades by their peers located in the traditional departments. The third model is a mix of the first two types and is called the matrix model. This model was first used in the aerospace industry in the 1960's

when the federal government was funding industrial projects which needed the skills and knowledge of a variety of specialists for successful completion. The aerospace industry responded by pulling specialists from their respective departments and assigning them to specific projects for varying amounts of time. Today, the federal government is tending to preferentially fund university research projects which are interdisciplinary in nature; at the same time there is pressure from local and state groups for universities to address their multifaceted research capabilities to specific societal problems. The external pressures and the funding patterns are, therefore, pushing the university toward adoption of a matrix structure. Projects and programs of a multidisciplinary nature may involve such diverse disciplines as sociology, economics, engineering and medicine. Projects are generally funded for two or three years and participation by faculty from each discipline may vary widely from month to month. To date, universities have attempted to solve the overwhelming administrative problems involved in the implementation of such projects by creating a series of centers or institutes. However, until the university reorganizes to be consistent with its goal system and thus legitimizes such entities, faculty are likely to be reluctant to participate. It is noteworthy, here, that several medical schools recently participated in an organizational analysis and at least some appear to be moving toward a matrix mode of organization (37).

The adoption of a matrix model usually stimulates conflict both interpersonal and technical. However, research indicates that the technical conflict is positively correlated with performance, i.e. the specialists on the project team argue from the viewpoint of their differing backgrounds but this improves the overall team performance. Interpersonal conflict and role ambiguity are also high in the matrix since

each member has dual allegiance, to his discipline and to the project; however, this conflict is overt and can be handled by an effective administrator. Overall, there is no evidence that these personal conflicts affect performance (38).

Design of a Reward System

If the goal systems of a university, school or department are reassessed and changed, then it is essential that the reward system be changed to recognize the faculty commitment to the superordinate and unit goals.

The criteria for tenure and promotion must be modified. If a school states that one of its goals is increased attention to undergraduate teaching, then it must be prepared to reward the faculty who work toward the realization of that goal. Similarly, if problem oriented research becomes the major thrust, then faculty must be rewarded and not denigrated for participating. For example, the new Dean of the School of Engineering at a large research university informed his faculty and the top administration that one of the main goals of the school over the next five years would be the enhancement of the research efforts, with emphasis being placed in certain key areas. At the same time, faculty were informed that their salary increases would be below, at, or above a certain percentage dependent upon their performance during that year. Research monies brought into the school increased three-fold.

Motivation in the university setting is complicated by the tenure system. The percentage of tenured faculty in institutions throughout the country is rising at a time when many institutions are cutting back on faculty. Within large universities, there are some schools with about 90% of the faculty tenured, and an average age around 50. Such

schools face especially acute problems. Goals may be difficult to set, but the implementation of those goals becomes inordinately difficult when there can be no influx of new talent into the school.

Hodgkinson (39) has identified certain characteristics which are found frequently in individuals over 50. At this age most faculty and administrators come to the realization that their period of maximum effectiveness is past. Mandatory retirement age for faculty is usually 70, although many institutions are providing inducements for earlier faculty retirement. Many faculty in this age bracket (50-70 years) experience considerable intrapersonal conflict as they become aware of their declining competence. This conflict is intensified if these faculty are asked to change their work patterns and to realign their professional priorities. Older faculty, entrenched in their own specialized interests, must be helped to develop themselves to better fulfill changing job requirements. Likewise, faculty of any age whose departments and programs are closed in accord with new school or institutional goals, need assistance to move into other areas of scholarship. An enlightened and all pervasive system of faculty development is, therefore, needed specifically to assist the two categories of faculty mentioned above and also to work with faculty throughout the institution who need help with their ongoing duties. A recent Change Policy Paper (40) explored in depth the needs and possible methods of implementation of an effective faculty development system. Faculty development must, however, be presented as a positive feature of university life and not as a remedial course for incompetents and displaced persons. It should be clearly and specifically tied in with the reward system, with salary increases dependent on the work done and progress shown in faculty

development sessions. Faculty development has traditionally been off-campus in the form of sabbaticals; in the future it seems likely that on-campus activities will replace sabbaticals, probably with substantial financial saving to the institution.

Use of Available Technologies

Technology in the context of Weisbord's theory (23) refers to anything that helps to get the work done in the organization. Thus, human resources are included in this category and, as discussed in the previous sections, this resource pool is likely to remain stable or decrease during the next few decades. Other forms of technology, both software and hardware, will increase and these in turn will probably affect the ways in which human resources are utilized. There will undoubtedly be widespread use of new instructional modes such as television, audiotapes, videotapes, computer-aided instruction which will supplement and complement regular classroom instruction. Outreach programs will proliferate and courses will increasingly move off campus into community locations. Some faculty, especially the older ones, will find such technologies threatening and attempt to avoid the use of new teaching techniques and methodologies. Thus in-training sessions to familiarize faculty with these teaching tools must be a part of the overall faculty development plans of the university to minimize the faculty intrapersonal conflict.

New managerial technologies are being developed throughout the country, with the National Center for Higher Education Management Systems in Boulder, Colorado, providing leadership in this area. These management aids include such tools as management information systems (MIS), modelling and cost simulations, program evaluation review techniques (PERT),

program budgeting, management by objectives (MBO), many of which have been used extensively in industry or government agencies for many years. Like faculty, many administrators view these technologies with a sense of uneasiness. Some refuse to use them and rely solely on their instincts in decision-making situations, while others place seemingly blind faith in the data generated by these systems. As Perlman (3) has pointed out, these techniques are not panaceas and must be used sensibly. In a rapidly changing society, it is necessary to constantly collect data, but administrators must learn how to be selective, to filter the massive amounts of data generated and then to use only the relevant information in the decision-making process, i.e. the art of "satisficing."

Summary

If institutions of higher education are to continue to function autonomously, new and improved administrative techniques and leadership styles must be developed. The turbulent field environment in which the university must function today and in the future mandates that an active adaptive stance be adopted and that universities re-examine their role in society and the institutional goal system. Change or perish could be the modern slogan for education institutions. However, the change must be initiated by the top level administrators. The conflict stimulated by the adaptation must be managed effectively and the traditional administrative responses to conflict situations, smoothing or avoidance will no longer suffice.

Active adaptation of a university first requires changes in the goal systems. As the goals and mission are modified to include environmental influences, the organizational structure, the reward system, the use of technology and intra- and extra-university relationships must also

change. These all encompassing changes will and should occur slowly and gradually because it is essential that the internal stability of the university be maintained to provide a climate in which teaching, research, and scholarship can continue to thrive. The change process must be facilitated by the institution of a comprehensive system of organizational development. Administrators must be trained in goal setting techniques, familiarized with new technologies, and the fundamentals of organization theory; they must also learn how to handle the interpersonal conflict that is likely to arise. Conflict management can be effective only if administrators are aware of the potential sources of organizational conflict as well as the options available for controlling the level of conflict. Faculty likewise will need help in the internalization of institutional goals, in personal and professional development, in the use of new technologies. However, the mutual commitment to the achievement of the institutional goals should bring faculty and administrators closer together. This increased trust and interdependence will probably result in a more centralized decision-making process and the cohesion of the university community will increase.

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