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ORGANIZATIONS
Structures, Processes, and Outcomes

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Organizational Structure: Forms and Outcomes

The idea of structure is really quite simple. It is the way in which the parts are arranged. Our automobiles have structures and so do the buildings in which we work, study, and live. The building analogy is a useful, but not perfect, way to move into the analysis of *organizational* structure.

Buildings have doors through which we enter. Organizations have "ports of entry" as well. Hallways govern our movements. Organizations have rules and procedures that serve this purpose for their members. Some buildings are small and simple, like my garage; others are complex and multilayered with intricate linkages to other buildings. Organizations vary in their degree of complexity. In some buildings the heating and air conditioning are centrally controlled; in others each room is essentially autonomous and its heating destiny can be controlled by the occupants. Organizations vary in the degree to which people and units are given autonomy.

This chapter will describe the nature of structure. In the next chapter we will consider the reasons why structural forms take the shape that they do. At the outset, it should be noted that the reason why the building analogy is not perfect is the fact that organizational structures are continually emergent as they are influenced by successive waves of members, interactions among the members, and incessant environmental pressures. At the same time, the emergent nature of structure should not blind us to the fact that structure has a strong inertial tendency.

What is structure? A formal definition will be given at a later point. Here, some examples will be presented to begin to indicate the nature of the topic. The examples will be drawn from my own university, the State University of New

York (SUNY). Readers in other kinds of settings or who have had their educational experiences in similar or different settings can make comparisons with the examples based on their own experience.

SUNY is quite *complex*. It has units scattered throughout the State of New York and an office in Washington, DC. It has myriad divisions and departments, both by academic specialty and by administrative division. It has a tall hierarchy, with a chancellor, vice chancellors, assistant vice chancellors, and other ranks at the central office and presidents, vice presidents, associate and assistant vice presidents, deans, associate and assistant deans, faculty members of various ranks, and clerical and service personnel arranged along an array of civil service rankings. By almost any standard, it is a very complex organization. Very complex organizations face very complex coordination and control problems and SUNY is no different. One way in which coordination and control can be accomplished is through effective communications among units. This can be facilitated by the use of computerized record keeping and information transfer, which is part of what SUNY does. This is not necessarily successful, of course, and the system can be plagued with missing or absent information.

SUNY is *formalized* to varying degrees. In some areas rules and procedures are spelled out in minute detail, while in other areas low formalization exists. High formalization at SUNY-Albany is evident when each department (both academic and administrative) is required to prepare an annual update on its "three-year plan." This is a formal document which is reviewed by at least three levels before it reaches the president. The format of the plans is specified in advance, as is the review procedure. At the low end of the formalization continuum is the classroom. Individual faculty are almost totally free to select their texts and their methods of classroom presentation. Only in truly extreme cases would the organization intervene into the classroom. For students, the registration process is highly formalized, with specific dates and times to register, steps to be taken in the process, and forms to be completed. Again, the classroom is at the opposite extreme, except in the case of laboratories, with no rules on attendance, method of taking notes, or studying for exams.

Another aspect of structure, *centralization*, varies in a manner similar to formalization in that there is both high and low centralization. Low centralization is evidenced by the fact that academic departments are almost totally free to select potential faculty members for hiring on the basis of their own judgment. There is a minimal amount of power utilized at the campus or central administrative levels. The potential for the exercise of power is there, but it is seldom invoked. High centralization occurs when decision-making power is retained at or near the top of the organization. When new academic programs are developed, and particularly when these involve scarce resources, the central administration is heavily involved in the decision-making process. As a general rule, it appears that the higher the quality of the higher educational organization, the lower the level of centralization (Blau, 1973), but that is not the issue here. The important conclusion is that complexity, formalization, and centralization can vary within a single organization. They are multidimensional phenomena.

Almost all the research to be considered in the next two chapters is comparative in the sense that data are collected from more than one organization (Heydebrand, 1973). Some of the research is comparative in the sense that there

is an attempt to compare organizations in different settings or societies. Comparative research is emphasized in the belief that it permits generalizations beyond a single research setting. As the discussion of typologies suggests, of course, in the absence of a sound typology such generalizations are risky. Most analysts try to make their findings as widely usable as possible, but the problem of crossing "types" should continue to be recognized. Indeed, as will be evident in the discussion, some of the major research projects have included such a limited range of organizations that it does make generalization difficult.

There is an additional problem in the studies to be considered, and this involves measurement (Price and Mueller, 1986). Data can come from organizational documents and records, key organizational informants, samples of members from the whole organization, or published data sets. (See Pennings, 1973; Azumi and McMillan, 1974; Dewar, Whetten, and Boje, 1980; and Lincoln and Zeitz, 1980, for more detailed discussions of some of the methodological issues.) The problem has been that measures of different types, which are designed to measure the same phenomena, such as formalization, do not correlate well together. It may be that the multidimensionality of the concept leads to the situation in which formalization measures are weakly or negatively correlated (Pennings, 1973), or it may be that some measures are simply not measures of what they are purported to be. These problems of typologies and measurement cannot be resolved here. The problems were raised simply to indicate that the analyses to be considered are themselves in process as researchers have sought to develop a cumulative and integrated set of findings.

COMPLEXITY

The term *complex organizations* describes the subject matter of this entire book—and indeed is the title of several important works. In this section we will look carefully at the concept of complexity, noting what it is and what are its sources and its consequences. From this examination it should become clear that the complexity of an organization has major effects on the behavior of its members, on other structural conditions, on processes within the organization, and on relationships between the organization and its environment.

Complexity is one of the first things that hits a person entering any organizational form: division of labor, job titles, multiple divisions, and hierarchical levels are usually immediately evident. Any familiarity with large corporations (and many small ones), the government, the military, or a school system verifies this. Organizations that seem very simple at first glance may exhibit interesting forms of complexity. Local voluntary organizations, such as the Rotary Club, labor union locals, and garden clubs usually have committees for programs, publicity, membership, community service, education, finance, and other matters, all with their attendant structure. These kinds of organizations must make provisions for the control and coordination of activities just as their more complex counterparts must.

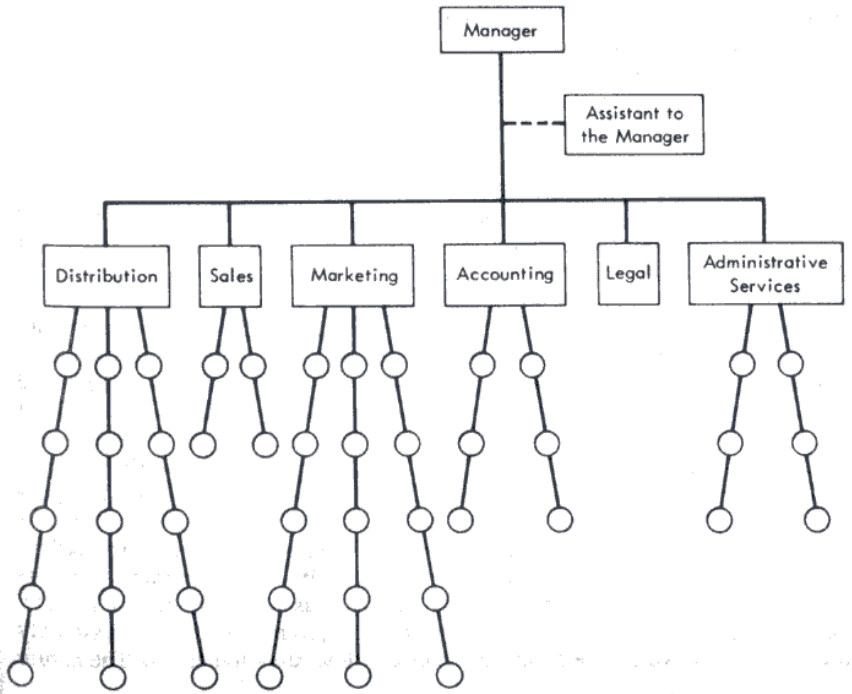
The issue is itself made more complex by the fact that individual parts of an organization can vary in their degree of complexity. In a study of the regional office of a major oil company, for example, it was found that there were six

divisions, as shown on the organization chart, Figure 3–1. The heads of the divisions had equal rank in the organization, and each was thought to be equally important to the overall success of the organization. When the divisions themselves were examined, it was found that they varied not only in size—from 3 to 100 members—but also in complexity. The largest division, distribution, had five separate hierarchical levels with three important subdivisions, each of which was further specialized by tasks performed by specific work groups. The smallest division, which performed legal services associated with land acquisition and other problems of service station development, was composed of a lawyer and two secretaries.

Intraorganizational variations in complexity can also be seen in manufacturing firms with research and development departments. These departments are likely to be characterized by a hierarchy shallower than that of other divisions of the organization. While there may be several levels above them, the research and development workers will be rather loosely supervised, with a wide span of control. In manufacturing departments, the span of control for each supervisor is shorter and the whole unit will look more like a pyramid. (See Figure 3–2.)

These examples indicate the obvious—complexity is not a simple issue. The concept contains several components, which do not necessarily vary together. At the same time, the concept itself conveys a meaning in organizational

FIGURE 3–1 Regional Office Organization



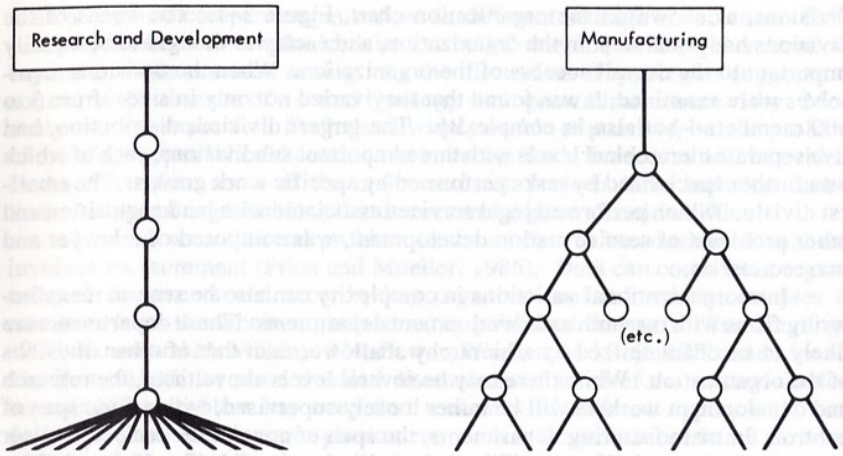


FIGURE 3–2 The Shape of Two Departments in the Same Organization

literature: complex organizations contain many subparts requiring coordination and control, and the more complex an organization is, the more serious these issues become. Since organizations vary widely in their degree of complexity, regardless of the specific component of complexity used, and since wide variations are found within specific organizations, the issue is important for the overall understanding of organizations.

Complexity as a Variable

Before we can make sense out of the various research studies on complexity, we must examine the components of the concept. The three elements of complexity most commonly identified are horizontal differentiation; vertical or hierarchical differentiation; and spatial dispersion.

Horizontal Differentiation Horizontal differentiation refers to the subdivision of the tasks performed by the organization. Unfortunately for conceptual clarity, there are two basic ways in which such tasks can be subdivided. The first way is to give highly trained specialists a rather comprehensive range of activities to perform, and the second is to subdivide the tasks minutely so that nonspecialists can perform them. The first approach is exemplified by the professionals or craftpersons in the organizational setting who are solely responsible for complete operations. (For a discussion of craft-organized work, see Stinchcombe, 1959; for a comprehensive discussion of the nature of professionally controlled work, see Ritzer and Walczak, 1986.) They are given the responsibility and the authority to carry out the task to its completion. The second form of horizontal differentiation is most plainly seen on the assembly line, where each worker performs only one or a few repetitive tasks. The nature

of the task itself is important here, since it is the routine and uniform task that is most amenable to the second type of differentiation; nonroutine and quite varied tasks are more commonly subdivided according to the first type.

Several writers have developed specific definitions for these forms of horizontal complexity. Hage (1965), in his "axiomatic" theory, defines complexity as the "specialization in an organization...measured by the number of occupational specialities and the length of training required by each. The greater the number of occupations and the longer the period of training required, the more complex the organization" (p. 294). Hage's assumption is that the more training people have, the more they are differentiated from other people who might have similar amounts of training but in different specialities. This definition is almost identical in its implications to that of Price (1968), who states: "Complexity may be defined as the degree of knowledge required to produce the output of a system. The degree of complexity of an organization can be measured by the degree of education of its members. The higher the education, the higher the complexity" (p. 26).

In some later research, Hage and Aiken (1967a) develop this approach further:

> We interpret complexity to mean at least three things: the number of occupational specialities, the professional activity, and the professional training. Organizations vary in the number of occupational specialties that they utilize in achieving their goals. This variable was measured by asking respondents to report their major duties; each respondent was then classified according to the type of occupational specialty, e.g., psychiatrist, rehabilitation, counselor, teacher, nurse, social worker, and so on. The variable, degree of professional activity, reflects the number of professional associations in which the respondents were involved, the number of meetings attended, and the number of offices held or number of papers given at professional meetings. The amount of professional training was based on the amount of college training as well as other professional training. (pp. 79–80)

Hage and Aiken's research was carried out in health and welfare organizations, where the emphasis on professional backgrounds was very appropriate. While this emphasis is not universally applicable in all types of organizations, the point regarding extent of training and depth of experience would hold across organizations.

This form of horizontal differentiation introduces additional complications for the organization, in that a high level of specialization requires coordination of the specialists. In many cases, personnel specifically designated as coordinating personnel have to be assigned to ensure that the various efforts do not work at cross-purposes and that the overall organizational tasks are accomplished.

A different approach to horizontal differentiation can be seen in the work of Blau and Schoenherr (1971). Their definition is the "number of different positions and different subunits in the organization," and their emphasis is on the formal structure as defined by the organization (p. 16). An organization is more complex if it has more such positions and subunits. Organizations spread out horizontally as work is subdivided for task accomplishment. This definition is similar to the indicators of complexity used by Hall, Haas, and Johnson (1967).

They used the number of divisions within an organization and the number of specialities within the divisions as complexity indicators. Pugh, Hickson, Hinings, and Turner (1968) approach the issue in a closely related way, although they use the term "specialization" in their discussion of this phenomenon. They also introduce the concept of "configuration" as an overall indicator of the "shape" of the organization. This latter concept contains the vertical as well as the horizontal factor of work subdivision by task.

These two approaches to horizontal differentiation appear to have very similar roots, since both are concerned with the division of labor within the organization. The critical difference between these forms of horizontal differentiation appears to be the scope of the ultimate tasks of organization (Dewar and Hage, 1978). Organizations that attempt to carry out a wide variety of activities and that have clients or customers who require a variety of services would divide the labor into work performed by specialists. The more minute division of labor would occur when the organization's tasks are not so diffuse and when the organization has grown in size, since such a division of labor provides an economy of scale. These two forms of complexity are not alternative ways to organize for the same task.

Vertical Differentiation Vertical or hierarchical differentiation is a less complicated matter than is horizontal differentiation. Research into this vertical dimension has used straightforward indicators of the depth of the hierarchy. Meyer (1968a) uses the "proliferation of supervisory levels" as his measure of the depth of an organization. Pugh, Hickson, Hinings, and Turner (1968) suggest that the vertical dimension can be measured by a "count of the number of job positions between the chief executive and the employees working on the output" (p. 78). Hall, Haas, and Johnson (1967) used the "number of levels in the deepest single division" and the "mean number of levels for the organization as a whole" (total number of levels in all divisions/number of divisions) as their indicators (p. 906).

These direct indicators of vertical differentiation involve an important assumption that should be made explicit: authority is distributed in accordance with the level in the hierarchy; that is, the higher the level, the greater the authority. Although in the vast majority of cases this would be a valid assumption, there are situations in which proliferation of levels can represent phenomena other than the distribution of authority. For example, in organizations that utilize professional personnel, arrangements may not have been made to allow advancement within the same job title. Physicists may be hired as physicists, but if the organization's policies do not allow much of a salary range for that job title, some physicists may be "promoted" to a higher position without an actual change in their work or increase in authority—this is known as the "dual ladder."

Both horizontal and vertical differentiation present organizations with problems of control, communication, and coordination. Subunits along either axis (this would include both aspects of horizontal differentiation) are nuclei that are differentiated from adjacent units and the total organization according to horizontal or vertical factors. The greater the differentiation, the greater the potentiality for difficulties in control, coordination, and communications.

Spatial Dispersion The final element in complexity— spatial dispersion—can actually be a form of horizontal or vertical differentiation. That is, activities and personnel can be dispersed in space, according to either horizontal or vertical functions, by the separation of power centers or tasks. An example of the former case are field offices of sales or welfare organizations, in which the tasks performed by the various field offices are essentially identical (low complexity on the horizontal axis) and the power in the organization is differentiated between the central office and the field offices. An example of the latter case are local plants of a manufacturing concern, each of which is specialized by product and technology.

Spatial dispersion becomes a separate element in the complexity concept when it is realized that an organization can perform the same functions with the same division of labor and hierarchical arrangements in multiple locations. A business firm, for example, can have a complex set of sales procedures requiring highly specialized sales personnel in the field. These sales personnel can be dispersed from a central office or through regional or state or local offices, with essentially the same hierarchical arrangements. Complexity is thus increased with the development of spatially dispersed activities, even if the horizontal and vertical differentiation remains the same across the spatially separated units.

The spatial-dispersion concept is relatively simple to operationalize. In a study of labor union locals, Raphael (1967) notes:

> The spatial dispersion of members refers to the number of spatially separated places in which the members of a local union are employed. This...is a continuous quantitative variable. At one extreme of the continuum, organizations have memberships concentrated in one-plant settings. At the opposite end of the continuum, the members are so extremely dispersed spatially that they even rotate continuously among numerous shops, jobs, and employers within a geographical space of at least several square miles. (p. 770)

Hall, Haas, and Johnson (1967) used the following indicators in their study: (1) the degree to which physical facilities are spatially dispersed, (2) the location (distance from the organizational headquarters) of the spatially dispersed facilities, (3) the degree to which personnel are spatially dispersed, and (4) the location of spatially dispersed personnel (p. 906). These indicators are highly correlated.

Variance of Complexity Elements

The discussion thus far has suggested that the three major elements of complexity vary, often independently of each other. Before further discussing such independent variance, it should be stressed that these elements can obviously vary together. Organizations with little horizontal, vertical, or spatial complexity can easily be identified—the small business firm with a single product or service and a single location comes most readily to mind. The same phenomenon can occur, however, in large organizations. Crozier's (1964) analysis of two separate government organizations in France graphically demonstrates this. This first organization, a clerical agency, was characterized by a

very simple division of labor: while tasks were highly routine and repetitious, there was little differentiation among them. Also, considering the size of the organization, there was a very shallow hierarchy. The organization was not complex on the horizontal and vertical axes.

The third axis of spatial dispersion is added when the French tobacco company (the "industrial monopoly") in Crozier's analysis is considered. Thirty spatially dispersed plants comprise the system. The plants are fairly large, with 350 to 400 employees, on the average, but there are only six categories of workers in each plant. Production workers, who are paid equal wages throughout the system, comprise the bulk of the labor force, and there is little differentiation among their tasks. Maintenance workers are more specialized, with electricians, boilermakers, and metal workers in this group. The third group is the shop foremen, who hold supervisory positions in both plant and white-collar office operations. Even here, the tasks performed are quite similar. Administrative jobs, such as personnel, purchasing, or accounting, are few in number and minimally professionalized. There is one technical engineer per plant. The top position is that of the plant director, who usually has an assistant.

This relatively large dispersed organization is structurally very simple. The simplicity does not mean that it does not face severe problems—Crozier documents these in great detail—but that the problems are based on external and internal conditions that are not related to its structure. The imposition of civil service personnel regulations, the power of the maintenance personnel—who can actually control the output of the plants by the speed at which they maintain the equipment—and certain characteristics of the French society combine to make these organizations much less efficient and effective than they might be. It seems clear that increased complexity on the vertical and horizontal axes would do little to improve the performance of these plants. These noncomplex organizations are massive systems designed to perform simple and unchanging tasks. It can be hypothesized that if the tasks and technology were altered to develop a more effective system, the organizations would become more complex.

In direct contrast to the simple organizations just described, the diversified industrial or government organization serves as an example of the organization that is complex on all three axes. Huge industrial concerns, such as Standard Oil of New Jersey or Du Pont, are characterized by extreme complexity. The same would be true for operations of national, state, and some local governments, as well as such diverse organizations as the Roman Catholic Church, the New York City school system, and the University of California.

These extreme cases serve as a reminder that organizations can be highly or minimally complex in all facets of complexity. Other commonsense examples suggest that such is not the necessary pattern. A college, for example, usually has a low degree of vertical differentiation and usually no spatial dispersion, but a high degree of horizontal differentiation. Most manufacturing plants would have a greater division of labor along the horizontal axis than those studied by Crozier, although the hierarchical levels may be the same. The offensive unit of a football team is highly specialized but essentially has only two ranks. High vertical differentiation with little horizontal differentiation is exemplified by the army battalion.

An assumption throughout this discussion is that most organizations are complex in one of the various configurations discussed. Another assumption, verifiable from a variety of forms of evidence, is that *there is a strong tendency for organizations to become more complex as their own activities and the environment around them become more complex.* Organizations that survive tend to grow in size and size and complexity are related. Increased complexity leads to greater problems of coordination and control, and we now turn to this outcome of complexity for organizations.

Coordination and Control

In their landmark study, *Organization and Environment*, Lawrence and Lorsch (1967) examined the sources and consequences of complexity (they used the term "differentiation" for complexity). Lawrence and Lorsch note that structural differentiation includes differences in attitude and behavior on the part of members of the differentiated departments. These include orientations toward the particular goals of the department, differing emphases on interpersonal skills, varied time perspectives, and the type and extent of formalization of the structure. Departments, therefore, vary not only in the specific tasks they perform, but also in the underlying behavior and outlooks of their members.

The data for the analysis of differentiation come from firms in three industries in the United States. The first set of industries was comprised of firms making and selling plastics in the form of powder, pellets, and sheets.

> Their products went to industrial customers of all sizes, from the large automobile, appliance, furniture, paint, textile, and paper companies to the smaller firms making toys, containers, and household items. The organizations studied emphasized specialty plastics tailored to specific uses rather than standardized commodity plastics. They all built their product-development work on the science of polymer chemistry. Production was continuous, with relatively few workers needed to monitor the automatic and semiautomatic processing equipment. (p. 24)

These organizations were in a highly competitive market situation. According to the executives interviewed, the major competitive issue was the development of new and revised products and processes. The life cycle of any product was likely to be short, since competitors were all engaged in intensive research and could make even a very successful product quickly obsolete. The executives noted that "the most hazardous aspect of the industrial environment revolved around the relevant scientific knowledge" (p. 25). These organizations were in a changing and "turbulent" environment, with both input—in the form of scientific knowledge—and the consumption of output—in the form of customer satisfaction from purchasing the product—highly uncertain. On the other hand, the production process itself was characterized by its certainty. Once the original technical specifications for a particular product were developed, the production process could proceed quite automatically, since the mix between such production variables as pressure, temperature, and chemical composition could be easily measured, and monitoring was a part of the production process itself.

The six organizations studied within the plastics industry each had four basic functional departments—sales, production, applied research, and fundamental research—that differed in their own structures. The production departments were the most formalized, the fundamental research units the least. Sales department personnel were the most concerned with interpersonal relationships, and production departments were the least, with the two research units falling in between. The interesting dimension of the time perspective taken by the personnel shows the departments falling into a predictable pattern—from shortest to longest time perspective, with sales, production, applied research, and fundamental research fitting the time perspective framework in that order. The members of the various departments were also differentiated in terms of personal goals, with sale personnel concerned with customer problems and the marketplace; production personnel with cost reduction and efficiency; and research personnel concerned with scientific matters, as well as the more immediate practical issues of process improvement and modification. The scientific personnel were not as concerned with purely scientific matters as the authors had anticipated, but they did have clearly different goals from those of the members of other departments.

These differences in task, behavior, and attitude are directly related to the kind of environment that various departments must work with in their short- and long-run activities. *A high degree of differentiation (complexity) is therefore related to a highly complex and differentiated environment* (Burns and Stalker, 1961). In this case the complexity refers to the competitive situation in which the organizations find themselves (this degree of competition is not limited to profit-making organizations) and to the rapidly changing and complicated technological world in which they must survive.

To provide contrasts for the plastics firms, Lawrence and Lorsch studied two other industries; the major factor in their selection was the rate of environmental change. The second industry chosen was the standardized container industry. The rate of sales increase in this industry was at about the level of the rate of population growth and the growth of the gross national product, so the organizations in the industry were approximately keeping even with the environment in these respects. More important for the purposes of their study, no significant new products had been introduced in two decades. The major competitive factors were "operational issues of maintaining customer service through prompt delivery and consistent product quality while minimizing operating costs" (p. 86). While these are not easy or simple tasks to perform, they are stable, and the problems and prospects for the future are much more certain than in the plastics field.

The third set of organizations studied was in the packaged foods industry. In terms of environmental conditions, these organizations were intermediate between the plastics and container firms. While they engaged heavily in innovations, the rate of new-product introduction and the growth of sales were less than in the plastics industry, but more than in the container field.

When the differentiation within the organizations in these three industries was examined, the findings were as predicted—the plastics firms were the most differentiated, followed by the food firms, and then by the container firms. Lawrence and Lorsch did not stop their analysis with differentiation, however.

They extended their analysis around the concept of *integration*, which they define as "The quality of the state of collaboration that exists among departments that are required to achieve unity of effort by the demands of the environment" (p. 47). The authors were also concerned with the *effectiveness* of the organizations. Here they used rather standard and appropriate market and economic measures, such as profit. Organizations are more effective when they meet environmental pressures and when they allow their members to achieve their individual goals.

The results of the analysis of integration and effectiveness are in some ways surprising. In the plastics industry, the most effective organizations were those with the greatest degree of differentiation, and these also faced the most severe integration problems. Their effectiveness in the face of high differentiation was explained by their successful conflict resolution. It is not the idea of successful conflict resolution that is surprising; it is the fact that the effective organizations were characterized by a high degree of conflict in the first place—that they were not totally harmonious, with all personnel working as members of one happy team. From the data discussed earlier, it is apparent that the differentiation in terms of departmental and individual attitudes and behavior would lead inevitably to conflict. In these organizations, such conflict contributes to effectiveness.

Conflict per se, of course, would be detrimental to the organization if it were not resolved. So another important contribution of this research is its analysis of conflict resolution. The authors do not suggest that there is one best form of such resolution. Rather, they provide evidence that conflict-resolution processes vary according to the specific conflict situations in a particular form of organization. In the case of the highly differentiated plastics organizations, integration is achieved by departments or individuals who are in a position, and have the knowledge available, to work with the departments involved in conflict situations. In this case, the position is relatively low in the managerial hierarchy rather than at the top. This lower position is necessary because of the specific knowledge required to deal with the departments and issues involved. The highly differentiated and effective organization thus anticipates conflict and establishes integrating (conflict-resolving) departments and individuals whose primary purpose is to work with the departments in (inherent) conflict. Another important consideration is that the integrating departments or individuals are equidistant between the conflicting departments in terms of their time, goal, interpersonal, and structural orientations. This middle position leads to effective resolution, not through simple compromise, but rather through direct confrontations between the conflicting parties. Conflict resolution in this setting thus becomes a process whereby the parties thrash out their differences in the open with the assistance of integrators who understand both their positions.

In the container corporations, with their lesser degree of differentiation, conflicts also arose, but not to the extent found in the plastics firms, owing to less differentiation. In the container industry, conflicts were resolved at the top of the organization, because those at the top had greater knowledge, made possible by the stable environment and the lack of differentiation between organizational segments. With less differentiation, knowledge was not as specialized, and a top executive could have a good grasp of what was going on in the major divisions. Lawrence and Lorsch suggest that in this case, and in others

like it, decentralization of influence would be harmful. The food-processing firms generally fell between the plastics and the container firms in the extent of their differentiation and in the integration problems faced.

A major conclusion from this analysis is that *effectiveness is not achieved by following one organizational model.* While our concern at this point is with neither effectiveness nor organizational models, this conclusion is vitally important for understanding organizations. In other words, *there is no one best way to organize for the purpose of achieving the highly varied goals of organizations within highly varied environments.* This is a *contingency* approach to organizational structure, which says that under some conditions, one form of structure is more effective or efficient, while under other conditions, alternative forms would be more effective or efficient. The contingency model remains a dominant force in organizational theory.

Argote's (1982) research in a very different setting—hospital emergency units—reached a very similar sort of conclusion. She found that in situations of low uncertainty, programmed coordination contributed to greater effectiveness, while in situations of high uncertainty, nonprogrammed modes of coordination were more effective. The structural arrangements are contingent upon the situation being faced.

This conclusion is further strengthened from a consideration of Blau and Schoenherr's (1971) findings, which were based on research into government finance and public personnel agencies. They also find that increased complexity engenders problems of communication and coordination. Personnel in the managerial hierarchy spend more time in dealing with these problems than in direct supervision in a highly complex organization. There is also pressure in complex organizations to add personnel to handle the increased control and coordination activities, increasing the proportion of the total personnel devoted to such activities. This is known as administrative intensity.

This last finding introduces an interesting paradox into the analysis of organizations. While large organizations can experience savings through economies of large size, the complexity that is related to large size creates cross-pressures to add managerial personnel for control, coordination, and conflict reduction. Decisions physically to disperse, add divisions, or add hierarchical levels may be made in the interests of economy. At the same time, the economies realized may be counterbalanced by the added burdens of keeping the organization together. There is yet another paradox which McKinley (1987) identifies. While there is a positive relationship between technical and structural complexity and administrative intensity when an organization is growing, the relationship weakens when organizations are in a period of decline.

Complex organizations are thus complex in more ways than just their structure. The processes within such organizations are also complex. The techniques that are effective and efficient within a simple structure just may not be effective or efficient in a more complex case.

Some Additional Correlates of Complexity

Complexity is related to additional characteristics of organizations. Hage and Aiken's (1967b) analysis of program change in the 16 welfare organizations

they studied illustrates this point well. Program change in these agencies involves the adoption of new services and techniques—implicitly to increase the quality of the services rendered. When this study was being conducted, a great number of new social programs were being introduced.

Hage and Aiken found that both vertical and horizontal differentiation are related to higher rates of program change. This finding suggests that when such forms of differentiation are present, much information will be flowing in the system—information that will contain conflicting ideas and proposals. Organizations that are complex in this way face the problem of integrating the diverse occupations and ideas deriving from the different organizational members. Later studies confirm that such conflict is present and must be dealt with by the organization. The proper method of handling such conflict is not by suppression; we have already seen that this would represent the exact opposite of the effective utilization of highly trained personnel. We will see later that such conflicts actually work to the organization's advantage.

Hage and Aiken's work on program change implies that organizational change is related to organizational characteristics. This implication is supported in later research by Baldridge and Burnham (1975). Their research compared the effects of structural characteristics (such as size and complexity), together with environmental conditions (changing or heterogeneous), with individual characteristics (age, attitudes, and education) in terms of their impact on organizational innovation. They found that the organizational characteristics were more strongly related to innovation in organizations. This does not negate the role of the individual, but suggests that factors such as complexity are crucial in understanding how and why processes such as innovation occur.

Aiken and Hage (1968) continued their investigation of these 16 agencies three years later, following up some of the leads from the previous research. The dependent variable in this study was organizational interdependence, as indicated by the number of joint programs in which the agencies participate. The findings from this analysis are not surprising in light of the earlier findings and discussion. "*Organizations with many joint programs are more complex organizations, that is they are more highly professionalized and have more diverse occupational structure*" (p. 920). The interpretation given to these findings is that a decision to engage in joint programs leads to the importation of new specialties into the organization, since joint programs are likely to be highly specialized and the personnel in the agency would not have the skills necessary for participation.

These findings have interesting implications for organizations and for the society of which they are a part. Aiken and Hage note that there is a tendency for organizations to become more complex because of internal and external pressures. The implication of these findings is that joint programs and other interorganizational relationships will continue to develop, probably at an increasing rate. In the long run this would lead to a society in which the web of interrelationships between organizations would become extremely intricate and the total society more organizationally "dense." This, in turn, implies a condition in which both individuals and the society as a whole are dependent upon fewer and more complex organizations. The nature of these organizations and their orientation toward the good of the few or of the many

present the society with the dilemma of the source of control of the organizations. If this trend is realized, decisions regarding organizational futures become decisions about society.

The short-run implications of these findings would seem to be that the more complex an organization is, the more complex it will become, since the development of new programs and interorganizational relationships both lead to additional complexity. The Aiken–Hage approach to complexity has been organized around the utilization of professionals to accomplish and advance the tasks of the organizations studied. Since not all organizational members are professionalized, and since horizontal differentiation involves more than this variable, our focus will now shift to alternative modes of differentiation and their relationships with other variables.

There is another important interplay between organizational complexity and social issues. Organizations provide the *internal labor markets* by which people are distributed in the social stratification or attainment systems. Promotion and salary ladders, distributions of personnel by gender or race, clusters of skills, and the general structure of opportunities are all determined by organizations, and all have a major influence on society (Baron et al., 1986, 1988; Bills, 1987; Pfeffer and Davis-Blake, 1987; Stewman, 1986).

In an analysis of a very different situation, Vaughan (1983) concludes that corporate *crimes* are related to complexity. In her formulation, organizations may become so diversified and complex that top management may not be able to control subunits. The same argument is frequently made in regard to intercollegiate athletics and the illegal recruitment and other problems with college athletes.

In yet another direction, complexity has been found to be related to the chances of an individual's being laid off by an employer. Cornfield (1983) analyzed the layoff process in a single business firm. He found that the position of an employee in the division of labor, along with external market conditions and technological developments, influenced job elimination. Direct production workers are most likely to be laid off. Cornfield concludes that structure is independent of seniority, race, and education in determining who is and who is not to be laid off.

Complexity is a basic structural characteristic. It is linked to the fate of the organization and the fates of individuals within organizations. There appears to be strong evidence that particular degrees of vertical, horizontal, or spatial complexity are related to organizational survival and continuity in particular situations. If an organization chooses an inappropriate form or is unable, for whatever reason—economic, personnel, tradition, leadership—to adopt its structure to changed situations, it will likely soon be in trouble.

FORMALIZATION

We have already alluded to formalization several times. In this section the exact nature of this important aspect of organizational structure will be explicitly defined. The antecedents and outcomes of formalization will also be spelled out. In addition, the reactions of individuals to the degree of formalization will be analyzed. In many ways, formalization is the key structural variable for the individual because a person's behavior is vitally affected by the degree of such formalization. The amount of individual discretion is inversely related to the amount of preprogramming of behavior by the organization.

Formalization is not a neutral concept. Indeed, the degree to which an organization is formalized is an indication of the perspectives of its decision makers in regard to organizational members. If the members are thought to be capable of exercising excellent judgment and self-control, formalization will be low; if they are viewed as incapable of making their own decisions and requiring a large number of rules to guide their behavior, formalization will be high. Formalization involves organizational control over the individual (Clegg and Dunkerley, 1980) and thus has an ethical and political meaning in addition to being a structural component.

The introduction of the individual does not mean a shift away from the organizational level of analysis. Formalization has important consequences for the organization and its subunits in terms of such processes as communications and innovation.

The rules and procedures designed to handle contingencies faced by the organization are part of what is called formalization. The extent of rules and procedures varies. The simple matter of what time a person gets to work can differ widely among and within organizations in regard to the degree to which this act is formally specified. At the high end of the formalization continuum are organizations that specify that people must be at their desk or workstation at 8 A.M. or they will be "docked" a half-hour's pay. At the other end of the continuum are situations in which there are no rules about being in the office or shop at the particular time, just as long as the work gets done. This is typified by many academic institutions.

Maximal Formalization Rules, therefore, can vary from highly stringent to extremely lax. These variations exist on the whole range of behaviors covered by organizational rules. The same kinds of variations exist in terms of *procedures*. Simple examples of highly formalized procedures are an assembly line, where a piece of material is always passed in the same direction, with the same work being performed on it, or, an office setting, where letters requesting a certain type of information are always processed in the same way, with the same type of information returned to the requester. The extreme examples of this, of course, are the computer-prepared responses to inquiries about such things as under-or overpayments of credit-card bills. This is one example of a highly formalized procedure in which the organization has been able to preprogram its responses to a wide variety of contingencies. Much of the frustration that people feel when they receive a computer printout rather than a personal letter is due to their feeling that their request was apparently just like everyone else's—that they are not unusual cases and therefore can be treated in a highly formalized way. The real frustration comes, of course, when it is in fact an unusual case and the computer procedures are inappropriate to the request. Despite the personal exasperation that this can develop, the fact remains that a large proportion of the communications that come into an organization can be handled by such formalized procedures.

Minimal Formalization At the other end of the formalization-of-procedures continuum would be cases that are unique and for which no procedures have been developed. In these cases, members of the organization must use their own discretion in deciding what to do. At the extreme would come the cases that Perrow (1967) has said call for intuition, and even perhaps inspiration, in solving—unique situations with no preprogrammed answers. Nonformalized organizations are those that deal constantly with new situations for which precedents do not exist—such as, for example, organizations engaging in frontier areas of scientific research of which the forthcoming results are not known. Organizations dealing with human problems, such a mental health clinics, would be in a similar situation. Lipsky (1982) has noted that teachers, social workers, police officers, judges, lawyers, and prison guards have a great deal of working discretion as they carry out their work in "street level bureaucracies." While much of this work cannot be programmed or formalized in advance, much of it is also routinized.

Measures of Formalization At this point it should be noted that it usually doesn't matter whether the procedures or rules are formalized in writing. Unwritten norms and standards can frequently be just as binding as written ones. Nevertheless, most research utilizes the written system as the basis for assessment and analysis.

Hage (1965) makes essentially the same point when he states:

> Organizations learn from past experiences and employ rules as a repository of that experience. Some organizations carefully codify each job, describing the specific details, and then ensure conformity to the job prescription. Other organizations have loosely defined jobs and do not carefully control work behavior. Formalization, or standardization, is measured by the proportion of codified jobs and the range of variation that is tolerated within the rules defining the jobs. The higher the proportion of codified jobs and the less the range of variation allowed, the more formalized the organization. (p. 295)

In their later research, Hage and Aiken (1967a) follow essentially the same definition of formalization:

> Formalization represents the use of rules in an organization. Job codification is a measure of how many rules define what the occupants of positions are to do, while rule observation is a measure of whether or not the rules are employed. In other words, the variable of job codification represents the degree to which the job descriptions are specified, and the variable, rule observation, refers to the degree to which job occupants are supervised in conforming to the standards established by job codification. Job codification represents the degree of work standardization while rule observation is a measure of the latitude of behavior that is tolerated from standards. (p. 79)

These variables are operationalized by asking the members of organizations to respond to a series of questions bearing directly on these issues. Measures of their perceptions of their own organization are thus used to determine the extent to which the organizations are formalized.

A similar definition perspective is found in the work of Pugh, Hickson, Hinings, and Turner (1968). They define formalization as "the extent to which rules, procedures, instructions, and communications are written" (p. 75). They also include "standardization" (the extent to which "there are rules or definitions that purport to cover all circumstances and that apply invariable") as one of their basic dimensions of organizational structure (p. 74). These variables are operationalized by using official records and documents from the organization to determine such matters as the number of procedures of various kinds and the proportion of employees who have handbooks describing their tasks. An analysis of the data from the English firms studied reveals that standardization and formalization combine with specialization when the component scales are factor analyzed. The authors call this the "structuring of activities" (p. 84). They note that this brings the issue of role specificity to the forefront as an important organizational consideration. In highly formalized, standardized, and specialized situations, the behavior of role occupants is highly specified, leaving them few options that they can exercise in carrying out their jobs.

The similarities between these definitions point up the general consensus about the meaning of formalization. Even when quite different measures of this variable are used in research, the same meaning is utilized, an all too rare occurrence in organizational analysis. Unfortunately, research (Pennings, 1973; Dewar, Whetten, and Boje, 1980) has indicated that these different measures are themselves only weakly related. Thus while there is conceptual closure in regard to formalization, measurement problems are yet to be fully resolved.

Formalization and Other Organizational Properties

Centralization of Power Power is an important component of all organizations. In fact, Gilb (1981) sees organizational structure itself as a form of private government. The distribution of power in organizations is usually conceptualized as the degree of centralization, which is the topic of the next major section of this chapter. Here we consider the relationships between formalization and centralization.

In their study of social welfare agencies, Hage and Aiken (1967a) found that formalization was rather weakly associated with a centralized decision-making system. Organizations in which the decisions were made by only a few people at the top relied on rules and close supervision as a means of ensuring consistent performance by the workers. These organizations were also characterized by a less professionalized staff. Thus, the presence of a well-trained staff is related to a reduced need for extensive rules and policies.

This interpretation is supported in Blau's (1970) analysis of public personnel agencies. In organizations with highly formalized personnel procedures and rigid conformity to these procedures, Blau found a decentralization of authority. At first glance this is contradictory, since the evidence seems to say that formalization and decentralization are related. A closer examination reveals strong compatibility with the Hage and Aiken findings. In this case, adherence to merit-based personnel procedures ensures the presence of highly qualified personnel at the local (decentralized) level. These people are then entrusted with

more power than are personnel with fewer qualifications. Formalization in one area of operations is thus associated with flexibility in another.

On this point Blau states:

> Rigidity in some respects may breed flexibility in others. Not all aspects of bureaucratization are concomitant. The bureaucratic elaboration of formalized personnel procedures and rigid conformity with these personnel standards do not necessarily occur together, and neither aspect of bureaucratization of procedures gives rise to a more rigid authority structure, at least not in employment security agencies. Indeed, both strict conformity with civil service standards and the elaboration of these formalized standards have the opposite effect of fostering decentralization, which permits greater flexibility. (p. 160)

This rather simple set of findings reinforces a notion expressed earlier—complex organizations are complex. Formalization in one area brings pressures to bear to decrease formalization in another area. Organizations are thus constantly in conflict, not only between individuals or subunits, but also between and within the processes and structures that make up the organization. Formalization is not just a matter of internal adjustment.

It is important to note that the research of Hage and Aiken and of Blau deals with relatively professionalized work forces. One of the hallmarks of professionalization is the ability and willingness to make decisions based upon professional training and experience. It is not surprising to find lower levels of formalization in such situations. When the work force under consideration does not or is assumed not to have this decision-making capacity, the implications of the Blau findings have to be reexamined. In that case, formalized personnel procedures would probably be associated with a more centralized decision-making system, with the formalization level probably more consistent in all phases of the operation. It must be noted that the organization retains control over the individual in both cases. By selecting highly qualified or indoctrinated individuals, it assures itself that the individuals will act according to organizational demands (Blau and Schoenherr, 1971, pp. 347–67).

Program Change Further research by Hage and Aiken (1967b) into the rate of program change in the agencies reveals that formalization is also related to the number of new programs added in the organizations. In this case, formalization is negatively associated with the adoption of new programs. The reduction of individual initiative in the more formalized setting is suggested as the major reason for this relationship. In organizations that establish highly specific routines for the members to follow, there is likely to be little time, support, or reward for involvement in new ideas and new programs.

Technology In their continuing research in these 16 agencies, Hage and Aiken follow the suggestions of Perrow (1967) and Litwak (1961) in regard to the nature of the technology which the organizations used on their clients (we will consider technology in greater detail in the next chapter. They divide the organizations into "routine" and "nonroutine" categories of technology. Even

though these are all social agencies, there is a marked difference in the degree of routineness.

> The highest on routineness is a family agency in which the case-workers use a standard client interview that takes less than fifteen minutes. The purpose of the interview is to ascertain the eligibility of clients for county, federal, or state medical aid. An interviewee said: "...somewhat routine—even though each patient is individual, the type of thing you do with them is the same...." The organization at the other extreme is an elite psychiatric family agency in which each member is an experienced therapist and allowed to work with no supervision at all. (Hage and Aiken, 1969, p. 369)

The relationship between routinization and formalization is in the expected direction. "*Organizations with routine work are more likely to have greater formalization of organizational roles*" (Hage and Aiken, 1969, p. 371; italics in original). Since these organizations tend to be on the nonroutine end of an overall continuum of routineness, the findings are even more striking: had organizations more toward the routine end of the continuum been included, the differences observed would probably have been greater.

Hage and Aiken's research, one of the most thorough and systematic programs of research available in the literature, is based on data from a limited number of organizations of relatively similar characteristics. The limitations inherent in using this type of data base are difficult to avoid, given the intrinsic difficulties in organizational research. But despite these limitations, their findings are generally consistent with those of Pugh's research team, known as the Aston Group, which proceeded independently and with very different measures.

It will be remembered that the Pugh research was carried out on a sample of English work organizations. These researchers were interested in obtaining indicators of the organizations and the contexts in which they operated. Their major indicator of technology was work flow integration.

> Among organizations scoring high, with very integrated, automated, and rather rigid technologies, were an automobile factory, a food manufacturer, and a swimming baths department. Among those scoring low, with diverse, nonautomated, flexible technologies, were retail stores, an education department, and a building firm. (Pugh, Hickson, Hinings, and Turner, 1969, p. 103)

While they contain more diversity than those in the Aiken and Hage study, these organizations are clustered toward the routine end of the routine-nonroutine continuum. As would be expected from the previous discussion, technology emerges as an important predictor of the degree to which activities are structured in these organizations.

Another study which examined the technology-formalization linkage found strong evidence in favor of the high routinization–high formalization conclusion. Dornbusch and Scott (1975) studied an electronics assembly line, a physics research team, a university faculty, a major teaching hospital, a football team, schools, a student newspaper, and a Roman Catholic archdiocese. Their

evidence, from this diverse set of organizations, is consistent with the technological argument that has been presented.

Lest it appear that the relationship between technology and formalization is settled because of the weight of the evidence presented, it should be noted that Glisson (1978) essentially reverses the causal ordering. He finds that procedural specifications (formalization) determine the degree of routinization in service delivery. In the case of the Glisson study, a decision made in regard to how to structure the organization led to the utilization of a particular service delivery technology. While the high correlation between routinization and formalization remains, the reason for the correlation is reversed in this case.

Tradition One additional component should be added to these considerations. Organizations emerge in different historical eras (Meyer and Brown, 1977), face varying contingencies, and develop different traditions. These differences, in turn, influence how factors such as technology affect the degree of formalization. For example, if for some reason—such as the belief system of an important early top executive—an organization became highly formalized in its codification of job descriptions in writing, it would probably continue to be more formalized over time than other factors would predict. Organizations develop characteristics that are embedded in the formal and informal systems of the organization. This point is well recognized by scholars who study organizational culture (see Frost et al., 1985).

By its very nature, formalization is central to the life of and in organizations. The specification of rules, procedures, penalties, and so on predetermines much of what goes on in an organization. Indeed, formalization is a major defining characteristic of organizations, since behavior is not random and is directed by some degree of formalization toward a goal.

We have examined the relationships between formalization and other organizational properties. The focus will now shift to the individual in the organization. Like formalization, individuals, too, must be treated as variables, since they bring different abilities and habits and other behaviors with them into the organization. Formalization is designed to be a control mechanism over individuals (Clegg and Dunkerley, 1980). People react to rules and procedures in a variety of ways (Goffman, 1959). They "move" within the structure of rules (Burrell and Morgan, 1979). Silverman (1971) proposed an "action" frame of reference for organizational analysis. This approach emphasizes the meanings that people attach to their work environment and the individual meanings and actions that derive from the interpretations that people attach to their organizational roles. (See also Benson, 1977.) The emphasis on the analysis here is not on individual roles, but rather on the relationships among social phenomena. This is not to downplay more individualistic approaches, but rather to maintain the emphasis on organizational phenomena.

Formalization and Outcomes for Individuals

An extreme example of formalization can be found in Crozier's (1964) analysis of the two French organizations. He notes: "Impersonal rules delimit, in great detail, all the functions of every individual within the organization. They

prescribe the behavior to be followed in all possible events. Equally impersonal rules determine who shall be chosen for each job and the career patterns that can be followed" (pp. 187–88). This extremely high degree of formalization, plus several other characteristics of the organizations, create a "vicious circle" in which the workers follow the rules for the sake of the rules themselves, since this is the basis on which they are evaluated. The rules become more important than the goals they were designed to help accomplish. The organization becomes very rigid and has difficulties dealing with customers and other aspects of the environment. Since the rules prescribe the kinds of decisions to be made, those in decision-making positions tend to create more rules when situations arise for which there are no precedents. Rules become security for the employee. There is no drive for greater autonomy, since that would be threatening. There is a strong desire to build safeguards through increased rigidity. The personnel in such a system become increasingly unable to operate on their own initiative and, in fact, seek to reduce the amount of freedom to which they are subject. To one who values individual freedom, this is a tragedy. It would be presumptuous to say that it is such for the individuals involved, even though the argument could be made that the long-run consequences for them and for the total social system may indeed be tragic from several moral and ethical perspectives. For the organization, the consequences are clear: it becomes maladaptive to changes of any sort.

These personal and organizational dysfunctions were recognized in Robert Merton's (1957) seminal discussion of the "bureaucratic personality." Merton notes that a trained incapacity can develop in the kind of situation under discussion. Actions and decisions based on past training and experience may be very inappropriate under different conditions. Merton suggests that the process whereby these conditions develop is part of the system itself.

> The bureaucrat's official life is planned for him in terms of a graded career, through the organization devices of promotion by seniority, pensions, incremental salaries, etc., all of which are designed to provide incentives for disciplined action and conformity to the official regulations. The official is tacitly expected to and largely does adapt his thoughts, feelings, and actions to the prospect of this career. But *these very devices* which increase the probability of conformance also lead to an over-concern with strict adherence to regulations which induces timidity, conservatism, and technicism. Displacement of sentiments from goals onto means is fostered by the tremendous symbolic significance of the means (rules) {italics in original}. (pp. 200–01)

Organizations are primarily concerned with the work behavior of their members. They also can extend their control into the other areas of life. Quinn (1977) has demonstrated the manner in which organizations attempt to control romance in organizations. While not claiming that organizations are a hotbed of romance, Quinn documents the obvious point that it does occur. When such romances develop, actions are taken to terminate the relationship, since it is typically seen as disruptive for the organization. Punitive actions, such as dismissals, are one course of action, a course which is much more likely to happen to the women involved rather than the men. Less drastic measures, such as transfers, repri-

mands, or simple efforts to persuade people to stop the romance were also found. The point is that even in areas of intimacy, organizations attempt to control behavior.

Reactions to Formalization

The rather dismal view of life in a highly formalized organization is extended by Thompson's (1961) description of "bureaupathic" and "bureautic" behavior. Thompson suggests that the kinds of behavior discussed by Merton are caused by feelings of insecurity. Bureaupathic behavior "starts with a need on the part of the person in an authority position to control those subordinate to himself." Superordinates themselves, except at the very top of the organization, are subordinate to someone else, and so this control can tend to be the too rigid adherence to rules that has been discussed, since this protects the individual from making possibly erroneous decisions and actions on his own.

Thompson suggests that the pressures lead to a "drift" toward the introduction of more and more rules to protect the incumbents of offices, exaggerated aloofness, resistance to change, and an overinsistence on the rights of office. These reactions are organizationally and personally damaging.

The second form of behavior—bureautic—is also personally and organizationally dysfunctional. This type of reaction involves striking out at the system, personalizing every encounter, and taking every rule as one designed to lead to one's own personal frustration.

> The bureautic employee is not likely to get into the hierarchy, and so may come to be regarded as a failure. Because of his inability to enter intelligently into abstract, complex, cooperative relationships, he tends to be pushed to one side, unless he has some unusual skill that the organization badly needs. He is often regarded as "queer." All of these facts add to his bitterness and increase his suspiciousness. He projects his failure onto the organization and the impersonal "others" who are his enemies. He feels he is surrounded by stupidity and maliciousness. He feels powerless and alienated from the system. (p. 176)

While some would argue with the psychological mechanisms that Thompson uses in his development of these reactions to the organization, the reactions themselves do exist. The emphasis in the last few paragraphs has been on negative reactions to formalization. If we refocus our analysis, we can try to understand how and why there are both positive and negative reactions to formalization.

Some insights on this issue can be found in the literature on professionals in organizations. There has been a strong interest in this topic since increasing numbers of professionals of all sorts are working in organizations, and many occupations are attempting to professionalize. Analyses of the relationships between professionals and their employing organizations formerly proceeded from the premise that there are built-in strains between professional and organizational principles and values (see, for example, Kornhauser, 1963; Blau and Scott, 1962). More recent research has challenged these assumptions. It is now viewed as quite possible that there can be situations in which professionals are able to carry out their work with a minimum amount of interference from the

organization, while the organization is able to integrate the work of the professionals for its own benefit.

This approach is followed in Miller's (1967) analysis of the degree of alienation experienced by scientists and engineers employed in a large corporation in the aerospace industry. These professionals reported that they felt more alienation when their supervisor used directive, rather than participative or laissez-faire, supervisory practices, and less alienation in situations in which they themselves had some control over the decisions affecting their work. The same general pattern was found in regard to other incentives that the organization provided professionals. There was less alienation when the scientists and engineers had some part in deciding the nature of their own research efforts, when the company provided opportunities and a climate for the pursuit of their own professional careers, and when the company encouraged purely professional activities, such as the publication of papers or pursuit of additional training.

Miller also found that the length of professional training was associated with the extent of alienation felt. The more training a people have, the more they are likely to feel alienation under those conditions that produce it for the group of professionals as a whole. That is, for a Ph.D. scientist, the absence of encouragement of professional activities is more likely to produce alienation than it is for an M.A. scientist. Some differences were also found between the scientists and engineers, but this is not of importance in the present discussion.

Utilizing the idea of intraorganizational variations in structure, Miller also examined the extent of alienation felt by the professionals when the specific work location was controlled. Some of the professionals worked in a basic-research and development laboratory in the company, but most were employed in research and development in one of the major production units. As might be expected, the personnel in the basic-research laboratory experienced much less alienation than did those in the production-oriented unit.

The organizational structure in which these professionals worked was related to their degree of alienation from work. Professionals were chosen to be examined because they bring to the organization a set of externally (professionally) derived standards by which they can guide their own behavior. The presence of organizational guidelines (formalization) is thus a duplication and probably perceived as less valid than are the norms of the profession involved. For professionals, therefore, the greater the degree of formalization in the organization, the greater the likelihood of alienation from work.

This point is supported further when two additional research reports are considered. Part of the research of Aiken and Hage (1966) has been concerned with the degree of alienation felt by the professionals in the 16 social welfare agencies they examined. They too, were concerned with alienation from work, but they also looked at alienation from expressive relations. This was measured by responses to questions asking the degree of satisfaction felt about superiors and coworkers. The less satisfaction felt, the more the individual is alienated from expressive relations.

As would be expected from the direction of this discussion, the greater the degree of job codification of the organization, the more alienated were the workers in both areas of alienation. Alienation was much more strongly felt in terms of the job itself. "This means that there is great dissatisfaction with work

in those organizations in which jobs are rigidly structured; rigidity may lead to strong feelings of work dissatisfaction but does not appear to have such a deleterious impact on social relations in the organization (p. 504). Strict enforcement of rules was strongly related to both forms of alienation; social relations are also disturbed when rules are strictly enforced. It was also found that both forms of alienation were high when authority in the organizations was centralized and the members had little opportunity to participate in decision making. Hage (1980) later reports similar findings from a longitudinal continuation of the original study and from a study in Japan. This relationship is thus not culture bound.

A different approach was taken in my analysis of the relationships between professionalization and bureaucratization (Hall, 1968). Bureaucratization is a broader concept than formalization, but it contains many of the same implications, as indicated in earlier discussions of the topic. I attempted to demonstrate that professionalization, like formalization, is a continuous variable, with some occupations being more professionalized than others. The study included physicians, nurses, accountants, teachers, lawyers, social workers, stockbrokers, librarians, engineers, personnel managers, and advertising account executives. After the occupations were ranked according to their attitudes toward several professional values, the average scores for each occupation were matched with the scores on bureaucratization measures for the organizational units in which these people worked. The results indicated that, in general, bureaucratization is inversely related to professionalization. This is consistent with the argument in this section. Examined more closely, these findings reveal some interesting patterns. There is a relatively weak inverse relationship between the hierarchy dimension of bureaucracy and the professional attitudes. The presence of a relatively rigid hierarchy may not adversely affect the work of professionals if the hierarchy is recognized as legitimate. This is similar to the findings of Blau (1968), who suggests that the presence of a hierarchy may facilitate communications from the professionals to the top of the organization. If the hierarchy of authority is legitimate and does facilitate communications, it apparently does not matter whether or not decisions are made in a prestructured way—and particularly if the work of the professionals can be carried out without extensive interference from the organization.

A weak relationship was found on the bureaucratic dimension involving the presence of rules. The kinds of rules the organizations developed in these cases apparently did not interfere with the work of the professional. There was a stronger negative relationship on the procedural-specifications dimension. As more procedures are specified by the organization, the burden on the professionals apparently was stronger. In this case, the professionals are likely to want to utilize procedures that they themselves develop on the job or through their professional training.

I then tried to view the professional-organizational relationship from the perspectives of both the organization and the professional:

> increased bureaucratization threatens professional autonomy. It is in these relationships that a potential source of conflict between the professional and the organization can be found. The strong drive for autonomy on the part of a professional may come into direct conflict with organizationally based job requirements. At the same time, the organization may be threatened by strong professional desires on the part of at least some of its members. (Hall, 1968, pp. 102–03)

Most of the studies that have been discussed have concluded that professionalization and formalization are incompatible. The more professionalized the work force, the more likely that formalization will lead to conflict and alienation. A major implication of these findings is that formalization and professionalization are actually designed to do the same thing—organize and regularize the behavior of the members of the organization. Formalization is a process in which the organization sets the rules and procedures and the means of ensuring that they are followed. Professionalization, on the other hand, is a nonorganizationally based means of doing the same thing. From the organization's point of view, either technique would be appropriate, as long as the work gets done.

It is exactly at this point that the organization faces a major internal dilemma. If it allows too little freedom for its members, the members are likely to feel oppressed, alienated, and "bureaucratic" and to engage in rule following for its own sake. If, on the other hand, it allows more freedom, behavior is apt to become erratic and organizationally irrelevant. A basic factor here appears to be the kind of guidelines for behavior that the individuals themselves bring to the organization. The more work standards they bring with them, the less the need for organizationally based standards.

It is difficult, of course, for the organization to know what kind of standards people bring with them. Even the use of a relatively common criterion, such as membership in a recognized profession, is not a perfect predictor, since not all members of a profession act in accordance with its standards and not all professional standards are good for all organizations. And when the organization moves into other personnel areas, away from the professions or established crafts, the availability of such external criteria may disappear. Because even well-developed external criteria, such as professionalization, may at times be organizationally irrelevant, the organization has to develop its own system of rules and procedures to accomplish what it is attempting to do.

Before moving to additional implications of formalization for the individual and the organization, we must draw another conclusion from the analysis of professionals in organizations. The emphasis in much of the research in this area is on conflict between the professional and his employing organization. Evidence from the Hall research suggests that such conflict is not inevitable and should not be assumed without demonstration. This research found, for example, that the legal departments of large organizations are not necessarily more bureaucratized than law firms of comparable size. The lawyer working in the trust department of a bank may actually be working in an organizational environment similar, and perhaps even identical, to the one he or she would find in a law firm. This suggests that it is very possible to find organizational structures that are compatible with the degree of professionalization of their members.

The finding that legal or other professional departments in organizations may not be more bureaucratized or formalized than autonomous law firms raises another issue. The legal department of a bank is clearly less formalized than the division in charge of handling, sorting, and verifying checks. As is true of

complexity, degrees of formalization vary within the organization. This can be most easily seen between departments, but it also occurs between levels in the organization. In general, the higher the level, the less the formalization (Hall, 1962; Child, 1973).

Zeitz's (1983, 1984) research provides an appropriate way to conclude this section. He found that formal structuring of activities had positive effects on organizational members' levels of satisfaction and perceived organizational climate. At the same time, role constraints and rule enforcement had negative effects. Well-delineated rules apparently provide a meaningful framework in which to work. Organ and Greene (1981) also found that formalization reduced ambiguity for a sample of scientists and engineers. In both the Zeitz and Organ and Greene studies, the interactions between levels of formalization and organizational members' expectations were the key to the ways in which individuals reacted to their organizations.

CENTRALIZATION

Centralization refers to the distribution of power within organizations. Centralization is thus one of the best ways to summarize the whole notion of structure. Ranson, Hinings, and Greenwood (1980) deal with structure as constituted and constitutive. In the case of centralization, a given distribution of power is constitutive in that it generates other actions—people comply with organizational rules and decisions. Centralization is also constituted in that power distributions are subject to change, as groups and individuals gain or lose power over time. Power itself will be considered in detail in a later chapter. Here we will consider the nature and correlates of the structural aspect of power in organizations.

Centralization has been defined in several ways, with the emphasis always on the distribution of power. Hage (1980) defines centralization as "the level and variety of participation in strategic decisions by groups relative to the number of groups in the organization" (p. 65). The greater the level of participation by a greater number of groups in an organization, the less the centralization. Hage's approach emphasizes the fact that power is exercised in a variety of ways and in a variety of locations in an organization. For example, at my university—and at most good universities (see Blau, 1973)—the decision of *whom* to hire for a faculty position lies with the hiring department. The decision here is decentralized. The decision of whether a particular department will be able to hire someone is centralized, however. The central administration reviews faculty vacancies and determines whether or not there needs to be a redistribution of vacancies, with departments with declining enrollments and weaker programs likely to lose positions to departments with high enrollment demands and strong programs. This is a centralized decision.

Van de Ven and Ferry (1980) define centralization as "the locus of decision making authority within an organization. When most decisions are made hierarchically, an organizational unit is considered to be centralized; a decentralized unit generally implies that the major source of decision making has been delegated by line managers to subordinate personnel" (p. 399). Van de Ven and Ferry go on to note that the substance of the decisions is an important consideration. In a highly professionalized organization, for example, decisions in regard to areas of professional competence are left to the professionals involved. Areas that are considered to be outside the limits of professional competence are likely to be more centralized.

What Is Centralized or Decentralized?

Of the several aspects of centralization, the most obvious is the right to make decisions. This can be very specifically spelled out in terms of who or what has the right to make which kinds of decisions and when. If most decision making occurs at the top, the organization is centralized. The matter is not that simple, however, since the organization can have predetermined policies regarding even these decisions. Table 3–1 illustrates the intermixing of decision-making rights and organizational policies.

In the table it can be seen that in the "bureaucracy/centralized" cell (no. 12), operating personnel can make decisions, but they are limited by the policies of the organization. Because the extent to which situations are covered by policies can vary widely, however, centralization is not a simple matter of who makes decisions. If personnel at lower levels in the organization are making many decisions, but the decisions are "programmed" by organizational policies, a high degree of centralization remains.

TABLE 3–1 Forms of Centralization

Level for Referring Decisions Not Covered by POLICIES	POLICIES, PROCEDURES, AND RULES	
	FEW POLICIES/BROADLY DEFINED	MANY POLICIES/ NARROWLY DEFINED
TOP—Headquarters personnel	11 *Autocracy*/Highly Centralized. Few decisions are made by lower level personnel, and these are governed by broad policies. Most decisions must be referred to higher level management.	12 *Bureaucracy*/Centralized. Decisions are made by operating personnel within the framework of restrictive policies, procedures, and rules; problems not covered must be referred to higher levels for decisions or policy clarification.
BOTTOM—Operating personnel	21 *Collegial*/Highly Decentralized. Most decisions are made at lower levels without policy restrictions; other decisions made at lower levels within the framework of policies.	22 *Bureaucracy*/Decentralized. Most decisions are made at lower levels within the framework of the policies; personnel have discretion on problems *not* covered by policies.

Source: Arlyn L. Melcher, *Structure and Process of Organizations: A Systems Approach.* (Englewood Cliffs, NJ: Prentice-Hall, 1975), p. 150.

Another element of centralization is how activities are evaluated (Dornbusch and Scott, 1975, p. 82). The evaluation process involves the determination of whether work was done properly, well, or promptly. If evaluation is carried out by people at the top of the organization, there is centralization, regardless of the level at which decisions are made. A situation in which there is centralized evaluation would probably—but not necessarily always—also be one in which policies are centralized.

For the sake of clarity, it is important to distinguish centralization from *centrality*. The latter concept refers to a person's or a social role's position in work flow, communications, or friendship networks. Brass (1984) found that centrality was related to people being perceived as influential by both supervisors and nonsupervisors.

Centralization and Other Organizational Properties

Size Research evidence in regard to the relationships between size and centralization is paradoxical. From their study of state employment security offices, Blau and Schoenherr (1971) conclude that "the large size of an agency produces conflicting pressures on top management, as it heightens the importance of managerial decisions, which discourages delegating them, and simultaneously expands the volume of managerial responsibilities, which exerts pressure to delegate some of them" (p. 130). The net result of increasing size is increased delegation or decentralization. The risk of delegation is lessened if personnel have expert qualifications. A centralized policy in regard to employee qualifications thus appears to contribute to delegated power.

One problem with this line of reasoning (a variation of the chicken-egg debate) should be noted: it is impossible to determine if increased size leads to pressures to delegate and thus to utilize experts, or if the hiring of experts leads to pressures to delegate, with size not really being a factor. The question cannot be answered with the kinds of data now available, but probably a combination of the two types of answers is most appropriate.

Blau's (1973) further research on colleges and universities revealed basically the same findings. Large universities were more decentralized than smaller ones. Academic institutions and government agencies show a major difference in the qualifications of their personnel. In the government agencies, qualified personnel were utilized to carry out the organization's policies; in the academic organizations, the highly qualified personnel were able to gain power for themselves and to exercise a great deal of power over educational policies.

In a study using the Aston data and their measures on a second set of data, Mansfield (1973) reaches conclusions essentially the same as those of the Blau research. Mansfield found that increasing size is related to the increasing use of rules. This leads to the decentralization of decision making but not to loss of control for the organization. In smaller organizations, specialists report directly to the top of the organization, while in larger ones, problems are handled at a decentralized level, but under the guidance of organizationally based rules. Kralewski et al. (1985) found that in large corporate medical practices, important decisions shifted from clinicians to administrators. In such medical practices, decisions have ramifications for the total organization.

Technology The technological factor has already been implied in the discussion. Some work is delegated, with the control remaining at the top of the organization by the use of rules governing the work. Other work is delegated to specialists who make their own decisions at lower levels in the organizations. Work that is delegated with controls is routine in terms of its technology (Child, 1973). In a bank, for example, each teller can handle thousands of dollars if the transactions are routine in the form of series of small cash deposits and withdrawals, but if an individual presents a check for $2,000 and asks for cash, it is a different matter. In this case, handling thousands of dollars is not delegated, but rather the decision moves back up the organization to the teller's supervisor.

Dornbusch and Scott (1975) contribute to the analysis of technology and centralization by noting that organizations deal with a variety of tasks that vary in their clarity, predictability, and efficacy. These are rather familiar distinctions in the literature on technology, with the possible exception of efficacy, which refers to "the means which have been developed for achieving desired outcomes" (p. 82). Dornbusch and Scott point out that the variety of tasks performed in an organization mean in essence that it has multiple technologies and thus must structure itself differently according to the task. This is in keeping with our earlier comments on intraorganizational structural variations. These variations are linked to these different tasks with their varied technologies.

Dornbusch and Scott utilize the concepts of "directive," guidance by rules, and "delegation," the actual decentralization of power to lower-level personnel. They conclude:

> Generally, in the interests of organizational effectiveness and efficiency, we would expect tasks which are high on clarity, predictability, and efficacy to be allocated by directive, tasks low on these three dimensions we would expect to be allocated by delegation. In its simplest terms, the argument is that, given high clarity as to the objectives to be obtained, high predictability of the resistance to be encountered, and established procedures for successfully handling this resistance, it is efficient to develop standardized, routine procedures which performers are directed to follow. High clarity contributes specific success criteria for use in designing sequences of activities. When the resistance confronted is predictable, it is possible to specify in advance the appropriate task activities to perform. When highly efficacious sequences of activities have been developed, performers will be expected to follow these set routines. (pp. 82–83)

These ideas were proven to be accurate by tests in a diverse set of organizations. It is thus critical to know what the task is before assuming a given degree of centralization will be found or before making a decision in regard to the appropriate degree of decentralization. The complex task will be delegated to a specialist, who uses his or her knowledge in handling the issue. As Blau's work suggests, organizations retain control through their hiring of specialists, but the control is not as tight as that which derives from organizational directives.

Dornbusch and Scott's findings receive corroboration from a variety of other studies. Hage and Aiken (1969), Comstock and Scott (1977), and Ouchi (1977) all report the same basic pattern. Ouchi notes that organizations can monitor peoples' behavior or their work outputs. He finds that a combination of large size and homogeneous tasks contributes to the utilization of output controls,

such as monitoring the number of units produced, sales transacted, or cards punched.

Another aspect of technology adds some slight confusion to the discussion. Participative management, which means that subordinates are consulted in regard to decisions that affect them, was analyzed by Taylor (1971), who found that it was more likely to be successful in situations involving advanced technology. Advanced technology here refers specifically to that concentrated at the work flow level; thus, participative management is most effective in the more automated kinds of situations.

Hage and Aiken's (1967a) work has shown that participation in decision making—a different aspect of centralization—is related to the absence of rules, thus suggesting that centralization by rules and centralization by nonparticipative decision making tend to operate together. Hage and Aiken's work, it should be remembered, is based on reports from organizational members themselves rather than on official records such as the Aston and Blau researchers use. In this instance, the findings in regard to centralization appear to be equivalent. In routine situations, rules govern the actions of the organizational members, and there is likely to be little in the way of delegation of power through participation. In less routine situations, where there is task uncertainty, phenomena such as group meetings are likely to be held to attempt to come up with problem resolutions (Van de Ven, Delbecq, and Koenig, 1976).

The issue of routinization and uncertainty and their relationship to centralization is closely linked to the level of professionalization of the personnel in the organization. Lincoln and Zeitz (1980) report that individual professionals desire and achieve participation in decision making. They also find that the overall level of professionalization of an organization results in all employees experiencing an increase in influence.

There are two cautions that should be noted in regard to participation in decision making. First, the fact that there is participation by organizational members may *not* mean that power is actually delegated. If the final decision still rests in the hands of the superiors in the organization, little power is actually delegated and participation is advisory at best. Although participation *may* help in the implementation of a decision, there is no decentralization or delegation of power unless it contributes to the actual decision.

The other caution regards a phenomenon that is too seldom considered by sociologists and other organizational researchers—budgetary controls, such as internal audits. Although Hofstede (1972) and Ouchi and Maguire (1975) have dealt with this issue, it has tended not to be considered, which is a loss for organizational theory. Budgetary controls have the potential for retaining a great deal of control at the top of the organization. The studies which have been cited here have not included budgetary control mechanisms. It would certainly appear that budgetary matters could be centralized in ways different from the allocation of tasks or decision making on other issues.

Environmental Relations The relationships among size, technology, and centralization have not been straightforward. The same pattern is found when studies of the relationships between organizations and their environments are considered. As we know from the Lawrence and Lorsch (1967) study, environments are critical for organizations.

A basic consideration is how much competition an organization faces in its environment. From their study of 30 business firms in India, Negandhi and Reimann (1972) suggest that competitive market conditions make decentralization more important for organizational success than do less competitive situations. This study was a successful replication of the Lawrence and Lorsch (1967) contingency theory previously discussed. Further analysis of their data indicated that the degree of dependence on other organizations was actually more strongly associated with decentralization than were the factors of size, technology, and market competitiveness (Negandhi and Reimann, 1973a). Negandhi and Reimann (1973a, b) indicate that the perceptions of the organizational decision makers are a critical mediating variable between the organization and the environment. It is they who make the strategic choices about the environment and about how the organization will respond to it. In this set of findings, the competitiveness of the environment affects the degree of decentralization.

A very different conclusion is reached in a study of 38 small manufacturing firms in the United States (Pfeffer and Leblebici, 1973). In this study it was found that a more competitive environment led to a greater demand for control and coordination. There was a greater frequency of reporting, more emphasis on written communications, and a greater specification of decision-making procedures—in short, a much greater degree of centralization. It was also found that in less competitive environments there were more changes in product design, productions processes, and number of products.

The contradictory findings seem to offer few conclusions about the effects of competition on centralization. A good part of the difficulty may lie in the fact that the more general characteristics of the organizational environments were not specified. For example, in an expanding economy in which the competing organizations are all gaining, decentralization may occur. If the economy is one of scarcity, in which one organization's gain is the others' loss, the tightening up and centralization that Pfeffer and Leblebici found would occur (Khandwalla, 1972).

Another aspect of organizational environments is their degree of stability. Whetten (1980) notes that research on this topic also reaches contradictory findings. Authors such as Burns and Stalker (1961) and Aldrich (1979) have argued that decentralization is more appropriate for conditions of turbulence or nonstability in the environment, while others (Hawley and Rogers, 1974; Yarmolinsky, 1975; Rubin, 1979) have argued in favor of centralization in such situations. Again, a resolution of the differences in these findings may be possible if it were possible to determine if the environment were expanding or contracting, as was suggested in the case of competition. In a situation of growth, decentralization might be the most appropriate response to turbulence, while centralization might be necessary in periods of contraction.

Closely related to centralization is the notion of "loose coupling" (Weick, 1976; Aldrich, 1979). This idea was developed to describe situations in which organizational units have low levels of interdependence. Whetten (1980) concludes that there is agreement that loosely coupled organizations tend to be more flexible and responsive to environmental pressures. The degree of coupling can

be misleading, according to Gamoran and Dreeben (1986). They note that school organizations are commonly thought of as loosely coupled. In actuality, administrators can retain control through the allocation of resources such as curricular materials.

Loose coupling is not the same as decentralization, since the degree of coupling refers to the level of interdependence among units rather than to the distribution of power. In general, a loosely coupled organization would also be decentralized. An example of a loosely coupled organization is the business conglomerate. If the consumer products division is having a difficult time due to high interest rates, this would not affect the heavy machinery division whose market is growing. Such an organization would be loosely coupled. Each division may be more or less centralized in such a situation.

For some organizations the environment is a parent organization. Hsu, Marsh, and Mannari (1983) found that stronger centralized bureaucratic control was associated with the presence of parent organizations. Loose coupling was apparently not present in this situation.

Centralization is concerned with power. Since organizations are a major means by which power is exercised in society, an examination of the political systems in which organizations are located indicates that this aspect of organizational environments is important for centralization.

Centralization and Macropolitical Considerations

The overriding importance of organizations for the social order is underscored by considering some examples of their use for political purposes. Organizations can be shaped to be part of the process of political change and development. We have already seen how the Bolsheviks used their "organizational weapon" (Selznick, 1960). During the "Cultural Revolution," the Peoples' Republic of China used its organizations as a means of continuing political indoctrination and involvement. Yugoslavia developed a program of "self-management" in which the workers in an enterprise elected a workers' council that in turn elects that management of the enterprise. This is not participative management of the sort discussed earlier, but rather management by participation. Enterprises in the Israeli kibbutz system (composed of small organizations) have a socialist ideology that is promoted by a system of rotation of all people through all positions.

These ideological purposes are not always met. In Yugoslavia, participation is lower and alienation is higher than the ideology indicates or political leaders desire (see Rus, 1972). In Israel, nonkibbutz organizations are more like their Western counterparts than they are like the kibbutz. The uncertainties that have developed in the 1989–1990 period in socialist and communist systems should not obscure the crucial role which organizations have taken in those systems, as well as in capitalist systems.

A major study of differing patterns of centralization in ten nations has been conducted by Tannenbaum and his colleagues (1974, 1986). The original research was carried out in manufacturing plants in Austria, Italy, Israel, Yugoslavia, and the United States. Austria and Italy are basically capitalist, like the United States, and Israeli kibbutzim and the Yugoslav economy are socialist.

Israel and the United States contained the plants that were most successful—as defined by the standards used in the country in question, but included such universal factors as efficiency and morale. The kibbutz plants are highly decentralized, with the effects of hierarchy virtually eliminated. In the United States, hierarchy is present, but its effects are mitigated by several factors. There is a limited potential for upward worker mobility in the American plants, but it is greater than in the Italian plants. There is also greater participativeness in the American plants. Workers are consulted and treated more as equals, even though they are not equal in power, and the rewards are higher.

Nevertheless, in the American plants, there is no attempt to reduce inequality. This is a political stance, even though it may be unrecognized as such. The tendency toward participativeness in the American plants is viewed by some as manipulation. For example, the Tannenbaum researchers (1974) conclude:

> A position to which some of us subscribe, for example, argues that the approach to hierarchy described above supports techniques of "human relations" that maintain rather than eliminate substantial gradients of power and reward. It therefore covers over and diverts attention from the exploitation and injustice suffered by workers. Workers in the American plants, for example, do not *feel* as alienated as workers elsewhere but in fact they *are* powerless with respect to basic policy issues. Because of "human relations" a discrepancy exists between the subjective and objective experience of alienation. The Italian workers are more realistic and better adjusted in this sense. Jobs are frustrating to them, opportunities for self-fulfillment or for achievement are sparse, and workers feel dissatisfied and poorly motivated. Italian workers *know* they are without power and quite realistically, they *feel* alienated. This realism is a symptom of good adjustment, not bad, although in terms of our conventional measures the Italian worker looks poorly adjusted. American workers, on the other hand, appear well adjusted and they report high levels of opportunity and satisfaction. Some actually feel a sense of responsibility in their plant—at least more than do workers in other places. But this is only because the "human relations" approach is so effective in its manipulation. The approach no doubt works in mitigating some of the psychological effects of hierarchy, but it does so without making any basic changes in hierarchy and, in the view of some of us, it is therefore subject to question from a moral standpoint. (p. 220)

This Marxist approach gets at the very heart of the political issue involved in centralization. Management by participation, as in the case of Israel and Yugoslavia, is a direct attempt to alter traditional power arrangements within a society. The 1986 Tannenbaum study included Rumania, Bulgaria, and Hungary, along with West Germany and Ireland. On the face of it, the political efforts in the Warsaw Pact nations were unsuccessful.

The Chinese approach, which is not participative but rather was designed to strengthen the power of the regime, emphasizes political indoctrination and loyalty. It is highly centralized. The American approach, which increasingly features participation of some degree in decision making, does not attempt to redistribute power. It does, however, minimize the perceptible effects of power differences. Those of the Tannenbaum et al. researchers who judge this as immoral and misleading miss an important consideration. Even if it is agreed

that workers are exploited to even a small degree, the end result remains in question: What is the more likely—a situation such as that in Italy, where the exploitation is definitely felt, or a situation such as that in the United States, where it is more moderately felt? It could be, for example, that at some time in the future, American workers, having experienced at least symbolic participation, would press very hard for actual participation. Those who had never experienced participation might not necessarily want to move in this direction. The final consideration, developed by the Dutch sociologist Lammers (1975), is that participative management involves taking part in decision making, while both management by participation and self-management involve workers taking over organizational management. The former is a functional form of decentralization that may lead to greater efficiency and effectiveness, while the latter two forms are structural decentralization that lead to power equalization.

True power equalization in organizations is extremely unlikely. The very nature of organizations requires some form of hierarchy, once organizations move beyond very small size, simple technologies, and low levels of complexity. As in the wider society, power differences are ubiquitous. The effects of such power differences can perhaps be minimized by making them less abrasive through participative schemes. As Child (1976) notes, however, demands for greater participation face situations of greater bureaucratization and centralization.

Centralization and Micropolitical Considerations

Organizations are part of the political system. They also contain their own internal political system, and this is an important consideration for centralization. Heydebrand (1977) has noted the contradiction between traditional control structures and new forms of organizing, as along the lines of professional organizations. As noted earlier, the presence of professionals increases the level of participation in the organization. The increased participation is not accomplished benignly. Instead, it is fought for and over, since those who had decision-making power are not likely to give it up easily to the professionals coming into the organization.

Some authors view the internal politics of an organization as a reflection of the external political system. For example, Marglin (1974) suggests that the technology employed in many factories is there not so much for technical efficiency, but rather as a means by which maximal control over labor can be achieved. Ongoing labor-management negotiations and battles over the prerogatives of management and workers can reflect wider political schisms. This is true particularly in Europe. Bacharach and Lawler (1980) have pointed out that power can be delegated to lower participants and that power can be taken by these same lower participants. Universities in the late 1960s and early 1970s exemplified the give and take of power as students gained in power and thus had the right to make decisions that previously had been made by faculty or administrators. This internal organizational power struggle was a reflection of the larger political context.

The exercise of power within organizations will be considered in a later chapter. In terms of centralization, it is critical to note that the micropolitics of

organizations (Pfeffer, 1978) involves the continuing power struggles that occur within organizations, whether among departments, hierarchical levels, or individuals. While the micropolitical approach emphasizes power struggles, the fact that power is distributed at one point in time (the pattern of centralization) will have a crucial impact on the distribution of power at succeeding points in time.

The Outcomes of Centralization

The degree of centralization in organizations says a great deal about the society in which they are found. A society in which the majority of organizations are highly centralized is one in which the workers have little say about their work. The same would probably be true in terms of their participation in the society. The degree of centralization of organizations also is an indication of what the organization assumes about its members: high centralization implies an assumption that the members need tight control, of whatever form; low centralization suggests that the members can govern themselves. In both cases, it should be remembered, the control is in behalf of the organization (Blau and Schoenherr, 1971). Professionals and other expert personnel in organizations do not work in behalf of their professions. Their expertise is in behalf of the organization.

A major outcome of varying degrees of centralization is for the organization itself. High levels of centralization mean greater coordination, but less flexibility; consistent organizationwide policies, but possibly inappropriate policies for local conditions; and the potential for rapid decision making during emergencies, but overloaded communications channels during normal operations as communications flow up and down the hierarchy.

SUMMARY AND CONCLUSIONS

This chapter has considered the basic organizational characteristics of complexity, formalization, and centralization. These characteristics have outcomes for the individuals who are in the organizations and who have contacts with it. They also have outcomes for the organizations themselves and for the wider society of which they are a part.

We have already begun an examination of the topic of the next chapter—the explanation of structure. Issues such as size, technology, and relationships with the environment have loomed large in analyses of structure. We will examine these issues and also pay attention to some broader explanations that have been recently introduced.