By Henry Mintzberg
From Miller and Friesen

Organizations: A Quantum View (PH 84)

3

A Typology of Organizational Structure

The "one best way" approach has dominated our thinking about organizational structure since the turn of the century. There is a right way and a wrong way to design an organization. This approach is best captured in Colonel Urwick's famous principle of the 1930s that "no supervisor can supervise directly the work of more than five, or at the most, six subordinates whose work interlocks" (Urwick, 1956: 41). But "one best way" thinking continues to the present day, for example in the activities of consultants who believe that every organization needs MBO, or LRP, or OD.

A variety of failures, however, has made it clear that organizations differ, that long-range planning systems or organizational development programs are good for some but not others. Just as it would be foolish to restrict a foreman to a span of control of six assembly-line workers whose work interlocks, so too is there little sense in forcing formal planning on a firm that must remain highly flexible in an unpredictable market (as many firms discovered during the early days of the energy crisis).

And so recent management theory has moved away from the "one best way" approach, toward an "it all depends" approach, formally known as "contingency theory." Structure should reflect the organization's situa-

This chapter, authored by Henry Mintzberg is drawn from two articles, "Configurations of Organizational Structure," in H. Meltzer and W. R. Nord, *Making Organizations Humane and Productive* (New York: John Wiley, 1981) and "Structure in 5's; A Synthesis of the Research on Organization Design," *Management Science* (1980) 322–41, which themselves are based on *The Structuring of Organizations: A Synthesis of the Research* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1979).

tion—for example, its age, size, type of production system, the extent to which its environment is complex and dynamic. To cite some of the more established relationships, larger organizations need more formalized structures—more rules, more planning, tighter job descriptions; so do those in stable environments and those in mass production. Organizations in more complex environments need higher degrees of decentralization; those diversified in many markets need divisionalized instead of functional structures.

This chapter argues that the "it all depends" approach does not go far enough, that structures are rightfully designed on the basis of a third approach, which might be called the "getting it all together" or, as described in Chapter 1, the "configuration" approach. Spans of control, types of formalization and decentralization, planning systems, and matrix structures should not be picked and chosen independently, the way a shopper picks vegetables at the market or a diner a meal at a buffet table. Rather, these and other parameters of organizational design should logically configure into internally consistent groupings. Like most phenomena—atoms, ants, and stars—characteristics of organizations appear to fall into natural clusters, or configurations.

We can, in fact, go a step farther and include in these configurations not only the design parameters but also the so-called contingency factors. In other words, the organization's type of environment, its production system, even its age and its size, can in some sense be "chosen" to achieve consistency with the elements of its structure. The important implication of this conclusion, in sharp contrast to that of contingency theory, is that organizations can select their situations in accordance with their structural designs just as much as they can select their designs in accordance with their situations. Diversified firms may divisionalize, but there is also evidence that divisionalized firms have a propensity to further diversify.[1] Stable environments may encourage the formalization (bureaucratization) of structure, but bureaucracies also have a habit of trying to stabilize their environments. And in contrast, entrepreneurial firms, which operate in dynamic environments, need to maintain flexible structures. But such firms also seek out and try to remain in dynamic environments in which they can outmaneuver the bureaucracies. In other words, no one factor—structural or situational—determines the others; rather, all are often logically formed into tightly knit configurations.

When the enormous amount of research that has been done on organizational structuring is looked at in the light of this conclusion, much of its confusion falls away, and a convergence is evident around five configura-

[1]See R. P. Rumelt, *Strategy, Structure and Economic Performance* (Division Research, Graduate School of Business Administration, Harvard University, 1974, pp. 76–77); and L. E. Fouraker and J. M. Stopford, "Organizational Structure and Multinational Strategy," *Administrative Science Quarterly*, 1968: 47–64.

tions, which are distinct in their structural designs, in the situations in which they are found, and even in the periods of history in which they first developed. They are labeled Simple Structure, Machine Bureaucracy, Professional Bureaucracy, Divisionalized Form, and Adhocracy. This chapter describes them and seeks to show their relevance in the design and functioning of organizations.

To understand the five configurations, we must first understand each of the elements that make them up. After reviewing the various elements briefly, we shall show how all of them cluster together to form our five configurations.

THE ELEMENTS OF THE FIVE CONFIGURATIONS

Organizational structure becomes a problem when more than one person must coordinate different tasks to get a single job done. That coordination can be effected in five basic ways:

Direct supervision. One person gives direct orders to others and so coordinates their work, as when an entrepreneur tells different machine operators to make specific parts of an assembly.

Standardization of work processes. One person designs the general work procedures of others to ensure that these are all coordinated, as when a methods engineer specifies how an assembler should bolt a fender onto an automobile.

Standardization of outputs. One person specifies the general outputs of the work of another, as when headquarters tells a division manager to generate sales growth of 10% in a given quarter so that the firm can meet its overall growth goal.

Standardization of skills. A person is trained in a certain way so that he or she coordinates automatically with others, as when a surgeon and an anesthesiologist perform together in the operating room without having to utter a single word.

Mutual adjustment. Two or more people communicate informally among themselves to coordinate their work, as when a team of experts meet together in a space agency to design a new rocket component.

Different parts of the organization play different roles in the accomplishment of work and of these forms of coordination. Our framework introduces five basic parts of the organization, shown in Figure 3-1 and listed below:

The *operating core* is where the basic work of producing the organization's products and services gets done, where the workers assemble automobiles and the surgeons remove appendixes.

The *strategic apex* is the home of top management, where the organization is managed from a general perspective.

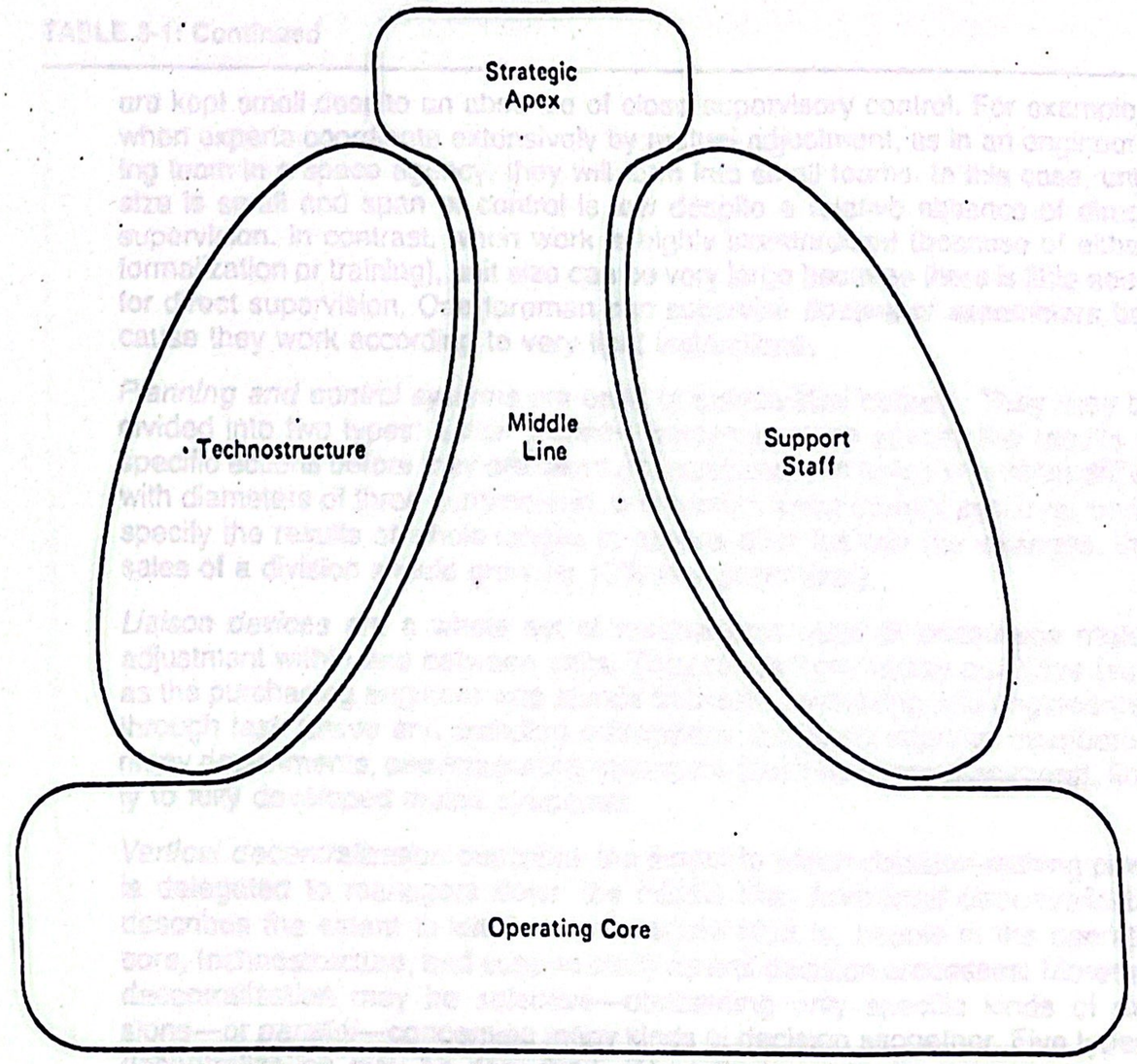


FIGURE 3-1 The Five Basic Parts of the Organization. From Henry Mintzberg, *The Structuring of Organizations* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1979).

The *middle line* comprises all those managers who stand in a direct line relationship between the strategic apex and the operating core; among their other tasks, the managers of the middle line (as well as those of the strategic apex) carry out whatever direct supervision is necessary.

The *technostructure* includes the staff analysts who design the systems by which work processes and outputs are standardized in the organization.

And the *support staff* comprises all those specialists who provide support to the organization outside of its operating workflow—in the typical manufacturing firm, everything from the cafeteria staff and the mailroom to the public relations department and the legal counsel.

The division of the labor of the organization into different tasks and the achievement of the various kinds of coordination among these tasks are accomplished through the use of a set of "design parameters," which are described in Table 3-1.

These parameters include (1) for the design of specific positions: the extent to which their tasks are specialized and their procedures formalized (by job descriptions, rules, and the like), and the extent to which the positions require formal training and indoctrination; (2) for the design of the hierarchy: the bases on which units are grouped (notably by function performed or market served) and the size of each of the units (that is, the span of control of its managers); (3) for the fleshing out of the hierarchy through lateral relationships: the use of action planning and performance control systems and of "liaison devices" such as task forces, integrating managers, and matrix structure; and (4) for the design of the decision-making system: the extent to which power is delegated down the chain of authority (called vertical decentralization) and out from that chain of authority to nonmanagers—operators, analysts, and support staffers (called horizontal decentralization).

TABLE 3-1: The Design Parameters

Job specialization refers to the number of tasks in a given job and the worker's control over these tasks. A job is *horizontally* specialized to the extent that it encompasses few, narrowly defined tasks, *vertically* specialized to the extent that the worker lacks control of the tasks performed. *Unskilled* jobs are typically highly specialized in both dimensions; skilled or *professional* jobs are typically specialized horizontally but not vertically. "Job enrichment" refers to the enlargement of jobs in both the vertical and horizontal dimensions.

Behavior formalization refers to the standardization of work processes by the imposition of operating instructions, job descriptions, rules, regulations, and the like. Structures that rely on standardization for coordination are generally referred to as *bureaucratic,* those that do not as *organic.*

Training and indoctrination refers to the use of formal instructional programs to establish and standardize in people the requisite skills, knowledge, and norms to do particular jobs in organizations. Training is a key design parameter in all work we call professional. Training and formalization are basically substitutes for achieving the standardization (in effect, the bureaucratization) of behavior. In one, the standards are internalized in formal training as skills or norms; in the other, they are imposed on the job as rules.

Unit grouping refers to the choice of the bases by which positions are grouped together into units, and these units into higher-order units. Grouping encourages coordination by putting different jobs under common supervision, by requiring them to share common resources and achieve common measures of performance, and by facilitating mutual adjustment among them. The various bases for grouping—by work process, product, client, area, etc.—can be reduced to two fundamental ones—by the *function* performed or the *market* served.

Unit size refers to the number of positions (or units) contained in a single unit. The equivalent term *span of control* is not used here because sometimes units

continued

TABLE 3-1: Continued

are kept small despite an absence of close supervisory control. For example, when experts coordinate extensively by mutual adjustment, as in an engineering team in a space agency, they will form into small teams. In this case, unit size is small and span of control is low despite a relative absence of direct supervision. In contrast, when work is highly standardized (because of either formalization or training), unit size can be very large because there is little need for direct supervision. One foreman can supervise dozens of assemblers because they work according to very tight instructions.

Planning and control systems are used to standardize outputs. They may be divided into two types: *action planning* systems, which specify the results of specific actions before they are taken (for example, that holes should be drilled with diameters of three centimeters); and *performance control* systems, which specify the results of whole ranges of actions after the fact (for example, that sales of a division should grow by 10% in a given year).

Liaison devices are a whole set of mechanisms used to encourage mutual adjustment within and between units. They range from *liaison positions* (such as the purchasing engineer who stands between purchasing and engineering), through *task forces* and *standing committees* that bring together members of many departments, and *integrating managers* (such as brand managers), finally to fully developed *matrix structures.*

Vertical decentralization describes the extent to which decision-making power is delegated to managers down the middle line; *horizontal decentralization* describes the extent to which nonmanagers (that is, people in the operating core, technostructure, and support staff) control decision processes. Moreover, decentralization may be *selective*—concerning only specific kinds of decisions—or *parallel*—concerning many kinds of decision altogether. Five types of decentralization may be described: (1) vertical and horizontal centralization, where all power rests at the strategic apex; (2) limited horizontal decentralization (selective), where the strategic apex shares some power with the technostructure that standardizes everbody else's work; (3) limited vertical decentralization (parallel), where managers of market-based units are delegated the power to control most of the decisions concerning their line units; (4) vertical and horizontal decentralization, where most of the power rests in the operating core, at the bottom of the structure; and (5) selective vertical and horizontal decentralization, where the power over different decisions is dispersed widely in the organization, among managers, staff experts, and operators who work in groups at various levels in the hierarchy.

A number of contingency or situational factors influence the choice of these design parameters, and vice versa. These include the age and size of the organization; its technical system of production; various characteristics of its environment, such as stability and complexity; and its power system, for example, whether or not it is tightly controlled from the outside. Some of their influences on the design parameters are summarized in Table 3-2.

TABLE 3-2: The Contingency Factors

Age and Size have both been shown in the research to have important effects on structure. In particular, the older and/or larger an organization, the more formalized its behavior. Moreover, it has been found that the larger the organization, the larger the size of its average unit and the more elaborate its structure; that is, the more specialized its tasks, the more differentiated its units, and the more developed its administrative component of middle line and technostructure. Finally, Stinchcombe (1965) has shown that the structure of an organization often reflects the age of founding of its industry.

Technical System has been found to affect certain design parameters significantly. For one thing, the more regulating the technical system—in other words, the more it controls the work of the operators—the more formalized is their work and the more bureaucratic is the structure of the operating core. And the more sophisticated the technical system—that is, the more difficult it is to understand—the more elaborate the administrative structure; specifically, the larger and more professional the support staff, the greater the selective decentralization (of technical decisions to that staff), and the greater the use of liaison devices (to coordinate the work of the staff). Finally, Woodward (1965) has shown how the automation of the work of the operating core tends to transform a bureaucratic administrative structure into an organic one.

Environment is another major contingency factor discussed in the literature. Dynamic environments have been identified with organic structures, and complex environments with decentralized ones. However, laboratory evidence suggests that hostile environments might lead organizations to centralize their structures temporarily. And disparities in the environment appear to encourage selective decentralization to differentiated work constellations. Finally, there is a good deal of evidence that diversification of the organization's markets encourages the use of market basis for grouping at high levels, assuming favorable economies of scale.

Power factors have also been shown to have selective effects on structure. Most important, external control of organizations appears to increase formalization and centralization. The need for power of the various members can influence the distribution of decision-making authority, especially in the case of a chief executive whose strong need for power tends to increase centralization. And fashion has been shown to have an influence on structure, sometimes driving organizations to favor inappropriate but fashionable structures.

Note: For references supporting these relationships, see Mintzberg (1979).

CONFIGURING THE ELEMENTS

Up to this point, we have introduced a host of bits and pieces about the structuring of organizations: lots of trees, but still no forests. But a number of forests begin to emerge as we stand back from the specifics and try to perceive the whole picture.

The number 5 appeared frequently in our discussion. There were five coordinating mechanisms, five parts of the organization, and (in Table

3-1) five types of decentralization. In fact, the five configurations bring al of these fives together. Specifically:

The natural tendency of a *strategic apex* concerned with tight control is to coordinate by *direct supervision;* when that is what the organization needs, *vertical and horizontal centralization* results, and the organization tends to use what we call the *Simple Structure.*

The *technostructure* encourages coordination by *standardization* (especially of *work process,* the tightest form), since it designs the systems of standards; when that is what the organization needs, it accepts *limited horizontal decentralization* to the technostructure, and a configuration called *Machine Bureaucracy* results.

The workers of the *operating core* prefer autonomy above all, which they come closest to achieving when coordination of their work is effected mainly by the *standardization of skills;* organizations that must rely on this form of coordination accept *vertical and horizontal decentralization* to their highly skilled operators and use the *Professional Bureaucracy* configuration.

The managers of the *middle line* try to balkanize the structure, to encourage *limited vertical decentralization* to their level so that their units can operate as semiautonomous entities, controlled from above only by performance control systems based on *standardization of outputs;* when this is what the organization needs, the *Divisionalized Form* results.

And when the *support staff* (and sometimes the operators as well) favor collaboration—the working together in groups whose tasks are coordinated by *mutual adjustment*—and this is what the organization needs, *selective vertical and horizontal decentralization* results, and the structure takes on the form of what we call the *Adhocracy.*

Let us now take a closer look at each of these five structural configurations, whose characteristics are summarized in Table 3-3.

The Simple Structure

As shown in Figure 3-2, the Simple Structure is characterized, above all, by what it is not—elaborated. Typically, it has little or no technostructure, few support staffers, a loose division of labor, minimal differentiation among its units, and a small middle line hierarchy. Little of its behavior is formalized, and it makes minimal use of planning, training, or the liaison devices. It is, above all, organic. Its coordination is effected largely by direct supervision. Specifically, power over all important decisions tends to be centralized in the hands of the chief executive officer. Thus, the strategic apex emerges as the key part of the structure; indeed, the structure often consists of little more than a one-person strategic apex and an organic operating core. Grouping into units—if it exists at all—more often than not is on a loose functional basis. Likewise, decision making is informal, with the centralization of power allowing for rapid response.

	SIMPLE STRUCTURE	MACHINE BUREAUCRACY	BUREAUCRACY	FORM	
KEY COORDINATING MECHANISM	DIRECT SUPERVISION	STANDARDIZATION OF WORK	STANDARDIZATION OF SKILLS	STANDARDIZATION OF OUTPUTS	MUTUAL ADJUSTMENT SUPPORT STAFF (WITH OPERATING CORE IN OP. AD.)
KEY PART OF ORGANIZATION	STRATEGIC APEX	TECHNOSTRUCTURE	OPERATING CORE	MIDDLE LINE	
Design Parameters					
Specialization of Jobs	Little specialization	*Much horizontal and vertical specialization*	*Much horizontal specialization*	Some horizontal and vertical specialization (between divisions and HQ)	*Much horizontal specialization*
Training and Indoctrination	Little training and indoctrination	Little training and indoctrination	*Much training and indoctrination*	Some training and indoctrination (of division managers)	Much training
Formalization of Behavior: Bureaucratic/Organic	Little formalization *Organic*[a]	*Much formalization Bureaucratic*	Little formalization *Bureaucratic*	Much formalization (within divisions) Bureaucratic	Little formalization *Organic*
Grouping	Usually functional	*Usually functional*	Functional and market	*Market*	*Functional and market*
Unit Size	Wide	Wide at bottom, narrow elsewhere	Wide at bottom, narrow elsewhere	Wide (at top)	*Narrow throughout*
Planning and Control Systems	Little planning and control	Action planning	Little planning and control	*Much performance control*	Limited action planning (esp. in adm. ad.)
Liaison Devices	Few liaison devices	Few liaison devices	Liaison devices in administration	Few liaison devices	*Many liaison devices throughout*
Decentralization	*Centralization*	*Limited horizontal decentralization*	*Horizontal and vertical decentralization*	*Limited vertical decentralization*	*Selective decentralization*
Contingency Factors					
Age and Size	Typically young and small	Typically old and large	Varies	Typically old and very large	Typically young (Op. Ad.)
Technical System	Simple, not regulating	Regulating but not automated, not very complex	Not regulating or complex	Divisible, otherwise typically like machine bureaucracy	Very complex, often automated (in Adm. Ad.); not regulating or complex (in Op. Ad.)
Environment	Simple and dynamic; sometimes hostile	Simple and stable	Complex and stable	Relatively simple and stable; diversified markets (especially products and services)	Complex and dynamic; sometimes disparate (in Adm. Ad.)
Power	Chief-executive control; often owner-managed; not fashionable	Technocratic and external control; not fashionable	Professional-operator control; fashionable	Middle-line control; fashionable (especially in industry)	Expert control; very fashionable

[a] Italic type designates key design parameter.

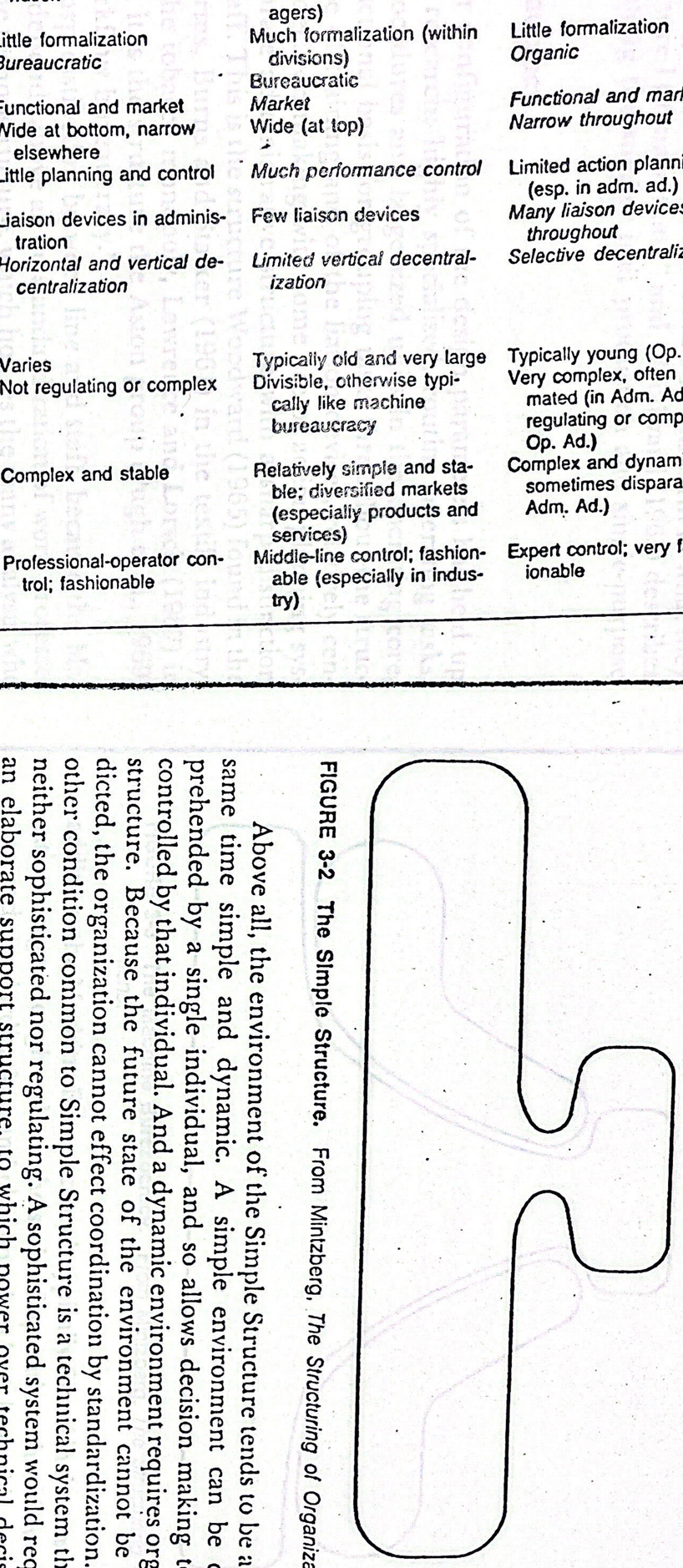


FIGURE 3-2 The Simple Structure. From Mintzberg, *The Structuring of Organizations.*

Above all, the environment of the Simple Structure tends to be at the same time simple and dynamic. A simple environment can be comprehended by a single individual, and so allows decision making to be controlled by that individual. And a dynamic environment requires organic structure. Because the future state of the environment cannot be predicted, the organization cannot effect coordination by standardization. Another condition common to Simple Structure is a technical system that is neither sophisticated nor regulating. A sophisticated system would require an elaborate support structure, to which power over technical decisions would have to be delegated, whereas a regulating one would call for bureaucratization of the operating core. Young organizations and small organizations also tend to use the Simple Structure, because they have not yet had the time, or yet reached the scale of operations, required for bureaucratization. Finally, extreme hostility in their environments forces most organizations to use the Simple Structure, no matter how they are normally organized. To deal with crises, organizations tend to centralize at the top temporarily, and to suspend their standard operating procedures.

The classic case of the Simple Structure is, of course, the entrepreneurial firm. The firm is aggressive and often innovative, continually searching for risky environments where the bureaucracies hesitate to operate. But it is also careful to remain in a market niche that its entrepreneur can fully comprehend. Entrepreneurial firms are usually small, so that they can remain organic and their entrepreneurs can retain tight control. Also, they are often young, in part because the attrition rate among entrepreneurial firms is so high, and in part because those that survive tend to make the transition to bureaucracy as they age. Inside the structure, all revolves around the entrepreneur. Its goals are his or her goals, its strategy his or her vision of its place in the world. Most entrepreneurs loathe bureaucratic procedures as impositions on their flexibility. Their unpredictable maneuvering keeps their structures lean, flexible, organic.

Khandwalla (1977) found this structural form in his research on Ca-

nadian companies. Pugh et al. (1969) also allude to this form in what they call "implicitly structured organizations," and Woodward (1965) describes such a structure among the smaller unit production and single-purpose process firms.

The Machine Bureaucracy

A second clear configuration of the design parameters has held up consistently in the research: highly specialized, routine operating tasks, very formalized procedures and large-sized units in the operating core, reliance on the functional basis for grouping tasks throughout the structure, little use made of training and of the liaison devices, relatively centralized power for decision making with some use of action planning systems, and an elaborate administrative structure with a sharp distinction between line and staff. This is the structure Woodward (1965) found in the mass-production firms, Burns and Stalker (1961) in the textile industry, Crozier (1964) in the tobacco monopoly, Lawrence and Lorsch (1967) in the container firm; it is the structure the Aston group (Pugh et al., 1969) referred to as "workflow bureaucracy."

Despite its sharp distinction between line and staff, because the Machine Bureaucracy depends above all on standardization of work processes for coordination, the technostructure, which houses the many analysts who do the standardizing, emerges as the key part of the structure. Consequently, these analysts develop some informal power, with the result that the organization can be described as having limited horizontal decentralization. The analysts gain their power largely at the expense of the operators, whose work they formalize to a high degree, and of the first-line managers, who would otherwise supervise the operators directly. But the emphasis on standardization extends well above the operating core, and with it follows the analysts' influence. Rules and regulations—an obsession with control—permeate the entire structure; formal communication is favored at all levels; decision making tends to follow the formal chain of authority. Only at the strategic apex are the different functional responsibilities brought together; therefore, only at that level can the major decisions be made, hence the centralization of the structure in the vertical dimension.

The Machine Bureaucracy is typically associated with environments that are both simple and stable. The work of complex environments cannot be rationalized into simple operating tasks, and that of dynamic environments cannot be predicted, made repetitive, and so standardized. Thus the Machine Bureaucracy responds to a simple, stable environment, and in turn seeks to ensure that its environment remains both simple and stable. In fact, this helps to explain the large size of the support staff in the Machine Bureaucracy, as shown in Figure 3-3. To ensure stability, the Machine Bureaucracy prefers to make rather than buy—to supply its own support services wherever possible so that it can closely control them. In

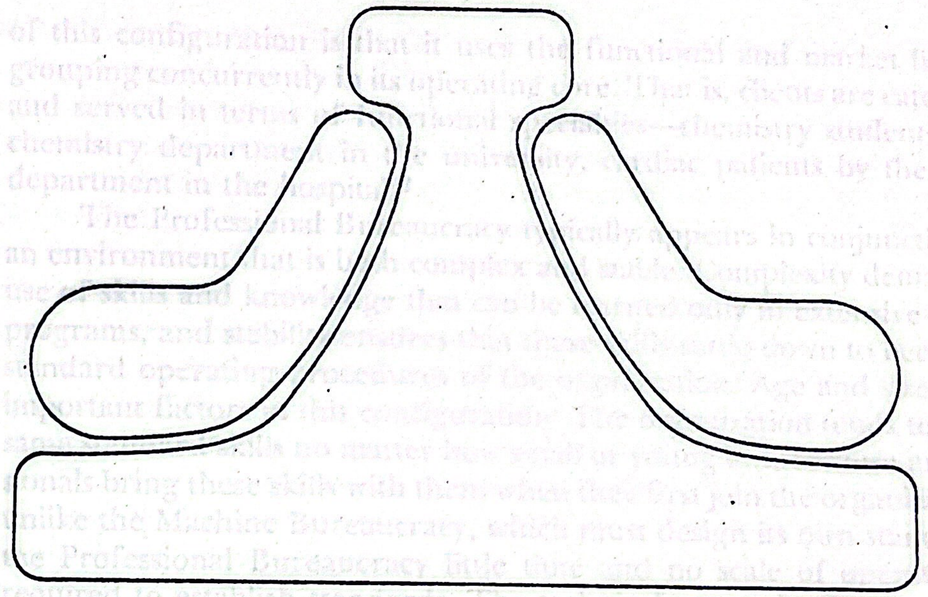


FIGURE 3-3 The Machine Bureaucracy. From Mintzberg, *The Structuring of Organizations.*

addition, the Machine Bureaucracy is typically found in the mature organization, large enough to have the scale of operations that allows for repetition and standardization, and old enough to have been able to settle on the standards it wishes to use. Machine Bureaucracies also tend to be identified with regulating technical systems, since these routinize work and so enable that work to be standardized. But they are not typically found with sophisticated or automated technical systems because, as noted earlier, one disperses power to the support staff and the other calls for organic structure in administration, thereby driving the organization to a different configuration. Finally, the Machine Bureaucracy is often associated with external control. The greater the external control of an organization, the more its structure tends to be centralized and formalized, the two prime design parameters of the Machine Bureaucracy.

Typical examples of organizations drawn to the Machine Bureaucracy configuration are mass-production firms; service firms with simple, repetitive work, such as insurance and telephone companies; government agencies with similar work, such as post offices and tax collection departments; and organizations that have special needs for safety, such as airlines and fire departments.

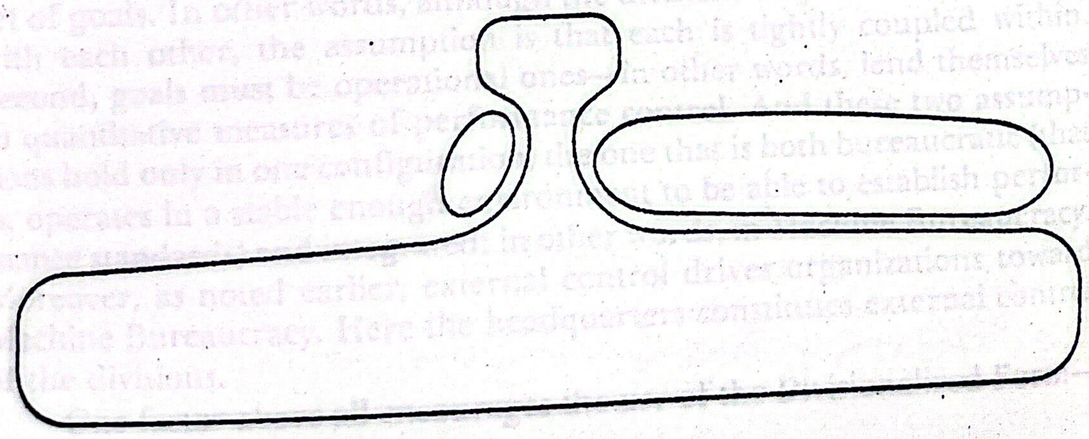
The Professional Bureaucracy

Organizations can be bureaucratic without being centralized; that is, their behavior can be standardized by a coordinating mechanism that allows for decentralization. That coordinating mechanism is the standardization of skills, a reliance on which gives rise to the configuration called

Professional Bureaucracy, found typically in school systems, social-work agencies, accounting firms, and craft manufacturing firms. The organization hires highly trained specialists—called professionals—in its operating core, and then gives them considerable autonomy in their work. In other words, professionals work relatively free not only of the administrative hierarchy but also of their own colleagues. Much of the necessary coordination is achieved by design—by the standard skills that predetermine behavior. And this autonomy in the operating core means that the operating units are typically very large, as shown in Figure 3-4, and that the structure is decentralized in both the vertical and horizontal dimensions. In other words, much of the formal and informal power of the Professional Bureaucracy rests in its operating core, clearly its key part. Not only do the professionals control their own work, but they also tend to maintain collective control of the administrative apparatus of the organization. Managers of the middle line, in order to have power in the Professional Bureaucracy, must be professionals themselves, and must maintain the support of the professional operators. Moreover, they typically share the administrative tasks with the operating professionals. At the administrative level, however, in contrast with the operating level, tasks require a good deal of mutual adjustment, achieved in large part through standing committees, task forces, and other liaison devices.

The technostructure is minimal in this configuration, because the complex work of the operating professionals cannot easily be formalized, nor can its outputs be standardized by action planning and performance control systems. The support staff is, however, highly elaborated, as shown in Figure 3-4, largely to carry out the simpler, more routine work and to back up the high-priced professionals. As a result, the support staff tend to work in a machine-bureaucratic pocket off to one side of the Professional Bureaucracy. For the support staff of these organizations, there is no democracy, only the oligarchy of the professionals. Finally, a curious feature

FIGURE 3-4 The Professional Bureaucracy. From Mintzberg, *The Structuring of Organizations.*



of this configuration is that it uses the functional and market bases for grouping concurrently in its operating core. That is, clients are categorized and served in terms of functional specialties—chemistry students by the chemistry department in the university, cardiac patients by the cardiac department in the hospital.[2]

The Professional Bureaucracy typically appears in conjunction with an environment that is both complex and stable. Complexity demands the use of skills and knowledge that can be learned only in extensive training programs, and stability ensures that these skills settle down to become the standard operating procedures of the organization. Age and size are not important factors in this configuration: The organization tends to use the same standard skills no matter how small or young it is, because its professionals bring these skills with them when they first join the organization. So unlike the Machine Bureaucracy, which must design its own standards, in the Professional Bureaucracy little time and no scale of operations are required to establish standards. The technical system is of importance in this configuration only for what it is not—neither regulating, nor sophisticated, nor automated. Any one of these characteristics would destroy individual operator autonomy in favor of administrative or peer-group influence, and so drive the organization to a different configuration. Finally, fashion is a factor, simply because it has proven to the advantage of all kinds of operator groups to have their work defined as professional; this enables them to demand influence and autonomy in the organization. For this reason, Professional Bureaucracy is a highly fashionable structure today.

The Divisionalized Form

The Divisionalized Form is not so much a complete structure as the superimposition of one structure on others. This structure can be described as market-based, with a central headquarters overseeing a set of divisions, each charged with serving its own markets. In this way there need be little interdependence between the divisions (beyond that which Thompson [1967] refers to as the "pooled" type), and little in the way of close coordination. Each division is thus given a good deal of autonomy. The result is the limited, parallel form of vertical decentralization,[3] with the middle line emerging as the key part of the organization. Moreover,

[2]It is interesting to note that in Simon's (1957: 30) criticism in *Administrative Behavior* of the ambiguities in the classical distinction between grouping by process and by purpose, all his examples are drawn from professional work.

[3]"Limited" means that the equating of divisionalization with "decentralization," as is done in so much of the literature, is simply not correct. In fact, as Perrow (1974: 38) points out, the most famous example of divisionalization—that of General Motors in the 1920s—was clearly one of the relative *centralization* of the structure.

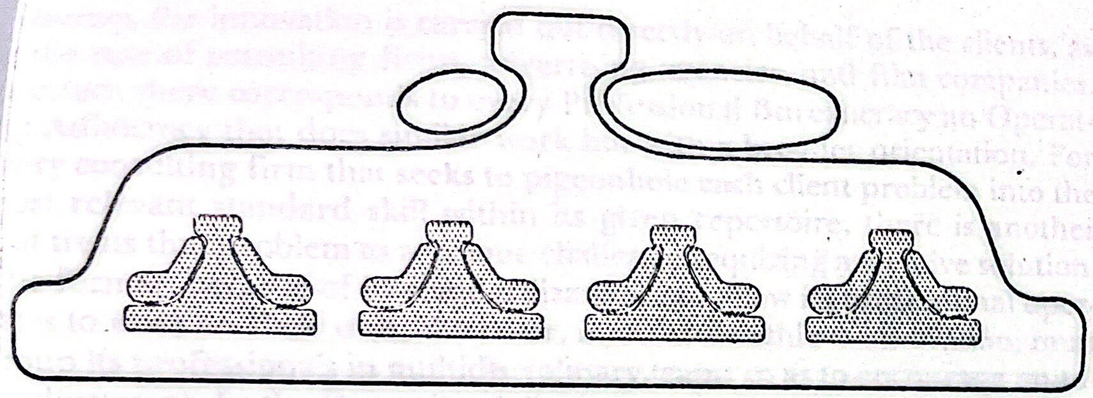


FIGURE 3-5 The Divisionalized Form. From Mintzberg, *The Structuring of Organizations.*

without the need for close coordination, a large number of divisions can report to the one central headquarters. The main concern of that headquarters then becomes to find a mechanism to coordinate the goals of the divisions with its own, without sacrificing divisional autonomy. And that it does by standardizing the outputs of the divisions—specifically, by relying on performance control systems to impose performance standards on the divisions and then monitor their results. Hence, Figure 3-5 shows a small headquarters technostructure, which is charged with designing and operating the performance control system. Also shown is a small headquarters support staff. Included here are those units that serve all the divisions (such as legal counsel), with other support units dispersed to the divisions to serve their particular needs (such as industrial relations).

Finally, there arises the question of what structure is found in the divisions themselves. Although in principle the Divisionalized Form is supposed to work with any kind of structure in the divisions, in fact there is reason to believe, as illustrated in Figure 3-5, that the divisions are driven to use the Machine Bureaucracy. The Divisionalized Form requires the establishment for each division of clearly defined performance standards, the existence of which depend on two major assumptions. First, each division must be treated as a single integrated system with a single, consistent set of goals. In other words, although the divisions may be loosely coupled with each other, the assumption is that each is tightly coupled within. Second, goals must be operational ones—in other words, lend themselves to quantitative measures of performance control. And these two assumptions hold only in one configuration, the one that is both bureaucratic (that is, operates in a stable enough environment to be able to establish performance standards) and integrated; in other words, in Machine Bureaucracy. Moreover, as noted earlier, external control drives organizations toward Machine Bureaucracy. Here the headquarters constitutes external control of the divisions.

One factor above all encourages the use of the Divisionalized Form—

market diversity; specifically, that of products and services. (Diversity only in region or client leads, as Channon [1976] has shown, to an incomplete form of divisionalization, with certain "critical" functions concentrated at headquarters, as in the case of purchasing in a regionally diversified retailing chain.) But by the same token, it has also been found that divisionalization encourages further diversification (Rumelt, 1974: 76–77; Fouraker and Stopford, 1968), headquarters being encouraged to do so by the ease with which it can add divisions and by the pressures from the corps of aggressive general managers trained in the middle lines of such structures. Otherwise, as befits a structure that houses Machine Bureaucracies, the Divisionalized Form shares many of their conditions—an environment that is neither very complex nor very dynamic, and an organization that is typically large and mature. In effect, the Divisionalized Form is the common structural response to an integrated Machine Bureaucracy that has diversified its product or service lines horizontally (that is, in conglomerate fashion).

The Divisionalized Form is very fashionable in industry. It is found in pure or partial form among the vast majority of America's largest corporations, the notable exceptions being those with giant economies of scale in their traditional businesses (Wrigley, 1970; Rumelt, 1974). It is also found outside the sphere of business (in the form of multiverities, conglomerate unions, and government itself), but often in impure form owing to the difficulty of developing relevant performance measures.

The Adhocracy

Sophisticated innovation requires a fifth and very different structural configuration, one that is able to fuse experts drawn from different specialties into smoothly functioning project teams. Adhocracy is such a configuration, consisting of organic structure with little formalization of behavior; extensive horizontal job specialization based on formal training; a tendency to group the professional specialists in functional units for housekeeping purposes but to deploy them in small, market-based teams to do their project work. It relies on the liaison devices to encourage mutual adjustment—the key coordinating mechanism—within and between these teams, and decentralizes power selectively to these teams, which are located at various places in the organization and involve various mixtures of line managers and staff and operating experts. Of all the configurations, Adhocracy shows the least reverence for the classical principles of management. It gives quasi-formal authority to staff personnel, thereby blurring the line–staff distinction, and it relies extensively on matrix structure, combining functional and market bases for grouping concurrently and thereby dispensing with the principle of unity of command.

Adhocracies may be divided into two main types. In the *Operating*

dhocracy, the innovation is carried out directly on behalf of the clients, as
the case of consulting firms, advertising agencies, and film companies.
effect, there corresponds to every Professional Bureaucracy an Operat-
ng Adhocracy that does similar work but with a broader orientation. For
very consulting firm that seeks to pigeonhole each client problem into the
nost relevant standard skill within its given repertoire, there is another
nat treats that problem as a unique challenge requiring a creative solution.
The former, because of its standardization, can allow its professional oper-
tors to work on their own; the latter, in order to achieve innovation, must
group its professionals in multidisciplinary teams so as to encourage mutu-
l adjustment. In the Operating Adhocracy, the administrative and operat-
ng work tend to blend into a single effort. In other words, ad hoc project
vork does not allow a sharp differentiation of the planning and design of
he work from its actual execution.

In the *Administrative Adhocracy,* the project work serves the organiza-
ion itself, as in the case of chemical firms and space agencies. And here the
administrative and operating components are sharply differentiated; in
fact, the operating core is typically truncated from the rest of the organiza-
tion—set up as a separate structure, contracted out, or automated—so that
the administrative component is free to function as an Adhocracy.

Figure 3-6 shows both types of Adhocracies, with the blurring of the line–staff distinction in both cases and the truncation of the operating core (indicated by dotted lines), or else, in the case of the Operating Adhocracy, its inclusion in the mass of activities in the administrative center. The figure also shows a partial blurring of the strategic apex with the rest of the structure. This is because in project work, strategy is not imposed from above. Rather, it emerges from the stream of ad hoc decisions made for all the projects. Hence, everyone who is involved in the project work—and in the Adhocracy that can mean everyone in the organization—is involved in strategy making. The key role of the support staff should be underlined here, especially in the Administrative Adhocracy, which houses many of its experts in that staff.

Adhocracy is clearly positioned in environments that are both dynamic and complex. These are the ones that demand sophisticated innovation, the kind of innovation that calls for organic structure with a good deal of decentralization. Disparate forces in the environment, by encouraging selective decentralization to differentiated work constellations, as noted earlier, also encourage use of Adhocracy, notably the administrative kind. Age—or at least youth—is another condition associated with Adhocracy, because time encourages an organization to bureaucratize—for example, by settling on the set of skills it performs best and so converting itself from an Operating Adhocracy into a Professional Bureaucracy. Moreover, because Operating Adhocracies in particular are such vulnerable structures—they can never be sure where their next project will come from—they tend

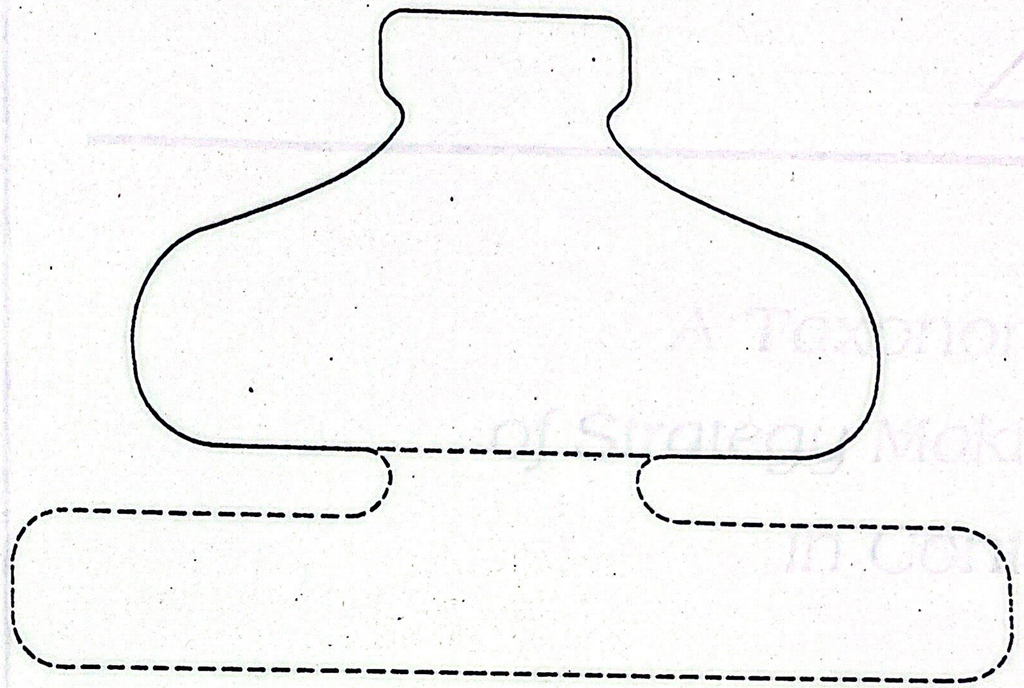


FIGURE 3-6 The Adhocracy. From Mintzberg, *The Structuring of Organizations.*

to be very young on average. Many of them either die early or else shift to bureaucratic configurations to escape the uncertainty.

Adhocracies of the administrative kind are also associated with technical systems that are sophisticated and automated. Sophistication requires that power over decisions concerning the technical system be given to specialists in the support staff, thereby creating selective decentralization to a work constellation that makes heavy use of the liaison devices. And automation in the operating core transforms a bureaucratic administrative structure into an organic one, because it frees the organization of the need to control operators by technocratic standards. The standards are built right into the machines. In effect, the support staff, being charged with the selection and engineering of the automated equipment, takes over the function of designing the work of the operating core. The result is the Adhocracy configuration.

Finally, fashion is an important factor, because every characteristic of Adhocracy is very much in vogue today—emphasis on expertise, organic and matrix structure, teams and task forces, decentralization without power concentration, sophisticated and automated technical systems, youth, and complex, dynamic environments. In fact, perhaps the best support for Stinchcombe's claim, cited earlier, that structure reflects the age of founding of the industry, comes from the observation that although Adhocracy seems to be used in few industries that were fully developed before World War II, it is found extensively in almost every one that developed

since that time. Thus, it is described by Lawrence and Lorsch (1967) in plastics companies, by Chandler and Sayles (1971) in NASA, by Woodward (1965) in modern process production, and by Galbraith (1973) in the Boeing Company. Adhocracy seems clearly to be the structure of *our* age.

BEYOND THE FIVE CONFIGURATIONS

Our five configurations have been referred to in this chapter as ideal or pure types. The question then arises as to where—or whether—they can be found. It is clear that each configuration is a simplification, understating the true complexity of all but the simplest organizational structures. In that sense, every sentence in our description of the configurations has been an overstatement (including this one!). And yet our reading of the research literature suggests that in many cases, the need to favor one of the five coordinating mechanisms introduced earlier draws the organization toward one of the configurations. It is presumably its search for harmony in structure and situation that causes an organization to favor one of the pure types.

Other structures, of course, emerge differently. Some appear to be in transition from one pure type to another, in response to a changed situation. Others exhibit structures that can be described as hybrids of the configurations, perhaps because different forces pull them toward different pure types. The symphony orchestra, for example, seems to use a combination of Simple Structure and Professional Bureaucracy: It hires highly trained musicians and relies largely on their standardized skills to produce its music, yet it also requires a strong, sometimes autocratic, leader to weld them into a tightly coordinated unit. Other hybrids seem to be dysfunctional, as in the case of the organization that no sooner gives its middle managers autonomy subject to performance control, as in the Divisionalized Form, than it takes it away by direct supervision, as in the Simple Structure. School systems, police forces, and the like are often forced to centralize power inappropriately because of the external controls imposed upon them. Would-be Professional Bureaucracies become Machine Bureaucracies, to the regret of operator and client alike.

The point to be emphasized is not that the five configurations represent some final typology, but that together as a set they represent a conceptual framework that can be used to help us comprehend organizational behavior: how structures emerge, how and why they change over time, and why certain pathologies plague organizational design.