

## Combining the Perspectives

Political revolutions aim to change political institutions in ways that those institutions themselves prohibit. Their success therefore necessitates the partial relinquishment of one set of institutions in favor of another. Like the choice between competing political institutions, that between competing paradigms proves to be a choice between incompatible modes of community life. Because it has that character, the choice is not and cannot be determined merely by the evaluative procedures characteristic of normal science, for these depend in part upon a particular paradigm, and that paradigm is at issue. When paradigms enter, as they must, into a debate about paradigm choice, their role is necessarily circular. Each group uses its own paradigm to argue in that paradigm's defense.

THOMAS S. KUHN (1962)

The three preceding chapters have described and illustrated three perspectives on organizations as they emerged and developed from the early part of this century up to the early 1960s. It was our aim to present these perspectives succinctly but fairly, discussing examples of the work of influential theorists that have contributed to them, and to assess their strengths and limitations. We sought to avoid treating these viewpoints as caricatures or as approaches having only historical interest. In our opinion, each is valuable: each focuses on a set of significant and enduring features of organizations.

We begin this chapter by reviewing three important efforts to combine and reconcile these three perspectives. Then we propose an alternative framework. Our proposed framework is then used to review briefly theories previously discussed but also to introduce new conceptions developed during the past three decades. Since there has been a flurry of theoretical activity during the period from 1960 up to the present, the catalog of possible candidates is embarrassingly long: too many new ideas have been proposed to be usefully reviewed or comprehended in a single chapter. Rather than attempting at this point to be comprehensive, we select a subset of the most influential and representative recent theories in order to illustrate the utility of the framework. Ad-

ditional theories are introduced and folded into the schema in subsequent chapters.

As noted in the introduction to Part Two, the three perspectives operate as paradigms, as Kuhn (1962) defines this concept. Functioning as conceptual frameworks and as sets of assumptions guiding empirical investigations, paradigms are not themselves subject to verification. A paradigm is not so much disproved as it is dislodged or supplanted by a different paradigm providing a new map of the territory—indeed, not simply a new map but new directions for map making. As Kuhn observes:

In learning a paradigm the scientist acquires theory, methods, and standards together, usually in an inextricable mixture. Therefore, when paradigms change, there are usually significant shifts in the criteria determining the legitimacy both of problems and of proposed solutions. (1962: 108)

Thus in some respects differences between competing paradigms cannot be completely resolved by scientific evidence or argumentation.

Nevertheless, noting the selectivity of the perspectives, a number of theorists have attempted to develop more encompassing formulations, combining selected portions of the earlier traditions.<sup>1</sup> We briefly review three of these synthetic frameworks: models proposed by Etzioni, Lawrence and Lorsch, and Thompson.

### THREE ATTEMPTS AT INTEGRATION

#### Etzioni's Structuralist Model

Amitai Etzioni (1964) has proposed a "structuralist" approach as a synthesis of the classical (rational) schools and the human relations (natural schools) (see also Gross and Etzioni, 1985: 65–88). In contrast with our view discussed in Chapter 2, Etzioni does not regard Weber as a prime contributor to the classical approach but rather, together with Marx, as a theorist who attempted to synthesize the insights of the rational and natural system arguments. Marx and Weber both believed that regardless of the best efforts of managers and workers, their economic and social interests are inevitably in conflict. Marx (1972 trans.) viewed factory workers as alienated from their work since they owned neither the means of production nor the product of their labor. Weber (1946 trans.: 221–24) generalized this assertion, noting that soldiers in modern armies did not own their weapons, nor did research scientists own their equipment and supplies. In this sense, all employees, unless they are also owners, are alienated from their labor (see Chapter 12). Both Marx and Weber viewed control as central to the concept of organizations.

Etzioni shares this conception and argues that both rational and natural system theorists have important, and different, things to say about control systems within organizations. Rational system theorists contribute to the analysis

<sup>1</sup>In this sense, the perspectives described may not be full-fledged paradigms in a Kuhnian meaning, but only quasiparadigms. Genuine paradigms cannot be reconciled, only replaced.

of control by focusing attention on the differential distribution of power among organizational positions, as represented in the formal hierarchy. Natural system theorists make their contribution by insisting that naked power only alienates, that power must be acceptable to subordinates if control attempts are to be effective, as Barnard (1938) insisted. Weber, according to Etzioni, combined both of these points of view in his examination of the various forms of domination, on the one hand, and of the bases on which it is seen to be legitimate by participants in the system, on the other (Etzioni, 1964: 50–51; 1961; Weber, 1968 trans.: 212–301).<sup>2</sup>

In addition to combining the rational and natural system perspectives in the analysis of the central issue of power, Etzioni proposes that his structuralist model gives equal attention to formal and informal structures, and in particular to the relations between them. It also attends to both social and material rewards and their interrelation, and to the interaction of the organization with its environment (Etzioni, 1964: 41–49). In approaching all of these matters, however, the structuralist point of view recognizes fully:

the organizational dilemma: the inevitable strains—which can be reduced but not eliminated—between organizational needs and personal needs; between rationality and non-rationality; between discipline and autonomy; between formal and informal relations; between management and workers, or more generically, between ranks and divisions. (1964: 41)

In sum, the structuralist model suggests that the rational and the natural system perspectives are complementary. Each view represents a partial truth. If the perspectives seem at times to conflict, this is because the organizational elements to which they point sometimes conflict. The recognition of the inevitability of such conflicts is an important part of the “whole” truth about organizations (see also Rahim, 2001).

### Lawrence and Lorsch's Contingency Model

We have already discussed Lawrence and Lorsch's various proposals for reconciling the rational and natural system perspectives (in Chapter 3) and described their contingency model of organizations (in Chapter 4). We briefly review these ideas at this point to emphasize that they may be interpreted as providing a general framework within which all three perspectives can be reconciled.

In essence, Lawrence and Lorsch (1967) argue that if an open system perspective is taken—so that any given organization is viewed not in isolation but in relation to its specific environment—then the rational and the natural system perspectives serve to identify different organizational types, which vary because they have adapted to different types of environments. The rational and natural system perspectives are at variance because each focuses on a different end of a single continuum representing the range of organizational

<sup>2</sup>The relations among power, authority, legitimacy, and control are more fully discussed in Chapter 11.

forms. At one extreme, some organizations are highly formalized, centralized, and pursue clearly specified goals; at the other extreme, some organizations are less formalized, rely greatly on the personal qualities and initiative of participants, and pursue less clear and sometimes conflicting goals. The two extreme types depicted by the rational and the natural systems models are not viewed as differing aspects of the same organizations—as, for example, Etzioni's structuralist model suggests—but rather as different kinds of organizations. And, as emphasized by the open system perspective, the nature of the form is determined by the type of environment to which the organization must relate. Specifically, the more homogeneous and stable the environment, the more appropriate will be the formalized and hierarchical form. And the more diverse and changing the task environment, the more appropriate will be the less formalized and more organic form (see also Burns and Stalker, 1961).

Thus we arrive at the contingency argument: there is no one best organizational form but many, and their suitability is determined by the goodness of fit between organizational form and environment. The argument is framed at the ecological level of analysis; it rests on the assumption that different systems are more or less well adapted to differing environments. Environmental conditions determine which systems survive and thrive: those best adapted are most likely to prosper. By this argument, Lawrence and Lorsch attempt to account both for the different forms of organizations and for the different theoretical perspectives that developed to characterize them. Note that their views can also explain why the rational system perspective preceded in time the natural system perspective if it is assumed, as most open system analysts would contend, that the environments of organizations were more stable in the past and have become progressively more volatile (see Terreberry, 1968).

The open systems perspective is viewed by Lawrence and Lorsch as the more comprehensive framework within which the rational and natural system perspectives are housed, each dealing with a subset of organizational forms.

### Thompson's Levels Model

Simultaneously with the introduction of Lawrence and Lorsch's contingency model, James D. Thompson (1967) developed a somewhat different basis for reconciling the three perspectives. In his influential work *Organizations in Action*, Thompson argues that analysts should be mentally flexible enough to admit the possibility that all three perspectives are essentially correct and applicable to a single organization. However, they do not all apply with equal force to all organizational locations. Thompson adapts a set of distinctions developed by Parsons (1960: 60–65), who differentiated among three levels:

- The *technical* level—that part of the organization carrying on the production functions that transform inputs into outputs (e.g., shop floors, laboratories, classrooms)
- The *managerial* level—that part of the organization responsible for designing and controlling the production system, for procuring inputs and disposing of outputs, and for securing and allocating personnel to units and functions (e.g., engineering, marketing, and personnel departments)

- The *institutional* level—that part of the organization that relates the organization to its wider environment, determines its domain, establishes its boundaries, and secures its legitimacy (e.g., the board of directors, public relations and legal departments)

Thompson proposes that each of the three perspectives is suitable to a different level of the organization: the rational system perspective to the technical level, the natural to the managerial, and the open to the institutional level.

Thompson's thesis in a nutshell is that organizations strive to be rational although they are natural and open systems. It is in the interest of administrators—those who design and manage organizations—that the work of the organization be carried out as effectively and efficiently as possible. Since technical rationality presumes a closed system, Thompson (1967: 10–13) argues that organizations will attempt to seal off their technical level, protecting it from external uncertainties to the extent possible.<sup>3</sup> Thus, it is at the level of the core technology—the assembly line in the automobile factory, the patient care wards and treatment rooms in the hospital—that we would expect the rational system perspective to apply with the most force. At the opposite extreme, if it is to perform its functions, the institutional level must be open to the environment. It is at this level, where the environment is enacted and adaptation is managed, that the open systems perspective is most relevant. Between the upper and lower levels is the managerial level, which must mediate between the relatively open institutional and the closed technical levels. To do so effectively requires the flexibility that is associated with the less formalized and more political activities depicted by the natural system theorists. It is also the managers—whose power and status are most intimately linked to the fate of the organization—who have the greatest stake in and are more likely to seek to secure the survival of the organization as a system.

There is much to be said for, and learned from, each of these efforts to reconcile the three perspectives. All contain valuable insights. Etzioni is surely correct in insisting that all organizations embody conflicting tendencies and interests: between formal and informal structures, rational and nonrational aspects of behavior, controlling and controlled participants. Lawrence and Lorsch are correct that some types of organizations exhibit higher levels of formalization and goal specificity than do others and that these differences are related to the environments in which they operate. And Thompson is correct that some parts or levels of organization are more protected from, while others are more open to, environmental influences. Similarly, some parts are more strongly governed by rational system concerns while others are more subject to natural system influences. All of these combinations and applications of the three general perspectives serve to illuminate the multiple facets of organizations, and in this way, the utility of the perspectives has been reinforced for a new generation of students of organizations.

<sup>3</sup>The specific techniques, termed “buffering” mechanisms, used to seal off the technical core are described in Chapter 8.

## SCOTT'S LAYERED MODEL

There is yet another sense in which the three perspectives may be seen as persisting up to the present time, albeit in new combinations. Our introduction to the perspectives in earlier chapters suggested that they fell into a neat time order with the rational perspective preceding the natural system view, and the open system perspective developing most recently. We propose now a more complex time line—namely, that there have been not three but four phases in the development of organization theory, created by cross-classifying or layering the three perspectives (see Table 5–1 on page 108).

At the risk of considerable oversimplification, we suggest that theoretical models of organizations underwent a major shift about 1960 at the time when open systems perspectives supplanted closed system models. Analyses focusing primarily on the internal characteristics of organizations gave way at approximately that date to approaches emphasizing the importance for the organization of events and processes external to it. After 1960, the environments of organizations, conceived in terms of economic, political, cultural, social, technological, and interorganizational elements, figure prominently in all efforts to explain organizational structure and behavior. Viewed retrospectively, early rational and natural systems models were seen to be closed-rational system and closed-natural system models.

On both sides of the watershed representing the transition from closed to open system models, a second trend can be identified: a shift from rational to natural system models of analysis. It appears that this shift occurred twice! It occurred for the closed system models in the late 1930s and early 1940s, as described in Chapters 2 and 3—the rational system formulations of Weber and Taylor giving way to the natural system approaches of Mayo and Barnard—and it occurred again during the late 1970s as the neorational approaches of Lawrence and Lorsch and Williamson were challenged by the neonatural perspectives of Hannan, Pfeffer, Meyer, and others in ways to be discussed in this and later chapters.

We argue, in short, that the early rational and natural system models shared in common the fact of being layered under closed system assumptions. The open system models that developed in the 1960s did not supplant either the rational or the natural systems arguments, but challenged the (often implicit) closed system assumptions underlying both. When the open system models appeared, they were quickly combined with, first, rational system and, later, natural system perspectives.

Table 5–1 presents representative theories for each of the four periods: closed-rational; closed-natural, open-rational, and open-natural. The theories tend to fall into an orderly sequence with closed-rational models dominating during the period 1900–1930; closed-natural models during the period 1930–1960; open-rational models during the period 1960–1975; and open natural models dominant from the period 1975 up to the present.<sup>4</sup> The theories are

<sup>4</sup>Although it is possible to identify a dominant theoretical orientation for each period, this is not to say that all of the important work associated with a given orientation was produced during that period or that important work associated with alternative orientations was not taking place at the same time. Note, for example, that Selznick (1949) in developing his institutional theory was considerably ahead of his time. The time periods in Table 5–1 identify the main tendencies, designating the type of theorizing dominant during each period.

also categorized by level of analysis, although this classification provides only a rough guideline to the level at which the dependent variables are defined.<sup>5</sup> While closed systems models were conducted primarily at the social psychological or the structural level, with the advent of open system models, the ecological level became an important new locus of theorizing about the determinants of organizational behavior and structure. A great deal of the recent theoretical work in organizations has occurred at the ecological level. (Indeed, as discussed in Chapter 6, several sublevels of analysis have emerged within this level.)

Before commenting in more detail on the four primary categories of layered models, we call attention to the relation of these four types to the organization of the present volume. To this point, our discussions of the rational and the natural system models have emphasized their closed system versions. Although we have stressed the differences between a closed and an open system perspective, we have deliberately refrained from serious attention to the new generations of open-rational and open-natural system models, types that emerged after the development of the open system perspective. These most recent contributions receive primary attention in succeeding chapters. Hence, the following discussion of the closed-rational and closed-natural types serves as a brief review of the work of major theorists prior to 1960, as described in Part Two of this volume. And our discussion of the open-rational and open-natural variants is intended to introduce the work of major theorists since 1960, to be discussed in greater detail in Part Three.

### Closed-Rational System Models

The representative theories and theorists listed in Table 5-1 for the closed-rational system models should look very familiar by this time: Taylor, Weber, and Fayol are old friends. Simon represents a transitional case: his early work (Simon, 1997, first published in 1945) fits into the closed-rational model, but his later work (for example, March and Simon, 1958) is an important forerunner of open-rational models. Again we point out that Weber is (mis)classified as a closed-rational system theorist because that is the way his work was read and interpreted by scholars during this period (as illustrated by Thompson's views on Weber's work quoted below).

As emphasized in Chapter 2, all of these theories portray organizations as tools designed to achieve preset ends, and all of them ignore or minimize the perturbations and opportunities posed by connections to a wider environment. Thompson stresses the closed system assumptions of these theorists. Speaking of Taylor's contributions, he says:

Scientific management achieves conceptual closure of the organization by assuming that goals are known, tasks are repetitive, output of the production process somehow disappears, and resources in uniform qualities are available. (1967: 5)

<sup>5</sup>For example, Williamson's work is classified as being at the ecological level because his primary objective was to explain how the boundaries of the organization are shaped by variations in transactions costs. However, the theory is sufficiently abstract so that it is useful at other levels—for example, the structural, to determine which specific services or products will be produced within the firm or purchased from outside.

TABLE 5-1 Dominant Theoretical Models and Representative Theorists: A Layered Model

Levels of Analysis	1900-1930	1930-1960	1960-1970	1970-Natural Models
Social Psychological	Scientific Management Taylor (1911)	Human Relations Whyte (1959)	Bounded Rationality March and Simon (1958)	Organizing Weick (1969)
	Decision Making Simon (1945)	Cooperative Systems Barnard (1938)	Contingency Theory Lawrence and Lorsch (1967)	Sociotechnical Systems Miller and Rice (1967)
Structural	Bureaucratic Theory Weber (1968 trans)	Human Relations Mayo (1945)	Comparative Structure Woodward (1965) Pugh et al. (1969) Blau (1970)	Organizational Ecology Hannan and Freeman (1977)
	Administrative Theory Fayol (1919)	Conflict models Gouldner (1954)	Transaction Cost Williamson (1975)	Resource Dependence Pfeffer and Salancik (1978)
Ecological			Knowledge-based Nonaka and Takeuchi (1995)	Institutional Theory Selznick (1949) Meyer and Rowan (1977) DiMaggio and Powell (1983)

And of the work of Fayol, Gulick, and Urwick:

Administrative management achieves closure by assuming that ultimately a master plan is known, against which specialization, departmentalization, and control are determined. (1967: 5)

And of Weber's model of bureaucracy:

Bureaucratic theory also employs the closed system of logic. Weber saw three holes through which empirical reality might penetrate the logic, but in outlining his "pure type" he quickly plugged these holes. Policymakers, somewhere above the bureaucracy, could alter the goals, but the implications of this are set aside. Human components—the expert officeholders—might be more complicated than the model describes, but bureaucratic theory handles this by divorcing the individual's private life from his life as an officeholder through the use of rules, salary, and career. Finally, bureaucratic theory takes note of outsiders—clients—but nullifies their effects by depersonalizing and categorizing clients. (1967: 5–6)

Thus, in all of these models—as interpreted by their readers—the variety and richness associated with an organization's openness to its environment are stifled, curtailed, or denied.

### Closed-Natural System Models

Our prime candidates for natural system theorists working predominantly with a closed system conception are the human relations theorists. As described in Chapter 3, this conception originated with the empirical research of Roethlisberger and Dickson (1939) and the theoretical work of Mayo (1945) but expanded throughout the 1940s and 1950s to encompass a great deal of the sociological research on organizations and to incorporate both consensus and conflict models. Although this work caused our view of organizational structure to become more complex and flexible, as diffuse and conflicting goals were recognized and participants were endowed with multiple interests and motives, most of the work within this tradition restricted attention to the internal workings of the organization. We learn a great deal about the emergence of informal structures—interpersonal systems of power, status, communication, and friendship—and their impact on formal systems, but whether the concern was with formal or informal systems or the relations between them, the focus was primarily on the organization's internal arrangements. Barnard's (1938) model of organizations as cooperative systems also concentrated attention on internal structures and processes, as did most of the conflict models developed during this period, such as that of Gouldner (1954).

However, neither Selznick (1949) nor Parsons (1960) can be characterized as closed system theorists. As noted in Chapter 3, Selznick's view of the environment was often a rather jaundiced one, whereas Parsons's is more balanced, taking account of sources of support as well as constraints. But both of these versions of natural systems models recognize the impact of the environment and, hence, are important precursors to later open-natural models.

### Open-Rational System Models

Emerging in the early 1960s and continuing to the present, a new generation of theories has again focused on the organization as a rational system, but with a difference: now the organization is also viewed as an open system. An important figure in this transformation was Simon, whose major early contributions reflected a closed-rational system perspective. However, his later work, in particular with March, illustrates the joining of rational and open system concerns at the social psychological level of analysis.

The contingency theorists, whose work was discussed in Chapter 4 to illustrate open system approaches, also combine rational with open system concerns. We briefly review this work before describing other types of theories combining these perspectives. Indeed, all of the discussions will be brief since the intent here is merely to introduce important contemporary theories that will be considered at length in Parts Three and Four.

**Bounded rationality revisited.** Important changes are apparent in Simon's view of administrative behavior as a result of his collaboration with March (March and Simon, 1958, especially chap. 6 and 7). While there is still a concern with the cognitive limits of individual decision makers and with how structures can help to support improved decisions, more recognition is given to the variety of challenges posed by tasks and environments. The organization is viewed as more open to its environment. March and Simon identify "performance programs" that guide the decisions of individuals, but whereas some of these programs can be routinized others must be problem-solving responses, requiring the decision maker to exercise more discretion in the face of greater uncertainty (p. 139). Moreover, it is recognized that some organizations face such volatile environments that they must institutionalize innovation, devising meta programs for changing existing performance programs, often rapidly (p. 186).

March and Simon suggest a number of additional ways in which decision making is simplified within organizations. Organizations encourage participants to "satisfice"—to settle for acceptable as opposed to optimal solutions, to attend to problems sequentially rather than simultaneously, and to utilize existing repertoires of performance programs whenever possible rather than developing novel responses for each situation. There is a stronger sense in this latter work that organizations face environments of varying complexity, that they must adjust their internal decision-making apparatus to take these variations into account, and that some environments pose levels of complexity that organizations cannot manage unless they introduce simplifying restrictions on the information processed.

**Contingency theory reviewed.** We have described in both Chapter 4 and earlier in this chapter the central ideas of contingency theory as introduced by Lawrence and Lorsch (1967). Their realization that organizations—as well as units within organizations—confront varying environments that pose differing challenges for them is a clear recognition of the open system character of organizations. Their further assumption that organizations will, or should in the interests of effectiveness, adapt their structures to these environmental requirements incorporates the rational system argument.

The combination of open and rational system assumptions also figures strongly in Thompson's (1967) approach. Thompson was among the first organization theorists to recognize the importance of the environment for the structure and performance of organizations, and, as noted in our discussion of his "levels" model, he argued that different locations or levels within structures were differentially open to environmental influences. More so than most theorists, Thompson is quite explicit about the rationalist assumptions that undergird his approach. He prefaces virtually all of his empirical predictions with the phrase "Under norms of rationality, organizations seek to [adapt in specified ways]."

Thus, the problem that Thompson and the contingency theorists set for themselves may be stated like this: Given that an organization is open to the uncertainties of its environment, how can it function as a rational system? As hinted at in our review of Thompson's levels model, his principal answer to this question is that it can do so by creating some closed system compartments in critical parts of its structure. How this is done, by what sealing mechanisms and buffering strategies, will be described in detail in Chapter 8. For now, we simply underscore the juxtaposition of rational and open systems perspectives that underlies this type of analysis.

**Comparative structural analysis.** Parallel to but somewhat distinct from the efforts of systems designs and contingency theorists is the work conducted during the same period by analysts attempting to account for variations in organization structures. Whereas the efforts of the former group tend to be more qualitative and prescriptive, the work of the latter is more quantitative and descriptive. Among the leading figures in comparative structural analysis are Udy (1959b), Woodward (1958), Pugh and associates (1969; Pugh and Hickson, 1976), and Blau (1970) and his colleagues. These were the first analysts to collect systematic data on large samples of organizations rather than on individual participants or organizational subunits. In this work, formal structure is viewed as the dependent variable, its characteristics to be measured and explained. A large variety of explanatory (independent) variables have been examined—with most attention concentrated on size, technology, and uncertainty—but most studies focused on characteristics of the environment in which the organization is located. In short, organizations are viewed as open systems.

At the same time, organizations are presumed to design their structures rationally. An assumption underlying most of these studies is that organizations are striving to develop effective and efficient structures, and primary attention is given to the examination of "technical" environments. Organizations are viewed primarily as production systems attempting to secure appropriate inputs, to coordinate throughput efficiently, and to market outputs effectively. These are the assumptions of a rational system model, and they dominate much of the comparative empirical and theoretical work on organizations during the 1960s and early 1970s. The findings of this work are reviewed in Chapter 10. Subsequent comparative researchers began to draw more on the natural system views of institutional theorists, as described below.

**Transaction cost analysis.** An important and novel perspective combining open and rational systems assumptions was introduced in the mid-1970s by

Oliver Williamson (1975; 1985). Based on the work of earlier institutional economists (such as Commons, 1924) and the ideas of Coase (1937), Williamson proposed that analysts focus on the costs of entering into *transactions*—exchanges of goods or services between persons or across boundaries of any sort.

With a well-working interface, as with a well-working machine, these transfers occur smoothly. In mechanical systems we look for frictions: do the gears mesh, are the parts lubricated, is there needless slippage or other loss of energy? The economic counterpart of friction is transaction cost: do the parties to the exchange operate harmoniously, or are there frequent misunderstandings and conflicts that lead to delays, breakdowns, and other malfunctions? (Williamson, 1981: 552)

To focus on transactions rather than on commodities or services shifts attention away from technical production concerns to governance structures. For individuals to be willing to enter into exchanges, they must feel certain that their interests are safeguarded. Simple economic transactions that take place "on the spot" as one good or service is exchanged for another of equal value pose few problems and can be safely conducted in the marketplace, where relatively simple controls (for example, norms preventing the use of force) are sufficient. However, as exchanges become more complex and uncertain—because the environment is not stable or predictable and because others cannot always be trusted to abide by the terms of the agreement—various kinds of additional controls and supports must be devised to foster exchanges—that is, to reduce the transaction costs. Organizational structures are viewed as one important arrangement for enabling and safeguarding transactions.

Williamson and his colleagues argue not only that organizations develop in order to reduce transaction costs, but that organizational forms may be expected to vary according to the nature of exchanges to be governed. We refer to Chapter 7 a fuller description of this approach to explaining organizations and their structural variety. Here we merely identify yet another approach that assumes that organizations are both open—responding to the differential demands of their environments—and rational—doing so in such a manner as to economize on the costs of engaging in transactions. Williamson's work represents one variant of the "new institutionalism" in organizations research, a version that embraces rational systems assumptions. As we discuss in the section on open natural systems, other institutional approaches are more compatible with the natural system framework.

Before considering one additional open-rational theory, we call attention to a related framework for classifying organization theories proposed by Bidwell and Kasarda (1985). As in our approach, they distinguish among theories along two dimensions: closed-open and level of analysis. However, in their view, theorists such as March and Simon, Lawrence and Lorsch, Thompson, and Williamson are not full-fledged open system theorists, but "control" theorists, an intermediate category between closed and open. They argue that although these theories:

purport to be open-system formulations of structuring in organizations...they retain certain assumptions akin to those of closed-system theory, namely that (1) or-

ganizations are strongly bounded, (2) stability is essential within this boundary, and (3) organizational form is primarily the consequence of managerial decisions.

Moreover, the most fully developed of the so-called open-system theories [e.g., March and Simon, Williamson] are not theories of organizational structure, but theories of individual human behavior in organizational settings. (pp. 1–2)

This critique seems basically correct. These earlier formulations (from the mid-1960s to the mid-1970s), while moving toward an open system conception, in some respects represent “halfway houses.” And, they tend to (over)emphasize the role of managers (the “regulators” in cybernetic models) as against that of “operators”—participants who carry out the activities, embody the skills, and command the routines.

More recent developments, such as knowledge-based theories, help to correct for these early biases toward restrictive, individualistic conceptions of organizations.

**Knowledge-based theories.** Beginning as early as 1959 with the seminal work of Edith Penrose, theorists have examined how variations in an organization’s access to key resources or in its “know-how” might lead to differences in performance. Recent years have witnessed a groundswell of interest in organizational differences in “core competence” (Prahalad and Hamel, 1990), “dynamic capabilities” (Teece and Pisano, 1994), and “knowledge” (Nonaka and Takeuchi, 1995). All of these approaches call attention to the competitive advantages that result from idiosyncratic combinations of resources—“financial, human, intangible, organizational, physical, technological”—that are not readily assembled in markets or coordinated by the price system but can be mobilized within a specific organization (Dobbin and Baum, 2000: 9).

While early work focused on more tangible resources such as financial capital and location, more recent approaches emphasize the central importance of knowledge. As Brown and Duguid conclude:

While knowledge is often thought to be the property of individuals, a great deal of knowledge is both produced and held collectively. Such knowledge is readily generated when people work together in the tightly knit groups known as “communities of practice.” As such work and such communities are a common feature of organizations, organizational knowledge is inevitably heavily social in character.... The hard work of organizing knowledge is a critical aspect of what firms and other organizations do. (1998: 91)

Most analysts employing knowledge-based approaches follow the lead of Polanyi (1967: 4), who pointed out “We know more than we can tell,” stressing the importance of the distinction between tacit and explicit or codified knowledge. *Tacit knowledge* is “sticky,” “slippery,” “elusive,” less observable, and less teachable than is explicit knowledge. Tacit knowledge is embedded in the skills of workers and in work routines and shared understandings that, in combination, comprise an organization’s distinctive capabilities (Nelson and Winter, 1982). Tacit knowledge does not easily travel between individuals or firms (Badaracco, 1991).

Knowledge-based approaches exhibit crucial elements of open-rational perspectives, but also include features of open-natural system perspectives. Behavioral economics with its emphasis on purposive but boundedly rational behavior is combined with a recognition that organizations function at levels 7 and 8 of Boulding’s typology—as symbol-processing, sense-making social systems (see Table 4–1 in Chapter 4).

### Open-Natural System Models

Toward the end of the 1960s, for the second time we observe a transition from the dominance of rational system to natural system models. These new models place great emphasis on the importance of the environment in affecting the structure, behavior, and life chances of organizations: they are clearly open system models. However, the assumption that organizations behave as rational systems is strongly challenged in this work. In this section, we provide a quick sketch of the more important of these new models. We begin with a review of Weick’s model—an early exemplar at the social psychological level—and then introduce other work at the structural and ecological levels that continues to be important up to the present time.

**Weick’s model of organizing revisited.** Just as it was necessary, armed with our layered schema, to reclassify contingency theories as not only open but also rational, so it is necessary to review Weick’s model as combining open with natural system assumptions. As discussed in Chapter 4, Weick accords great attention to the cognitive processes entailed in creating and sustaining organizations, but his view of these processes, unlike that of Simon’s, for example, is that they operate in an evolutionary fashion; they involve trial and error, chance, superstitious learning, and retrospective sense making. Also, Weick rejects the notion that evolution necessarily entails improvements in the surviving forms. He points out that successful interlocking of behaviors (that is, organized patterns of action) “can occur without any necessary increase in the productivity or viability of the system” (1979: 179) and insists that we must “free ourselves from the notion that selection is for environmental advantage” (p. 127). In these and many other respects, Weick posits an open-natural, rather than a open-rational system.

We shift now to the structural level of analysis, briefly describing an influential approach developed in England that embraces the open-natural system perspective.

**Sociotechnical systems.** At the end of World War II, the Tavistock Clinic, a voluntary outpatient center for psychotherapy in England, reconstituted itself as the Tavistock Institute of Human Relations. Influenced by human relations research in the United States, the Tavistock team of researchers conducted a series of studies in differing work organizations on ways to improve productivity and morale. From the beginning, the preferred approach was one of “action” (applied) research, the investigators working with management and labor to introduce change into a work setting and then attempting to learn from its results (Jaques, 1951). In addition to this somewhat distinctive research style, the group developed a particular problem focus. The research group pro-

posed that the distinguishing feature of organizations is that they encompass both social and technical systems: "Their core interface consists of the relation between a nonhuman system and a human system" (Trist, 1981: 25).

Rather than insisting that individual and social units must bend to technical requirements, as suggested by approaches such as scientific management, the sociotechnical approach emphasizes that the needs of both should be served. Rather than obtaining the best "match" between technical and social components, the goal should be one of the "joint optimization" of the needs of both, since the two systems follow different "laws" and their relationship represents a "coupling of dissimilars" (Emery, 1959). Although the "grain of the fifties" was the celebration of top-down, engineer-designed, manager-controlled, technical bureaucracies, the Tavistock group resisted this trend by designing systems that emphasized discretionary behavior, internalized regulation, and work-group autonomy (Trist, 1981).

And while their early empirical efforts were concentrated at the individual and work-group level, the Tavistock researchers soon discovered that changes made at these levels did not long survive unless there were compatible changes in more macro, supporting structures. Further, they became increasingly aware that these structures themselves were open to the wider environment. As Trist recalls:

In our action research projects at that time, we and our organizational clients were baffled by the extent to which the wider social environment was moving in on their more immediate concerns, upsetting plans, preventing the achievement of operational goals, and causing additional stress and severe internal conflict. (1981: 50)

In addition to developing a widely influential typology of organizational environments and related organizational forms, the research group examined ways in which the larger enterprise is shaped by its needs to survive in a specific social and economic environment (Miller and Rice, 1967). The most resilient building blocks available to organizations as they respond to external demands are the sets of semiautonomous groups, capable of self-regulation as cybernetic systems, together with the larger networks of groups organized into functionally interdependent "primary work systems." Interest in the creation of these units is a common thread running throughout many specific studies describing the history of change attempts in particular industrial settings, and it is this emphasis that locates the perspective at the structural level of analysis. Throughout their work, the Tavistock group has remained strongly committed to creating organizational forms that serve the values of human community as well as the interests of technical efficiency.<sup>6</sup>

Finally, we introduce three different approaches to analyzing organizations that have developed at the ecological level of analysis.

<sup>6</sup>This general approach to the "design" of natural systems has been more influential and more often utilized in Europe than in the United States. Related research has been carried on, for example, by Thorsrud in Norway and Sweden (Emery and Thorsrud, 1969 trans.; 1976). In the United States, some sociotechnical themes are to be found in research on the quality of working life (see O'Toole, 1972), and sociotechnical action research strategies have been adopted by organizational development (OD) researchers and practitioners.

**Organizational ecology.** The ecological or evolutionary approach to organizations has its origins in the natural selection theories in biology with the work of Charles Darwin. Although the application of these ideas to social systems has a long and checkered history (see Hofstadter, 1945), more recent and promising efforts have been stimulated by the work of Hawley (1950) and Campbell (1969). Applications of these general ideas to organizations by Hannan and Freeman (1977; 1989) and by Aldrich (1979; 1999) have led to a rapidly growing body of research and theory. Carroll and Hannan (2000) have recently proposed that the organizational ecology framework be broadened to incorporate what they term *corporate demography*. Just as much scientific effort has been expended in understanding the vital rates and varying life chances of populations of individuals, they call for comparable efforts to understand populations of organizations, ranging from single-site establishments to multiunit firms, for example, global corporations.

Evolutionary models may be applied to all levels, from social psychological to ecological. For example, evolutionary arguments have been applied to social learning—what ideas survive (Weick, 1979)—organizational processes such as rules and routines (Miner, 1994), entire organizations as explanation for their differential survival (Carroll, 1984), and to larger systems of organizations, such as populations or fields, that exhibit adaptation and learning (Miner and Haunschild, 1995). But the great bulk of studies has been concentrated at the population level. *Organizational populations* are comprised of all organizations sharing the same general form (see Chapter 6). A principal concern has been to explain organizational diversity—to answer the question: Why are there so many—or so few—organizational forms? While diversity occurs because individual organizations change their characteristics through *adaptation* over time, ecologists have devoted attention primarily to *selection* processes: "change in the composition of a set of organizations from differential replacement of one form by another" (Hannan and Carroll, 1995: 23). Organizations are formed and die at varying rates. For example, an ecologist might examine factors associated with the decline of teachers' colleges and the growth in the numbers of community colleges over recent decades in the United States.

It is central to the natural selection thesis that environments differentially select organizations for survival on the basis of fit between organizational forms and environmental characteristics. Three processes are emphasized in evolutionary analysis: the creation of variety, the selection of some forms over others, and the retention and diffusion of those forms (Campbell, 1969; Aldrich 1999). In the first stage, variety is created by some process, planned or unplanned. In the second, some forms of organization are differentially selected for survival. And in the third stage, the selected forms are preserved in some fashion, by reproduction or duplication. Positively selected variations survive and reproduce similar others, which then form the starting point for a new round of selection as mutants appear (Aldrich and Pfeffer, 1976). In the founding work primary emphasis was placed on selection as the prime process by which change occurs in organizations, but more recent work has incorporated adaptation by exiting forms (Singh, Tucker, and House, 1986).

This approach has created much interest among students of organizations: it employs a well-known and highly regarded intellectual framework (Darwinian) and has been able to adapt for use quite sophisticated concepts and



dynamic models from the work of population biologists. Also, by emphasizing the population level of analysis, it has focused on a new set of issues largely ignored by earlier theorists. In particular it asserts that most change that occurs in the realm of organizations is the result, not of adaptation or change on the part of existing organizations, but of the replacement of one type of organization with another.

This conception is firmly grounded in an open system model: the importance of the environment can hardly be more strongly underlined than it is in the population ecology framework. The conception is also clearly a natural system approach. The bottom line is survival. And although based on an evolutionary framework, in its contemporary usage, "evolution is no longer equated with progress, but simply with change over time" (Carroll, 1984: 72). The ability to perpetuate one's form is the hallmark of successful adaptation.<sup>7</sup>

**Resource dependence.** Whereas the population ecology approach stresses selection—attributing observed patterns in the distribution of organizational forms to the action of environmental selection—the resource dependence model emphasizes adaptation. It is assumed that individual organizations and their leaders can act to improve their chances of survival.

The resource dependence approach focuses primary attention on one organization and its exchange partners, a level of analysis referred to as the "organizational set" (see Chapter 6). The approach has been devised by a number of investigators and received a variety of labels. Zald and colleagues refer to their version as a "political economy" model (Zald, 1970; Wamsley and Zald, 1973). Thompson (1967), much of whose work employs this model, describes the approach as an exchange or "power-dependency" model. Pfeffer and Salancik (1978) term their perspective "resource dependence" and provide its most comprehensive statement.

This perspective is strongly rooted in an open system framework. It is assumed that one cannot understand the structure or behavior of an organization without understanding the context within which it operates. No organization is self-sufficient; all must engage in exchanges with the environment as a condition of their survival. The need to acquire resources creates dependencies between organizations and external units. How important and how scarce these resources are determines the nature and the extent of organizational dependency. Dependency is the obverse of power (Emerson, 1962). Economic dependencies give rise to political (power) problems that may succumb to political solutions.

Much more so than in the population ecology approach, organizations are viewed as active, not passive, in determining their own fate. Organizations and their managers are agents, not passive subjects of selection processes. Organizational participants, particularly managers, scan the relevant environment, searching for opportunities and threats, attempting to strike favorable bargains

and to avoid costly entanglements. All organizations are dependent on suppliers and consumers, but which specific exchange partners are selected and what terms of exchange are negotiated is partly determined by the organization itself. Astute managers acquire the necessary resources but do so without creating crippling dependencies. Thus, the resource dependence model views organizations as:

capable of changing, as well as responding to, the environment. Administrators manage their environments as well as their organizations, and the former activity may be as important, or even more important, than the latter. (Aldrich and Pfeffer, 1976: 83)

A major contribution of the resource dependence perspective has been to discern and describe the tactics—ranging from buffering to diversification and merger—employed by organizations to adapt to and modify their environments. We review these tactics in Chapter 8.

**Institutional theory.** Institutional theory, like organizational ecology and resource dependence, developed quite rapidly during the mid-1970s and up to the present. In part because institutional analysis enjoys a long history—important institutional work was carried on at the turn of the nineteenth century—and in part because it has stimulated efforts across most of the social sciences—in particular, economics, political science, and sociology—a broad spectrum of arguments is encompassed by this perspective. The arguments converge around an interest in understanding the bases of stability of social forms and the meanings associated with them. They diverge in identifying the elements that provide these conditions. As discussed in more detail in Chapter 6, economists tend to emphasize the importance of legal and rule-based systems that are externally enforced by third parties, for example the nation-state (North, 1990). Early sociologists, from Cooley (1956 ed.) to Selznick and Parsons, accord primacy to normative controls: values and norms that are both internalized by actors and reinforced by others in social situations. The most recent, "neo-institutional" approaches, stress the role of cultural-cognitive controls. As formulated by Berger and Luckmann (1967) and Geertz (1973), sets of beliefs, developed in social interaction, provide models, schema, and guidelines for governing and guiding behavior in varied social situations.

Whereas, as we have seen, March and Simon (1958) were among the first to recognize cognitive controls in organizations, Meyer and colleagues (Meyer and Rowan, 1977; Meyer and Scott, 1983) and DiMaggio and Powell (1983) first applied broader culture-based arguments to organizations. These theorists argue that a set of rationalizing agents—in particular, the nation-state, professional associations, and nongovernmental bodies—provide a rapidly expanding collection of beliefs and rules that furnish the fuel for organizational expansion and elaboration. One after another arena of social life is in the process of being rationalized with the construction of means-ends recipes around which behavior can be regularized, formalized, organized.

Institutional theory emphasizes that organizations are open systems—strongly influenced by their environments—but that it is not only competitive and efficiency-based forces that are at work. Socially constructed belief and

<sup>7</sup>Useful summaries and general statements of the ecological and evolutionary approach to organizations are provided by Aldrich (1999), Baum (1996), Baum and Singh (1994), and Hannan and Freeman (1989). Nelson and Winter (1982) developed an evolutionary economics approach to organizations that focuses on the selective survival of internal features of organizations, such as organizational routines.

rule systems exercise enormous control over organizations—both how they are structured and how they carry out their work. And, since belief systems and norms vary over time and place, institutional concepts provide a promising framework within which to conduct comparative and historical studies of organizations (see Chapter 10).<sup>8</sup>

### PARADIGM WARS?

In layering the perspectives into four combinations of open or closed systems connected to rational or natural systems, we have created a “property space” that seeks to contain and locate not only earlier, historical work but also contemporary approaches to understanding organizations. The overview just concluded gives much evidence of an active—perhaps even a hyperactive—arena of study. Organizations have become a central focus of current social science inquiry and have aroused the interest and claimed the attention of a wide array of social theorists—from industrial engineers and rational choice economists to cultural anthropologists, institutional sociologists, and comparative political scientists.

As emphasized in our typology (Table 5-1), organizational theories vary in the time at which they developed and become dominant and in the level of analysis at which they operate. They also vary in terms of what aspects of organizations are privileged. For example, resource dependence emphasizes the power relations that grow out of asymmetric economic exchanges; organizational ecologists stress the selective role of environments; and institutional theorists focus on ideas and belief systems that support and structure organizations. Some of these theories may be complementary; others are based on contradictory assumptions or pose incompatible arguments. We attempt to sort out some of these matters in Part Three.

One of the characteristics of much of the work just introduced is that, in developing arguments and making claims, the analysts employ language that is sufficiently general to imply that the ideas are applicable to all types of organizations and to all or most conditions. We are well-advised to question this assumption. In an insightful commentary on organization theories, the Italian economist Ana Grandori argues that each is more appropriate for some types of organizations or contexts than for others—that each has an “appropriate domain of application” (Grandori, 1987: xxii). Grandori emphasizes differences among theories in terms of how organizational goals are treated. We discuss her interpretations in the following chapters, especially Chapter 11. More generally, we attempt to consider throughout our discussion of these and other approaches still to be introduced the conditions under which they apply.

The current profusion of multiple competing theoretical perspectives necessarily poses difficult problems for all of us—from beginning student to seasoned scholar—working in the field. Aldrich (1992) has labeled the recent era

of organization theory as one characterized by “paradigm wars.” Pfeffer (1993) asserts that the multiplication of many competing paradigms has numerous pernicious consequences, increasing dissensus among scholars, who cannot reach agreement on what articles should be published or what research should be funded, and undermining intellectual and financial support for the field from universities and the state. Donaldson (1995) mounts an even stronger attack against the proliferation of paradigms, which, he asserts, reflects a pathological status contest among intellectuals who receive more attention and fame for creating new theories than from testing and improving existing models. Donaldson also asserts that many of the newer perspectives, such as that of organizational ecology and institutional theory, reflect an antimanagerial bias among American organization theorists.

This is not the place to attempt to refute these criticisms of recent developments in the field. Suffice it to say that while the existence of multiple paradigms may reduce consensus and support, it may also reflect the complexity of the phenomenon addressed and improve our analytic capacity by providing multiple lenses through which to observe this world. And while enhanced status does accompany the creation of new, insightful theories—as it should—that does not imply that the theory-creation process is only a status contest or that the products of this competition are not without intellectual merit. Moreover, as new theories have moved to higher levels of analysis—as is the case with organizational ecology and institutional theory—they necessarily defocalize the role of individual managers within organizations.

### SUMMARY

The rational, natural, and open system perspectives for analyzing organizations provide contrasting paradigms. Because of the differing assumptions underlying these paradigms, one may replace another but cannot disprove it.

Nevertheless, several theorists have attempted to reconcile the three perspectives by combining them into more complex models of organizations. Etzioni suggests that the rational and natural system models are complementary, focusing on conflicting tendencies present in all organizations. Lawrence and Lorsch propose that all organizations are open systems, and that rational and natural forms emerge as varying adaptive structures in response to different environmental forces. And Thompson suggests that the three perspectives are differentially applicable to various levels of an organization’s structure, the open system being most suited to the institutional level, the natural system to the managerial level, and the rational system to the technical level.

We offer an alternative framework for combining the perspectives, suggesting that they have appeared in varying combinations over time and that they are applicable to differing levels of analysis.<sup>9</sup> The “layered model” emphasizes three axes: (1) the extent to which organizations are means—disposable, deliberately designed instruments for goal attainment—or value-impregnated,

<sup>8</sup>Synthetic overviews and analysis of sociological institutional theory are provided by DiMaggio and Powell (1983) and by Scott (2001). Reviews of economic institutional theory are contained in Hodgson (1988; 1994) and Langlois (1986). Peters (1999) and Thelen (1999) provide useful reviews of institutional theory in political science and comparative politics.

<sup>9</sup>See Aslley and Van de Ven (1983), Burrell and Morgan (1979), Guillén (1994), Morgan (1986) and Pfeffer (1982) for examples of alternative schemas for classifying organization theories; and see W. R. Scott (1986) for a comparison of some of these typologies.

ends-in-themselves; (2) whether organizations are self-sufficient, relatively self-acting, insulated forms or are highly context-dependent, substantially constituted, influenced, and penetrated by their environment; and (3) the level of analysis employed, whether organizations are themselves viewed as contexts for individual actors, collective actors in their own right, or components in broader organized systems. Applying this framework to classify organizational theories suggests that the earliest models, dominant between 1900 and 1930, were closed-rational system models. Some of these were developed at the social psychological level—for example, Taylor's scientific management approach—while others were advanced at the structural level—for instance, Weber's model of bureaucracy and Fayol's administrative theory. From the 1930s through the 1950s, a new set of perspectives developed that combined closed with natural system assumptions. Again, some of these approaches were developed primarily at the social psychological level—such as the human relations models of Roy and Dalton—and others at the structural level—for example, Barnard's theory of cooperative systems and Mayo's version of human relations.

Beginning in the early 1960s, open system models largely replaced closed system assumptions, and analyses at the ecological level began to appear. At the same time, rational and natural system models persisted, providing competing theoretical explanations for organizational structure and behavior. During the 1960s, open-rational system models were dominant, represented by the work of March and Simon at the social psychological level and by contingency theory and comparative analyses at the structural level. Transaction cost analysis was added to these approaches in the 1970s followed by knowledge-based views in the 1980s. These open-rational system models were joined and challenged by open-natural system models that emerged in the 1970s and have developed up to the present time. These rapidly proliferating approaches range from the work of Weick at the social psychological level, through the sociotechnical approach developed at the structural level, to the organization ecology, resource dependence, and institutional theories at the ecological level.

Also, as discussed in Chapter 4, we have observed a change over time in the ontological assumptions made by scholars. Substantialist assumptions dominated well into the 1970s. Self-action models assuming the relative independence of organizations began to be replaced during the 1960s with interaction models emphasizing the interdependence of organizations and their environments. These assumptions have more recently been challenged by process models that assume that organizations acquire their meaning and identity from the ways in which they relate to the transactional contexts in which they are embedded.

Our classification also emphasizes the historical evolution of organization theory. The types of theories guiding work today differ from those in use ten or forty years ago. Questions to be pondered are: Why is this the case? Does it represent change in the nature of organizations, change in the interests of theorists, or both?

Many new and competing theories concerning organizations now occupy the landscape. We have reviewed some of the most influential of these and will add more in subsequent chapters as we consider their contributions to understanding some of the important processes and problems posed by organizations.

# Environments, Strategies, and Structures

Three general perspectives on the nature of organizations have been described, along with several attempts to combine or integrate them. If these perspectives are as useful as we have claimed, they will enable us not simply to comprehend past efforts to dissect organizations but also to better fathom current work and perhaps even to discern future analytic directions.

Part Three combines topics that are often separated in contemporary treatments of organizations. It deals both with the ways in which organizations relate to their environments as well as with the determinants of organizational structure. With the help of the open systems perspective, we see these topics as inseparable: how an organization relates to its environment—indeed, what its environment is—is influenced by the organization's structure and strategy, and, conversely, the characteristics of the organization's structure are strongly affected by the organization's environment. External forces shape internal arrangements, and vice versa.

We learn from the open systems perspective that organizations are not fortresses, impervious to the buffeting or the blessing of their environments. On the other hand, we learn from the rational and natural system perspectives that organizations are not wind tunnels, completely open and responsive to every perturbation of their context. Organizations construct and reconstruct boundaries across which they relate to the outside world. Between the organization and those outside there is not one barrier but many, and for most kinds of organizations these barriers become higher and more impenetrable as we come closer to the organization's technical core.

Part Three begins with an examination of organizational environments. Having been persuaded that the open system perspective is critically important, we distinguish among various levels at which environments may be analyzed and differentiate their material-resource from their institutional elements. The multiple ways in which organizations interact with their environments are examined in Chapter 6.