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- A conglomerate takes over a small manufacturer and tries to impose budgets, plans, organizational charts, and untold systems on it. The result: declining sales and product innovation—and near bankruptcy—until the division managers buy back the company and promptly turn it around.
- Consultants make constant offers to introduce the latest management techniques. Years ago LRP and OD were in style, later, QWL and ZBB.
- A government sends in its analysts to rationalize, standardize, and formalize citywide school systems, hospitals, and welfare agencies. The results are devastating.

These incidents suggest that a great many problems in organizational design stem from the assumption that organizations are all alike: mere collections of component parts to which elements of structure can be added and deleted at will, a sort of organizational bazaar.

The opposite assumption is that effective organizations achieve a coherence among their component parts, that they do not change one element without considering the consequences to all of the others. Spans of control, degrees of job enlargement, forms of decentralization, planning systems, and matrix structure should not be picked and chosen at random. Rather, they should be selected according to internally consistent groupings. And these groupings should be consistent with the situation of the organization—its age and size, the conditions of the industry in which it operates, and its production technol-

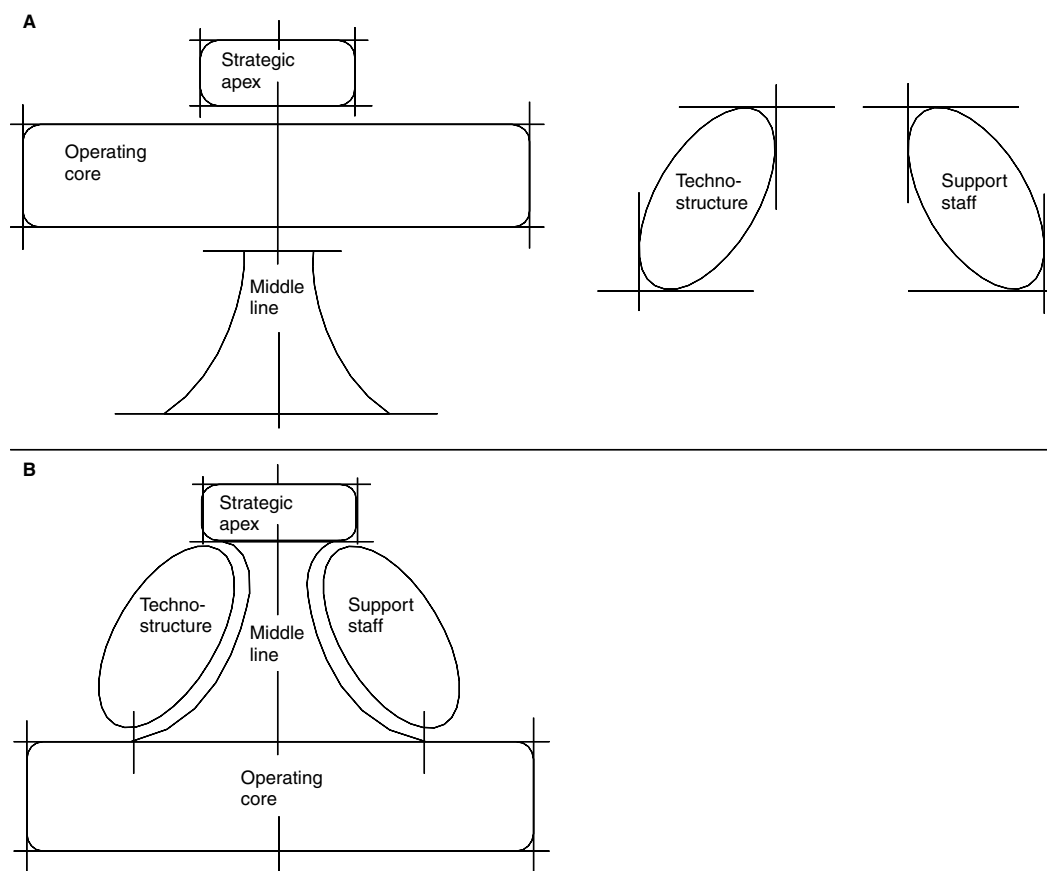
ogy. In essence, like all phenomena from atoms to stars, the characteristics of organizations fall into natural clusters, or *configurations*. When these char-

Why has it taken the automobile industry so long to adapt to the cry for smaller cars? Why does a film production group leave its conglomerate company to start on its own? Why do so many public hospitals and universities wither under government controls? These questions can be answered in many ways, with lots of reasons. But one reason common to them all, the author of this article would say, is that some element in the organization's design was ill suited to the task. Large machine bureaucracies are perfect for efficient mass production but not for adapting quickly to new situations. Film production divisions rely on flexible structures in order to innovate, which is difficult to achieve in a conglomerate that controls operations with the bottom line. Finally, public hospitals and universities require a form of professional control incompatible with the technocratic standards governments tend to impose. The author of this article has found that many organizations fall close to one of five natural "configurations," each a combination of certain elements of structure and situation. When managers and organizational designers try to mix and match the elements of different ones, they may emerge with a misfit that, like an ill-cut piece of clothing, won't wear very well. The key to organizational design, then, is consistency and coherence.

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EXHIBIT 1

The Five Basic Parts of the Organization



acteristics are mismatched—when the wrong ones are put together—the organization does not function effectively, does not achieve a natural harmony. If managers are to design effective organizations, they need to pay attention to the fit.

If we look at the enormous amount of research on organizational structuring in light of this idea, a lot of the confusion falls away and a striking convergence is revealed. Specifically, five clear configurations emerge that are distinct in their structures, in the situations in which they are found, and even in the periods of history in which they first developed. They are the simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and ad-hocracy. In this article I describe these configurations and consider the messages they contain for managers.

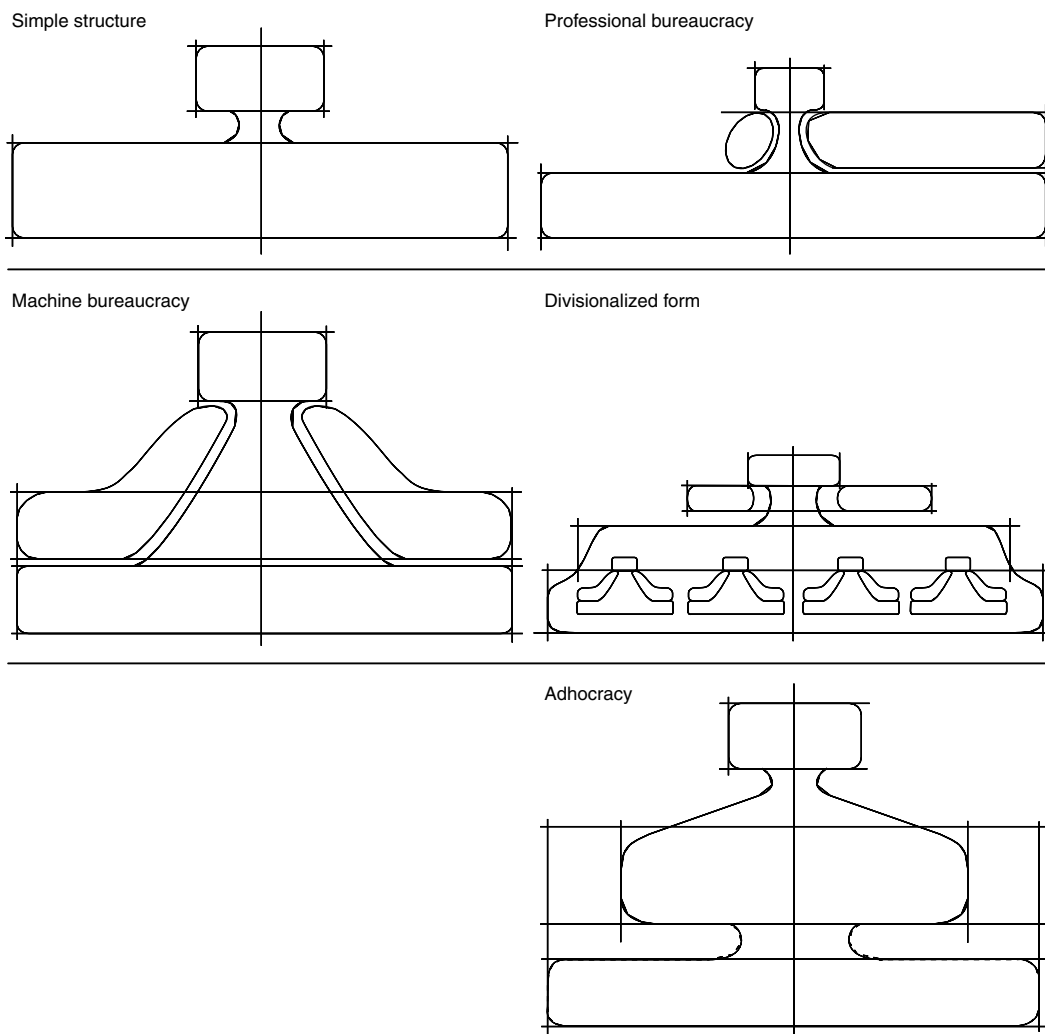
DERIVING THE CONFIGURATIONS

In order to describe and distinguish the five configurations, I designed an adaptable picture of five com-

ponent parts (see part A, *Exhibit 1*). An organization begins with a person who has an idea. This person forms the *strategic apex*, or top management. He or she hires people to do the basic work of the organization, in what can be called the *operating core*. As the organization grows, it acquires intermediate managers between the chief executive and the workers. These managers form the *middle line*. The organization may also find that it needs two kinds of staff personnel. First are the analysts who design systems concerned with the formal planning and control of the work; they form the *technostructure*. Second is the *support staff*, providing indirect services to the rest of the organization—everything from the cafeteria and the mail room to the public relations department and the legal counsel.

These five parts together make the whole organization (see part B, *Exhibit 1*). Not all organizations need all of these parts. Some use few and are simple, others combine all in rather complex ways. The central purpose of structure is to coordinate the work divided in a variety of ways; how that coordination is

EXHIBIT 2The Five Configurations



achieved—by whom and with what—dictates what the organization will look like (see *Exhibit 2*):

- In the simplest case, coordination is achieved at the strategic apex by *direct supervision*—the chief executive officer gives the orders. The configuration called *simple structure* emerges, with a minimum of staff and middle line.
- When coordination depends on the *standardization of work*, an organization's entire administrative structure—especially its technostucture, which designs the standards—needs to be elaborated. This gives rise to the configuration called *machine bureaucracy*.
- When, instead, coordination is through the *standardization of skills* of its employees, the

organization needs highly trained professionals in its operating core and considerable support staff to back them up. Neither its technostucture nor its middle line is very elaborate. The resulting configuration is called *professional bureaucracy*.

- Organizations will sometimes be divided into parallel operating units, allowing autonomy to the middle-line managers of each, with coordination achieved through the *standardization of outputs* (including performance) of these units. The configuration called the *divisionalized form* emerges.
- Finally, the most complex organizations engage sophisticated specialists, especially in their support staffs, and require them to combine their

efforts in project teams coordinated by *mutual adjustment*. This results in the *ad hoc* configuration, in which line and staff as well as a number of other distinctions tend to break down.

I shall describe each of these five configurations in terms of structure and situation. But first let me list the elements of structure, which are described in more detail in the Appendix. These include the following:

- Specialization of tasks
- Formalization of procedures (job descriptions, rules, and so forth)
- Formal training and indoctrination required for the job
- Grouping of units (notably by function performed or market served)
- Size of each of the units (that is, the span of control of its manager)
- Action planning and performance control systems
- Liaison devices, such as task forces, integrating managers, and matrix structure
- Delegation of power down the chain of authority (called *vertical decentralization*).
- Delegation of power out from that chain of authority to non-managers (called *horizontal decentralization*).

Also included in the *Appendix*, together with their impact on these elements of structure, are the situational factors—namely, the age and size of the organization, its technical system of production, and various characteristics of its environment (e.g., how stable or complex it is) and of its power system (e.g., how tightly it is controlled externally.)

Our job now is to see how all of these elements cluster into the five configurations. I describe each in the sections that follow and summarize these descriptions in *Exhibit 3*, where all the elements are displayed in relation to the configurations. In the discussions of each configuration, it should become more evident how all of its elements of structure and situation form themselves into a tightly knit, highly cohesive package. No one element determines the others; rather, all are locked together to form an integrated system.

Simple Structure

The name tells all, and *Exhibit 2* shows all. The structure is simple—not much more than one large unit consisting of one or a few top managers and a group of operators who do the basic work. The most common simple structure is, of course, the classic entrepreneurial company.

What characterizes this configuration above all is what is missing. Little of its behavior is standardized or formalized, and minimal use is made of planning, training, or the liaison devices. The absence of standardization means that the organization has little need for staff analysts. Few middle-line managers are hired because so much of the coordination is achieved at the strategic apex by direct supervision. That is where the real power in this configuration lies. Even the support staff is minimized to keep the structure lean and flexible—simple structures would rather buy than make.

The organization must be flexible because it operates in a dynamic environment, often by choice because that is the one place it can outmaneuver the bureaucracies. And that environment must be simple, as must the organization's system of production, so that the chief executive can retain highly centralized control. In turn, centralized control makes the simple structure ideal for rapid, flexible innovation, at least of the simple kind. With the right chief executive, the organization can turn on a dime and run circles around the slower-moving bureaucracies. That is why so much innovation comes not from the giant mass producers but from small entrepreneurial companies. But where complex forms of innovation are required, the simple structure falters because of its centralization. As we shall see, that kind of innovation requires another configuration, one that engages highly trained specialists and gives them considerable power.

Simple structures are often young and small, in part because aging and growth encourage them to bureaucratize but also because their vulnerability causes many of them to fail. They never get a chance to grow old and large. One heart attack can wipe them out—as can a chief executive so obsessed with innovation that he or she forgets about the operations, or vice versa. The corporate landscape is littered with the wrecks of entrepreneurial companies whose leaders encouraged growth and mass production yet could never accept the transition to bureaucratic forms of structure that these changes required.

Yet some simple structures have managed to grow very large under the tight control of clever, autocratic leaders, the most famous example being the Ford Motor Co. in the later years of its founder.

Almost all organizations begin their lives as simple structures, granting their founding chief executives considerable latitude to set them up. And most revert to simple structure—no matter how large or what other configuration normally fits their needs—when they face extreme pressure or hostility in their environment. In other words, systems and procedures are suspended as power reverts to the chief executive to give him or her a chance to set things right.

EXHIBIT 3

Dimensions of the Five Configurations

	SIMPLE STRUCTURE	MACHINE BUREAUCRACY	PROFESSIONAL BUREAUCRACY	DIVISIONAL- IZED FORM	ADHOCRACY
Key Means of Coordination	Direct supervision	Standardization of work	Standardization of skills	Standardization of outputs	Mutual adjustment
Key Part of Organization	Strategic apex	Technostructure	Operating core	Middle line	Support staff (with operating core in operating adhocracy)
STRUCTURAL ELEMENTS					
Specialization of Jobs	Little specialization	<i>Much horizontal and vertical specialization</i>	<i>Much horizontal specialization</i>	Some horizontal and vertical specialization (between divisions and headquarters)	<i>Much horizontal specialization</i>
Training and Indoctrination	Little training and indoctrination	Little training and indoctrination	<i>Much training and indoctrination</i>	Some training and indoctrination (of division managers)	Much training
Formalization of Behavior— Bureaucratic/ Organic	<i>Little formalization— organic</i>	<i>Much formalization— bureaucratic</i>	<i>Little formalization— bureaucratic</i>	Much formalization (within divisions)— bureaucratic	<i>Little formalization— organic</i>
Grouping	Usually functional	<i>Usually functional</i>	Functional and market	<i>Market</i>	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	<i>Much performance control</i>	Limited action planning (esp. in administrative adhocracy)
Liaison Devices	Few liaison devices	Few liaison devices	Liaison devices in administration	Few liaison devices	<i>Many liaison devices throughout</i>
Decentralization	<i>Centralization</i>	<i>Limited horizontal decentralization</i>	<i>Horizontal and vertical decentralization</i>	Limited vertical decentralization	<i>Selective decentralization</i>
SITUATIONAL ELEMENTS					
Age and Size	Typically young and small	Typically old and large	Varies	Typically old and very large	Typically young (operating adhocracy)
Technical System	Simple, not regulating	Regulating but not automated, not very complex	Not regulating or complex	Divisible, otherwise like machine bureaucracy	Very complex, often automated (in administrative adhocracy), not regulating or complex (in operating adhocracy)

EXHIBIT 3

Dimensions of the Five Configurations (Continued)

	SIMPLE STRUCTURE	MACHINE BUREAUCRACY	PROFESSIONAL BUREAUCRACY	DIVISIONAL- IZED FORM	ADHOCRACY
Environment	Simple and dynamic; sometimes hostile	Simple and stable	Complex and stable	Relatively simple and stable; diversified markets (esp. products and services)	Complex and dynamic; sometimes disparate (in administrative adhocracy)
Power	Chief executive control; often owner managed; not fashionable	Technocratic and external control; not fashionable	Professional operator control; fashionable	Middle-line control; fashionable (esp. in industry)	Expert control; very fashionable

Note: Italic type in columns 2–6 indicates key design parameters.

The heyday of the simple structure probably occurred during the period of the great American trusts, late in the nineteenth century. Although today less in fashion and to many a relic of more autocratic times, the simple structure remains a widespread and necessary configuration—for building up most new organizations and for operating those in simple, dynamic environments and those facing extreme, hostile pressures.

Machine Bureaucracy

Just as the simple structure is prevalent in pre-Industrial Revolution industries such as agriculture, the machine bureaucracy is the offspring of industrialization, with its emphasis on the standardization of work for coordination and its resulting low-skilled, highly specialized jobs. *Exhibit 2* shows that, in contrast to simple structure, the machine bureaucracy elaborates its administration. First, it requires many analysts to design and maintain its systems of standardization—notably those that formalize its behaviors and plan its actions. And by virtue of the organization's dependence on these systems, these analysts gain a degree of informal power, which results in a certain amount of horizontal decentralization.

A large hierarchy emerges in the middle line to oversee the specialized work of the operating core and to keep the lid on conflicts that inevitably result from the rigid departmentalization, as well as from the alienation that often goes with routine, circumscribed jobs. That middle-line hierarchy is usually structured on a functional basis all the way up to the top, where the real power of coordination lies. In other words, machine bureaucracy tends to be cen-

tralized in the vertical sense—formal power is concentrated at the top.

And why the large support staff shown in *Exhibit 2*? Because machine bureaucracies depend on stability to function (change interrupts the smooth functioning of the system), they tend not only to seek out stable environments in which to function but also to stabilize the environments they find themselves in. One way they do this is to envelop within their structures all of the support services possible, ones that simple structures prefer to buy. For the same reason they also tend to integrate vertically—to become their own suppliers and customers. And that of course causes many machine bureaucracies to grow very large. So we see the two-sided effect of size here: size drives the organization to bureaucratize (“We do that every day; let’s standardize it!”), but bureaucracy also encourages the organization to grow larger. Aging also encourages this configuration; the organization standardizes its work because “we’ve done that before.”

To enable the top managers to maintain centralized control, both the environment and the production system of the machine bureaucracy must be fairly simple. In fact, machine bureaucracies fit most naturally with mass production, where the products, processes, and distribution systems are usually rationalized and thus easy to comprehend. And so machine bureaucracy is most common among large, mature mass-production companies, such as automobile manufacturers, as well as the largest of the established providers of mass services, such as insurance companies and railroads. Thus McDonald’s is a classic example of this configuration—achieving enor-

mous success in its simple industry through meticulous standardization.

Because external controls encourage bureaucratization and centralization, this configuration is often assumed by organizations that are tightly controlled from the outside. That is why government agencies, which are subject to many such controls, tend to be driven toward the machine bureaucracy structure regardless of their other conditions.

The problems of the machine bureaucracy are legendary—dull and repetitive work, alienated employees, obsession with control (of markets as well as workers), massive size, and inadaptability. These are machines suited to specific purposes, not to adapting to new ones. For all of these reasons, the machine bureaucracy is no longer fashionable. Bureaucracy has become a dirty word. Yet this is the configuration that gets the products out cheaply and efficiently. And here too there can be a sense of harmony, as in the Swiss railroad system whose trains depart as the second hand sweeps past the twelve.

In a society consumed by its appetite for mass-produced goods, dependent on consistency in so many spheres (how else to deliver millions of pieces of mail every day?) and unable to automate a great many of its routine jobs, machine bureaucracy remains indispensable—and probably the most prevalent of the five configurations today.

Professional Bureaucracy

This bureaucratic configuration relies on the standardization of skills rather than work processes or outputs for its coordination and so emerges as dramatically different from the machine bureaucracy. It is the structure hospitals, universities, and accounting firms tend most often to favor. Most important, because it relies for its operating tasks on trained professionals—skilled people who must be given considerable control over their own work—the organization surrenders a good deal of its power not only to the professionals themselves but also to the associations and institutions that select and train them in the first place. As a result, the structure emerges as very decentralized; power over many decisions, both operating and strategic, flows all the way down the hierarchy to the professionals of the operating core. For them this is the most democratic structure of all.

Because the operating procedures, although complex, are rather standardized—taking out appendixes in a hospital, teaching the American Motors case in a business school, doing an audit in an accounting firm—each professional can work independently of his or her colleagues, with the assurance that much of the necessary coordination will be effected automatically through standardization of skills. Thus a colleague of mine observed a five-hour open heart

operation in which the surgeon and anesthesiologist never exchanged a single word!

As can be seen in *Exhibit 2*, above the operating core we find a unique structure. Since the main standardization occurs as a result of training that takes place outside the professional bureaucracy, a technostructure is hardly needed. And because the professionals work independently, the size of operating units can be very large, and so few first-line managers are needed. (I work in a business school where 55 professors report directly to one dean.) Yet even those few managers, and those above them, do little direct supervision; much of their time is spent linking their units to the broader environment, notably to ensure adequate financing. Thus to become a top manager in a consulting firm is to become a salesperson.

On the other hand, the support staff is typically very large in order to back up the high-priced professionals. But that staff does a very different kind of work—much of it the simple and routine jobs that the professionals shed. As a result, parallel hierarchies emerge in the professional bureaucracy—one democratic with bottom-up power for the professionals, a second autocratic with top-down control for the support staff.

Professional bureaucracy is most effective for organizations that find themselves in stable yet complex environments. Complexity requires that decision-making power be decentralized to highly trained individuals, and stability enables these individuals to apply standardized skills and so to work with a good deal of autonomy. To further ensure that autonomy, the production system must be neither highly regulating, complex, nor automated. Surgeons use their scalpels and editors their pencils; both must be sharp but are otherwise simple instruments that allow their users considerable freedom in performing their complex work.

Standardization is the great strength as well as the great weakness of professional bureaucracy. That is what enables the professionals to perfect their skills and so achieve great efficiency and effectiveness. But that same standardization raises problems of adaptability. This is not a structure to innovate but one to perfect what is already known. Thus, so long as the environment is stable, the professional bureaucracy does its job well. It identifies the needs of its clients and offers a set of standardized programs to serve them. In other words, pigeonholing is its great forte; change messes up the pigeonholes. New needs arise that fall between or across the slots, and the standard programs no longer apply. Another configuration is required.

Professional bureaucracy, a product of the middle years of this century, is a highly fashionable structure

today for two reasons. First, it is very democratic, at least for its professional workers. And second, it offers them considerable autonomy, freeing the professionals even from the need to coordinate closely with each other. To release themselves from the close control of administrators and analysts, not to mention their own colleagues, many people today seek to have themselves declared “professional”—and thereby turn their organizations into professional bureaucracies.

Divisionalized Form

Like the professional bureaucracy, the divisionalized form is not so much an integrated organization as a set of rather independent entities joined together by a loose administrative overlay. But whereas those entities of the professional bureaucracy are individuals—professionals in the operating core—in the divisionalized form they are units in the middle line, called divisions.

The divisionalized form differs from the other four configurations in one central respect: it is not a complete but a partial structure, superimposed on others. Those others are in the divisions, each of which is driven toward machine bureaucracy.

An organization divisionalizes for one reason above all—because its product lines are diversified. (And that tends to happen most often in the largest and most mature organizations, those that have run out of opportunities or become stalled in their traditional markets.) Such diversification encourages the organization to create a market-based unit, or division, for each distinct product line (as indicated in *Exhibit 2*) and to grant considerable autonomy to each division to run its own business.

That autonomy notwithstanding, divisionalization does *not* amount to decentralization, although the terms are often equated with each other. Decentralization is an expression of the dispersal of decision-making power in an organization. Divisionalization refers to a structure of semiautonomous market-based units. A divisionalized structure in which the managers at the heads of these units retain the lion’s share of the power is far more centralized than many functional structures where large numbers of specialists get involved in the making of important decisions.

In fact, the most famous example of divisionalization involved centralization. Alfred Sloan adopted the divisionalized form at General Motors to reduce the power of the different units, to integrate the holding company William Durant had put together. That kind of centralization appears to have continued to the point where the automotive units in some ways seem closer to functional marketing departments than true divisions.¹

But how does top management maintain a semblance of control over the divisions? Some direct supervision is used—headquarters managers visit the divisions periodically and authorize some of their more important decisions. But too much of that interferes with the necessary autonomy of the divisions. So headquarters relies on performance control systems or, in other words, on the standardization of outputs. It leaves the operating details to the divisions and exercises control by measuring their performance periodically. And to design these control systems, headquarters creates a small technostructure. It also establishes a small central support staff to provide certain services common to the divisions (such as legal counsel and external relations).

This performance control system has an interesting effect on the internal structure of the division. First, the division is treated as a single integrated entity with one consistent, standardized, and quantifiable set of goals. Those goals tend to get translated down the line into more and more specific subgoals and, eventually, work standards. In other words, they encourage the bureaucratization of structure. And second, headquarters tends to impose its standards through the managers of the divisions, whom it holds responsible for divisional performance. That tends to result in centralization within the divisions. And centralization coupled with bureaucratization gives machine bureaucracy. That is the structure that works best in the divisions.

Simple structures and adhocracies make poor divisions because they abhor standards—they operate in dynamic environments where standards of any kind are difficult to establish. (This might partly explain why Alan Ladd, Jr. felt he had to leave the film division of Twentieth-Century Fox.²) And professional bureaucracies are not logically treated as integrated entities, nor can their goals be easily quantified. (How does one measure cure in a psychiatric ward or knowledge generated in a university?)

This conclusion is, of course, consistent with the earlier argument that external control (in this case, from headquarters) pushes an organization toward machine bureaucracy. The point is invariably illustrated when a conglomerate takes over an entrepreneurial company and imposes a lot of bureaucratic systems and standards on its simple structure.

The divisionalized form was created to solve the problem of adaptability in machine bureaucracy. By overlaying another level of administration that could add and subtract divisions, the organization found a way to adapt itself to new conditions and to spread its risk. But there is another side to these arguments. Some evidence suggests that the control systems of these structures discourage risk taking and innovation, that the division head who must justify his or

her performance every month is not free to experiment the way the independent entrepreneur is.³

Moreover, to spread risk is to spread the consequences of that risk; a disaster in one division can pull down the entire organization. Indeed, the fear of this is what elicits the direct control of major new investments, which is what often discourages ambitious innovation. Finally, the divisionalized form does not solve the problem of adaptability of machine bureaucracy, it merely deflects it. When a division goes sour, all that headquarters seems able to do is change the management (as an independent board of directors would do) or divest it. From society's point of view, the problem remains.

Finally, from a social perspective, the divisionalized form raises a number of serious issues. By enabling organizations to grow very large, it leads to the concentration of a great deal of economic power in a few hands. And there is some evidence that it sometimes encourages that power to be used irresponsibly. By emphasizing the measurement of performance as its means of control, a bias arises in favor of those divisional goals that can be operationalized, which usually means the economic ones, not the social ones. That the division is driven by such measures to be socially unresponsive would not seem inappropriate—for the business of the corporation is, after all, economic.

The problem is that in big businesses (where the divisionalized form is prevalent) every strategic decision has social as well as economic consequences. When the screws of the performance control system are turned tight, the division managers, in order to achieve the results expected of them, are driven to ignore the social consequences of their decisions. At that point, *unresponsive* behavior becomes *irresponsible*.⁴

The divisionalized structure has become very fashionable in the past few decades, having spread in pure or modified form through most of the *Fortune* "500" in a series of waves and then into European companies.⁵ It has also become fashionable in the nonbusiness sector in the guise of "multiversities," large hospital systems, unions, and government itself. And yet it seems fundamentally ill suited to these sectors for two reasons.

First, the success of the divisionalized form depends on goals that can be measured. But outside the business sector, goals are often social in nature and nonquantifiable. The result of performance control, then, is an inappropriate displacement of social goals by economic ones.

Second, the divisions often require structures other than machine bureaucracy. The professionals in the multiversities, for example, often balk at the technocratic controls and the top-down decision making

that tends to accompany external control of their campuses. In other words, the divisionalized form can be a misfit just as can any of the other configurations.

Adhocracy

None of the structures discussed so far suits the industries of our age—industries such as aerospace, petrochemicals, think-tank consulting, and filmmaking. These organizations need above all to innovate in complex ways. The bureaucratic structures are too inflexible, and the simple structure is too centralized. These industries require "project structures" that fuse experts drawn from different specialties into smoothly functioning creative teams. Hence they tend to favor our fifth configuration, adhocracy, a structure of interacting project teams.

Adhocracy is the most difficult of the five configurations to describe because it is both complex and nonstandardized. Indeed, adhocracy contradicts much of what we accept on faith in organizations—consistency in output, control by administrators, unity of command, strategy emanating from the top. It is a tremendously fluid structure, in which power is constantly shifting and coordination and control are by mutual adjustment through the informal communication and interaction of competent experts. Moreover, adhocracy is the newest of the five configurations, the one researchers have had the least chance to study. Yet it is emerging as a key structural configuration, one that deserves a good deal of consideration.

These comments notwithstanding, adhocracy is a no less coherent configuration than any of the others. Like the professional bureaucracy, adhocracy relies on trained and specialized experts to get the bulk of its work done. But in its case, the experts must work together to create new things instead of working apart to perfect established skills. Hence, for coordination adhocracy must rely extensively on mutual adjustment, which it encourages by the use of the liaison devices—integrating managers, task forces, and matrix structure.

In professional bureaucracy, the experts are concentrated in the operating core, where much of the power lies. But in adhocracy, they tend to be dispersed throughout the structure according to the decisions they make—in the operating core, middle line, technostructure, strategic apex, and especially support staff. Thus, whereas in each of the other configurations power is more or less concentrated, in adhocracy it is distributed unevenly. It flows, not according to authority or status but to wherever the experts needed for a particular decision happen to be found.

Managers abound in the adhocracy—functional managers, project managers, integrating managers.

This results in narrow “spans of control” by conventional measures. That is not a reflection of control but of the small size of the project teams. The managers of adhocracy do not control in the conventional sense of direct supervision; typically they are experts too who take their place alongside the others in the teams, concerned especially with linking the different teams together.

As can be seen in *Exhibit 2*, many of the distinctions of conventional structure disappear in the adhocracy. With power based on expertise instead of authority, the line/staff distinction evaporates. And with power distributed throughout the structure, the distinction between the strategic apex and the rest of the structure also blurs. In a project structure, strategy is not formulated from above and then implemented lower down; rather, it evolves by virtue of the multitude of decisions made for the projects themselves. In other words, the adhocracy is continually developing its strategy as it accepts and works out new projects, the creative results of which can never be predicted. And so everyone who gets involved in the project work—and in the adhocracy that can mean virtually everyone—becomes a strategy maker.

There are two basic types of adhocracy, operating and administrative. The *operating* adhocracy carries out innovative projects directly on behalf of its clients, usually under contract, as in a creative advertising agency, a think-tank consulting firm, a manufacturer of engineering prototypes. Professional bureaucracies work in some of these industries too, but with a different orientation. The operating adhocracy treats each client problem as a unique one to be solved in creative fashion; the professional bureaucracy pigeonholes it so that it can provide a standard skill.

For example, there are some consulting firms that tailor their solutions to the client’s order and others that sell standard packages off the rack. When the latter fits, it proves much cheaper. When it does not, the money is wasted. In one case, the experts must cooperate with each other in organic structures to innovate; in the other, they can apply their standard skills autonomously in bureaucratic structures.

In the operating adhocracy, the operating and administrative work blend into a single effort. That is, the organization cannot easily separate the planning and design of the operating work—in other words, the project—from its actual execution. So another classic distinction disappears. As shown above the dotted lines in *Exhibit 2*, the organization emerges as an organic mass in which line managers, staff, and operating experts all work together on project teams in ever-shifting relationships.

The *administrative* adhocracy undertakes projects on its own behalf, as in a space agency or a producer

of electronic components. NASA, for example, as described during the Apollo era by Margaret K. Chandler and Leonard R. Sayles, seems to be a perfect example of administrative adhocracy.⁶ In this type of adhocracy, in contrast to the other, we find a sharp separation of the administrative from the operating work—the latter shown by the dotted lines in *Exhibit 2*. This results in a two-part structure. The administrative component carries out the innovative design work, combining line managers and staff experts in project teams. And the operating component, which puts the results into production, is separated or “truncated” so that its need for standardization will not interfere with the project work.

Sometimes the operations are contracted out altogether. Other times, they are set up in independent structures, as in the printing function in newspapers. And when the operations of an organization are highly automated, the same effect takes place naturally. The operations essentially run themselves, while the administrative component tends to adopt a project orientation concerned with change and innovation, with bringing new facilities on line. Note also the effects of automation—a reduction in the need for rules, since these are built right into the machinery, and a blurring of the line/staff distinction, since control becomes a question more of expertise than authority. What does it mean to supervise a machine? Thus the effect of automation is to reduce the degree of machine bureaucracy in the administration and to drive it toward administrative adhocracy.

Both kinds of adhocracy are commonly found in environments that are complex as well as dynamic. These are the two conditions that call for sophisticated innovation, which requires the cooperative efforts of many different kinds of experts. In the case of administrative adhocracy, the production system is also typically complex and, as noted, often automated. These production systems create the need for highly skilled support staffers, who must be given a good deal of power over technical decisions.

For its part, the operating adhocracy is often associated with young organizations. For one thing, with no standard products or services, organizations that use it tend to be highly vulnerable, and many of them disappear at an early age. For another, age drives these organizations toward bureaucracy, as the employees themselves age and tend to seek an escape from the instability of the structure and its environment. The innovative consulting firm converges on a few of its most successful projects, packages them into standard skills, and settles down to life as a professional bureaucracy; the manufacturer of prototypes hits on a hot product and becomes a machine bureaucracy to mass-produce it.

But not all adhocracies make such a transition.

Some endure as they are, continuing to innovate over long periods of time. We see this, for example, in studies of the National Film Board of Canada, famous since the 1940s for its creativity in both films and the techniques of filmmaking.

Finally, fashion is a factor associated with adhocracy. This is clearly the structure of our age, prevalent in almost every industry that has grown up since World War II (and none I can think of established before that time). Every characteristic of adhocracy is very much in vogue today—expertise, organic structure, project teams and task forces, diffused power, matrix structure, sophisticated and often automated production systems, youth, and dynamic, complex environments. Adhocracy is the only one of the five configurations that combines some sense of democracy with an absence of bureaucracy.

Yet, like all the others, this configuration too has its limitations. Adhocracy in some sense achieves its effectiveness through inefficiency. It is inundated with managers and costly liaison devices for communication; nothing ever seems to get done without everyone talking to everyone else. Ambiguity abounds, giving rise to all sorts of conflicts and political pressures. Adhocracy can do no ordinary thing well. But it is extraordinary at innovation.

CONFIGURATIONS AS A DIAGNOSTIC TOOL

What in fact are these configurations? Are they (1) abstract ideals, (2) real-life structures, one of which an organization had better use if it is to survive, or (3) building blocks for more complex structures? In some sense, the answer is a qualified yes in all three cases. These are certainly abstract ideals, simplifications of the complex world of structure. Yet the abstract ideal can come to life too. Every organization experiences the five pulls that underlie these configurations: the pull to centralize by the top management, the pull to formalize by the technostructure, the pull to professionalize by the operators, the pull to balkanize by the managers of the middle line, and the pull to collaborate by the support staff.

Where one pull dominates—where the conditions favor it above all—then the organization will tend to organize itself close to one of the configurations. I have cited examples of this throughout my discussion—the entrepreneurial company, the hamburger chain, the university, the conglomerate, the space agency.

But one pull does not always dominate; two may have to exist in balance. Symphony orchestras engage highly trained specialists who perfect their skills, as do the operators in professional bureaucracy. But

their efforts must be tightly coordinated hence, the reliance on the direct supervision of a leader—a conductor—as in simple structure. Thus a hybrid of the two configurations emerges that is eminently sensible for the symphony orchestra (even if it does generate a good deal of conflict between leader and operators).

Likewise, we have companies that are diversified around a central theme that creates linkages among their different product lines. As a result, they continually experience the pull to separate, as in the divisionalized form, and also integrate, as in machine bureaucracy or perhaps adhocracy. And what configuration should we impute to an IBM? Clearly, there is too much going on in many giant organizations to describe them as one configuration or another. But the framework of the five configurations can still help us to understand how their different parts are organized and fit together—or refuse to.

The point is that managers can improve their organizational designs by considering the different pulls their organizations experience and the configurations toward which they are drawn. In other words, this set of five configurations can serve as an effective tool in diagnosing the problems of organizational design, especially those of the *fit* among component parts. Let us consider four basic forms of misfit to show how managers can use the set of configurations as a diagnostic tool.

Are the Internal Elements Consistent?

Management that grabs at every structural innovation that comes along may be doing its organization great harm. It risks going off in all directions: yesterday long-range planning to pin managers down, today Outward Bound to open them up. Quality of working life programs as well as all those fashionable features of adhocracy—integrating managers, matrix structure, and the like—have exemplary aims: to create more satisfying work conditions and to increase the flexibility of the organization. But are they appropriate for a machine bureaucracy? Do enlarged jobs really fit with the requirements of the mass production of automobiles? Can the jobs ever be made large enough to really satisfy the workers—and the cost-conscious customers?

I believe that in the fashionable world of organizational design, fit remains an important characteristic. The *hautes structurrières* of New York—the consulting firms that seek to bring the latest in structural fashion to their clients—would do well to pay a great deal more attention to that fit. Machine bureaucracy functions best when its reporting relationships are sharply defined and its operating core staffed with workers who prefer routine and stability. The nature of the work in this configuration—managerial as well

as operating—is rooted in the reality of mass production, in the costs of manual labor compared with those of automated machines, and in the size and age of the organization.

Until we are prepared to change our whole way of living—for example, to pay more for handcrafted instead of mass-produced products and so to consume less—we would do better to spend our time trying not to convert our machine bureaucracies into something else but to ensure that they work effectively as the bureaucracies they are meant to be. Organizations, like individuals, can avoid identity crises by deciding what it is they wish to be and then pursuing it with a healthy obsession.

Are the External Controls Functional?

An organization may achieve its own internal consistency and then have it destroyed by the imposition of external controls. The typical effect of those controls is to drive the organization toward machine bureaucracy. In other words, it is the simple structures, professional bureaucracies, and adhocracies that suffer most from such controls. Two cases of this seem rampant in our society: one is the takeover of small, private companies by larger divisionalized ones, making bureaucracies of entrepreneurial ventures; the other is the tendency for governments to assume increasingly direct control of what used to be more independent organizations—public school systems, hospitals, universities, and social welfare agencies.

As organizations are taken over in these ways—brought into the hierarchies of other organizations—two things happen. They become centralized and formalized.⁷ In other words, they are driven toward machine bureaucracy. Government administrators assume that just a little more formal control will bring this callous hospital or that weak school in line. Yet the cure—even when the symptoms are understood—is worse than the disease. The worst way to correct deficiencies in professional work is through control by technocratic standards. Professional bureaucracies cannot be managed like machines.

In the school system, such standards imposed from outside the classroom serve only to discourage the competent teachers, not to improve the weak ones. The performance of teachers—as that of all other professionals—depends primarily on their skills and training. Retraining or, more likely, replacing them is the basic means to improvement.

For almost a century now, the management literature—from time study through operations research to long-range planning—has promoted machine bureaucracy as the “one best way.” That assumption is

false; it is one way among a number suited to only certain conditions.

Is There a Part That Does Not Fit?

Sometimes an organization’s management, recognizing the need for internal consistency, hives off a part in need of special treatment—establishes it in a pocket off in a corner to be left alone. But the problem all too often is that it is not left alone. The research laboratory may be built out in the country, far from the managers and analysts who run the machine bureaucracy back home. But the distance is only physical.

Standards have a long administrative reach: it is difficult to corner off a small component and pretend that it will not be influenced by the rest. Each organization, not to mention each configuration, develops its own norms, traditions, beliefs—in other words, its own ideology. And that permeates every part of it. Unless there is a rough balance among opposing forces—as in the symphony orchestra—the prevailing ideology will tend to dominate. That is why adhocracies need especially tolerant controllers, just as machine bureaucracies must usually scale down their expectations for their research laboratories.

Is the Right Structure in the Wrong Situation?

Some organizations do indeed achieve and maintain an internal consistency. But then they find that it is designed for an environment the organization is no longer in. To have a nice, neat machine bureaucracy in a dynamic industry calling for constant innovation or, alternately, a flexible adhocracy in a stable industry calling for minimum cost makes no sense. Remember that these are configurations of situation as well as structure. Indeed, the very notion of configuration is that all the elements interact in a system. One element does not cause another; instead, all influence each other interactively. Structure is no more designed to fit the situation than situation is selected to fit the structure.

The way to deal with the right structure in the wrong environment may be to change the environment, not the structure. Often, in fact, it is far easier to shift industries or retreat to a suitable niche in an industry than to undo a cohesive structure. Thus the entrepreneur goes after a new, dynamic environment when the old one stabilizes and the bureaucracies begin to move in. When a situation changes suddenly—as it did for oil companies some years ago—a rapid change in situation or structure would seem to be mandatory. But what of a gradual change in situation? How should the organization adapt, for example, when its long-stable markets slowly become dynamic?

Essentially, the organization has two choices. It can

adapt continuously to the environment at the expense of internal consistency—that is steadily redesign its structure to maintain external fit. Or it can maintain internal consistency at the expense of a gradually worsening fit with its environment, at least until the fit becomes so bad that it must undergo sudden structural redesign to achieve a new internally consistent configuration. In other words, the choice is between evolution and revolution, between perpetual mild adaptation, which favors external fit over time, and infrequent major realignment, which favors internal consistency over time.

In his research on configuration, Danny Miller found that effective companies usually opt for revolution. Forced to decide whether to spend most of their time with a good external fit or with an established internal consistency, they choose consistency and put up with brief periods of severe disruption to realign the fit occasionally. It is better, apparently, to maintain at least partial configuration than none at all. Miller called this process, appropriately enough, a “quantum” theory of structural change.⁸

FIT OVER FASHION

To conclude, consistency, coherence, and fit—harmony—are critical factors in organization design, but they come at a price. An organization cannot be all things to all people. It should do what it does well and suffer the consequences. Be an efficient machine bureaucracy where that is appropriate and do not pre-

tend to be highly adaptive. Or be an adaptive adhocracy and do not pretend to be highly efficient. Or create some new configuration to suit internal needs. The point is not really *which* configuration you have; it is *that* you achieve configuration.

1. See Leonard Wrigley, “Diversification and Divisional Autonomy,” DBA thesis, Harvard Business School, 1970.

2. See “When Friends Run the Business,” HBR July-August 1980, p. 87.

3. See Wrigley, “Diversification and Divisional Autonomy.”

4. For a full discussion of the problems of implementing social goals in the divisionalized form, see Robert W. Ackerman, *The Social Challenge to Business* (Cambridge: Harvard University Press, 1975).

5. For a review of this trend, see Bruce R. Scott, “The Industrial State: Old Myths and New Realities,” HBR March-April 1973, p. 133.

6. Margaret K. Chandler and Leonard Sayles, *Managing Large Systems* (New York: Harper & Row, 1971).

7. There is a good deal of evidence for this conclusion. See, for example, Yitzhak Samuel and Bilha F. Mannheim, “A Multidimensional Approach Toward a Typology of Bureaucracy,” *Administrative Science Quarterly*, June 1970, p. 216; Edward A. Holdaway, John F. Newberry, David J. Hickson, and Peter Heron, “Dimensions of Organizations in Complex Societies: The Educational Sector,” *Administrative Science Quarterly*, March 1975, p. 37; D. S. Pugh, D. J. Hickson, C. R. Hinnings, and C. Turner, “The Context of Organization Structures,” *Administrative Science Quarterly*, March 1969, p. 91; Bernard C. Reimann, “On Dimensions of Bureaucratic Structure: An Empirical Reappraisal,” *Administrative Science Quarterly*, December 1973, p. 462.

8. Danny Miller, *Revolution and Evolution: A Quantum View of Organizational Adaptation*, working paper, McGill University, 1980.

Appendix: Elements of the configurations

Elements of structure

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 he or she performs. Unskilled jobs are typically highly specialized in both dimensions, while 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 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 refer to the use of formal instructional programs to establish and standardize in people the requisite skills, knowledge, and norms to do particular jobs. 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 the 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 optional 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 fundamentals: 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 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 action 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 refer to a whole set of mechanisms used to encourage mutual adjustment within and among units. They range from liaison positions (such as the purchasing engineer who stands between purchasing and engineering); through task forces, standing committees that bring together members of many departments, and integrating managers (such as brand managers); and finally to fully developed matrix structures.

Vertical decentralization describes the extent to which decision making is delegated to managers down the middle line, while **horizontal decentralization** describes the extent to which non-managers (that is, people in the operating core, technostucture, and support staff) control decision processes. Moreover, decentralization may be selective, concerning only specific kinds of decisions, or parallel, concerning many kinds of decisions altogether. Five types of decentralization may be found: vertical and horizontal centralization, where all power rests at the strategic apex; limited horizontal decentralization (selective), where the strategic apex shares some power with the technostucture that standardizes everybody else's work; limited vertical decentralization (parallel); where managers of market-based units are delegated the power to control most of the decisions concerning their line units; vertical and horizontal decentralization, where most of the power rests in the operating core at the bottom of the structure; and 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.

Elements of situation

The age and size of the organization affect particularly the extent to which its behavior is formalized and its administrative structure (technostucture and middle line) elaborated. As they age and grow, organizations appear to go through distinct structural transitions,

much as insects metamorphose—for example, from simple organic to elaborated bureaucratic structure, from functional grouping to market-based grouping.

The **technical system** of the organization influences especially the operating core and those staff units most clearly associated with it. When the technical system of the organization regulates the work of the operating core - as it typically does in mass production - it has the effect of bureaucratizing the organization by virtue of the standards it imposes on lower-level workers. Alternately, when the technical system succeeds in automating the operating work (as in much process production) it reduces the need for external rules and regulations: the necessary rules are automatically incorporated into the machines enabling the structure to be organic. And when the technical system is complex as is often the case in process production, the organization must create a significant professional support staff to deal with it and then must decentralize selectively to that staff many of the decisions concerned with the technical system.

The **environment** of the organization can vary in its degree of complexity, in how static or dynamic it is, in the diversity of its markets and in the hostility it contains for the organization. The more complex the environment, the more difficulty central management has in comprehending it and the greater the need for decentralization. The more dynamic the environment, the greater the difficulty in standardizing work, outputs, or skills and so the less bureaucratic the structure. These relationships suggest four kinds of structures: two in stable environments (one simple, the other complex) lead-

ing, respectively, to a centralized and a decentralized bureaucracy; and two in dynamic environments (again, one simple the other complex) leading, respectively, to a centralized and a decentralized organic structure. Market diversity, as noted earlier, encourages the organization to set up market-based divisions (instead of functional departments) to deal with each, while extreme hostility in the environment drives the organization to centralize power temporarily - no matter what its normal structure to fight off the threat,

The **power** factors of the organization include external control, personal power needs, and fashion. The more an organization is controlled externally, the more centralized and bureaucratic it tends to become. This can be explained by the fact that the two most effective means to control an organization from the outside are to hold its most powerful decision maker, the chief executive officer, responsible for its actions and to impose clearly defined standards on it (performance targets or rules and regulations).

Moreover, because the externally controlled organization must be especially careful about its actions—often having to justify these to outsiders—it tends to formalize much of its behavior and insist that its chief executive authorize key decisions. A second factor, individual power needs (especially by the chief executive) tend to generate excessively centralized structures. And fashion has been shown to be a factor in organization design, the structure of the day often being favored even by organizations for which it is inappropriate.