

CONFIGURATIONAL APPROACHES TO ORGANIZATIONAL ANALYSIS

ALAN D. MEYER
University of Oregon

ANNE S. TSUI
University of California, Irvine

C. R. HININGS
University of Alberta

The 1993 Special Research Forum on Configurations is dedicated to the proposition that configurational theory and research can significantly advance understanding of people, groups, and organizations. In this introductory essay, we define configurational approaches to organizational analysis, trace the history of configurational thinking, distinguish the contingency approach from the configurational approach, and highlight key contributions of the five empirical articles that make up the special research forum. Most of these articles report research conducted at the organizational level of analysis, but we argue that the configurational perspective has unrealized potential at other levels as well and suggest some configurational approaches to revitalizing theory and research at the individual and group levels.

Order is Heav'n's first law.

Alexander Pope, *Essay on Man*

We use the term "organizational configuration" to denote any multidimensional constellation of conceptually distinct characteristics that commonly occur together. Numerous dimensions of environments, industries, technologies, strategies, structures, cultures, ideologies, groups, members, processes, practices, beliefs, and outcomes have been said to cluster into configurations, archetypes, or gestalts. Configurations may be represented in typologies developed conceptually or captured in taxonomies derived empirically. They can be situated at multiple levels of analysis, depicting patterns common across individuals, groups, departments, organizations, or networks of organizations.

What limits the number of organizational configurations? If organizations were complex amalgams of multiple attributes that could vary independently and continuously, the set of possible combinations would be infinite. But for theorists taking the configurational perspective, this poten-

We thank Harold Doty and the participants in the 1993 Organization Theory Seminar at the University of Oregon for their comments on an earlier draft of this essay.

tial variety is limited by the attributes' tendency to fall into coherent patterns. This patterning occurs because attributes are in fact interdependent and often can change only discretely or intermittently. The upshot is that just a fraction of the theoretically conceivable configurations are viable and apt to be observed empirically. Accordingly, configurational researchers seek to generate typologies and taxonomies—"sets of different configurations that collectively exhaust a large fraction of the target population of organizations [or other social units] under consideration" (Miller & Friesen, 1984: 12).

It is the theory which decides what we can observe.

Albert Einstein, *Physics and Reality*

What generates configurations? Authors have suggested many forces capable of causing organizational attributes to cluster systematically—or to appear to do so. Forces exogenous to organizations said to produce uniform configurations include environmental selection for competitive fitness within ecological niches (Hannan & Freeman, 1989) and mimetic, coercive, and normative diffusion of strategies and structures arising from the demands of powerful institutional actors (DiMaggio & Powell, 1983). Endogenous pressures toward uniform configurations include functional relationships among organizational components (Miller, 1987a) and replication of time-honored practices through social construction (Berger & Luckman, 1967). Scholars have also proposed cognitive and sociocognitive processes as sources of configuration. For instance, members' shared interpretive schemes and ideologies are thought to help generate organizational configurations (Hinings & Greenwood, 1988; Meyer, 1982). Human brains perceive patterns even in random displays (Loftus, 1979), so needs for cognitive consistency arising within managers' brains could produce reports of configurations independent of their actual existence. So too might researchers' unconscious tendencies to find data ratifying their personal theoretical configurations (Weick, 1974).

Theory like mist on eyeglasses. Obscure facts.

Earl Derr Biggers, *Charlie Chan in Egypt*

Beyond Contingency Theory

How will a configurational approach benefit organizational science? The perspective builds on the historical roots of organizational analysis and on three decades of contingency research demonstrating that attributes of environments, technologies, and structures interact to restrict the range of viable organizational forms. However, the configurational approach makes a clean break from the contingency mainstream, within which researchers have been preoccupied with abstracting a limited set of structural concepts—centralization and formalization, for example—and measuring their relationships with a limited set of abstracted situational concepts, such as

size and technological uncertainty. By synthesizing broad patterns from contingency theory's fragmented concepts and grounding them in rich, multivariate descriptions, the configurational approach may help consolidate the past gains of contingency theory.

We multiply distinctions, then deem that our puny boundaries
are things that we perceive, and not that we have made.

William Wordsworth, *The Prelude*

To highlight the distinction between the contingency and configurational perspectives, Table 1 compares a few of their underlying assumptions. Contingency research invokes reductionism as its dominant mode of inquiry, an approach whereby researchers seek to understand the behavior of a social entity by separately analyzing its constituent parts. Accordingly, contingency theorists implicitly treat organizations as loosely coupled aggregates whose separate components may be adjusted or fine-tuned incrementally once weak constraints have been overcome (Meyer, Goes, & Brooks, 1993). Quite simple causal assumptions are usually adduced, with external contingencies and internal system attributes often seen as linked by linear relationships involving unidirectional causation. Analytically, in attempting to statistically isolate the effects of each contingent variable, the prevalent econometric methodology downplays complex forms of interaction and ignores nonlinear relationships. Miller and Friesen remarked that investigators seem "bent upon discovering samplewide linear relationships—those that hold true irrespective of the nature of the organizations" (1984: 88). Cross-sectional designs predominate in contingency research, suggesting that researchers implicitly assume that the systems under observation are at, or at least are moving toward, equilibrium. Adaptive change is generally

TABLE 1
Contingency and Configuration Approaches Compared^a

Underlying Assumptions	Contingency Theory	Configuration Theory
<i>Dominant mode of inquiry</i>	Reductionistic analysis	Holistic synthesis
<i>Social system cohesion and constraint</i>	Aggregates of weakly constrained components	Configurations of strongly constrained components
<i>Relationships among attributes</i>	Unidirectional and linear	Reciprocal and nonlinear
<i>Equilibrium assumptions</i>	Quasi-stationary equilibrium	Punctuated equilibrium
<i>Primary mode of change</i>	Incremental change	Frame-breaking change
<i>Temporal distribution of change</i>	Continuous progressions	Episodic bursts
<i>Effectiveness assumptions</i>	Determined by situational context	Equifinality

^a This table is adapted from "Organizations reacting to hyperturbulence," by Meyer, Goes, and Brooks (1993).

viewed as gradual, steady, and continuous. Situational contexts are thought to largely determine the organizational characteristics needed for effective performance. Although some contingency theorists endorse the open systems concept of equifinality—the idea that different forms can be equally effective—analytical procedures for demonstrating this empirically have not been developed (Drazin & Van de Ven, 1985).

The history of life contains “long periods of boredom and short periods of terror.”

Stephen Jay Gould, *The Panda's Thumb*

In contrast, configurational inquiry represents a holistic stance, an assertion that the parts of a social entity take their meaning from the whole and cannot be understood in isolation. Rather than trying to explain how order is designed into the parts of an organization, configurational theorists try to explain how order emerges from the interaction of those parts as a whole. Social systems are seen as tightly coupled amalgams entangled in bidirectional causal loops. Nonlinearity is acknowledged, so variables found to be causally related in one configuration may be unrelated or even inversely related in another. Configurational theorists expect organizations to alternate between disequilibrium and equilibrium, with discontinuous change punctuating periods of stability. Change is seen as episodic, in part because organizations are tightly coupled. The couplings are pliable up to a point, but if stretched beyond that point, they actively resist change. Since major organizational changes are assumed to occur in rapid transformations from one comparatively stable state to another, configurational researchers often design longitudinal studies, and theoretical accounts stress time dependence and history dependence. In acknowledging that there is more than one way to succeed in each type of setting, the configurational approach explicitly accommodates the important concept of equifinality. For instance, equifinality might imply that pursuing either technological innovation or a niche strategy could enable a particular organization to thrive in a volatile environment. The configurational twist would be to add that neither strategic approach is liable to work unless it is embedded in an appropriate pattern of coherent organizational processes and structures.

Our comparison of the assumptions underlying contingency and configurational theories can be likened to Prigogine and Stengers's (1984) distinction between the assumptions of Newtonian physics and those of emerging chaos theories. Like contingency theorists, those taking the Newtonian perspective envision a world where stability, order, uniformity, and equilibrium predominate. The important relationships are linear, wherein small causes have small effects. In contrast, the configurational approach shares chaos theory's acknowledgment of “disorder, instability, diversity, disequilibrium, nonlinear relationships (in which small inputs can trigger massive consequences), and temporality—a heightened sensitivity to the flows of time” (Prigogine & Stengers, 1984: xvi–xv). A central insight of chaos theory

is that patterns lurk beneath systems' seemingly random behaviors. Chaos theorists call these patterns "strange attractors"; organizational theorists call them configurations.

The classification of the constituents of a chaos, nothing less here is essayed.

Herman Melville, *Moby-Dick*

Table 1 accentuates the differences between contingency theory and the configurational approach for purposes of comparison. The actual assumptions underlying specific theories and empirical work informed by both perspectives are, in fact, arrayed along continua bounded by the two extremes.

The History of Configurational Thinking

Social science is grounded in the assumption that social life is orderly. Discovering and invoking configurational patterns, types, and categories is therefore fundamental to social theory and research. Configurations allow people to order and make sense out of their worlds by sorting things into discrete and relatively homogeneous groups. Indeed, systematic classification and the explication of rationales for classification are "tantamount to the codification of the existing state of knowledge in a discipline" (Tiryakian, 1968: 178). Nevertheless, configurational thinking has long aroused ideological and methodological controversy.

From Marx to Weber, the history of sociology is littered with the debris of ruined typologies.

Thomas Burns, *Methods of Organizational Research*
(V. Vroom, ed.)

One enduring debate concerns the extent to which typologies can function as theoretical models. Many would limit the role of typologies to description and classification. For example, Rich argued that "the typology is essentially a sophisticated information storage and retrieval system" (1992: 758), and McKelvey flatly maintained that "the ideal type cannot be used in empirical research" (1975: 510). Others have deplored the prevalence in the literature of "armchair typologies" and "fuzzy frameworks," which are characterized as "pseudotheories" formed by casual induction instead of rigorous deduction from theory (Meyer, 1991: 827–828).

On the other hand, Weber, whose name is most commonly associated with the development of ideal types, attributed unmistakable theoretical properties to the construct:

An ideal type is formed by the one-sided *accentuation* of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified *analytical* construct (Weber, 1963: 398).

It [an ideal type] is not *description* of reality but aims to give unambiguous means of expression to such a description . . . it is no hypothesis but rather it offers guidance to the construction of a hypothesis (Weber, 1963: 396).

McKinney argued that the theoretical merits of typological research arise directly from the inherently configurational nature of types: "The constructed type organizes experience in a somewhat different fashion than does the ordinary concept in that it forms a series of attributes into a configuration . . . for theoretical purposes" (1966: 11). Tiryakian developed this idea further, arguing that typological classification has a twofold function—codification and prediction:

A typology goes beyond sheer description by simplifying the ordering of the elements of a population, and the known relevant traits of that population, into distinct groupings; in this capacity a typological classification creates order out of the potential chaos of discrete, discontinuous, or heterogeneous observations. But in so codifying phenomena, it also permits the observer to seek and predict relationships between phenomena that do not seem to be connected in any obvious way. This is because a good typology is not a collection of undifferentiated entities but is composed of a cluster of traits which do in reality "hang together" (Tiryakian, 1968: 178).

In unguarded moments, researchers often imply that classification amounts to causal explanation. "The head of finance prevailed because she is inner-directed," or "As a classic machine bureaucracy, General Motors was unable to respond to the changing structure of its industry." To accord typological classification the methodological status of causal explanation is, however, "to introduce stereotyping as a mode of scientific explanation" (Tiryakian, 1968: 179). The mathematician Charles Dodgson, writing as Lewis Carroll, put it even more succinctly:

"Naming something," said Alice to the Red Queen, "isn't the same as explaining it."

Lewis Carroll, *Alice's Adventures in Wonderland*

Classification in Organizational Analysis

Organizational analysis has a research tradition rife with conceptual attempts at classifying organizations, as Carper and Snizek (1980) and McKelvey (1982) have documented. Classification has been at the root of organizational theorizing, from Weber's (1947) notions of charisma, traditionalism, and bureaucracy, through Burns and Stalker's (1961) distinction between mechanistic and organic structures, to Mintzberg's (1979) distinctions between simple structure, machine bureaucracy, professional bureaucracy, divisionalized form, and "adhocracy." Underlying all of these classification schemes, and many others, is the attempt to understand organizational diversity through typologies and taxonomies. The purpose of classification has been to abstract and systematically explore key theoretical ideas such as rationality, bureaucracy, and control. Classifications have been used to sup-

port a central tenet of organization theory, namely, that there are different kinds of organization and that many (or all) aspects of organizational functioning are related to organizational type.

There are two very important principles underlying attempts to create classification systems. The first is the idea of *coherence* between organizational elements. Theorizing has suggested, and much empirical research has confirmed, that organizational elements correlate in understandable and stable ways (Donaldson, 1986). This idea leads to the second principle, the *holistic nature* of organizational phenomena. It is the patterning of organizational elements that should be the focus of inquiry rather than "bivariate or sharply circumscribed multivariate analysis" (Miller & Friesen, 1984: 15). Scholars need to be careful not to atomize the essential interconnectedness of organizations. These principles suggest that there is a limited range of organizational forms and that an understanding of the parts within an organization can be gained only by looking at the overall patterning. Organizational structures and management systems are best understood in terms of overall patterns rather than in terms of analyses or narrowly drawn sets of organizational properties.

A classification is a communication system and the best one is one that combines greatest information content with greatest ease of information retrieval.

Ernst Mayr, *Principles of Scientific Zoology*

The creation of organizational classifications has been justified in a variety of ways. On epistemological grounds, writers such as Haas, Hall, and Johnson (1966) and McKelvey (1975, 1982) have argued that to understand commonalties across organizations, a science of diversity must first be developed that allows their classification into homogeneous categories. McKelvey (1982) in particular suggested that the identification of homogeneous groups is beneficial to organizational science in that solid findings about a narrow population are better than marginal findings generalized to a broader population. If this principle is repeated with other populations, scientific findings from one population can be replicated on others, and the corpus of knowledge about generalizable principles of organizational function and process grows. Classification viewed in these terms is an important and basic step in the conduct of scientific inquiry into organizations. Rich (1992) and Sanchez (1993) have recently reemphasized this view.

Everything should be made as simple as possible, but no simpler.

Albert Einstein, *The Evolution of Physics*

Critics have charged that some classification schemes oversimplify reality and fail to reflect the complexity of organizational life (McKelvey, 1982). In particular, classifications based upon only one or two dimensions

have been criticized (Carper & Snizek, 1980). We too believe that organizational configurations incorporating multiple dimensions are apt to prove most valuable in both theoretical and empirical applications. But there is a trade-off. As dimensions are added to increase congruence with reality, configurations necessarily grow more complex and unwieldy. It would be naive to think that the perfect taxonomy is the one that perfectly replicates reality. Even if such a taxonomy could be constructed, its specificity would defeat its purpose—to generalize and abstract.

The Debate Between Typologists and Taxonomists

Organizational scholars taking configurational approaches are commonly divided into two groups—typologists and taxonomists. Most scholars currently refer to conceptually derived sets of configurations as *typologies* and to empirically derived sets of configurations as *taxonomies*. Reviews of the literature (Carper & Snizek, 1980; Hambrick, 1984; McKelvey & Aldrich, 1983; Pinder & Moore, 1979; Rich, 1992; Sanchez, 1993; Sneath & Sokal, 1973) document an ongoing semantic confusion and a spirited debate about the relative merits of these two approaches.

Typologists generally follow the Weberian logic of ideal types, accentuating key characteristics so as to draw a priori distinctions between organizations. Weber's distinction between charismatic, traditional, and bureaucratic forms took the nature of "imperative coordination" as the central organizational characteristic; Burns and Stalker's (1961) distinction between organic and mechanistic forms was based on systemic properties; Etzioni (1961) focused on compliance relationships; and Blau and Scott (1962) asked "Who benefits?" Woodward (1958, 1965), Perrow (1967), and Thompson (1967) offered typologies distinguishing organizations on the basis of the technologies they used. Mintzberg's (1979) structural typology has been very influential because it goes beyond a twofold distinction yet retains the essential elegance and simplicity that is the hallmark of typologies. In a similar vein, Miles and Snow's (1978) distinctions among defenders, analyzers, prospectors, and reactors are based on dimensions of business-unit strategies, although they also incorporate aspects of environmental enactments (Weick, 1969) and internal organizational characteristics.

Nevertheless, the allocation of organizations to types often is not clear-cut. Because of their a priori nature and frequent lack of specified empirical referents and cutoff points, typologies are difficult to use empirically (a difficulty that, however, Doty, Glick, and Huber deftly surmount in their article in this issue). The logic of taxonomy, the alternate configurational approach, lies in empirical classification based on multivariate analysis of multiple dimensions that may cover structures, processes, strategies, and contexts. Haas, Hall, and Johnson (1966), who were actually attempting to validate the approaches of Etzioni (1961) and Blau and Scott (1962), made one of the first taxonomic attempts. Pugh, Hickson, and Hinings (1969), whose starting point was a multidimensional analysis of bureaucracy, made another. Other taxonomic attempts have been those of Miller and Friesen

(1984), who used statistical manipulation of large samples of organizations observed over periods of 20 or more years to produce configurations or clusterings of relationships between variables, and Ulrich and McKelvey (1990), who identified distinctive subpopulations within the U.S. and Japanese electronics industries.

In McKelvey's (1982) terms, producing a taxonomy involves both phyletic and phenetic methods. Scholars taking the inductive phyletic method hypothesize classes a priori by tracing lines of organizational development. The phenetic method involves the use of empirical taxonomic methods to deductively test those classes. Thus, the taxonomic method allows organizational researchers to test theoretical propositions. By identifying similarities and differences among organizational elements, taxonomies can provide the basis for explanation, prediction, and scientific understanding of a number of organizational phenomena (McKelvey, 1975). These include organizational structure, effectiveness, managerial behavior, strategy, organizational change, and a host of other factors.

Organization theory has been particularly concerned with structural taxonomies with the usually implicit theoretical dynamic that the structure of an organization importantly influences, *inter alia*, the flow of information and the human interactions within the organization. Structure is seen as channeling collaboration, specifying modes of coordination, allocating power and responsibility, and prescribing levels of formality and complexity (Miller, 1987b). So the rationale for the production of theoretically based, empirical taxonomies is the theorized impact of taxonomic position on a wide range of other organizational phenomena. Our position is that theorizing about types and searching for their existence in taxonomic classes is important as the basis for a broad spectrum of organizational inquiry. The rationale for this search is the hypothesized impact of structural differences on many aspects of organizational functioning.

The world consists of two kinds of people: those who divide everything into two groups and those who don't.

Anonymous

In this case, we are the kind who don't. Rather, we see the dichotomy between typologies and taxonomies as largely artificial, and we view much of the debate between typologists and taxonomists as diversionary. Whereas organizational typologies may originate in the concepts and intuitions of theorists, all useful typologies have two properties: they synthesize configurations from multiple attributes, and their types are grounded in empirical experience. Similarly, whereas taxonomies are constructed by applying quantitative analytical techniques to a formal data base, all useful taxonomies are theoretically grounded—the particular organizational attributes used in forming groups are carefully selected on the basis of an explicated theory of organizational differences (McKelvey, 1982). Thus, rather than dividing those holding the configurational perspective into opposing theo-

retical and empirical camps, we fall in line with McKinney (1966) and Miller and Friesen (1984) in viewing typology and taxonomy as equally valuable, complementary approaches to representing organizational configurations.

FIVE NEW APPROACHES TO CONFIGURATION

The five articles included in the 1993 Special Research Forum on Configurations begin with different theoretical perspectives and find configurational patterns among different organizational, environmental, and contextual elements. The first, "Fit, Equifinality, and Organizational Effectiveness," by Harold Doty, William Glick, and George Huber, breaks important new ground in measurement of the Weberian ideal-type construct and develops mathematical models for evaluating alternative assumptions in configurational theory about fit and equifinality. The authors used those methods to directly compare the ability of two organizational typologies to explain differences in effectiveness among a diverse group of organizations. Their results do not support Mintzberg's (1979) structural configurations, but Miles and Snow's (1978) typology of competitive strategy receives considerable support. The authors argue that prior studies treating ideal types as mere categories have obscured their theoretical value and ignored the rich descriptions they offer. Moreover, they offer convincing evidence for the claim that ideal types are amenable to empirical scrutiny and falsification.

The article by Douglas Baker and John Cullen, "Administrative Reorganization and Configurational Context: The Contingent Effects of Age, Size, and Change in Size," shows how different configurations of organizational age, size, and growth or decline affect structural change, which is represented by administrative reorganization. The authors argue that administrative reorganization can be better understood through examining configurations of antecedent conditions. Indeed, different configurations can be seen to represent vying forces for change and stability. Although size, for instance, works as a major force for administrative reorganization, probably through complexity, how it is configured with an organization's age and extent of growth or decline produces differing levels of reorganization. The effects of these three variables cannot be understood alone or in additive combinations. This article's key contribution lies in conceptualizing and empirically analyzing aspects of context configurationally. Most researchers habitually think of configurations of organizations, not configurations of contexts—even though much theorizing on environment and technology has in effect been configurational (e.g., Emery & Trist, 1969; Perrow, 1967). Our ideas about configuration have to be pushed beyond organization structure, and Baker and Cullen point the way.

In "Organizational Configurations and Performance: A Comparison of Theoretical Approaches," David Ketchen, James Thomas, and Charles Snow depart from the inconclusive empirical literature on the strategic group-performance relationship. The authors distinguish between deductive (the-

ory-based) approaches to grouping firms and inductive (atheoretical) approaches. Their core argument is that theory-based approaches are apt to generate more consistent configurations with stronger relationships to subsequent performance levels. They test the argument by using two different methods to sort a sample of hospitals into configurations during each of five successive years. The study's central contribution comes from its direct comparison within the same data set of theoretical and atheoretical approaches to forming configurations. The theory-based configurations are found to be more closely linked to performance differences, and the authors point out that unless this approach is taken, researchers have no basis for making and testing hypotheses. Conversely, the descriptive approach seems appropriate and useful if a researcher wants to map the multidimensional contours of a social system as, for instance, a prelude to studying focal units nested within a system at a lower level of analysis.

"Environmental and Organizational Context and Executive Team Structure," by Sara Keck and Michael Tushman, adopts a punctuated equilibrium framework to model the effects of environmental jolts, technological discontinuities, organizational reorientations, and chief executive officer successions upon executive team demographics. In a panel study spanning 86 years of the cement industry's history, the authors find that during periods of organizational and environmental stability, turnover tends to decline and executive teams gravitate toward homogeneity. On the other hand, discontinuous changes in environments, technologies, and organizational configurations often trigger changes in team composition and add demographic and functional variety. This study's findings suggest that reorientations—configurational changes at the organizational level—are more likely to give rise to changes in the executive suite than are technological changes or environmental jolts.

Building on Quinn and Rohrbaugh's (1983) competing values framework, "Configurations of Organizational Effectiveness and Efficiency," by Cheri Ostroff and Neal Schmitt, shows that various configurations of organizational process and external resource characteristics will be associated with different outcomes. Their analyses suggest why organizations may be effective but not efficient, efficient but not effective, both effective and efficient, or neither effective nor efficient. Their findings suggest that relationships among attributes are nonlinear, compensatory, and constrained, offering support for several of the key assumptions of the configurational approach (see Table 1). This article is unique in treating organizational effectiveness as a multidimensional, configurational construct.

Collectively, these articles map some promising routes to making empirical contributions within the configurational perspective. For instance, they demonstrate the value of constructing configurations upon sound theoretical foundations and doing comparative theoretical research (Doty et al.; Ketchen et al.); of observing changes through analyses of longitudinal and historical data (Baker & Cullen; Keck & Tushman; Ketchen et al.); of expect-

ing incremental and discontinuous changes to have different effects (Keck & Tushman); and of looking for patterns in unlikely places like contexts (Baker & Cullen) and across dimensions of performance (Ostroff & Schmitt).

DIRECTIONS FOR FUTURE THEORY AND RESEARCH

In assembling this special research forum, we sought to acquaint *AMJ* readers with the past contributions of configurational approaches to organizational analysis, to showcase recent developments, and to stimulate future work in the area. In the call for papers, we invited diverse perspectives, research methodologies, and levels of analysis. We were gratified by the number of authors who responded and by the high quality of the work they sent us for consideration.

The majority of those papers were situated at a primarily organizational level of analysis. This is probably because configurational thinking is less developed at the group and individual levels. Nevertheless, we suggest that the configurational approach can also stimulate creative theorizing about the behaviors of individuals and groups and can advance empirical understanding of those behaviors. Below, we offer examples of individual- and group-level theories that contain elements of the configurational approach. We then suggest how these theories might be extended and modified to become more explicitly configurational.¹

We find examples of nascent configurational thinking at the individual level in content theories of personality, motivation, jobs or occupations, vocations or careers, in contingency theories of leadership, and in interactional psychology. Glimpses of configurational potential at the group level can be located in the sociotechnical systems approach to work group design, the social psychological perspective on group structure and process, the multiple constituency perspective on work unit activities, and recent work on organizational demography. The examples we have chosen are not necessarily the most appropriate ones that can be found in the literature, nor are they representative of current state of development in these micro-level topics. Rather, we chose them to stimulate thinking, to illustrate how specific theories might be developed in accord with the configurational theme, and to suggest possible directions for future research.

Developing Configurational Approaches at the Individual Level

A good example of an individual-level configurational theory is the personality typology developed by Jung (1928). Using two dimensions, mode of decision making (thinking versus feeling) and mode of data input

¹ Two manuscripts submitted for the 1993 Special Research Forum on Configurations dealing with micro (organization behavior–human resource management) topics were potential contributions to these areas. However, our tight publication schedule did not allow sufficient time for their revision and evaluation. Consequently, they will be evaluated as part of the regular pool of submissions to *AMJ*.

(sensing versus intuition), Jung described four major personality types. He did not assert that any of the four types was superior to the others, but felt that each had unique strengths and weaknesses. This framework incorporates two of the key assumptions of the configurational approach outlined in Table 1, equifinality and nonlinearity of the relationships among attributes. Using Jung's typology, Mitroff (1983) speculated that individuals with different personality types develop different idealized images of organizations. This line of thinking suggests that people with different personality types may interpret the same objective organizational circumstances differently. Moreover, when mated with particular configurations of group or organizational attributes, Jungian personality types could evoke unique outcomes in terms of an individual's attributes and behaviors, a group's dynamics and performance, and an organization's effectiveness and survival.

The importance of person-organization fit as implied above is the explicit focus of recent work by Chatman (1989, 1991) and Schneider (1987). Building on the idea of interactional psychology (Magnusson & Endler, 1977), Chatman (1989) proposed that congruence between the norms and values of organizations and the values of individuals is important for outcomes such as the latter's extrarole behavior and tenure. Schneider (1987) observed that attraction, selection, and retention processes will lead to homogeneity in the types of people within an organization. Both sets of ideas are grounded in the notion of fit, or congruence, between a set of individual attributes and a set of organizational characteristics. However, both researchers based their hypotheses on the assumptions of linearity and determinism in the relationship between attributes and outcomes. Although this congruence hypothesis has the advantage of parsimony, it does not acknowledge the possibility of different types of interaction between sets of organizational characteristics and sets of individual attributes. By adopting some of the assumptions listed in Table 1, it may be possible to extend congruence theories into configurational models. For example, a high level of person-organization fit on some attributes may lead to different outcomes than a moderate level of fit on a different set of attributes, or both may lead to similar outcomes. Further, a low level of fit on certain attributes need not always imply negative outcomes and in fact may lead to positive, organizationally desirable consequences. For example, the idea of creative individualism (Van Maanen & Schein, 1979) refers to poor fit between individual values and organizational norms, which is posited to be essential for organizational innovation.

Several need theories of motivation also have some elements of the configurational approach. Theorists (Alderfer, 1972; Maslow, 1954; McClelland, 1961) have posited that individuals have a variety of different needs and that, when they are salient, needs shape the individuals' behavior. For instance, a familiar framework is that of McClelland (1985), who proposed three basic needs for all humans: needs for achievement, affiliation, and power. The strength of these needs is said to vary across individuals and to affect their actions. A commonality of established need theories is that they

focus on the relationship of one need to outcome variables but seldom consider a constellation of needs in a holistic fashion. An extreme example is Maslow's (1954) theory; he argued that needs are hierarchically ordered in such a way that only one is operational at any point in time. Later need theorists (e.g., Alderfer, 1972) have disputed Maslow's claim, arguing that multiple needs can be salient concurrently. The latter argument suggests that people's needs may be configured in distinct patterns yielding disparate affective and behavioral outcomes. For example, an individual with high needs for achievement and power but a low need for affiliation may thrive in certain occupations and work settings, and another with low needs for achievement and power coupled with a high need for affiliation may gravitate toward a completely different work situation. Casting the theory in a configurational perspective accentuates patterns across multiple needs, highlighting new behavioral implications, and this refocusing may lead to some fresh insights into human motivation.

The job characteristics model (Hackman & Oldham, 1980) is another motivation theory with the potential for expansion into a configurational model. According to Hackman and Oldham, jobs have certain attributes that combine either multiplicatively or additively to enhance motivation and performance. The theory rests on an assumption that these attributes are compensatory—that a high level of one attribute compensates for a low level of others. However, one might posit a nonlinear, noncompensatory model wherein different configurations of task attributes are associated with different behavioral and attitudinal responses. It also would be interesting to identify the organizational contexts in which one type of job profile is more or less prevalent than another, or the types of individuals who find one type of job profile more attractive than others. The latter suggests that the configurational approach could be a logical extension of the basic person-job fit hypothesis (Edwards, 1991).

The person-job fit hypothesis also underlies Holland's (1973) typology of occupations. In fact, Holland's theory of careers may come closest to a configurational model in that it satisfies many of the assumptions outlined in Table 1. The theory is based on four major assumptions: (1) Most people can be categorized into one of six personality types. (2) Most environments can be classified into one of six kinds. (3) People search for environments that fit their personalities. (4) A person's behavior is determined by an interaction between his or her personality and the characteristics of the environment. This theory's basic hypothesis is that "vocational satisfaction, stability, and achievement depend on the congruence between one's personality and the environment (composed largely of other people) in which one works" (Holland, 1973: 9). The configurational character of this theory arises from its definition of congruence in terms of the multidimensional structure of personality types and environmental types. Fit is evaluated across a number of individual attributes, including preferred activities and roles, and a set of environmental demands for specific competencies, values, and personal traits. In addition to providing a holistic synthesis of personality and envi-

ronmental types, the theory specifies a set of components that are highly constrained. Relationships among the components are reciprocal and nonlinear. In other words, having more of one factor cannot compensate for having less of another. Equifinality is clearly implied since congruence involving any of the six types is said to lead to career satisfaction. Although this theory focuses on occupations, it seems applicable to organizational settings as well. Perhaps it would be possible to classify organizations along the six environmental types and to assess cross-level effects of different organizational configurations and individual personalities. For example, individuals with enterprising personalities may find it more satisfying to work in an enterprising than in a social or an investigative organizational environment. Indeed, it might be instructive to compare the predictive power of the Jung and Holland theories of personality types in particular organizational settings. A study designed like the one that Doty, Glick, and Huber present in this issue seems feasible and interesting.

Earlier, we drew a distinction between contingency theory and the configurational approach at the organizational level. This distinction is also relevant at the individual level. Contingency theories of leadership (Fiedler, 1967; House, 1971) provide a good example. Like organization-level contingency theories, most leadership theories represent a reductionistic stance. They typically focus on a limited number of variables and treat relationships as deterministic. An alternative would be to treat leadership as a multidimensional phenomenon and analyze leaders' relations to their contexts and to the outcomes they achieve as configurational problems.

One multivariate approach to leadership is found in research on manager's influence behaviors (Kipnis, Schmidt, & Wilkinson, 1980; Kipnis & Schmidt, 1988; Yukl & Fable, 1990). Using cluster analysis, Kipnis and Schmidt (1988) found four general influence styles defined by different configurations of six influence tactics. Interesting questions that could be pursued from a configurational perspective include, How generalizable are these configurations to different organizational contexts? What other leadership attributes are associated with each of the four influence styles? and How might different configurations of leadership traits, leadership behavior, and influence styles be associated with leadership effectiveness? We believe that addressing such configurational questions might push leadership research beyond univariate and bivariate analyses toward multivariate analyses of reciprocal and nonlinear relationships.

Developing Configurational Approaches at the Group Level

The sociotechnical systems approach (Emery & Trist, 1969) maintains that organizations consist of both social and technological elements and that work group design must take both into account. Accordingly, groups are assigned responsibility for performing a primary task and given the autonomy needed to accomplish it. In some cases, group members become responsible for allocating tasks, selecting new members, and evaluating each member's contribution to team performance. Rewards are based on either skill

acquisition or total team outputs. Further, all these variables must work in concert for an organization to realize optimal levels of performance and morale. In this sense, the sociotechnical approach to work group design is inherently configurational. As we noted earlier, configurational inquiry assumes a holistic stance, an assertion that the parts of a social entity take their meaning from the whole and cannot be understood in isolation. If organizations differ in their social and technical configurations, it is reasonable to expect more than one form of sociotechnical system to be viable at the work group level. But to date, authors writing in this area have implicitly assumed that there exists but one optimal sociotechnical design. This assumption may have unnecessarily limited work group design efforts. A general question to guide further conceptualization along the configurational track is, What configurations of task, social, authority, and reward systems are compatible with what types of organizations?

The social psychological perspective on work group design (Hackman & Oldham, 1980) also has potential for development along configurational lines. Hackman and Oldham identified three sets of factors associated with work group effectiveness: design features, such as task design, group composition, and group norms; interpersonal factors, including coordination of efforts, sharing of knowledge, and development of performance strategies; and organizational factors—rewards, training, and task constraints. They also identified a set of intermediate criteria in addition to several criteria of work group effectiveness. However, they did not explicitly consider the possibility that different combinations of the three sets of antecedent variables could be associated with different levels of attainment of the intermediate criteria or the ultimate group effectiveness criteria. Furthermore, the three sets of antecedent variables might be differently configured in different organizations. In general, this social psychological approach to work group design has great potential for development as a configurational theory.

Traces of configurational thinking can also be found in the multiple constituency model of work unit effectiveness (Tsui, 1990; Tsui & Milkovich, 1987). Tsui and Milkovich showed that different constituencies of human resource subunits wanted the subunits to perform different sets of activities. Tsui found that three different constituencies' evaluations of human resource subunits' effectiveness were linked to distinctive patterns of contextual variables in and adaptive responses by the subunits. It seems logical to extend this work by examining patterns of subunits' activities or tasks and environmental contexts in different effectiveness domains. This extension might be a study similar to that Ostroff and Schmitt report in this issue. In this case, the effectiveness domains would become the opinions of the different constituencies.

Another area with considerable promise for configurational analysis is organizational demography, particularly the demography of work groups. Most analyses have been limited to one or two demographic variables, with age and company tenure used most frequently (e.g., O'Reilly, Caldwell, & Barnett, 1989; Zenger & Lawrence, 1989). Tsui and her colleagues (Tsui,

Egan, & O'Reilly, 1992; Tsui & O'Reilly, 1989) have argued for treating demography as a multivariate concept. However, they have assumed that multiple demographic variables are linearly related and compensatory. It could be that certain demographic composites are optimal for one group outcome, and other composites are optimal for another outcome. To date, compositional demographic analysis has focused exclusively on the distribution of individuals along single variables, ignoring joint distributions across multiple demographic attributes. Consider, for example, how the dynamics might differ between a group composed of a large proportion of young, less educated men and a small proportion of older, more educated women and a second group composed of a large proportion of young, more educated women and a small proportion of older, less educated men. We suspect that we would observe different processes, issues, and outcomes in these two groups. Configurational research on work group demography using profile or conjoint analysis may yield new insights that could not be revealed by research using regression models.

As we considered how individual- and group-level theories could be extended into configurational models, it became clear that many of these conceptual developments involve relationships that cross levels of analysis. For example, theories of configurational fit between individual personality and organizational type, between individual interests and job profiles, and models of compatibility between work group design and organizational structure span at least two and potentially three levels. This breadth suggests that the configurational perspective evokes rich opportunities for cross-level theorizing and research. It also suggests that investigations of configurational problems will challenge researchers to be serious and creative in surmounting the difficulties associated with cross-level and multilevel research (Rousseau, 1985). If they succeed, the configurational approach will have helped the field fulfill the potential seen by Crozier:

Organizational analysis can supply that element most lacking in understanding the relationships between micro and macro . . . namely, the integration of the constituent elements of social systems.

Michel Crozier, *The Stalled Society*

A phenomenon with untapped potential for integrating the individual, group, and organizational levels involves what might be called typologies-in-use. Categorizing the world according to types is more than just a tool of scientific analysis—it is the basic orientation of all human beings to their situation (Anderson, 1980; Rosch, 1978). People navigate organizational space by constructing and consulting existential typologies. These typologies affect what they notice, what meanings they ascribe to events, and how they “enact” the social world (Lévi-Strauss, 1966). This means that researchers serious about understanding people's behavior in organizations should treat typologies-in-use as primary ethnographic data. Recent research in the area of managerial cognition (Porac, Thomas, & Baden-Fuller, 1989; Reger

& Huff, 1993) shows that managers have and use complex multidimensional classification schemes. To extend the configurational perspective into the cognitive realm, researchers could ask, To what extent do organization members share common categories? How do individuals and social collectives integrate multiple typologies? and What correspondence, if any, is there between researchers' empirical taxonomies and social actors' existential ones? Answers to such questions could capitalize on practitioners' wisdom, and they might inspire richer theoretical models with greater relevance to organizational practice.

Conclusion

Our goal has been to convince *AMJ* readers that the configurational approach represents an exciting intellectual direction with the potential for revitalizing theory and research about individuals, groups, and organizations. Our optimism is fueled by the conviction that although the possible combinations of individual and group attributes may be infinite, only a finite number of coherent configurations are prevalent in the social world. We maintain that configurations add value to organizational science both on an *ideational* plane and an *empirical* plane. The research reported in this volume shows that configurations are characterized by different relationships among their constituent variables. This finding has profound implications: it suggests that incorporating configurations into theory could add precision and power and that distinguishing between configurations in empirical analyses could increase the variance explained.

The world is so full of a number of things, I'm sure we should all
be happy as kings.

Robert Louis Stevenson, *A Child's Garden of Verses*

REFERENCES

- Alderfer, C. P. 1972. *Existence, relatedness, and growth*. New York: Free Press.
- Anderson, J. R. 1980. *Cognitive psychology and its implications*. San Francisco: W. H. Freeman.
- Berger, P. L., & Luckman, T. 1967. *The social construction of reality*. New York: Doubleday.
- Blau, P. M., & Scott, W. R. 1962. *Formal organizations*. San Francisco: Chandler.
- Burns, T., & Stalker, G. M. 1961. *The management of innovation*. London: Tavistock.
- Carper, W. B., & Snizek, W. E. 1980. The nature and types of organizational taxonomies: An overview. *Academy of Management Review*, 5: 65-75.
- Chatman, J. A. 1989. Improving interactional organizational research: A model of person-organization fit. *Academy of Management Review*, 14: 333-349.
- Chatman, J. A. 1991. Matching people and organizations: Selection and socialization in public accounting firms. *Administrative Science Quarterly*, 36: 459-484.
- DiMaggio, P. J., & Powell, W. W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48: 147-160.

- Donaldson, L. 1986. *In defense of organization theory*. Cambridge: Cambridge University Press.
- Drazin, R., & Van de Ven, A. H. 1985. Alternative forms of fit in contingency theory. *Administrative Science Quarterly*, 30: 514–539.
- Edwards, J. R. 1991. Person-job fit: A conceptual integration, literature review, and methodological critique. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology*, vol. 6: 283–357. New York: Wiley.
- Emery, F. E., & Trist, E. 1969. Socio-technical systems. In F. E. Emery (Ed.), *Systems thinking*: 21–32. Harmondsworth, England: Penguin.
- Etzioni, A. 1961. *A comparative analysis of complex organizations*. New York: Free Press.
- Fiedler, F. E. 1967. *A theory of leadership effectiveness*. New York: McGraw-Hill.
- Haas, J. E., Hall, R. H., & Johnson, N. J. 1966. Toward an empirically derived taxonomy of organizations. In R. V. Bowers (Ed.), *Studies on behavior in organizations: A research symposium*: 157–180. Athens: University of Georgia Press.
- Hackman, J. R., & Oldham, G. R. 1980. *Work redesign*. Reading, MA: Addison-Wesley.
- Hambrick, D. C. 1984. Taxonomic approaches to studying strategy: Some conceptual and methodological issues. *Journal of Management*, 10: 27–41.
- Hannan, M. T., & Freeman, J. 1989. *Organizational ecology*. Cambridge, MA: Harvard University Press.
- Hinings, C. R., & Greenwood, R. 1988. *The dynamics of strategic change*. Oxford, England: Basil Blackwell.
- Holland, J. I. 1973. *Making vocational choices: A theory of careers*. Englewood Cliffs, NJ: Prentice-Hall.
- House, R. J. 1971. A path-goal theory of leadership. *Administrative Science Quarterly*, 16: 321–339.
- Jung, C. G. 1923. *Psychological types*. London: Routledge & Kegan Paul.
- Kipnis, D., & Schmidt, S. M. 1988. Upward influence styles: Relationship with performance evaluation, salary, and stress. *Administrative Science Quarterly*, 33: 528–542.
- Kipnis, D., Schmidt, S. M., & Wilkinson, L. 1980. Intraorganizational influence tactics: Explorations in getting one's way. *Journal of Applied Psychology*, 65: 440–452.
- Loftus, E. F. 1979. The malleability of human memory. *American Scientist*, 67: 312–320.
- Lévi-Strauss, C. 1966. *The savage mind*. Chicago: University of Chicago Press.
- McClelland, D. 1961. *The achieving society*. Princeton, NJ: Van Nostrand.
- McClelland, D. 1985. How motives, skills, and values determine what people do. *American Psychologist*, 40: 812–825.
- McKelvey, B. 1975. Guidelines for the empirical classification of organizations. *Administrative Science Quarterly*, 20: 509–525.
- McKelvey, B. 1982. *Organizational systematics: Taxonomy, evolution and classification*. Berkeley: University of California Press.
- McKelvey, B., & Aldrich, H. 1983. Populations, natural selection, and applied organizational science. *Administrative Science Quarterly*, 28: 101–128.
- McKinney, J. C. 1966. *Constructive typology and social theory*. New York: Meredith.
- Magnusson, D., & Endler, N. 1977. Interactional psychology: Present status and future prospects. In D. Magnusson & N. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology*: 3–35. Hillsdale, NJ: Erlbaum.

- Maslow, A. 1954. *Motivation and personality*. New York: Harper & Row.
- Meyer, A. D. 1982. How ideologies supplant formal structures and shape responses to environments. *Journal of Management Studies*, 19: 45–62.
- Meyer, A. D. 1991. What is strategy's distinctive competence? *Journal of Management*, 17: 821–833.
- Meyer, A. D., Goes, J. B., & Brooks, G. R. 1993. Organizations reacting to hypervolatility. In G. P. Huber & W. H. Glick (Eds.), *Organizational change and redesign: Ideas and insights for improving managerial performance*: 66–111. New York: Oxford University Press.
- Miles, R. E., & Snow, C. C. 1978. *Organizational strategy, structure and process*. New York: McGraw-Hill.
- Miller, D. 1987a. The genesis of configuration. *Academy of Management Review*, 12: 686–701.
- Miller, D. 1987b. Strategy making and structure: Analysis and implications for performance. *Academy of Management Journal*, 30: 7–32.
- Miller, D., & Friesen, P. H. 1977. Strategy making in context: Ten empirical archetypes. *Journal of Management Studies*, 14: 259–280.
- Miller, D., & Friesen, P. H. 1984. *Organizations: A quantum view*. Englewood Cliffs, NJ: Prentice-Hall.
- Mintzberg, H. 1979. *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.
- Mitroff, I. I. 1983. *Stakeholders of the organizational mind*. San Francisco: Jossey-Bass.
- O'Reilly, C. A., III, Caldwell, D. F., & Barnett, W. P. 1989. Work group demography, social integration, and turnover. *Administrative Science Quarterly*, 34: 21–37.
- Perrow, C. 1967. A framework for the comparative analysis of organizations. *American Sociological Review*, 32: 194–208.
- Pinder, C. C., & Moore, L. F. 1979. The resurrection of taxonomy to aid the development of middle range theories of organizational behavior. *Administrative Science Quarterly*, 24: 99–118.
- Porac, J. R., Thomas, H., & Baden-Fuller, C. 1989. Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers. *Journal of Management Studies*, 15: 397–416.
- Prigogine, I., & Stengers, I. 1984. *Order out of chaos*. New York: Bantam.
- Pugh, D. S., Hickson, D. J., & Hinings, C. R. 1969. An empirical taxonomy of work organizations. *Administrative Science Quarterly*, 14: 115–126.
- Quinn, R. E., & Rohrbaugh, J. 1983. A spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science*, 29: 363–377.
- Reger, R. K., & Huff, A. S. 1993. Strategic groups: A cognitive perspective. *Strategic Management Journal*, 14: 103–124.
- Rich, P. 1992. The organizational taxonomy: Definition and design. *Academy of Management Review*, 17: 758–781.
- Rosch, E. 1978. Principles of categorization. In E. Rosch & B. Lloyd (Eds.), *Cognition and categorization*: 27–48. Hillsdale, NJ: Erlbaum.
- Rousseau, D. M. 1985. Issues of level in organizational research: Multi-level and cross-level perspectives. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*, vol. 7: 1–37. Greenwich, CT: JAI Press.
- Sanchez, J. C. 1993. The long and thorny way to an organizational taxonomy. *Organization Studies*, 14: 73–92.
- Schneider, B. 1987. The people make the place. *Personnel Psychology*, 14: 437–457.
- Sneath, P. H. A., & Sokal, R. R. 1973. *Numerical taxonomy*. San Francisco: Freeman.

- Thompson, J. D. 1967. *Organizations in action*. New York: McGraw-Hill.
- Tiryakian, E. A. 1968. Typologies. In D. L. Sills (Ed.), *International encyclopedia of the social sciences*: 177–186. New York: Macmillan & Free Press.
- Tsui, A. S. 1990. A multiple-constituency model of effectiveness: An empirical examination at the human resource subunit level. *Administrative Science Quarterly*, 35: 458–483.
- Tsui, A. S., Egan, T. D., & O'Reilly, C. A., III. 1992. Being different: Relational demography and organizational attachment. *Administrative Science Quarterly*, 37: 549–579.
- Tsui, A. S., & Milkovich, G. 1987. Personnel department activities: Constituency perspectives and preferences. *Personnel Psychology*, 40: 519–537.
- Tsui, A. S., & O'Reilly, C. A., III. 1989. Beyond simply demographic effects: The importance of relational demography in superior-subordinate dyads. *Academy of Management Journal*, 32: 402–423.
- Ulrich, D., & McKelvey, B. 1990. General organizational classification: An empirical test using the United States and Japanese electronics industries. *Organization Science*, 1: 99–118.
- Van Maanen, J., & Schein, E. 1979. Toward a theory of organizational socialization. In B. M. Staw (Ed.), *Research in organizational behavior*, vol. 1: 209–264. Greenwich, CT: JAI Press.
- Weber, M. 1947. *Theory of social and economic organization*. New York: The Free Press.
- Weber, M. 1963. Objectivity in social science and social policy. In M. Natanson (Ed.), *Philosophy of the social sciences*: 355–418. New York: Random House.
- Weick, K. E. 1969. *The social psychology of organizing*. Reading, MA: Addison-Wesley.
- Weick, K. E. 1974. Middle range theories of social systems. *Behavioral Science*, 19: 357–367.
- Woodward, J. 1958. *Management and technology*. London: Her Majesty's Printing Office.
- Woodward, J. 1965. *Industrial organization: Theory and practice*. New York: Oxford University Press.
- Yukl, G., & Fable, C. M. 1990. Influence tactics and objectives in upward, downward, and lateral influence attempts. *Journal of Applied Psychology*, 75: 132–140.
- Zenger, T. R., & Lawrence, B. S. 1989. Organizational demography: The differential effects of age and tenure distributions on technical communication. *Academy of Management Journal*, 32: 353–376.

Alan D. Meyer is the Edwin E. & June Woldt Cone Professor of Management at the University of Oregon. His interests include organizational cognition, innovation, strategy, and design. He is currently studying organizations' responses to sudden changes in the structure and boundaries of their industries. He received his Ph.D. degree in organizational behavior and industrial relations from the University of California, Berkeley.

Anne S. Tsui, an associate professor of organizational behavior in the Graduate School of Management, University of California, Irvine, received her Ph.D. degree from the University of California, Los Angeles. Her current research interests include the study of managerial reputational effectiveness, effectiveness of the human resource management function in complex organizations, and analysis of demographic effects on work outcomes. One of her current projects, funded by the National Science Foundation, is focused on analyzing the nature of employer-organization relationships in firms facing competitive pressure for flexibility in managing the employee resource.

C. R. Hinings is the Thornton A. Graham Professor of Business in the Faculty of Business, University of Alberta. His research interests are strategic organizational change and the management of professional service firms, in particular the international management of the Big Six accounting firms.