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Abstract

Many scholars have described organization form as a management tool in the alignment of organization and environment. As the environment of many companies becomes more chaotic, the exploration of organization forms characterized by flexibility and adaptability has been intensifying. When reviewing existing literature on new organization forms, several gaps become apparent. These gaps can be traced back to the artificial separation between the macrolevel and the firm level of analysis and the prevalence of a static notion of form. To contribute to a more encompassing theory of new organization forms, a coevolutionary perspective is suggested. In this perspective, contextual variation of macrolevel management logics is proposed as a key mediator in the coevolution of organization and environment. At the firm level, the contextual variation of management logics is reflected in shared managerial schemas underlying strategic design actions. The resulting coevolutionary model shows how contextual applications of management logics may be a source of variation in new organization forms. On the basis of a literature review, three management logics, representing ideal types, are described: classical management logic, modern management logic, and postindustrial management logic. These logics are related to three levers of design actions which reflect fundamentally different interventions in form. Linking management logics to design levers results in a set of propositions to be tested in future empirical research.
(*Coevolution*; *Shared Managerial Schemas*; *Organization Form*; *Management Logics*)

Introduction

In the field of organization theory, many scholars have discussed the topic of organization form. Organization form has been described as an important management tool for aligning organization and environment by "... integrating the enterprise's existing resources to current demand" (Chandler 1962, p. 383). In recent publications, several developments in the business environment are indicated as triggers for reconsidering existing forms. Increasingly changing competitive forces have spawned experimentation with new organization forms that enable managers to deal with complexity and dynamics. A number of organization forms characterized by the ability to adapt and learn have been discussed (Ilinitch et al. 1996; Quinn et al. 1996; Volberda 1996, 1998).

As the environment is traditionally conceived as a primary source of change in organization forms, a large body of literature exists on the relationship between environment and form characteristics at a macrolevel. A well-established stream of research in contingency theory, for example, has examined organic forms adapted to highly complex and dynamic environments (Burns and Stalker 1961, Duncan 1972, Lawrence and Lorsch 1967). Furthermore, selection theories emphatically relate the emergence of new organization forms to environmental developments at the population level (Hannan and Freeman 1989). Both contingency and selection theories directly link specific form characteristics to environmental conditions without considering the intermediate design process. Only part of the differences in organization form between firms, however, can be explained by the state of the environment (Lewin and Stephens 1994). We therefore suggest a coevolutionary perspective on new organization forms which considers "... organizations, their populations, and their environments as a joint outcome of managerial actions, institutional influences and environmental phenomena" (Lewin et al., this issue). Several variables can be distinguished that shape the design process and thereby the emerging organization forms. In this paper, contextual variation of management logics that is

reflected in shared managerial schemas at the firm level is considered as a primary mediating variable. Coevolution then refers to the combined outcome of managerial intentionality—in terms of strategic design actions derived from a certain type of management logic (Daft and Lewin 1990, McKelvey 1997)—and environmental effects. To provide an explanation with respect to the impact of management logics and contextual variation on new organization forms, the design process is included in the analysis.

The paper is structured as follows. After introducing a coevolutionary framework of new organization forms, its main building blocks are discussed in more detail. Because the impact of management logics and their contextual application (i.e., shared managerial schemas) on the design process will be analyzed in future empirical research, a set of research propositions is presented. Finally, restrictions and elaborations of the theoretical framework are discussed.

The Traditional View Versus a Coevolutionary Perspective on New Organization Forms

In organization literature, many scholars describe the need for managing the environmental turbulence that firms face. Globalization, increased competition, and advances in information technology are indicated as important factors forcing managers to develop adequate strategies for alignment of organization and environment (Lewin and Stephens 1993, Volberda 1998). Organization form has traditionally been recognized as an important lever of change in the adaptation process (Burns and Stalker 1961, Lorsch 1977). While earlier discussions were dominated by a static view of alignment, most scholars and practitioners are now applying a more dynamic perspective: ". . . environments do not stand still for organizations to catch up. . ." (Ghoshal and Nohria 1993, p. 24).

An overview of the existing body of literature reveals certain gaps in the conceptualization of new organization forms. First of all, theorists discuss the emergence of new forms either as a firm-level issue—consequently describing organizational sources of variation—or as a macro-level issue, relating particular environmental conditions to particular organization designs. Inherently, an artificial distinction between the design process and its environmental context has been put in place. When studying design variations across firms, this separation prohibits scholars from deriving a satisfying explanation of differences within a particular landscape (cf. Lewin and Stephens 1994, p. 183). Only part of the design variations can be explained by the state of the environment, as firms

operating in the same context often show substantial differences in their respective forms. Secondly, despite the development of a more dynamic approach of alignment, the notion of new organization forms as static solutions to specific problems is preferred to forms as open-ended processes (Lester et al. 1998, Nohria and Berkley 1994). When matching environment and organization form, appropriate design attributes are often presented as end-state variables or fixed embodiments. This representation does not fit the growing interest in flexibility and adaptability as core capabilities of organizations operating in chaotic environments (Huber 1984; Volberda 1996, 1998). Several scholars have stressed the importance of studying the process in which a new form emerges (Hedberg et al. 1976, Nohria and Berkley 1994, Pettigrew 1997, Roberts and Greenwood 1997, Van de Ven and Poole 1988, Slappendel 1996). As Hedberg et al. (1976, p. 41) note, "designing an organization to fit society's needs implies that it is less important to discover where an organization is than to understand how it got there, and where it can go tomorrow."

With these considerations in mind, we introduce a coevolutionary perspective on new organization forms that emphasizes a firm's embeddedness in a broader context while explicitly taking into account idiosyncratic sources of variation in organization form (Lewin and Volberda, this issue). By shifting the focus to coevolution of organization and environment, the need for organizations to adapt to changing business landscapes is considered as well as the impact of organizational actions on the environment. More specifically, a coevolutionary perspective enables us to study the way in which environmental factors trigger the emergence of new forms and how these new forms underlie changes in the firm's environment.

A Coevolutionary Framework of New Organization Forms

Figure 1 shows an explanatory framework of new organization forms, based upon a coevolutionary perspective that reflects the multilevel and multidirectional nature of the joint development of business environments and new organization forms. We assume that, at different time periods, different management logics dominate organizational practice and theory. *Management logics* are defined as sets of macrolevel beliefs and values that strongly influence management practice and theory (cf. Barley and Kunda 1992). In this paper, it is argued that time- and place-specific conditions strongly influence the way in which management logics are applied at the firm level. We introduce the concept of *contextual variation* to refer to the translation of management logics into firm-specific

Figure 1   A Coevolutionary Framework of New Organization Forms

MACRO
COEVOLUTION

CONTEXTUAL VARIATION AT:
NATIONAL LEVEL
INDUSTRY LEVEL
FIRM LEVEL
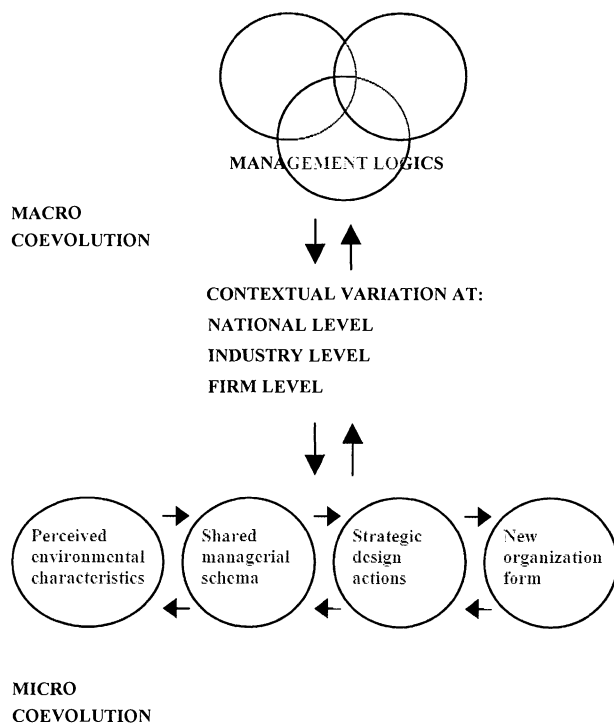
MICRO
COEVOLUTION

shared managerial schemas due to industry and national variables at the macrolevel, and firm-idiosyncratic variables at the microlevel. *Shared managerial schemas* are then considered idiosyncratic applications of a single or multiple management logic(s) that are shared among a firm's key decision makers. The reverse set of arrows in Figure 1 indicates the rise and diffusion of organizing principles and management techniques. Several scholars have studied the way in which new management practices arise. They have come up with a variety of management fashion setters both from within organizations (Galbraith 1980, Huczynski 1993) and from other institutional settings (Abrahamson 1991, 1996). We argue that, regardless of the source of innovation, individual firms provide fertile ground for the development of new practices. When proven successful, other firms may copy these practices, thereby contributing to their diffusion and legitimacy. While a substantial body of literature exists on the emergence of new management logics and on the role of managerial schemas within organizations (cf. Walsh 1995), the relationship between managerial schemas and management logics or "grand themes" (Abrahamson 1997, Barley and Kunda 1992, Eastman and Bailey 1998) remains largely unexplored. The coevolutionary framework of new organization forms aims at offering insights

into the multilevel dynamics reflected in the concept of contextual variation which shapes the emergence, diffusion, and prevalence of new organizing principles.

In line with McKelvey (1997), it is argued that ". . . coevolutionary effects take place at multiple levels within firms (microcoevolution) as well as between firms and their niche (macrocoevolution)." Whereas macrocoevolution is embodied in the link between management logics and shared managerial schemas and in the joint development of environment and organization form, microcoevolution is reflected in the strategic design process (see Figure 1). Perceived environmental characteristics derived from shared schemas of top management trigger strategic design actions that may lead to new organization forms. In other words, shared managerial schemas are considered a key factor in strategic design actions (Daft and Lengel 1984, Hambrick and Mason 1984, Meindl et al. 1994, Tyler and Steensma 1998). The multidirectional nature of the design process is apparent in the interrelatedness of shared managerial schemas, strategic design actions, and emerging organization forms. While a set of shared beliefs functions as a context for strategic design actions, it is also reproduced in these actions. A similar observation can be made with regard to the relationship between strategic design actions and new organization forms. The process of designing and implementing a new organization form is a nonlinear process of moving back and forth between design actions and outcomes.

Macrocoevolution: The Role of Management Logics

To understand the impact of management logics and contextual variation on the emergence of new organization forms, these concepts have to be discussed in more detail. The concept of management logic as applied in this paper is related to Barley and Kunda's notion of management ideology, which refers to a set of assumptions about the nature of organizations (1992, p. 363). At particular time periods and in particular contexts, management logics exist and are embodied in certain dominant design principles. Abrahamson (1996) pictures the emergence and development of management logics as a four-stage process. First, management techniques that significantly deviate from the state of the art are created by either theorists or practitioners. Next, the management fashion setters select certain innovative techniques that seem promising as solutions to existing problems. The need for new organizing principles rises due to environmental changes. Abrahamson mentions sociopsychological and technoeconomic forces as factors underlying such environmental changes.

The third stage of the fashion-setting process regards the processing of the newly introduced organizing principle. Fashion followers have to be convinced of its rationality and progressive character. Only then will they adopt the new organizing principles. Finally, diffusion of the principle takes place to get managers acquainted with it. Besides sociopsychological and technoeconomic forces, broad shifts in the intellectual climate of science and logic have been mentioned as the impetus for the emergence of new management logics (Eastman and Bailey 1998). In summary, next to sociopsychological factors ". . . a variety of (a) economic, (b) political, and (c) organizational forces opens gaps between organizations' actual and desired performances. The management-fashion-setting process brings these performance gaps to collective awareness and articulates new progressive and collectively acceptable techniques for narrowing these gaps." (Abrahamson 1996, p. 268). It is important to realize that each of the management logics that has emerged in the twentieth century can be found in today's thinking about organizations: ". . . images and practices central to each rhetoric were gradually institutionalized" (Barley and Kunda 1992, p. 365).

In the organization literature, several scholars have provided an overview of management logics (Barley and Kunda 1992, Eastman and Bailey 1998, Scott 1987, Volberda 1998). In their descriptions, organization theorists have used different lenses. For example, Barley and Kunda conceive of management logics as ways to justify control, which leads them to make a distinction between five management rhetorics that ". . . have left their mark on American managerial thought and practice" (1992, p. 364). Eastman and Bailey (1998), however, delineate patterns of rhetorical change based on the way in which the fact-value antinomy is mediated. They picture formalism, consensualism, and value-partisanship as three modes of mediation, each marking a specific time period. Volderda (1998) categorizes management perspectives by their rationality concept, environmental approach, and organizational approach. These dimensions underlie our discussion of three *idealized* management logics: classical management logic, modern management logic, and post-industrial management logic. While there is probably much more variation in management logic due to an idiosyncratic dimension of firms, McKelvey (1997) suggests using idealized models as one of the approaches to the problem of idiosyncrasy in organization science. These idealized models ". . . compartmentalize phenomena into idealized differentiated components where complexity is simple enough that simple rules might apply." (McKelvey 1997, p. 365). While the idealized models of management logic are discussed in an order that reflects

their historical development, it must be emphasized that each of them is recognized in today's management practice. Moreover, managers might be observed applying a blend of all three management logics.

Classical Management Logic. During this century, theoretical and practitioner-oriented thinking about management and organizations has been dominated largely by normative propositions of classical theories. Taken together, the ideas of scientific management, classical administrative and economic theory, and bureaucratic theory provided the theory and rules for the practice of the classical management logic. Scientific management (Taylor 1911) provides the rationale for job design by separating thinking from doing, focusing on the individual worker as opposed to the group, and stressing economic incentives as the sole source of motivation. Classical organizational theory (Fayol 1949) contributes to the guidelines for overall design of the organization, such as the process of dividing the organization into departments, coordinating the departments, managing the hierarchy, and so on (Kilmann, 1977, p. 20). Classical economic theory (Smith 1981) stresses the rationale for pursuing the single goal of maximization of profits. Finally, bureaucratic theory (Weber 1910) highlights the rationale for hierarchical authority relations.

By comparing bureaucracy based on rational-legal authority to the traditional structure, Weber provided the most sophisticated argument for the legitimization of the classical management logic. In this logic, organizations are considered machines—single-purpose mechanisms designed to transform specific inputs into specific outputs, and capable of engaging in different activities only if they are explicitly modified or redesigned for that purpose (Morgan 1986). Furthermore, the universe has been frequently compared to a hermetically sealed clock. Like the clock, its behavior was thought to be determined by its internal structure and the causal law of nature (Ackoff 1981). According to Scott (1987), the classical management perspective is a closed rational approach, which portrays organizations as tools designed to achieve preset ends and which ignores or minimizes the perturbations and opportunities posed by connections to a wider environment.

Several ideas from classical management logic can be found in today's business life. Quality and management programs that rely on command and control, the use of linear cause-and-effects mechanisms in the organizing process, and an emphasis on short-term results are still common in many contemporary organizations (Kelly and Allison 1998). Companies such as McDonald's are basically extensions and improvements of the Tayloristic

principles of division of labor and detailed work procedures (Baden-Fuller and Stopford 1994) as they perfected a method of delivering a standardized product at low cost. The thrust of classical management logic and its modern application is to suggest that organizations can or should be rational systems that operate in as efficient a manner as possible. This "technical rationality" consists of instrumental and economic criteria (Thompson 1967). The instrumental criterion requires that specified actions do, in fact, produce the desired outcome, whereas the economic criterion requires that results are obtained with the least expenditure of resources.

Modern Management Logic. Classical management logic has been revised several times since it first came under empirical scrutiny (e.g., Simon 1997, Woodward 1965). In the 1930s, the human relations movement emphasized the importance of social relations among organizational participants (Mayo 1933, Khandwalla 1977). The human relations movement challenged scientific management's basic assumptions about job design and motivation. In the 1940s, Simon (1947) expounded the concept of bounded rationality, which asserted that the administrative decision maker had limited reasoning, perceiving, and information-processing abilities. Simon thus attacked the perfect rationality assumptions of traditional economists and the universalistic prescriptive character of classical organization theory. In the 1950s, Trist (1981) brought the sociotechnical systems viewpoint to bear on organization behaviour. It stressed that a work group is subject to social, psychological, technical, and economic forces. In the mid-1950s Argyris (1957) and McGregor (1960) developed their models of desirable organizations in which human needs would be more fully satisfied and more efficient use could be made of human capital. While the human relations school sought only to modify classical organizational theory (Mayo 1933), the behavioral humanists have been inclined to seek radical change (Kilmann 1977). Woodward (1965) laid the basis for contingency theory, based upon the observation that differences in the structures of organizations depend on differences in the technology they employ. She revealed the inappropriateness of universal principles of organizations and brought out their situational character.

Triggered by these critics, a new management logic appeared halfway through the twentieth century which recognized the following:

• An organization possesses properties of a natural system (human relations school) as well as of a rational system. Each approach is partially correct, but neither alone provides an adequate understanding of complex organizations (Thompson 1967);

• An organization is an open system, hence indeterminate and faced with uncertainty (contingency theory and sociotechnical systems approach);

• An organization is subject to criteria of rationality and hence in need of determinateness and certainty (bounded rationality, Thompson 1967).

Modern management logic still views organizations as multipurpose mechanisms designed to achieve predetermined goals in different environments. The organization is viewed as an organism that strives to survive. To do so, it has to adapt to its environment. This adaptation, however, is based on the prediction of changes and therefore is rational from an organizational perspective. This rationality may be described as "organizational rationality." In contrast with the assumptions underlying the classical management logic, humans are only "intendedly rational," as their limited capacities prevent complete rationality (Simon 1997). In a larger sense, rationality resides in the organization itself, not in the individual participants. Rationality resides in rules assuring that participants will behave in ways calculated to achieve desired objectives, in control arrangements that evaluate performance and detect deviance, in reward systems that motivate participants to carry out prescribed tasks, and in the set of criteria by which participants are selected, promoted, and replaced. The concept of organizational rationality derives from the way people and jobs fit together in a fixed design. Just as in the classical management perspective, emphasis is still placed on control by structural arrangements. Modern management logic justifies these arrangements as instruments of rationality: control is the means of channeling and coordinating behavior so as to achieve specified goals.

Postindustrial Management Logic. The organizational rationality of modern management logic contrasts with the "substantial rationality" view of organizations in which people are encouraged to reflect on their behavior and to adjust their actions accordingly (cf. Clegg 1990, Morgan 1986). Substantial rationality implies that organizational participants are able to perceive or to experience reality as a meaningful and coherent whole, giving sense to decisions and actions within the organization. Whereas under the control logic, actions are rational because of their defined place within the whole, substantial rationality requires actions based on awareness of the complete situation. Substantial rationality is reflective and self-organizing; firms built on substantial rationality possess an inherent ability to reorganize and renew themselves in meaningful ways. It is helpful to elucidate the concept of substantial rationality by using the brain as a metaphor for organization (cf. Morgan 1986, Garud and

Kotha 1994). The brain is a self-organizing system, capable of responding rapidly to a broad range of external stimuli. To the extent that we design organizations on classical or modern management logics, we respectively develop technical or organizational rationality, where people are valued for their ability to fit in and contribute to the efficient operation of a predetermined structure. Such organizations encourage people to obey orders and keep their place rather than to take an interest in, challenge, and question what they are doing. This mode of organization is sufficient for performing a fixed task in stable circumstances or changing tasks in predictable circumstances. When these conditions are violated, however, organizations designed along these lines encounter problems. Under changing circumstances, it is crucial that organizational participants are able to question the appropriateness of what they are doing and to modify their actions to take account of new situations. This requires an organizing capacity that is "substantially" rational, in the sense that action manifests intelligence of the relations within which the action is set: substantially rational action is not undertaken blindly but in an awareness that it is appropriate (Morgan 1986). The assumptions underlying substantial rationality can be referred to as the postindustrial management logic. While the premise of modern management logic is an increasing functional differentiation within organizations (division of labor, line/staff distinction, hierarchical differentiation) and management is considered the central organizing principle, the post-industrial perspective stresses a reverse process of integration; a blurring of the boundaries between what, in a modernist view, would have been recognized as distinct phenomena (Clegg 1990). In the postindustrial management logic, the question of whether organizations are closed or open systems is not important. Instead, organizations tend to maintain their existence by opening up in particular ways to the environment.

The postindustrial management logic should not be considered as a definitive way to success. Rather, this logic should be conceived of as one of three idealized models, each representing an extreme in thinking about organizations and how they should be managed and designed. Whereas management practices most often show a mix of ideal types, they provide valuable insights by indicating key differences in organizations. A recapitulation of the management logics is presented in Table 1.

Contextual Variation

Lewin et al. (this issue) argue that ". . . specific configurations of institutional arrangements will tend to enable and restrict strategic adaptation options available to organizations. . . ." Consistent with this consideration, we suggest that contextual variation refers to industry-level, country-level, and firm-specific factors that determine the translation from management logics to firm-specific shared managerial schemas. Several studies support our notion of contextual variation. For example, Meyer (1995) describes how organizing principles derived from bureaucratic theory have been applied differently in Europe and the U.S. due to national and cultural particulars: "[E]uropean institutional-cultural conditions favored a centralized, hierarchical, obedience-based organizational form with little uncertainty tolerance emphasizing loyalty. In the U.S., by contrast, the primacy of the large business organization which operated in volatile markets under the cultural imperative of equality favored flatter, less hierarchical, and more nearly decomposable organizations in which compliance was based on a temporary contract" (1995, p. 32). Furthermore, the influence of the nation-state form of capitalism on managerial schemas and thereby on management practices has been empirically investigated and confirmed. Lewin et al. (this issue) point out that the structure of capital markets in the U.S. has served to focus managers' attention on maximizing shareholder value, which has intensified a short-term orientation. In contrast, capital markets in Germany and Japan favor a longer-term orientation, as the liquidity and diversity of financial investors in these systems is less developed. Whereas U.S. capital market conditions strongly support a classical management logic as it becomes apparent in the efficiency-driven, short-term-oriented actions of Tayloristic managers, capital market conditions in Germany and Japan give way to a less stringent use of classical management principles. Although actions of German and Japanese managers may still be primarily based on classical management logic, its application often differs from the U.S. approach (cf. Sakano and Lewin, this issue). Besides capital market conditions, Calori et al. (1997) studied the educational system as a source of difference in managerial thinking and acting across countries. They state that educational institutions shape a nation's beliefs about "how things ought to be done." This may contribute to contextual variation at the national level: ". . . the administrative approaches used by managers during merger integration from two nations partially reflect a national bias" (1997, p. 682). The authors' findings suggest that French managers, more than British managers, tend to centralize control over a recently acquired subsidiary, which often results in the staffing of key positions with its own personnel.

Because competitive and institutional factors provide only a partial explanation for firm-level applications of management logics, we also consider firm-idiosyncratic

Table 1   Management Logics

Management Logic	Rationality Concept	Environmental Approach	Organizational Approach
Classical management	Technical rationality	Closed system	Rational system
Modern management	Organizational rationality	Open system	Rational/natural system
Postindustrial management	Substantial rationality	Open/closed system	Natural system

Source: Volberda (1998)

variables when studying contextual variation. In organization literature, a number of firm-idiosyncratic variables can be found. Executives' background, i.e., former career experiences, education, and socioeconomic roots, is often mentioned as a firm-level determinant of shared managerial schemas (Hambrick and Mason 1984, Meindl et al. 1994, Waller et al. 1995, Walsh 1988). A person's background shapes his or her preferences and thus favors particular actions. This is confirmed by Lewin and Stephens (1994) who suggest considering the social-psychological attitudes of chief executive officers and general managers as a critical contingency in organization design. Individual properties of top managers, such as the need for achievement, locus of control, and tolerance for ambiguity, are pictured as a major source of variations in organization design, as these properties are reflected in managerial decision making. Another determinant that underlies firm-specific differences refers to social and political processes inherent in managerial actions. The way in which these processes evolve strongly influences shared managerial schemas (Walsh et al. 1988). Finally, history of the firm is often described as a firm-specific determinant of design choices by functioning as a frame of reference (Daft and Weick 1984, Grønhaug and Falkenberg 1989).

Microcoevolution of New Organization Forms

In the previous section, contextual variation of management logics was indicated as a source of coevolution. In this section, we extend the discussion by focusing on the firm level of analysis. At the firm level, four key elements are distinguished: perceived environmental characteristics, shared managerial schemas, strategic design actions, and new organization forms. The multidirectional causalities between these elements indicate the nonlinearity of the strategic design process as, for example, experimentation with new organizing principles entails moving back and forth between actions and outcomes.

Perceived Environmental Characteristics. Consistent with the existing body of literature (e.g., Tung 1979, Volberda 1998), we consider the state of the environment

a primary source of change in organization forms. Lewin et al. (this issue) draw on evolutionary theory when linking environmental uncertainty to changes in organization forms. They suggest two stages of coevolution in a firm's responses to changes in environmental conditions. During the first stage, labeled as a period of stochastic uncertainty, changes in the external environment can be accommodated by incremental adaptation of the existing organization form. In stage two, due to major environmental developments, firms perceive that their environments are entering a phase of high velocity turbulence (Brown and Eisenhardt 1998). Many firms are then forced to adapt themselves to these changing environments to survive. Attempts to do so may result in new organization forms characterized by radically new adaptive capabilities. Since this paper focuses on coevolution of environment and organization form, we use the second stage, referred to as the chaotic stage, as context for our research propositions. We do, however, add shared managerial schemas as a mediating variable for two purposes. First, it allows for a more comprehensive explanation of differences in organization form across firms operating in the same (chaotic) environment. Second, it contributes to a coevolutionary theory of new organization forms in which new forms arise as a joint outcome of managerial actions that are shaped by shared managerial schemas and environmental developments.

Shared Managerial Schemas. Socially constructed reality is defined by a process of interchange in which perceptions are affirmed, modified, or replaced according to their apparent congruence with the perceptions of others. Weick (1979) describes this process as enactment. Members of organizations actively form or enact their environment through their social interaction. A pattern of enactment establishes the foundation of organized reality, which in turn affects future enactments. In this cognitive approach, shared managerial schemas might be defined as actively developing shared sets of meanings and connections that are continuously being modified as they are drawn upon and used (cf. Boland et al. 1990). Shared schemas are reflected in the basic assumptions underlying managerial actions and are therefore considered to be an

idiosyncratic characteristic of organizations. They are preserved and legitimized in a cultural web of organizational actions in terms of myths, rituals, and symbols (Johnson 1988). Various scholars have included shared schemas as a primary contingency in the evolution of organization forms (Barr et al. 1992, Meyer et al. 1993, Tenbrunsel et al. 1996, Weick 1979).

It is important to point out that our notion of shared managerial schemas differs from the dominant logic concept of Prahalad and Bettis (1986, 1995) in several ways. Prahalad and Bettis define dominant logic as ". . . the way in which managers conceptualize the business and make critical resource allocation decisions. . ." (1986, p. 490). While shared managerial schemas are conceived as actively developing sets of meanings, the relation between environment, dominant logic, and organization form is pictured as a relatively stable. The interrelatedness of thought and action (Giddens 1979, Weick 1979) remains largely unexplored. In this paper, however, managerial schemas are described as an integrative part of the design process. They are considered the medium of action as well as its product. Moreover, while Prahalad and Bettis believe that dominant management logic is primarily shaped at the firm level, we describe shared managerial schemas as a function of both firm-level factors and macrolevel variables.

Strategic Design Actions. A study on the role of shared managerial schemas in the design process requires a unit of analysis which functions as a point of reference. In the explanatory framework, the strategic design action is the key unit of analysis. To categorize strategic design actions the concept of nodes and links is applied (cf. Grandori 1997). Nodes are defined as organizational actors. Links are the interaction processes between nodes that underly the significance of these nodes. A strategic design action will be referred to below as a change in one or more dimensions of nodes and links, having a substantial impact on a wide range of organizational subsystems. We suggest three dimensions of nodes and links: number, position, and content. The first dimension, *number* of nodes (size) and links (density), relates to number of organizational actors within a firm and number of enduring relationships between these actors. The second dimension, *position* of nodes and links, refers to how organizational actors are linked to each other, which is determined by allocation of resources and formal rules. Finally, the *content* dimension relates to properties of nodes, such as capabilities and attitudes of organizational actors, and properties of links, such as nature, content, and directionality of information and knowledge flows (cf. Van Wÿk and Van den Bosch 1998). The three dimensions give way to the categorization of strategic design actions in three levers of change (Table 2).

In the 1980s, top managers of many large corporations started to reduce costs by cutting management layers and discharging personnel. In terms of nodes and links, top management changed the size and density of their organizations by decreasing the number of nodes and links. In addition to downsizing and expansion activities, repositioning events have generally received much attention in both theory and practice. The repositioning or restructuring of nodes has been considered an effective way to align organization and environment. For example, a shift from a functional structure to a matrix structure embodies the repositioning of nodes and links in order to attain renewed alignment. While design actions affecting the number and position of nodes and links are fully emphasized in organization literature, the content dimension has been largely overlooked (Bartlett and Ghoshal 1990). The distinction between number, position, and content is consistent with a primary development in the conceptualization of organization form found in organization literature. While the classical notion of form refers to formal structural dimensions (Hage and Aiken 1967, Pugh et al. 1968), more recently scholars have started to broaden the definition by including variables like communication (Fulk and DeSanctis 1995), culture, and decision-making norms (Daft and Lewin 1990). The shift toward a multidimensional conception of organization form might be attributed to the problem of insufficient variety (cf. Meyer et al. 1993). As Grandori (1997, p. 29) argues, ". . . the variety of governance forms that are theoretically described and assessed is too low with respect to the observed variety in economic life." Meyer (1995) refers to the same problem when stating that the excessive concern with rationality that characterizes research on bureaucracies may be due to the neglect of cultural and national particulars of organizations. Adding the content variable to more traditional form aspects such as size, density, and structure enriches the discussion on organization form.

New Organization Forms. Our coevolutionary model links new organization forms back to the environment. Triggered by perceptions of changing environments and by changed shared managerial schemas, radical innovations in organization form that prove to be successful may subsequently influence the environment as other organizations start developing similar forms and management practices. New management practices within GE, for example, that were based upon a changed managerial schema drove the organization's revitalization process, resulting in a new organization form. The new schema was apparent in concepts, such as the Boundaryless Organization (Ashkenas et al. 1995, Tichy and Sherman

Table 2   Strategic Design Actions Categorized by Three Levers of Change

	Nodes	Links
Number	Changing the *number of nodes (size)* of the organization (e.g., downsizing; expansion)	Changing the *number of links (density)* of the organization (e.g., increasing number of vertical links)
Position	Changing the *position* of nodes within the organization (e.g., restructuring)	Changing the *position* of links within the organization (e.g., decentralization)
Content	Changing the *properties* of nodes (e.g., training of personnel)	Changing the *properties* of links (e.g., changing the culture)

1994), that were communicated in an understandable manner through the use of metaphors and analogies, and reiterated repeatedly. GE's perspective has had great influence on competitors' behavior as it changed industry recipes. Variation in shared managerial schemas thus resulted in the emergence of a new organization form that changed the business landscape as other firms copied GE's management practices. The example shows that coevolutionary processes between a firm and its environment (macrocoevolution) and within a firm (microcoevolution) are inextricably bound up with each other which leads to the following propositions:

PROPOSITION 1a.   *Macrocoevolution: In the process of coevolution, variations in shared managerial schemas due to industry and country differences are likely to give rise to new managerial logics if they become increasingly institutionalized in new organization forms.*

PROPOSITION 1b.   *Microcoevolution: In the process of coevolution, variations in shared managerial schemas due to firm-idiosyncratic differences are likely to give rise to new managerial logics if they become increasingly institutionalized in new organization forms.*

In this paper, it is argued that firms confronted with a shift from a stochastic to a chaotic environment most probably start applying more intense exploration strategies, which results in a different exploitation/exploration ratio (Levinthal and March 1993). Contextual applications of management logics function as a primary mediator in the design process and influence the *direction* of change in the exploitation/exploration ratio. Top management of large firms like IBM (ongoing reorganizations resulting in a 13% reduced headcount by 1993), Xerox (numerous reorganizations in the 1980s), and Philips (launching of the Centurion project in 1990, resulting in the elimination of 67,000 jobs over a three-year period) have restructured their organizations using a slash-and-burn approach, cutting staff to the bone and rationalizing their portfolios without supporting promising new lines of business. The enforced corporate anorexia made these

companies thinner and, due to a focus on exploitation, more efficient, but did not really make them more explorative (Hamel and Prahalad 1994, Volberda 1998). The strategic design actions implemented by these firms reveal a preoccupation with number of nodes and links (see Table 2). In these cases, organizational size and density as levers of change were preferred to position and content levers of change. Perceiving the organization as a machine, employees as variable costs, and the purpose of organizations as maximizing profits underlies the primary focus on number of nodes and links. The emphasis on highly differentiated, deskilled jobs and tight employment relations—also considered characteristic of classical management logic—enforced the preoccupation with quantitative measures. These quantitative measures, like productivity measures, limit exploration of future opportunities that are unrelated to current performance (cf. Van den Bosch et al., this issue). Based upon these considerations, a second proposition is formulated:

PROPOSITION 2.   *When exploring new organization forms in a chaotic environment, contextual variation among firms applying a classical management logic is likely to be characterized by number of nodes and links.*

In contrast with classical management logic, modern management logic is based on the need for adaptation to the environment. Since emphasis is placed on structural arrangements and on the way people and systems fit together in a fixed design, strategic design actions associated with modern logic often reflect changes in the position of nodes and links. For example, transforming a functional structure into a divisional structure requires the repositioning of nodes and links. Another example addresses the decentralization of responsibilities and thereby the repositioning of authority lines (links). In recent years, the ability to achieve decentralization has been greatly advanced through highly technical management systems, such as management by objectives (MBO), planning, programming, and budgeting (PPBS), or program-evaluation review techniques (PERT), all developed and

widely adopted to facilitate rational decision making within the complex organizational systems. In particular, "... MBO is now often used to impose a mechanistic system of goals and objectives on an organization. These are then used to control the direction in which managers and employees can take the organization, e.g. through the development of performance targets consistent with these goals" (Morgan 1986, p. 29).

PROPOSITION 3. *When exploring new organization forms in a chaotic environment, contextual variation among firms applying a modern management logic is likely to be characterized by position of nodes and links.*

In addition to number and position, managers may direct their attention toward content of nodes and links. These managers focus on software in addition to hardware aspects of the organization. Top management of large corporations such as GE and ABB have not only restructured their corporations but also tried to change the corporate cultures (Tichy and Sherman 1994). Philip's Centurion started with an efficiency drive but was followed by a cultural revitalizing module (Volberda 1998). An even more radical cultural change was attempted by ABB, which developed a 21-page "Mission, Values, and Policy" booklet when it formed its global matrix structure (Barham and Heimer 1998).

Craig's (1996) study of the Japanese brewing industry reveals the importance of the content of nodes and links as a lever of change for management. As a response to the changed business environment in the 1980s, Japanese brewers fostered innovation while using a bureaucratic structure. An exclusive focus on the number and position of nodes and links would have explained only part of how the Japanese brewers were able to increase the level of innovation. The corporate culture and employee attitudes had to be changed in order for the bureaucratic systems to function properly. Burt (1997) more explicitly points out the importance of including the content dimension in the discussion of new organization forms. As he argues, "[T]he shift from a unitary to a multidivisional form of hierarchy is easy to see [. . .] as a change in the formal structure of firms. The shift from hierarchy to network organization is more difficult to see in the same way because the change is not structural so much as procedural" (Burt 1997, p. 360). By focusing on content aspects, like employee attitudes, norms and beliefs, and interaction processes, such changes are incorporated in the study of new organization forms. Finally, Adler and Borys (1996) describe two types of bureaucratic organizations that differ in their content dimension. While the enabling bureaucracy is characterized by the use of procedures that

allow people to gain understanding of the logic underlying work processes, the coercive bureaucracy applies procedures that "... are formulated as lists of flat assertions of duties" (1996, p. 72). By showing the impact of these types of formalization on the attitudes of organizational members, the authors emphasize the importance of reaching beyond the structural attributes toward content variables.

PROPOSITION 4. *When exploring new organization forms in a chaotic environment, contextual variation among firms applying a postindustrial management logic is likely to be characterized by content of nodes and links.*

Three Design Strategies

In principle, all three management logics can be a source of new organization forms that help to survive in a chaotic environment. In organization literature, this is indicated as equifinality. Nonetheless, the classical management logic will be relatively restrictive in the exploration process of new forms as it emphasizes exploitation. We might even argue that firms that favor the classical management logic are selected out at increasing rates as the environment becomes more turbulent. The modern management logic and postindustrial management logic, however, show an external and longer-term focus, providing a more extensive basis for exploration that is likely to increase a firm's absorptive capacity (Van den Bosch et al. this issue). We can illustrate this by describing three design strategies: downsizing/expanding, restructuring, and reconfiguration. Figure 2 shows the possible design trajectories firms go through when confronted with new competitive landscapes, that is, with a shift from a stochastic to a chaotic environment.

We assume that in stochastic environments the focus is on exploitation of organization forms, while in a chaotic environment the emphasis is on exploration of organization forms. For firms in which managers apply a variation of classical management logic, exploration of forms is most limited as it is mainly focused on number of nodes and links. In Figure 2, Proposition 2 is depicted as the vertical arrow P2. When these firms are confronted with new chaotic landscapes, the chances of survival are relatively low. Only those organizations will survive that maximally exploit downsizing and/or expanding advantages (left corner below in Figure 2—low exploration, high exploitation). For firms applying the modern management logic, the exploration process is primarily based on position of nodes and links (P3). When confronted with chaotic environments, such firms will survive when they, to some extent (medium to high), exploit repositioning advantages (e.g., transformation of structure type)

Figure 2   Three Coevolutionary Design Trajectories

Exploration of New Organization Forms
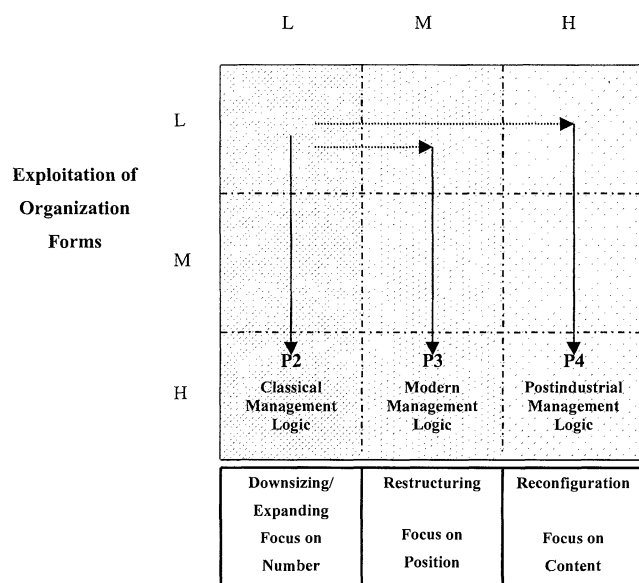
and at the same time search for new structures. Finally, for firms with a postindustrial management logic, the exploration process is most extensive, which increases their chances of survival in a chaotic environment. Only those firms that do not exploit these configuration advantages are likely to face difficulties (right upper box in Figure 2—high exploration and low exploitation). We come up with the following proposition for future research:

PROPOSITION 5. *Chaotic environments are likely to result in an increasing application of postindustrial management logic by firms.*

In Figure 2, two dotted arrows reflect a shift away from the classical management logic toward the modern and postindustrial management logic. When confronted with a chaotic environment, firms applying the classical management logic are likely to change their logic as it becomes less appropriate. The concept of learning offers clarification with regard to a firm's changes in management logic over time. When a substantial gap emerges between external conditions and the applied management logic or, as Weick (1979) puts it, between the territory and the map, this logic no longer offers the appropriate context for learning. The replacement of the core assumptions underlying existing learning processes is indicated as deutero learning (Argyris and Schön 1978). In Figure 2, this corresponds with a horizontal movement from one column to another.

Discussion

In this paper, a coevolutionary perspective was suggested which emphasized the multilevel and multidirectional character of new organization forms. An explanatory framework provided a more comprehensive explanation of form variations between companies. The contextual variation of management logics was represented by the concept of shared managerial schema as a primary mediator in the design process.

The coevolutionary perspective and its underlying assumptions place at least two restrictions on the research. A first restriction refers to the distinction between three ideal types of management logics. This distinction reflects just one way to categorize management logics. Additional logics and even emerging management logics can be found. The management logics that were used, however, represent managerial values we consider to be relevant for understanding today's business practices. Second, it has been assumed that top management is the key decision maker in strategic design issues. The sole focus on top management has been introduced for practical reasons. It might however prove useful to extend the analysis to emergent design actions initiated by lower level management (cf. Burgelman 1983).

This paper offers various opportunities for further elaboration. One possibility regards the distinction between organization structure and form. Organization form has been viewed as a multidimensional concept. The position or structure of nodes and links was complemented by the number and content dimensions of nodes and links. Within the discussion of new organization forms, the distinction between structure and form, as indicated in this paper, can contribute to the evaluation of their novelty and added value in both theory and practice. We speculate that new forms score high on the content lever of change (cf. Grandori 1997). The question of how these new forms differ in terms of the three dimensions of nodes and links might prove interesting. A second elaboration of the model regards the level of analysis. Thus far, the firm has been the main focus. In large diversified corporations, divisions are headed by separate management teams, each applying different managerial schemas. The model may prove useful in analyzing the intrafirm differences with regard to managerial schemas, strategic design actions, and the creation of new forms.

A third elaboration of the model has to do with the analysis of the dynamics of the different design strategies as depicted in Figure 2. Different movements in the matrix subdivided into horizontal and vertical movements are possible. Vertical movements take place within an existing management logic involving further refinements of the particular application (single-loop learning) or a

shift toward another application of the same management logic (double-loop learning). Horizontal movements in the matrix are often more difficult because they involve expanded searches that are associated with abandoning inert management logics. This is similar to deutero learning. Horizontal movements may positively influence a firm's determinants of absorptive capacity (Van den Bosch et al., this issue). Finally, an interesting issue for future research is the deliberate strategic effort to broaden a firm's shared managerial schemas. Our framework suggests that firms exposed to a variety of different national environments may benefit from the contextual variations involved and thereby increase the ability to change their managerial schemas (Whittington et al., this issue). Similarly, multinational enterprises that consider contextual variation as a threat, or try to ignore it, may limit the ability to change their shared managerial schemas. To the extent that these assumptions are valid, we suggest that multinational enterprises considering contextual variation as a strategic challenge are likely to be more involved in creating new organization forms. This is consistent with the argument of Whittington et al. (this issue) that international business can be expected to become more innovative.

In conclusion, referring to our initial question— "Where do new organization forms come from?"—we argue that the coevolutionary model of new organization forms adds new insights into the managerial design process that have remained largely unexplored in the literature. Contextual variation of management logics is an important source of coevolution. Organizational adaptations executed by managers will reflect the managerial schema they apply regardless of the rate of change in the environment. Managers should therefore become more aware of the management logic they apply. As our design trajectories showed, the contextual application of a specific logic may indicate the chances of survival in chaotic environments.

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References

Abrahamson, E. 1991. Managerial fads and fashion: The diffusion and rejection of innovations. *Acad. Management Rev.* **16** 586–612.

———. 1996. Management fashion. *Acad. Management Rev.* **21** 254–285.

———. 1997. The emergence and prevalence of employee management rhetorics: The effects of long waves, labor unions, and turnover, 1875 to 1992. *Acad. Management J.* **40**(3) 491–533.

Ackoff, R. L. 1981. *Creating the Corporate Future.* Wiley, New York.

Adler, P. S., B. Borys. 1996. Two types of bureaucracy: Enabling and coercive. *Admin. Sci. Quart.* **41** 61–89.

Argyris, C. 1957. *Personality and Organization.* Harper, New York.

———, D. Schön. 1978. *Organisational Learning: A Theory of Action Perspective.* Addison-Wesley, Reading, MA.

Ashkenas, R., D. Ulrich, T. Jick, S. Kerr. 1995. *The Boundaryless Organization: Breaking the Chains of Organizational Structure.* Jossey-Bass, San Francisco.

Axelrod, R. 1976. *The Structure of Decision: The Cognitive Maps of Political Elites.* Princeton University Press, Princeton, NJ.

Baden-Fuller, C., J. M. Stopford. 1994. *Rejuvenating the Mature Business.* Harvard Business School Press, Boston.

Bailey, J. R., W. Eastman. 1998. Mediation in moderation. *Organ. Sci.* **9** (2) 250–251.

Barham, K., C. Heimer. 1994. *ABB, the Dancing Giant.* Pitman, London.

Barley, S. R., G. Kunda. 1992. Design and devotion: Surges of rational and normative ideologies of control in managerial discourse. *Admin. Sci. Quart.* **37** 363–399.

Barr, P. S., J. L. Stimpert, A. S. Huff. 1992. Cognitive change, strategic action, and organizational renewal. *Strategic Management J.* **13** 15–36.

Bartlett, C. A., S. Ghoshal. 1990. Matrix management: Not a structure, a frame of mind. *Harvard Bus. Rev.* (July–August) 138–145.

Berger, P., T. Luckmann. 1966. *The Social Construction of Reality.* Doubleday, New York.

Bettis, R. A., C. K. Prahalad. 1995. The dominant logic: Retrospective and extension. *Strategic Management J.* **16** 5–14.

Boland, R. J. Jr., R. H. Greenberg, S. H. Park, I. Han. 1990. Mapping the process of problem reformulation: Implications for understanding strategic thought. A. S. Huff, ed., *Mapping Strategic Thought.* John Wiley and Sons, Chichester. 195–226.

Brown, S. L., K. M. Eisenhardt. 1998. *Competing on the Edge: Strategy as Structured Chaos.* Harvard Business School Press, Boston.

Buenger, V., R. L. Daft, E. J. Conlon, J. Austin. 1996. Competing values in organizations: Contextual influences and structural consequences. *Organ. Sci.* **7**(5) 557–576.

Burgelman, R. A. 1983. A process model of internal corporate venturing in the diversified major firm. *Admin. Sci. Quart.* **28** (June) 223–244.

Burns, T., G. M. Stalker. 1961. *The Management of Innovation.* Oxford University Press, New York.

Burt, R. S. 1997. The contingent value of social capital. *Admin. Sci. Quart.* **42** 339–365.

Calori, R., M. Lubatkin, P. Very, J. F. Veiga. 1997. Modelling the origins of nationally-bound administrative heritages: A historical institutional analysis of French and British firms. *Organi. Sci.* **8**(6) 681–696.

Chandler, A. D. 1962. *Strategy and Structure: Chapters in the History of the American Industrial Enterprise.* MIT Press, Cambridge, MA.

———. 1990. *Scale and Scope, The Dynamics of Industrial Capitalism.* Harvard University Press, Cambridge, MA.

Clegg, S. R. 1990. *Modern Organizations—Organization Studies in the Postmodern World.* Sage Publications, London.

Connell, A. F., W. R. Nord. 1998. Reconsidering the fact-value antinomy: A comment on Eastman and Bailey. *Organ. Sci.* 9(2) 245–250.

——, ——. 1998. Mediation in moderation—A response. *Organ. Sci.* 9(2) 251.

Craig, T. 1996. The Japanese beer wars: Initiating and responding to hypercompetition in new product development. *Organ. Sci.* 7(3) 302–321.

Daft, R. L., R. H. Lengel. 1984. Information richness: A new approach to managerial behavior and Organization Design. B. M. Staw, L. L. Cummings, eds. *Research in Organizational Behavior,* vol. 6. JAI Press, London. 191–233.

——, A. Y. Lewin. 1990. Can organization studies begin to break out of the normal science straitjacket? An editorial essay. *Organ. Sci.* 1(1) 1–9.

——, K. E. Weick. 1984. Toward a model of organizations as interpretation systems. *Acad. Management Rev.* 9(2) 284–295.

DiMaggio, P. 1988. Interest and agency in institutional theory. L. Zucker, ed. *Institutional Patterns and Organizations.* Ballinger, Cambridge, MA, 3–21.

——, W. Powell. 1983. The iron cage revisited: Institutional isomorphism, and collective rationality in organization fields. *Amer. Soc. Rev.* 48 147–160.

Djelic, M. L. 1998. *Exporting the American Model: The Postwar Transformation of European Business.* Oxford University Press, New York.

Duncan, R. B. 1972. Characteristics of organizational environments and perceived environmental uncertainty. *Admin. Sci. Quart.* 17(3) 313–327.

Eastman, W., J. R Bailey. 1998. Mediating the fact-value antimony: Patterns in managerial and legal rhetoric, 1890–1990. *Organ. Sci.* 9(2) 232–245.

Fayol, H. 1949. *General and Industrial Management.* Pitman, London.

Fulk, J., G. DeSanctis. 1995. Electronic communication and changing organizational forms. *Organ. Sci.* 6(4) 337–349.

Galbraith, J. R. 1980. Applying theory to the management of organizations. W. M Evan, ed. *Frontiers in Organization and Management.* Praeger, New York. 151–167.

Garud, R, S. Kotha. 1994. Using the brain as a metaphor to model flexible production systems. *Acad. Management Rev.* 19(4) 671–698.

Ghoshal, S., C. A. Bartlett. 1995. Changing the role of top management: Beyond structure to processes. *Harvard Bus. Rev.* (January–February) 86–96.

——, N. Nohria. 1993. Horses for courses: Organizational forms for multinational corporations. *Sloan Management Rev.* (Winter) 23–35.

Giddens, A. 1979. *Central Problems in Social Theory.* Macmillan, London.

Grandori, A. 1997. Governance structures, coordination mechanisms and cognitive models. *J. Management and Governance* 1 29–47.

Grønhaug, K., J. S. Falkenberg. 1989. Exploring strategy perceptions in changing environments. *J. Management Stud.* 26(4) 349–359.

Hage, J., M. Aiken. 1967. Relationship of centralization to other structural properties. *Admin. Sci. Quart.* 12 72–92.

Hambrick, D. C., P. A. Mason. 1984. Upper echelons: The organization as a reflection of its top managers. *Acad. Management Rev.* 9(2) 193–206.

Hamel, G., C. K Prahalad. 1994. *Competing for the Future.* Harvard Business School Press, Boston.

Hannan, M. T., J. Freeman. 1989. *Organizational Ecology.* Harvard University Press, Cambridge, MA.

Hedberg, B., P. Nystrom, W. H. Starbuck. 1976. Camping on Seesaws: Prescriptions for a self-designing organization. *Admin. Sci. Quart.* 21 41–65.

Huber, G. P. 1984. The nature and design of post-industrial organizations. *Management Sci.* 30(8) 928–951.

Huczynski, A. A. 1993. *Management Gurus.* Routledge, New York.

Ilinitch, A. Y., R. A. D'Aveni, A. Y. Lewin. 1996. New organizational forms and strategies for managing in hypercompetitive environments. *Organ. Sci.* 7(3) 211–220.

Johnson, G. 1987. *Strategic Change and the Management Process.* Basil Blackwell, Oxford.

——. 1988. Rethinking incrementalism. *Strategic Management J.* 9 (September) 75–91.

Kelly, S., M. A. Allison. 1998. *The Complexity Advantage: How the Science of Complexity Can Help Your Business Achieve Peak Performance.* McGraw-Hill, New York.

Khandwalla, P. N. 1971. Influences of the techno-economic environment on firms' organization. Research Report. McGill University, Montreal.

Khandwalla, P. N. 1977. *The Design of Organizations.* Harcourt, Brace, Jovanovich, New York.

Kilmann, R. H. 1977. *Social Systems Design: Normative Theory and the MAPS Design Technology.* Elsevier North-Holland, New York.

Lawrence, P. R., J. Lorsch. 1967. *Organization and Environment.* Harvard School of Business Administration Press, Boston.

Lester, R. K., M. J. Piore, K. M. Malek. 1998. Interpretative management: What general managers can learn from design. *Harvard Bus. Rev.* (March–April) 86–96.

Levinthal, D. A., J. G. March. 1993. The myopia of learning. *Strategic Management J.* 14 95–112.

Lewin, A. Y., C. P. Long, T. N. Carroll. 1999. The coevolution of new organizational forms. *Organ. Sci.* 10(5). This issue.

——, C. U. Stephens. 1994. CEO attitudes as determinants of organization design: An integrated model. *Organ. Stud.* 15(2) 183–212.

——, H. W. Volberda. 1999. Prolegomena on coevolution: A framework for research on strategy and new organizational forms. *Organ. Sci.* 10(5). This issue.

Lorsch, J. W. 1977. Organization Design: A situational perspective. *Organ. Dynamics* (Autumn) 2–14.

March, J. G. 1991. Exploration and exploitation in organizational learning. *Organ. Sci.* 2(1) 71–87.

Mayo, E. 1933. *The Human Problems of an Industrial Civilization.* Macmillan, New York.

McGregor, D. 1960. *The Human Side of Enterprise.* McGraw-Hill, New York.

McKelvey, B. 1997. Quasi-natural organization science. *Organ. Sci.* 8(4) 352–380.

Meindl, J. R., C. Stubbart, J. F. Porac. 1994. Cognition within and be-

tween organizations: Five key questions. *Organ. Sci.* **5**(3) 289–293.

Meyer, A. D., A. S. Tsui, C. R Hinings. 1993. Configurational approaches to organizational analysis. *Acad. Management J.* **36**(6) 1175–1195.

Meyer, H. 1995. Organizational environments and organizational discourse: Bureaucracy between two worlds. *Organ. Sci.* **6**(1) 32–43.

Mintzberg, H. 1994. Rounding out the manager's job. *Sloan Management Rev.* (Fall) 11–26.

Morgan, G. 1986. *Images of Organization.* Sage Publications, Beverly Hills, CA.

Nohria, N., J. D. Berkley. 1994. An action perspective: The crux of the new management. *California Management Rev.* (Summer) 70–92.

Pettigrew, A. M. 1997. What is a processual analysis? *Scandinavian J. Management* **13**(4) 337–348.

Pfeffer, J., G. R. Salancik. 1977. Organization design: The case for a coalitional model of organizations. *Organ. Dynam.* (Autumn) 15–29.

Prahalad, C. K., R. A. Bettis. 1986. The dominant logic: A new linkage between diversity and performance. *Strategic Management J.* **7** 485–501.

Pugh, D., D. J. Hickson, C. R. Hinings, C. Turney. 1968. Dimensions of organization structure. *Admin. Sci. Quart.* **13** 65–105.

——, ——, ——, ——. 1969. The context of organization structures. *Admin. Sci. Quart.* **14** 91–114.

Quinn, J. B. 1992. The intelligent enterprise a new paradigm. *Acad. Management Executive.* **6**(4) 48–63.

——, P. H. Anderson, S. Finkelstein. 1996. New forms of organizing. H. Mintzberg, J. B. Quinn, eds. *The Strategy Process.* Prentice-Hall, Englewood Cliffs, N.J. 350–362.

Ranson, S., B. Hinings, R. Greenwood. 1980. The structuring of organizational structures. *Admin. Sci. Quart.* **25** (March) 1–17.

Roberts, P. W., R. Greenwood. 1997. Integrating transaction cost and institutional theories: Toward a constrained-efficiency framework for understanding organizational design adoption. *Acad. Management Rev.* **22**(2) 346–373.

Rose, F. 1990. A new age for business? *Fortune* (October 8) 156–164.

Sakano, T., A. Y. Lewin. 1999. Organizational adaptation: Impact of CEO succession in Japanese companies. *Organ. Sci.* **10**(5). This issue.

Scott, W. R. 1987. *Organizations—Rational, Natural, and Open Systems.* 2nd ed. Prentice Hall, Englewood Cliffs, NJ.

Selznick, P. 1957. *Leadership in Administration: A Sociological Interpretation* Row, Peterson and Co, Evanston, IL.

Simon, H. A. 1947. *Administrative Behavior.* Macmillan, New York.

——. 1997. *Administrative Behavior,* 4th ed. The Free Press, New York.

Slappendel, C. 1996. Perspectives on innovation in organizations. *Organ. Studies* **17**(1) 107–129.

Smircich, L., C. Stubbart. 1985. Strategic management in an enacted world. *Acad. Management Rev.* **10**(4) 724–736.

Smith, A. 1981. R. H. Campbell, A. S Skinner, eds. *An Inquiry into the Nature and Causes of the Wealth of Nations.* Liberty Fund, Indianapolis.

Taylor, F. W. 1911. *The Principles of Scientific Management.* Harper & Row, New York.

Tenbransel, A. E, T. L. Galvin, M. A. Neale, M. H. Bazerman, 1996. Cognitionism Organizations. *Handbook of Organization Studies* S. R. Clegg, C. Hardy, W. R. Nord, eds. Sage Publications, London, 313–337.

Thompson, J. D. 1967. *Organizations in Action.* McGraw-Hill, New York.

Tichy, N. M., S. Sherman. 1994. *Control Your Destiny or Someone Else Will.* Harper Business, New York.

Trist, E. 1981. The evolution of sociotechnical systems as a framework and as an action research program. A. van de Ven, W. Joyce, eds. *Perspectives on Organizational Design and Behavior.* Wiley, New York. 19–75.

Tung, R. L. 1979. Dimensions of organizational environments: An explanatory study of their impact on organization structure. *Acad. Management J.* **22**(4) 672–693.

Tyler, B. B., H. K. Steensma. 1998. The effects of executives' experiences and perceptions on their assessment of potential technological alliances. *Strategic Management J.* **19** 939–965.

Van de Ven, A. H., M. S. Poole. 1988. Paradoxical Requirements for a theory of organizational change. R. R. Quinn, K. S. Cameron, eds. *Paradox and Transformation Toward a Theory of Change in Organization and Management.* Ballinger, Cambridge, MA. 19–63.

Van den Bosch, F. A. J., H. W. Volberda, M. de Boer. 1999. Coevolution of firm absorptive capacity and knowledge environment: Organizational forms and combinative capabilities. *Organ. Sci.* **10**(5). This issue.

Van Wijk, R. A., F. A. J. Van den Bosch. 1998. Knowledge characteristics of internal network-based forms of organizing. S. Havlovic, ed. *Academy of Management Meeting, Best Paper Proceedings.* B1–B7.

Volberda, H. W. 1996. Toward the flexible form: How to remain vital in hypercompetitive environments. *Organ. Sci.* **7**(4) 359–374.

——. 1998. *Building the Flexible Firm: How to Remain Competitive.* Oxford University Press, New York.

Waller, M. J., G. P. Huber, W. H. Glick. 1995. Functional background as a determinant of executives' selective perception. *Acad. Management J.* **38**(4) 943–974.

Walsh, J. P. 1988. Selectivity and selective perception: An investigation of managers' belief structures and information processing. *Acad. Management J.* **31**(4) 873–896.

——. 1995. Managerial and organizational cognition: Notes from a trip down memory lane. *Organ. Sci.* **6**(3) 280–321.

——, C. M. Henderson, J. Deighton. 1988. Negotiated belief structures and decision performance: An empirical investigation. *J. Organ. Behavior and Human Decision Processes* **42** 194–216.

Weber, M. 1978/1910. *Economy and Society.* University of California Press, Berkeley, CA.

Weick, K. E. 1979. *The Social Psychology of Organizing.* 2nd ed. McGraw-Hill, New York.

Whittington, R., A. Pettigrew, S. Peck, E. Fenton, M. Conyon. 1999. Change and complementarities in the new competitive landscape: A European panel study, 1992–1996. *Organ. Sci.* **10**(5). This issue.

Woodward, J. 1965. *Industrial Organization: Theory and Practice.* Oxford University Press, London.

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Strategic Management Journal, Vol. 13, Special Issue: Strategy Process: Managing Corporate Self-Renewal. (Summer, 1992), pp. 15-36.

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http://links.jstor.org/sici?sici=0143-2095%28199222%2913%3C15%3ACCSAAO%3E2.0.CO%3B2-P

The Dominant Logic: Retrospective and Extension

Richard A. Bettis; C. K. Prahalad

Strategic Management Journal, Vol. 16, No. 1. (Jan., 1995), pp. 5-14.

Stable URL:

http://links.jstor.org/sici?sici=0143-2095%28199501%2916%3A1%3C5%3ATDLRAE%3E2.0.CO%3B2-G

Competing Values in Organizations: Contextual Influences and Structural Consequences

Victoria Buenger; Richard L. Daft; Edward J. Conlon; Jeffrey Austin

Organization Science, Vol. 7, No. 5. (Sep. - Oct., 1996), pp. 557-576.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199609%2F10%297%3A5%3C557%3ACVIOCI%3E2.0.CO%3B2-Q

Reconsidering the "Fact-Value Antinomy: A Comment on Eastman and Bailey (1997)

Ann F. Connell; Walter R. Nord

Organization Science, Vol. 9, No. 2. (Mar. - Apr., 1998), pp. 245-250.

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Mediation in Moderation-A Response

Ann F. Connell; Walter R. Nord

Organization Science, Vol. 9, No. 2. (Mar. - Apr., 1998), p. 251.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199803%2F04%299%3A2%3C251%3AMIMR%3E2.0.CO%3B2-I

The Japanese Beer Wars: Initiating and Responding to Hypercompetition in New Product Development

Tim Craig

Organization Science, Vol. 7, No. 3, Special Issue Part 1 of 2: Hypercompetition. (May - Jun., 1996), pp. 302-321.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199605%2F06%297%3A3%3C302%3ATJBWIA%3E2.0.CO%3B2-5

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Richard L. Daft; Arie Y. Lewin

Organization Science, Vol. 1, No. 1. (1990), pp. 1-9.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%281990%291%3A1%3C1%3ACOSBTB%3E2.0.CO%3B2-J

Mediating the Fact-Value Antinomy: Patterns in Managerial and Legal Rhetoric, 1890-1990

Wayne Eastman; James R. Bailey

Organization Science, Vol. 9, No. 2. (Mar. - Apr., 1998), pp. 232-245.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199803%2F04%299%3A2%3C232%3AMTFAPI%3E2.0.CO%3B2-6

Electronic Communication and Changing Organizational Forms
Janet Fulk; Gerardine DeSanctis
Organization Science, Vol. 6, No. 4. (Jul. - Aug., 1995), pp. 337-349.
Stable URL:
http://links.jstor.org/sici?sici=1047-7039%28199507%2F08%296%3A4%3C337%3AECACOF%3E2.0.CO%3B2-P

New Organizational Forms and Strategies for Managing in Hypercompetitive Environments
Anne Y. Ilinitch; Richard A. D'Aveni; Arie Y. Lewin
Organization Science, Vol. 7, No. 3, Special Issue Part 1 of 2: Hypercompetition. (May - Jun.,
1996), pp. 211-220.
Stable URL:
http://links.jstor.org/sici?sici=1047-7039%28199605%2F06%297%3A3%3C211%3ANOFASF%3E2.0.CO%3B2-W

Rethinking Incrementalism
Gerry Johnson
Strategic Management Journal, Vol. 9, No. 1. (Jan. - Feb., 1988), pp. 75-91.
Stable URL:
http://links.jstor.org/sici?sici=0143-2095%28198801%2F02%299%3A1%3C75%3ARI%3E2.0.CO%3B2-K

The Myopia of Learning
Daniel A. Levinthal; James G. March
Strategic Management Journal, Vol. 14, Special Issue: Organizations, Decision Making and
Strategy. (Winter, 1993), pp. 95-112.
Stable URL:
http://links.jstor.org/sici?sici=0143-2095%28199324%2914%3C95%3ATMOL%3E2.0.CO%3B2-1

Exploration and Exploitation in Organizational Learning
James G. March
Organization Science, Vol. 2, No. 1, Special Issue: Organizational Learning: Papers in Honor of
(and by) James G. March. (1991), pp. 71-87.
Stable URL:
http://links.jstor.org/sici?sici=1047-7039%281991%292%3A1%3C71%3AEAEIOL%3E2.0.CO%3B2-N

Quasi-Natural Organization Science
Bill McKelvey
Organization Science, Vol. 8, No. 4. (Jul. - Aug., 1997), pp. 352-380.
Stable URL:
http://links.jstor.org/sici?sici=1047-7039%28199707%2F08%298%3A4%3C352%3AQOS%3E2.0.CO%3B2-I

Cognition within and between Organizations: Five Key Questions

James R. Meindl; Charles Stubbart; Joseph F. Porac

Organization Science, Vol. 5, No. 3. (Aug., 1994), pp. 289-293.

Stable URL:

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Organizational Environments and Organizational Discourse: Bureaucracy between Two Worlds

Heinz-Dieter Meyer

Organization Science, Vol. 6, No. 1, Focused Issue: European Perspective on Organization Theory. (Jan. - Feb., 1995), pp. 32-43.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199501%2F02%296%3A1%3C32%3AOEAODB%3E2.0.CO%3B2-P

The Dominant Logic: A New Linkage between Diversity and Performance

C. K. Prahalad; Richard A. Bettis

Strategic Management Journal, Vol. 7, No. 6. (Nov. - Dec., 1986), pp. 485-501.

Stable URL:

http://links.jstor.org/sici?sici=0143-2095%28198611%2F12%297%3A6%3C485%3ATDLANL%3E2.0.CO%3B2-Y

Impact of CEO Succession in Japanese Companies: A Coevolutionary Perspective

Tomoaki Sakano; Arie Y. Lewin

Organization Science, Vol. 10, No. 5, Focused Issue: Coevolution of Strategy and New Organizational Forms. (Sep. - Oct., 1999), pp. 654-671.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199909%2F10%2910%3A5%3C654%3AIOCSIJ%3E2.0.CO%3B2-S

The Effects of Executives' Experiences and Perceptions on Their Assessment of Potential Technological Alliances

Beverly B. Tyler; H. Kevin Steensma

Strategic Management Journal, Vol. 19, No. 10. (Oct., 1998), pp. 939-965.

Stable URL:

http://links.jstor.org/sici?sici=0143-2095%28199810%2919%3A10%3C939%3ATEOEEA%3E2.0.CO%3B2-V

Coevolution of Firm Absorptive Capacity and Knowledge Environment: Organizational Forms and Combinative Capabilities

Frans A. J. Van den Bosch; Henk W. Volberda; Michiel de Boer

Organization Science, Vol. 10, No. 5, Focused Issue: Coevolution of Strategy and New Organizational Forms. (Sep. - Oct., 1999), pp. 551-568.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199909%2F10%2910%3A5%3C551%3ACOFACA%3E2.0.CO%3B2-B

Toward the Flexible Form: How to Remain Vital in Hypercompetitive Environments

Henk W. Volberda

Organization Science, Vol. 7, No. 4. (Jul. - Aug., 1996), pp. 359-374.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199607%2F08%297%3A4%3C359%3ATTFFHT%3E2.0.CO%3B2-9

Managerial and Organizational Cognition: Notes from a Trip Down Memory Lane

James P. Walsh

Organization Science, Vol. 6, No. 3. (May - Jun., 1995), pp. 280-321.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199505%2F06%296%3A3%3C280%3AMAOCNF%3E2.0.CO%3B2-C

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Richard Whittington; Andrew Pettigrew; Simon Peck; Evelyn Fenton; Martin Conyon

Organization Science, Vol. 10, No. 5, Focused Issue: Coevolution of Strategy and New Organizational Forms. (Sep. - Oct., 1999), pp. 583-600.

Stable URL:

http://links.jstor.org/sici?sici=1047-7039%28199909%2F10%2910%3A5%3C583%3ACACITN%3E2.0.CO%3B2-2