ORGANIZATIONAL EVOLUTION:
A METAMORPHOSIS MODEL OF
CONVERGENCE AND REORIENTATION

Michael L. Tushman and Elaine Romanelli

ABSTRACT

This paper develops a theory of organizational evolution which helps reconcile the incremental, transformational and ecological approaches to organization evolution. A punctuated equilibrium model of organization evolution is proposed. Organizations evolve through convergent periods punctuated by reorientations (or recreations) which demark and set bearings for the next convergent period. Convergent periods refer to relatively long time spans of incremental change and adaptation. Convergent periods may or may not be associated with effective performance. Reorientations are relatively short periods of discontinuous change where strategy, power, structure and controls are fundamentally transformed towards a new coalignment. Where middle management interpolates structures and systems during convergent periods, executive leadership mediates between internal and institutional forces for inertia and competitive/technological forces for fundamental change. Hypotheses are developed which focus on the existence and frequency of reorientations, evolutionary patterns which discriminate between alternative fates, and on the role of executive leadership during convergent periods and during reorientations.
The Bell Company was founded in 1874 as a small R&D intensive organization dedicated to telephonic (as opposed to telegraphic) communication. Under the leadership of A. G. Bell and G. Hubbard, the Bell Co. emphasized research and the production of high priced and high quality telephonic service to local/residential customers. Bell Co. licensed manufacturing and leased its product to independent sales agents. This period of research-oriented, local, nonbusiness efforts continued through 1879.

After the Western Union-Bell patent agreement in 1879, the Bell Co. rapidly transformed itself into a fundamentally different firm. Under the leadership of T. Vail, Bell Co. changed its name to American Bell and shifted its strategy, structure, power distribution and controls. Vail acquired Western Electric, acquired interests in the operating companies and began to develop a telephone system; a business and residential network for short haul as well as long distance communications. Vail emphasized engineering, systems, structures and tight controls. After the Kingsbury agreement of 1913, American Bell, now AT&T, became a regulated monopoly which extended and elaborated the company’s strategic orientation and its associated systems and processes through the 1970s. Fundamental legal/political, technological and competitive changes now force AT&T to reorient itself after an almost 100 year period of convergence and incremental change.

The saga of AT&T is but one example of the complexities and dynamics of organization evolution. This paper builds on several literatures to increase our understanding of organizational evolution. The challenge to understand organizational evolution is not new. Weber (1952) and Merton (1968) postulated a near-irreversible momentum of increasing bureaucratization and goal-displacement, while Blau (1963) found evidence of bureaucratic flexibility and goal-succession. Schumpeter (1934) argued that organizations become ever more stable until replaced during “gales of creative destruction” (p. 87), while Chandler (1962) focused on heroic executives radically transforming their organizations as environmental conditions changed. Despite this long history of thought and debate, basic questions remain. We know relatively little about the nature and characteristics of organizational evolution, and even less about how patterns in organization evolution discriminate between those few organizations that prosper over time, and the majority that fail.

Partial redress of these weaknesses is evidenced in the intensifying interest in evolutionary or life-cycle aspects of organizational phenomena. First articulated by Starbuck (1965) and recently reemphasized by Aldrich and Pfeffer (1976), Kimberly and Miles (1980) and Child and Kieser (1981), the call for longitudinal, historical perspectives stems (1) from a pervasive dissatisfaction with static, cross-sectional views of organizations which illuminate covariant attributes to organizations, but tell little of the impact of history and precedent on current organization behavior; and (2) from simple curiosity for answers to such questions as, “How and why did this firm evolve? Why did certain firms succeed while others did not?”

Three fundamentally different organization evolution frameworks have been proposed. Ecological models emphasize change across populations
of organizations as the result of net mortality driven by processes of environmental selection (Freeman, 1982; Hannan & Freeman, 1977). Adaptation models emphasize incremental change and moving equilibria as more effective organizations adapt to environmental threats and opportunities (Katz & Kahn, 1966; March & Simon, 1958; Quinn, 1981). Transformational models focus on metamorphic changes in organizations; organizations evolve through a series of fundamentally different periods or stages. While much of this transformational literature postulates a predictable set of developmental stages (e.g., Greiner, 1972; Normann, 1977; Quinn & Cameron, 1983), others argue for nondeterministic patterns in the transformation of organizations (Filley & Aldag, 1980; Mintzberg & Waters, 1982). What remains lacking is a general theory of organization evolution which reconciles salient points of each of these three perspectives: a theory which examines both internal and external sources of organization inertia and change, and which recognizes the relative impacts of executive leadership on organization behavior over time.

This paper develops a model of organization evolution which integrates these distinct evolutionary perspectives. We propose a punctuated equilibrium model of organization evolution. Organizations progress through convergent periods punctuated by reorientations which demark and set bearings for the next convergent period. Convergent periods refer to relatively long time spans of incremental change and adaptation which elaborate structures, systems, controls and resources towards increased co-alignment. These convergent periods may or may not be associated with effective performance. Reorientations are relatively short periods of discontinuous change where strategies, power, structure, and systems are fundamentally transformed towards a new basis of alignment. Where middle-level management interpolates structures and systems during convergent periods, executive leadership mediates between internal and institutional forces for inertia and competitive forces for fundamental change. It is executive leadership which initiates, shapes and directs strategic reorientations.

The following sections elaborate these ideas and incorporate literature from multiple perspectives to clarify and support our model. Section I presents, with very little literature review, the basic ideas, terms and logic of our organization evolution model. Sections II–IV review literatures pertaining to convergence and inertia, forces for reorientation and metamorphic change, and the role of executive leadership in mediating these opposing forces for change and stability. Propositions are presented which formalize the basic ideas of our model. We conclude with a brief discussion of research, theoretical, and methodological implications of our punctuated equilibrium model of organization evolution.
I. CONVERGENCE AND REORIENTATION: A METAMORPHOSIS MODEL

"valuing of consistency that leads to competence; the valuing of inconsistency that leads to learning; and both that lead to increased effectiveness." Argyris & Schon, 1978

Our model of organization evolution is characterized by three defining constructs: (1) processes of convergence which operate, through incremental change mechanisms, to align and make consistent the complex of socio-political and technical-economic activities that support a firm’s overall strategic orientation; (2) periods of reorientation, wherein patterns of consistency are fundamentally reordered toward a new basis of alignment; and (3) executive leadership, which serves as the key mechanism of intervention. This section presents an overview of the meaning of these constructs and the fundamental logic of our model.

Strategic Orientation, Consistency and Convergence

The logical starting point for a model of organization evolution is the inception of a new firm. Through selective perceptions by founders of constraints and opportunities in the environment, basic decisions are made regarding what business the firm is in and how it will compete (Newman & Yavitz, 1982). Decisions regarding products, markets served and normative postures regarding technology (i.e., technology leader vs. follower), human resources and/or competitive timing (i.e., me-first vs. me-too) define a firm’s strategic orientation. For example, where many firms produce similar products to similar market segments, some firms will be first-movers while others will consistently followers (Miles, 1982; Miles & Snow, 1978).

A complex set of economic and political/social behaviors and activities are required to support a firm’s strategic orientation (Zald, 1970). As economic entities, organizations must be effective and efficient. Organizations must be effective in producing a product or service that is desired by an external economy such that a flow of resources is maintained, and efficient with respect to internal resource utilization (Katz & Kahn, 1967). Organizations are also social/political entities. Organizations require external legitimation such that the firm’s right to exist and mode of operation is not challenged. Organizations also require internal legitimation from participants such that continuity of personnel and behavior cycles are sustained. Table 1 summarizes major categories of behaviors and activities as they correspond to this political-economy approach.

Based on this political-economy framework, we propose that the following five activity domains are critical, if not exhaustive, in character-
izing organizations as they pursue a strategic orientation. (1) Core values and beliefs set constraints as to where, how and why a firm competes. (2) Business unit strategy defines the nature of products produced and markets served and establishes general time and technological constraints. (3) Intra-organization power distributions control the allocation of scarce resources. (4) The organization's fundamental structure formalizes hierarchy, role relations and competitive emphases. (5) The nature, type and pervasiveness of control systems indicate a firm's emphasis on efficiency.

These activity domains fall into a hierarchy corresponding to how pervasively they affect premises of decisions. A firm's core values are the most pervasive aspect of organizations in that they set basic constraints as to where, how and why a firm competes. Given core values, decisions on products, markets, technology and timing define a firm's competitive domain. Core values and domain decisions set the basic premises of decisions within the firm. These premises constrain the shape the distribution of power and the allocation of scarce resources which, in turn, constrain choices of structures and control systems. This hierarchy also suggests a degree of coupling between activity domains. Changes in core values will be associated with cascading effects in strategy, power, structure and controls. On the other hand, changes in control systems will be only weakly coupled with changes in structure, power or strategy.

These activity domains individually, and as they interrelate with one another, constitute the organizational "working out" of a strategic orientation. While this strategic orientation is imposed, or intended, in the
first place by organization founders, subsequent strategic orientations may develop as a consequence of unintended or emergent interactions among the activity sets themselves (Mintzberg, 1973).

**Definition 1:** Strategic orientation is defined in terms of what business the firm is in and how it competes. This strategic orientation sets the bearing of organization activities and may vary in the degree to which it is explicit.

While a firm’s strategic orientation may or may not be explicit, it can be described by the set of organization activities: (1) core beliefs and values regarding the organization, its employees and its environment; (2) products, markets, technology and competitive timing; (3) the distribution of power; (4) the organization’s structure; and (5) the nature, type and pervasiveness of control systems.

Strategic orientation is a concept critical to our notion of convergence. It answers the question: What is it that is being converged upon? It does not, in and of itself, induce convergence. Convergence is a process which derives from socially emergent inertial dynamics and from “rational” attempts, given a strategic orientation, to accomplish the multiple constraints of organizations as political-economic systems. While a strategic orientation may not be explicit, it can be described by patterns in core organization activities. For example, early Bell Telephone sold nonbusiness telephonic communication to local markets through a loosely structured organization whose core values centered on flexibility, research and innovation. This strategic orientation was reaccomplished until after the Western Union-Bell patent agreement of 1879 when, under new ownership and management, Bell Telephone became American Bell. American Bell embarked on a fundamentally different strategic orientation emphasizing universal, low-cost service as core values delivered through a vertically integrated and highly formalized structure. This latter convergence period was continuously developed through the mid-1970s.

The core activity domains (see Table 1) individually and as they interrelate with one another result in differing levels of performance and inertia which are, in turn, basic factors affecting organization evolution. Behaviors and decisions in each of the four activity domains must be successfully attended to in order that the organization (a) survive, and (b) outperform competitors. Inconsistent or inappropriate activities, within any of the activity domains, will be associated with lower performance and/or failure. For example, Sears’ insistence on maintaining a low-cost, “good value to the masses” product orientation in the 1950s and 1960s in the face of changing demand for more fashionable goods provided by the posh
suburban shopping malls resulted in a recalcitrant low sales performance (Stryker, 1961).

In addition to successfully addressing requirements of political and economic domains independently, activities must also be consistent or coupled with each other to achieve high performance. An organization that is effective, efficient and meaningful for its participants, but which fails to achieve an autonomy of operations may bear the brunt of sanctions imposed by the external polity such that all operations become difficult to perform (e.g., Reverend Moon’s Unification Church). Conversely, an organization such as W. T. Grant was arguably meaningful for its participants, effective in its provision of desired products to a well defined market, and certainly not in violation of social or industry norms, yet failed in its ability to achieve an efficiency of operations such that all activities were ceased. ATT, on the other hand, achieved a consistency between external polities and effectiveness and internal polities and efficiency such that it flourished through the 1970s.

Performance, then, is a consequence both of appropriate activities with respect to political and economic requirements and of achieving consistencies in and among organization activities. Consistency within and between activity domains is not synonymous with high performance. Organizations may converge with a high degree of consistency on a strategic orientation and yet be totally oblivious to environmental demands (e.g., American automobile firms in the 1970s). Conversely, appropriate strategic orientations can be ineffectively accomplished within the firm.

In addition to performance, organization-environment and intra-organizational consistencies are associated with a second important organizational outcome, the development of a structural and socially-anchored inertia. As webs of interdependent relationships with buyers, suppliers and financial backers strengthen, and as commitments to internal participants and external evaluating agents are elaborated into institutionalized patterns of culture, norms, and ideologies; the organization develops inertia, a resistance to all but incremental change. These emergent social and structural processes facilitate convergence on a strategic orientation through the enforcement of rules and norms that constrain the premises of participants’ behaviors. A high degree of competence in executing a strategic orientation may thus be developed. These convergent social and structural processes also, however, begin to impede (although not preclude) a firm’s ability: (1) to reassess environmental opportunities and constraints, and thus to initiate a strategic reorientation; and (2) even given such a reassessment, to substantially disrupt the networks of interdependent resource relationships and value commitments toward implementation of a new strategic orientation. For example, the very structures, values, and systems that were so successful for ATT from the early
20th century through to the 1970s provide for considerable resistance in the organization's attempt to reform itself toward alignment with an increasingly competitive environment.

**Definition 2:** *Convergence* is defined as process of incremental and interdependent change activities and decisions which work to achieve a greater consistency of internal activities with a strategic orientation, and which operate to impede radical or discontinuous change.

*Forces for Change and Reorientation*

Despite the inertial properties of convergent periods, it is a fundamental premise of our model that organizations can and do undergo radical transformations of strategic orientations and supporting values, power systems, formal structures, and controls. To the extent that incremental modifications to values, strategies, power systems, structure and controls fail to maintain consistencies (or to establish them in the first place), the organization will fail to achieve a sustainable level of performance, and be forced to a fundamental reordering of activities. We term this reordering a reorientation and suggest two basic forces for change: (1) sustained low performance resulting from a lack of consistency among activities in the four political-economy domains, regardless of the appropriateness of overall strategic orientation; and (2) major changes in competitive, technological, social and legal conditions of the environment that render a prior strategic orientation, regardless of its success, no longer effective.

Organizations may converge on a strategic orientation which may or may not be consistent with environmental requirements. Under conditions where an organization fails to achieve consistency, whether with respect to the overall orientation-environment fit or with respect to lack of alignment between activities supporting the strategic orientation, low performance or early failure will result. Sustained low performance leads to either failure, or crisis associated with a fundamental reordering of activities and/or restatement of strategic orientation that will lead to a transformation of supporting activities.

Competitive conditions change as a product class evolves. Critical strategic contingencies shift over the course of a product class life cycle. Those strategic orientations appropriate early in a product class will not be appropriate as the product class matures. Further, exogenous shocks may also transform competitive conditions (e.g., legal events, substitute technologies). These changes may be anticipated and a transformation of activities initiated in order to ensure alignment with a new or coming environmental context; they may be ignored until recognition is forced
through performance declines resulting from lack of orientation-environment fit. Performance pressures, then, whether anticipated or actual, are the most basic forces for reorientation.

Reorientations involve a series of rapid and discontinuous change in the organization which fundamentally alters its character and fabric. Quite distinct from incremental change, reorientations involve simultaneous and discontinuous changes in strategies, power distributions, structures, and control systems. Reorientations that also involve discontinuous change in core values which govern decision premises, termed re-creations, represents the most radical form of reorientation. Reorientations and/or re-creations define the end of one convergent period and usher in the next. Reorientations (or re-creations) punctuate on-going processes of convergence.

**Definition 3:** Reorientations are defined by simultaneous and discontinuous shifts in strategy (defined by products, markets and/or technology), the distribution of power, the firm’s core structure, and the nature and pervasiveness of control systems. Re-creations are reorientations which also involve a discontinuous shift in the firm’s core values and beliefs.

**Definition 4:** Convergent periods are demarked by strategic reorientations (or re-creations). Convergent periods can be characterized by (a) duration, (b) strategic orientation, (c) turbulence (rates of change in strategy, power, structure and controls).

Table 2 diagrams the hierarchical relationships among activity domains which define reorientation and recreation. Examples illuminate this distinction and demonstrate the hierarchical relationship among activities. Monsanto’s diversification into specialty chemicals and bioengineering represents a strategic reorientation involving rapid and discontinuous changes in products and markets served, distribution of power and re-

<table>
<thead>
<tr>
<th>Table 2. A Hierarchy of Organizing Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Values (customer, competition, technology, employees)</td>
</tr>
<tr>
<td>Strategy (product, market, technology, competitive timing)</td>
</tr>
<tr>
<td>Distribution of Power</td>
</tr>
<tr>
<td>Structure</td>
</tr>
<tr>
<td>Controls</td>
</tr>
</tbody>
</table>
sources within the firm and fundamental changes in structure and controls. Through this period, Monsanto’s core values, anchored in molecular manipulation and orientation towards chemistry, remained stable. Singer, on the other hand, in its diversification into high technology products and markets has engaged in a re-creation. No longer does the company intend to be perceived as a producer of quality sewing machines and furniture. Traditional Singer Sewing values and images, as well as products and markets serviced, power, structure, and control systems, have been fundamentally altered in rapid order.

Organization evolution is, then, composed of sets of convergent periods punctuated by strategic reorientations (or re-creations). After the founding convergent period, each successive period is affected by prior convergent periods. Precedent and prior commitments do not simply cease when the firm attempts to reorient. Rather, history, in terms of the understandings and interpretations of previous convergent periods and reorientation crises, provides the context within which current reorientations and convergent periods operate.

Executive Leadership

Forces for convergence and reorientation are at odds. Where middle and lower level management can sustain convergent periods under premises of the existing strategic orientation, only executive leadership can mediate between forces for convergence and forces for change and initiate a strategic reorientation. Whatever the nature of the opportunity or crisis, recognition of an actual or potential organization-environment inconsistency and direct intervention on prior convergent processes is required for a reorientation to occur. Direct intervention is required precisely because inertial factors operate to maintain status quo, often in spite of clear dysfunctional consequences. Only executive leadership can initiate and implement the set of discontinuous changes required to affect a strategic reorientation.

Executives’ perceptions of opportunities and constraints guide their choice to remain in a convergent period or to initiate a reorientation. These perceptions vary systematically by the executive teams’ demographic makeup, by ownership patterns and by the length of the current convergent period. Because executives themselves, in their personal commitments and interdependencies, may be constrained in their perceptions by inertial forces of a convergent period, reorientations (and recreations) will occur most frequently after a sustained performance decline and will be most frequently initiated by outside successors.

Our model of organization evolution is, then, based on two inherently conflicting forces: internal and institutional pressures for incremental
change and inertia, and pressures of low performance that emerge from disalignments (whether anticipated or realized) with environmental requirements. These opposing pressures are mediated by executive leadership which is, in turn, also affected by convergent forces. As a result of tensions emerging between inertial processes and performance pressures, organizations evolve through relatively long convergent periods punctuated by discontinuous or metamorphic changes which lead to the next convergent period. The nature of reorientation as well as the nature of activities characterizing subsequent convergent periods is increasingly constrained by patterns established during prior periods. These ideas are summarized:

Patterns of organizational evolution are characterized by periods of convergence punctuated by reorientations leading to the next convergent period. These cycles are driven by the emergence of tension between organizational and institutional forces for inertia and competitive, technological and legal pressures on performance which are mediated by the perceptions and decisions of executive leadership.

Figure 1 diagrams key relationships to be considered in our analysis of organizational evolution. The following sections review relevant literature toward the development of a set of propositions which define and extend these relationships.

II. CONVERGENT PERIODS AND FORCES FOR INERTIA

Section 1 introduced strategic orientation as a guiding or directing principle of organizational activity that can be described in terms of decisions and behaviors relating to core values, strategy (in terms of products, markets, and/or technology), power distributions, structures, and control systems. To be successful, a firm’s strategic orientation must be consistent with internal and external political and economic environments. A by-product of consistency are webs of interdependencies and commitments which are associated with increased organizational complexity and specialization and, in turn, structural and social rigidities. This section supports and elaborates these ideas. We develop a set of propositions which formalize the basic tenets of the consistency-convergence arguments. We examine convergence with respect to two principle outcomes, performance and inertia, which constitute underlying forces driving evolution.

Consistency, Convergence and Performance

The idea that organizations pursue consistencies or alignment between patterns of activity and conditions of the external environment, and that
Figure 1. Organization Evolution: A Schematic Model.
these alignments (or lack thereof) contribute to distinct performance consequences, is not new in organization theory. Performance consequences have been examined: (1) in terms of overall consistency with the external environment, which largely assumes the existence of internal consistencies; and (2) with respect to internal organizational pursuit of these consistencies. We review, as briefly as possible, the multitude of perspectives that have adopted this position. This large body of research supports the idea that consistency and convergence are basic determinants of organizational performance.

Strategic Orientation and External Consistencies

Population ecology, industrial organization economics, and strategy research each start from the premise that different contexts require different forms and/or strategies to achieve effective performance. While assumptions regarding units of analysis, time frames, and leverage of senior management differ, each theoretical approach emphasizes the performance consequences of achieving fit or consistency between environmental demands and organizational states.

Population ecology. Population ecologists (e.g., Carroll & Delacroix, 1982; Hannan & Freeman, 1977) focus on the dynamics of organization existence in terms of the net mortality of populations of firms over time. The unit of analysis is the population of firms which share a like form (e.g., all specialty steel firms). These populations inhabit resource niches, where several niches define a community or industry. Each niche may share scarce resources with other competing niches.

The emphasis here is very strictly on the nature of context as determinant of the type or form of organization that may thrive in the context. Organizations are assumed to adopt very early in their lives a basic strategic orientation (i.e., specialist or generalist) toward the general resource space, and, due to webs of dependencies and commitments, to be largely unable to change or reorient that stance. As a resource space is initially perceived and responded to, several orientations may characterize the activity patterns of competing populations. The environment poses a set of key survival characteristics which either fit or do not fit the activity patterns of these orientations. Survival is thus the product of natural selection. Provided the environment remains constant, or at least predictable in its pattern of change, a single form of organization will emerge as dominant in the resource space (Hawley, 1950; Stinchcombe, 1965).

Hannan and Freeman (1977) and their colleagues have thus far developed the concept of niche width as a key dimension of the organization form/environment survival relationship. Depending on whether change in
environmental states is large or small and depending on whether these changes occur often or rarely, either specialist or generalist firms will possess optimal survival capability. Research in this tradition has examined the concept in terms of environmental evolution (Brittain & Freeman, 1980), net mortality rates of populations as a function of environmental conditions (Carroll & Delacroix, 1982; Freeman & Hannan, 1983), and birth rates of firms as a function of basic population dynamics (Delacroix & Carroll, 1983). Population ecology presents the most extreme version of consistency between strategic orientation and environmental conditions. Organizations do not evolve as niches change, but are replaced by new firms which are born through entrepreneurial behavior and spin-offs. The role of executive leadership is assumed to be sharply constrained after the firm is born due to severe external and internal constraints.

*Industrial organization.* The extensive work in industrial organization economics is complementary to the population ecology approach. Industries are the basic unit of analysis and the research paradigm has focused on *context* (e.g., entry and exit barriers, concentration ratios, size distribution of firms, elasticity of demand), and *conduct* (price, advertising levels, innovation, vertical integration), which drive economic *performance* (Baysinger, Meiners, & Zietzam, 1981; Scherer, 1980). Firms existing in different market/competitive structures develop different configurations of economic activities and decisions to achieve competent performance. For example, Armour and Teece (1978) investigated the evolution of multidivisionalized forms in the petroleum industry and found considerable linkage between M-form structures and performance. Where population ecology focuses on inertial forces in the organization that foreclose mobility, industrial organization economics attends to deterrents to mobility (e.g., switching costs, intangible assets, capital requirements (Harrigan, 1981)).

Industries can be mapped into strategic groups: groups of firms which are similar in terms of strategic approach to competitive conditions in an industry (Porter, 1980). Strategic groups face different resource constraints and exhibit different strategic and economic behavior (Hatten, Schendel, & Cooper, 1978). For example, Lenz (1978) identified strategic groups in the savings and loan industry and found that high performing firms in each strategic group had systematically different structures, processes and strategies which were, in turn, consistent with environmental demands.

Porter (1980) suggests that there are three generic strategies which characterize the activity patterns of firms: cost leadership (focus on asset utilization, control, and efficiency), differentiation (focus on uniqueness,
quality, and innovation), and focus (emphasis on total exploitation of a narrow market segment). Building on Spence (1979), Porter (1980) suggests that each of the strategies are optimal under different sets of competitive conditions and that these map, to some large extent, onto the life cycle patterns of an industry.

While consistent with ecological approaches, industrial organization research more clearly specifies conduct and context over time and provides greater detail on generic types and their organizational correlates. The role of senior management is considerably expanded. Only partly constrained by historical and mobility barriers, executive leadership chooses in which strategic group to compete and the firm’s strategic orientation. These choices may change as industries evolve. Management is considered able to change as industries evolve, and through strategic decisions, to be able to directly affect both strategic and structural characteristics of the firm and structural conditions of an industry (Baysinger, et al., 1981). Thus organizations are viewed as capable of evolving.

Strategy. Since Chandler’s (1962) seminal work on the evolution of large industrial firms, there has been substantial work on the linkages between contexts, strategy, structure, and performance at the firm level of analysis. While similar to ecology and industrial organization approaches in its emphasis on these linkages, this research stream has focused much greater attention on managerial behavior and choice, and on the internal organizational characteristics of strategy. Chandler traced the histories of General Motors, Du Pont, Sears, and Standard Oil in great detail (and 70 other firms in lesser detail) and found that increased environmental diversity was more effectively handled through divisional structures and their supporting organizational systems. The adoption of these structures, in all cases, was impeded initially due to executive commitments to the status quo, one source of inertia. The studies emphasize also, however, processes by which such inertia is overcome.

This context, strategy-structure hypothesis has stimulated a considerable amount of supporting research. Channon (1973) replicated Chandler’s work on the development of the multi-divisionalized firm in a European country. Rumelt (1974) has considered different kinds of diversification strategies and demonstrated performance to be associated with the degree of relatedness acquired firms bear to the acquiring organization’s dominant competence. This research stream supports the linkage between environmental diversity, strategic choice, structure and related organizational processes. It also indicates the importance of organizational inertia as an impediment to strategic change and a limit to diversification.

A second strategy research stream explicitly considers internal consistencies as critical to support of the strategic orientation/environment
linkage. Miles and Snow (1978), based on case studies of organizations in several distinct industries (textbooks, food processing, hospitals, and electronics), induce four generic strategic types which differ in the nature of their response to environmental conditions. Defenders pursue focused domains through emphasis on efficient operations; prospectors are flexible and innovative, constantly altering orientation based on changing conditions; analyzers operate in multiple domains, each with different approaches; and reactors simply respond as followers to the prevailing concept of industry success.

Miles and Snow (1978) argue that each strategic type is associated with its own set of values, structures and systems, and that each type develops its own distinctive competence. Further, they argue that these strategic types (except for reactors) are stable systems with appropriate response mechanisms that can be applied even if environments change. As these generic types were hypothesized to be stable and viable under different conditions, Miles and Snow (1978) did not discuss contextual conditions or variability. Miles (1982) and Snow and Hrebiniak (1980) found support for these strategic types and associated distinctive competences. However, Snow and Hrebiniak (1980) also found that prospectors were more prevalent and more effective in uncertain industries (e.g., electronics) while defenders were more prevalent and more effective in low uncertainty industries (e.g., air transport).

A final research stream represents a growing overlap between industrial organization economics and strategic management domains. Strategic contingency literature argues that strategies, structures and processes must fit industry or strategic group requirements and that these competitive requirements change over time (Hofer, 1975). Hambrick (1983) identified eight distinct subenvironments in mature industrial products industries and found that different strategic types were found to compete in the sub-environments; high performing firms matched strategic characteristics with contextual demands. Extending this strategic contingency work, Hambrick, MacMillan and Day (1982) found different performance levels and different strategic characteristics for firms in different cells of the BCG strategy matrix. MacMillan, et al. (1982) found that within BCG cells, high-performing firms were those that matched strategic type with contextual demands. These results along with those reported by Snow and Hrebiniak (1980) indicate that it is important to distinguish between strategic groups in an industry and that different strategic groups require different strategies to achieve effective performance. Finally, these several strategy research streams also suggest that organization performance is a function of achieving internal consistency or balance between strategy, structure, processes and values, and achieving an external consistency between a firm's strategy and environmental demands.
Strategic Orientation and Internal Consistencies

Where population ecology, industrial organization economics, and strategy research concentrate on organization-external environment relations, organization contingency literature attends to intra-organizational consistencies. This literature concentrates on the development of structures and control systems and the shaping of social and normative pressures to fit strategic/contextual demands.

In essence, the theory posits that choice of basic organizational form, specification of relevant subunits, and distribution of power and control within and between these subunits is driven by strategic organizational contingencies (Galbraith, 1977; Thompson, 1967). High-performing organizations develop specialized units to deal with critical task and environmental contingencies. For example, organizations with severe legal problems develop their own internal legal departments. Those organizations which compete in heterogeneous environments develop more complex levels of structural differentiation than those firms competing in homogeneous environments. The relative influence of these different subunits hinges on the extent to which they control critical organizational contingencies (Hinings, Hickson, Pennings & Schneck, 1974). For example, early in a product class life-cycle, market and technological issues are central, and therefore, marketing and R&D tend to be influential; manufacturing and finance are more powerful as the product class matures and the bases of competition shift to costs and efficiencies (Lawrence & Lorsch, 1967).

Given some general organizational form, different subunits also face systematically different technological and/or environmental conditions. Successful subunits facing uncertain or changing environments have more organic structures than those successful subunits facing routine environments (Duncan, 1972; Lawrence & Lorsch, 1967; Tushman, 1979). Similarly, those successful units facing nonroutine tasks have more organic structures than those units with routine tasks (Comstock & Scott, 1977; Dewar & Hage, 1978).

Finally, at the interunit level of analysis, research by Lawrence and Lorsch (1967), Comstock and Scott (1977), Van de Ven Delbecq, and Koenig (1976), and Tushman (1979) indicates that the more complex the interdependence the more complex integrating mechanisms are required for effective performance. While support for these structural contingencies is not unequivocal (e.g., Mohr, 1971; Pennings, 1975; and Schoenhoven, 1981), there is substantial support for this multistep approach to design and to the several context-structure-performance interactions.

Closely related to organization structure is the nature of the firm’s control systems. Control systems are those formal and informal mechanisms
used to evaluate and monitor behavior and outputs of a social system and to allocate rewards and penalties (Dunbar, 1981; Ouchi, 1979). Child (1973) and Perrow (1979) distinguish between three basic forms of control: direct or personal control, bureaucratic control, and social or unobtrusive control. Personal control relies on direct surveillance by the relevant supervisor. This form of control is most direct; it is also inefficient and biased (due to subjective criteria and measures) and frequently an impediment to organizational growth (Fillely & Aldag, 1980; Ouchi & Maguire, 1975; Penrose, 1959). Direct control tends to be supplemented with bureaucratic control and the development of norms and values which provide the core of social control in large organizations (Edstrom & Galbraith, 1977).

The literature on bureaucratic control, like the structure literature, finds that the nature of the control system should be contingent on the subunit’s work requirements (Lawler & Rhode, 1980). Those tasks whose measures and transformation processes are clear are most effectively controlled through relatively close control over multiple criteria (Khandwalla, 1974; Chandler, 1977). For tasks where the work flow is unclear or evaluation is difficult, more flexible and less bureaucratic systems are associated with greater effectiveness (Ouchi & Maguire, 1975). For example, Van de Ven’s (1980) study of health care organizations found that flexible, process oriented planning and control systems were effective in formative stages of organization evolution, while more rigid procedural planning and control systems were more appropriate once there was greater clarity as to service and client demands.

For work that is difficult to evaluate and/or plan, personal and/or bureaucratic control must be supplemented with social control processes. Social, unobtrusive, or peer control hinges on the evolution of shared norms, values and purposes which provide a common language, frame of reference, and set of premises within which complex and subtle decisions can be made even in the absence of personal and/or bureaucratic control (Normann, 1977; Ouchi, 1980; Selznick, 1957). For example, Ouchi (1981) discusses the evolution of organizational philosophies and values in Japanese organizations (and in certain types of American organizations), and argues that these philosophies help individuals and groups throughout the firm to make organizationally responsive decisions even in the context of ambiguous criteria.

Literatures from population ecology, industrial organization economics, strategic management and organization theory are consistent to the point of near redundancy in their view of organizational competence being related to the fit between strategic orientation and internal and external environmental conditions. The research has been pairwise in nature focusing on the context-organization-performance interactions one at a
time. Only Nightingale and Toluse (1977) provide support for the joint linkages between structure, processes and values. They provide no data, however, on contextual demands or on performance. Though widely hypothesized (e.g., Duncan & Weiss, 1979; Nadler & Tushman, 1980; Nordmann, 1977), the full test of organizational contingency ideas—that is, the performance consequences of achieving a fit between contextual demands and organizational states—remains for future research (Van de Ven & Drazin, forthcoming).

Implicit in this consistency literature, in both internal and external emphases, is an evolutionary perspective. While the research focuses on realized configurations of values, strategies, power distributions, structures, and controls, as these relate to performance in given environmental conditions, all of them, with the exception of population ecology, posit some movement toward patterned configuration. Because executives cannot, a priori, the optimal configuration of values, strategies, power, structure and controls, organizations do not suddenly emerge with consistencies between strategy, structure and internal processes. Rather, organizations gradually iterate or converge to some relative equilibrium through incremental but consistent decisions of senior and mid-level management and through concomitant organization learning (Bowman, 1963; March & Simon, 1958; Quinn, 1981). Within a feasible set of strategic choices, incremental yet consistent decisions are associated with organizational competence (Child, 1977; Khandwalla, 1973). Performance is a consequence of the extent to which (a) strategic orientation is consistent with external conditions, and (b) activities engaged in to support the orientation are consonant with one another.

PROPOSITION 1: High-performing organizations evolve consistencies both among activity domains that support a strategic orientation and between the strategic orientation and external environmental conditions.

Convergence and Inertia

The above literature on strategic orientation, external conditions, and performance tends to concentrate on the formal structural and activity aspects of organizational phenomena. With the exception of population ecology, which assumes fundamental change to be rare if not impossible, these rational perspectives on consistency assume a general ability of organizations to re-structure activities in response to changing environmental conditions. While our model also assumes such a capacity, we explicitly recognize inertial properties that characterize convergence. It is the property of inertia in organizations that:

1. coalesces activities
toward a holistic convergence on strategic orientation; and (2) results in
the metamorphic character of evolution. It is due to the powerful influence
of inertia that fundamental change in the direction of activities occurs
only via simultaneous and discontinuous interruption of ongoing activities
and interrelationships. We develop several propositions which de-
scribe the origin of convergent processes and associated organizational
inertia.

Internal requirements for coordinated activities and flows result in in-
creased structural elaboration and social complexity. These patterns of
structural and social decisions over time elaborate and consolidate a firm’s
strategic orientation. These increasingly coupled and interdependent struc-
tural and social decisions increase individual and group commitments to
the firm’s strategic orientation and further incremental change, but reduce
the probability of perceiving the need for or implementing fundamental
change (Normann, 1977). For example, in tracing the evolution of Ford
Motor Company, Abernathy (1978) found that after Henry Ford decided to
treat his Model T as a dominant design, there were a series of incre-
mental but consistent decisions regarding products, processes, materials,
labor, vertical integration—each of which furthered Ford’s strategic ori-
entation. Abernathy (1978) argued that as organizations tailor production
processes to product lines, the increased coupling and specificity of the
social and technical systems permit only incremental elaboration of the
existing strategic orientation. Similarly, Kimberly’s (1980) study of an
innovative medical school provides rich data on incremental decisions and
changes which bolstered the school’s strategy, systems, procedures, and
values. Once developed these complex structural and social linkages
were associated with resistance to change. The linkage between social
and structural complexity, resistance to fundamental change and inertia
has also been described by Grinyer and Spender (1979), Lodahl and
Mitchell (1980), Smith (1980), and Miller and Friesen (1980).

The external environment is also a force for increased structural and
social complexity and, in turn, resistance to anything but incremental
change. As environments become more structured, institutional factors
are a homogenizing and constraining force on organization-environment
relations (Stinchcombe, 1965). Depending on uncertainty and dependence
relations, coercive, mimetic and professional dynamics produce homog-
genesis in a competitive field and are associated with incremental con-
vergent actions and decisions within organizations (DiMaggio & Powell,
1983). For example, J. Meyer and Rowan (1977) describe the myth, cer-
emony, and incremental decisions in educational systems which arise
from external institutional factors. Tolbert and Zucker (1983) describe the
adoption of administrative structures in civil service agencies as a con-
sequence of ‘rational’ patterns having become institutionalized. Simi-
larly, external forces for reliable outputs and accountability in performance generate even more complex internal and external standard operating procedures which are also associated with incremental change and resistance to fundamental change (Hannan & Freeman, 1982).

Internal coordination requirements and external requirements for accountability and predictability are, then, associated with increased structural and social complexity and interdependence, an increase in incremental change and convergence around a strategic orientation, and concomitant resistance to fundamental change. Whether labeled congealment (Boswell, 1973), dynamic conservatism (Schon, 1971), ossification (Downs, 1967) or momentum (Miller & Friesen, 1980), inherent convergent processes pull the organization towards greater stability and incremental change.

PROPOSITION 2: Internal requirements for coordinated action and flows and external requirements for accountability and predictability are associated with increased social and structural complexity.

PROPOSITION 2A: Increased social and structural complexity engenders patterns of interdependence among activity systems which promotes further convergence upon an established strategic orientation and resistance to fundamental change.

Related to this discussion of increasing structural complexity is the issue of organizational growth or size. Just as in physical systems where increases in size must be related to the system's design and shape (Sahal, 1981), so do organizations change their shapes and processes as they grow (Kimberly, 1976). Increased size is associated with increased differentiation and specialization of subunits, and with a dispersion in centers of power as different subunits mediate various organizational contingencies (Blau & Schoenherr, 1971; Thompson, 1967). Increased size is related to increased complexity in systems, hierarchy and structures, increased formalization within and between units, and an increase in the complexity of both bureaucratic controls for routine decisions as well as political activity for nonroutine decisions (Olson, 1982; Pfeffer, 1981).

The level of technological development in a product class also affects the organization size-complexity relationship. Technology literature and work in industrial evolution finds that after a dominant design emerges in an industry, process innovation permits a greater volume of product throughput (Chandler, 1977; Sahal, 1981). Greater throughput volumes can only be accomplished through larger, more formal, more complex organizations with more influential staff units to further formalize and standardize systems and procedures. Technological evolution is, then, associated with larger, and more complex, and more bureaucratic struc-
tures, with large sunk costs and with the ascendance of a powerful technostructure.

The link between size, complexity, formalization and resistance to change is well documented. The larger the organization the more levels in the hierarchy, the greater the use of formalized procedures, and the greater the reliance on technocrats to interpret and enforce standards. These rules and procedures take on meanings in and of themselves, and coordination through feedback is replaced by coordination through formalized and ritualized behavior (Crozier, 1964; Merton, 1968).

In these bureaucratic organizations, while performance of routine work is efficient, the ability to handle new situations is stunted. Nonroutine decision-making in large organizations is dominated by political processes within and between different interest groups. Coalitions of interests in large organizations are made up of stable, self-perpetuating groups who have a vested interest in the status quo, and who make consequential decisions slowly and with frequently biased and distorted information (Downs, 1967; Olson, 1969; Wilensky, 1967). Similarly, if size is associated with substantial capital expenditures in a complex, highly interdependent production technology, there is organization-wide resistance to anything but incremental change in procedures and processes (Abernathy, 1978).

**Proposition 3:** The larger the organization, the greater its structural complexity and interdependence, and the greater the emphasis on incremental as opposed to discontinuous change.

Holding environmental conditions constant (a constraint to be relaxed in Section III), longer convergent periods are associated with increased social and normative complexity within organizations. The passage of time permits increased elaboration of values, beliefs and ideologies at individual, group and organization levels of analysis. These normative outcomes are associated with patterns of interaction which are self-reinforcing, particularly if bolstered by coordinated recruiting, socialization and training practices, and by leader behavior emphasizing a core set of values and beliefs (Argyris & Schon, 1978; Sproull, 1981). These social and normative outcomes define what Selznick (1957) has termed organizational character. The longer the convergent period, the more complex these social and normative outcomes become, and the more multilevel commitment processes are a source of resistance to change and inertia (Staw et al., 1981).

Individuals attempt to reduce uncertainty and increase the level of predictability and control in work settings. As individuals become more task proficient and as they decipher organizational mores, they build elaborate
routines to gain greater predictability and control over their work settings (Crozier, 1964; Downs, 1967; Katz, 1980). Through joint decision making, individuals develop shared commitments and beliefs which justify previous actions. These shared commitments and routines are accentuated over time; thinking becomes more and more routinized. Habit becomes a substitute for thought (Weick, 1979).

Individual learning does not take place in a vacuum. Satisficing levels, frames of reference and the generation of meaning are shaped by groups within which individuals work (Berger & Luckmann, 1967; March & Simon, 1958). Increased group age is associated with the development of shared languages, values and norms which simplify the group’s work. As with individuals, groups attempt to increase their control of their work environments through routinizing and stabilizing work flows, by minimizing their dependence on others and maximizing others’ dependence on the group, and by socializing recruits to the group's norms, values and beliefs (Dalton, 1959; Pettigrew, 1973; Van Maanen, 1976). Over time, work strategies become routinized, commitment to established practices increases as groups become more rigid in their behavior patterns and decrease both the volume and diversity of information processed (Janis, 1972; Katz, 1980; Shambaugh, 1978; Staw, 1980). For example, Katz (1982) found that older groups had significantly less intra and extra-group communication, were less motivated and relied on standard operating procedures more than younger groups.

These emergent social and normative processes are accentuated by organizational selection, socialization and promotion practices. Organizations attempt to control human variability by attracting and selecting those individuals whose personal values are congruent with organizational values (Katz & Kahn, 1966; Sigelman, 1977). Once selected, recruits are inculcated with expectations, beliefs and decision making premises (Van Maanen, 1976). At more senior levels of the hierarchy, organizations may choose and socialize a set of executives who through training and transfers come to embody, and in turn, transfer the organization’s character (Edstrom & Galbraith, 1977; Sarason, 1972). Beyond selection, socialization and training, senior management may act directly to shape organizational norms, value and character (Barnard, 1948; Selznick, 1957). An expanding literature on organizational character, ideology, myths, sagas and belief systems finds that symbolic behaviors of executive leadership shape how individuals associate meaning, justification and value to their work (Martin, in press; Pettigrew, 1979).

Organizational values and beliefs take on a rule-like status over time. This process of institutionalization, whereby recruits are rapidly socialized and organizational values and norms are taken for granted, is driven by conformity generating processes throughout the organization. Indi-
individual and group behavior is shaped by structures, standards and premises of decisions; justification for these behaviors is shaped by attention to the management of symbols, settings and meanings by senior management (Clark, 1972; Miles, 1982; Pfeffer, 1982). These social and normative processes are further bolstered by a political equilibrium which also builds on these values and also works to reaccomplish these organizational values (Pettigrew, 1973; Pfeffer & Salancik, 1978).

Several studies provide evidence of the impact of time on the existence and stability of these social and normative outcomes. Kimberly's (1980) study of a new medical center, Kaufman's (1960) study of the Forest Service, Carroll and Delacroix's (1982) work in newspaper industries, and Lodahl and Mitchell's (1980) study of new universities each document the development of organizational character, its accentuation over time, and its persistence even when environments change. Research by Morison (1966) in the navy, Miles (1982) in the tobacco industry and by Downs (1967) in bureaucracies indicates that long convergent periods permit greater congealment of social and normative outcomes, and are associated with substantial inertia and resistance to all but incremental change.

**Proposition 4:** The longer the convergent period, the greater the social complexity and interdependence, the greater the emphasis on incremental as opposed to discontinuous change.

Organizational inertia is rooted in social and structural complexity that arise and become elaborated over time during a convergent period, and as political/physical consequences of growth. Convergent periods can be characterized by their degree of turbulence; that is, rates of change in strategy, power, structure and/or controls. Convergent periods with no turbulence have stable organizational forms with ever more incremental change elaborating a strategic orientation. Convergent periods with substantial turbulence, however, have unstable forms as the organization roots around to find a stable relation between strategy, power, structure and controls. Turbulence within convergent periods is reflected in an increase in political and conflictual behavior, a decrease in the complexity, coupling, and interdependence of social and structural relations. Turbulence will be associated with less social and structural rigidities, less focus on bolstering the status quo and less organizational inertia. Convergent periods with substantial turbulence will be less constrained by inertial forces, but will have to cope with increased politics, chaos and uncertainty.

**Proposition 5:** The more turbulent the convergent period, the less the social and structural complexities, the greater the internal dissensus and the less the multilevel resistance to fundamental change.
Convergence and Performance

Selection processes favor those organizations whose strategic orientations are consistent with internal and external environmental demands (Proposition 1). Over time, and as organizations grow larger, more successful firms elaborate, extend, and bolster their strategic orientation through incremental yet consistent change (Propositions 2 and 3). The longer and less turbulent the convergent periods, the greater the congealment of norms, values as well as structures to deal with both economic and political aspects of a strategic orientation (Propositions 4 and 5).

One of the outcomes of long, less turbulent convergent periods is inertial forces which are associated with individual and organizational learning and ever more articulated and complex social and structural coordination mechanisms. Holding the environment constant (or predictable), highly inertial organizations with appropriate strategic orientations will outperform those organizations with shorter and/or more turbulent convergent periods. Inertia is, therefore, a profoundly functional organizational characteristic in stable/predictable environments. For example, during the period from 1913–1976, ATT either controlled its environment or was shielded from competitive pressures. Under these stable and/or predictable conditions, a myriad of convergent, incremental decisions and actions bolstered ATT’s strategic orientation and resulted in an effective and highly inertial organization (Lawrence & Dyer, 1983). Similarly, even in more dynamic environments (e.g., computers), those more effective organizations will have longer and less turbulent convergent periods than those less effective organizations (e.g., Prime and Data General as contrasted with General Automation).

Proposition 6: Holding the external environment constant, the longer and less turbulent the convergent period, the more effective the organization.

Quite apart from the length and degree of turbulence during a convergent period, patterns of executive characteristics, recruitment, promotion and decision making patterns also affect performance during convergent periods. Given the importance of incremental change, focus and consistency during convergent periods (Proposition 6), more effective organizations will have a more stable, functionally balanced and longer tenured executive team than less effective organizations (Roberts, 1969). Further, we predict that those more effective organizations will have executive teams with relatively more homogenous backgrounds, education, and experiences than those less effective organizations. This balance in competence, similarity in backgrounds, and stability in the executive team
helps establish both required competence to compete and a consistent set of expectations and greater predictability in the organization. Similarly, while the literature on executive succession is equivocal (Gordon & Rosen, 1981), we hypothesize that when there are entries to or exits from the executive team, these events happen sequentially (as opposed to simultaneously) and that promotion in more effective organizations is from within. These promotion patterns build in stability and predictability during the convergent period.

Because major substantive decisions are stable during nonturbulent convergent periods, we hypothesize that the dominant role of executive leadership during these periods is to manage symbols, settings, and values to further support, justify and make more meaningful the firm’s strategic orientation. As long-tenured individuals may become isolated or uncoupled from core organization values, and because recruits are a constant source of variable perspectives, the organization’s character and core values must be continuously reaccomplished by executive leadership (Pfeffer, 1981; Romanelli & Tushman, 1983).

While executive leadership focuses on the management of symbols and value during convergent periods, the myriad of incremental substantive decisions in more effective firms, are made by middle and lower level managers following core premises set by senior management (Bower, 1970). Under these conditions, mid-lower level management gain commitment to the unit’s strategic orientation and are able to make fine-tuned decisions on a day-by-day basis. A classical recipe for failure is when an owner/entrepreneur retains full control of strategic and mundane decisions (Buchele, 1967; Collins & Moore, 1970). These conditions promote dysfunctional dependence on the entrepreneur and trigger even greater attention by the owner/entrepreneur on incremental decisions and less time on strategic threats and opportunities. These cycles of increased dependence on the executive team leading to further executive attention to detail usually result in organizational decline (Zaleznik & Kets de Vries, 1975).

**Proposition 7:** Within convergent periods, more effective organizations will have a complementary set of senior management skills, a stable executive team, a reliance on sequential internal promotion patterns, and on incremental substantive change managed by middle and lower level management.

Taken together, Propositions 5, 6, and 7 point up the fundamental tension that results as a consequence of performance being tied dually to fit with the external environment and internal patterns of consistency and interdependence. Given a set of environmental conditions faced by a pop-
ulation of firms, those organizations which have evolved more convergent or less turbulent interdependencies will perform better. The very convergence, however, which enhances success becomes an impediment to change when environmental conditions shift.

III. FORCES FOR REORIENTATION AND METAMORPHIC CHANGE

Section I argued that performance pressures (whether realized or anticipated) constitute the basic force for organizational reorientations. Where Section II argued that consistency, incremental change, and inertia are basic organizational characteristics that are accentuated in high-performing organizations, this section focuses on external and internal forces for fundamental change. This section develops the concept of reorientations as radical and discontinuous changes driven by the opposing pressures of performance and inertia. Performance pressures derive either from problems in achieving internal consistencies, from changes in the external environment which render prior patterns of consistency no longer successful, or from changes in the internal environment which redefine current performance and/or strategic orientation as no longer appropriate. Pressures to change or develop consistencies are forces for change: pressures to sustain developed patterns of interdependence and commitment work to reinforce the status quo. In the face of these inertial pressures, reorientations only occur through the radical disruption of convergent patterns. This section discusses changes in strategic contingencies based on external and internal processes, and develops several propositions on the existence, frequency and characteristics of strategic reorientations.

Forces for Reorientation

Product class evolution: External forces for fundamental change. Successful organizations will not initiate fundamental change based solely on intraorganizational processes. Those same social and structural factors which are associated with effective performance are also the foundations of organizational inertia. Successful organizations do evolve through fundamental changes, though, because product class conditions evolve which result in shifts in strategic contingencies over time. Product class evolution is driven by both predictable as well as unpredictable factors.

Four factors underlie the evolution of a product class: demand, technology, users and institutional conditions (Romanelli, Tushman, & Anderson, 1983). Holding random exogenous shocks aside, each of these factors changes systematically over time from substantial uncertainty in markets, technologies, resources and product class norms to substantial
certainty in each factor. As product class conditions change, strategic contingencies faced by competing firms also change systematically.

The most basic force driving product class change is the long run growth in demand (Hannan & Freeman, 1977; Porter, 1980). Demand growth rates directly affect technological progress, scale economies, the development of suppliers and entry/exit barriers (Baysinger et al., 1981; Chandler, 1977; Schmookler, 1966). While demand is difficult to predict, without increases in demand and associated volumes, technology evolves slowly, there are few entries and an absence of scale economies (Scherer, 1980). Assuming demand exists, product classes evolve through introductory, growth, maturity, and decline stages based on the rate of change in demand. Holding unpredictable legal, social, and technological factors constant, a constraint relaxed below, product class demand patterns follow an S shaped pattern driven by diffusion processes and limited by demand and resource constraints (Mingley, 1981).

Technology is a basic product class resource which changes systematically over time and is a major determinant in shaping the evolution of a product class. Case studies across a range of technologies find that technological progress constitutes an evolutionary system marked by long periods of incremental change punctuated by infrequent technological breakthroughs which lead, in turn, to the next period of incremental technological change (Fusfeld, 1970; Rosenberg, 1972). If demand exists, technology evolves through its own life cycle from emergence to competing technologies to consolidation, maturity, decline and substitution (Sahal, 1981).

There are several important characteristics of technological progress. Early technology is crude, experimental and tentative. There is substantial technological uncertainty as multiple technologies compete with each other (e.g., gas, wood, electric, internal combustion engines). Early applications of a technology are limited and early users have a substantial role in the technology’s development (Phillips, 1971; Von Hippel, 1978). After substantial technological experimentation, a dominant design emerges as a synthesis of a large number of proven concepts. A dominant design provides a stable set of design criteria with which to evaluate and extend the basic product (Abernathy, 1978). Once a dominant design is defined within a product class, technological change is then driven by bit-by-bit modifications of a relatively unchanged design (or core technology). A dominant design is like a guidepost for further technological development within a product class and seems to hold across industries (Sahal, 1981). For example, the model T, DC-3, 370 computer, and Fordson tractor all shaped the evolution of their product classes for over 15 years.

The convergence on a dominant design is crucial in a technology’s development. After a dominant design emerges, the rate of major product
change decreases, while the rate of process change increases. Uncertainty shifts from the product to how the product is made (Abernathy & Utterback, 1978). Given a dominant design, firms can begin to standardize raw materials, invest in more process technology, hire and train specialized labor and develop specialized systems to increase efficiency, increase volume and gain the benefits of increasing scale. Increased volume, in turn, increases the rate of technological change and learning (Fusfeld, 1970). This learning drives the technology towards greater rationalization, increases the standardization of labor and equipment and increasingly routinizes the production process (Abernathy, 1978).

As the technology and associated products become more standardized so do input requirements such that firms now buy more standardized products in greater volume from suppliers. Power relations between the firm and suppliers and buyers shift during this period towards greater organizational control and less dependence on external actors (Abernathy, 1978; Von Hippel, 1978). Declining costs and increasing standardization and quality frequently opens up new markets and, in turn, increases the underlying demand base. For example, only after a dominant design emerged followed by technological standardization and decreased costs did diesel locomotives move from the passenger market, through switching locomotives, to freight locomotives (which account for 75% of industrial sales [Sahal, 1981]). Technology and technological change are, then, important determinants of product class evolution. Different technologies will have their own technological progress functions due to different physical possibilities and different demand and resource constraints (Sahal, 1981; Wheelwright & Makridakis, 1980). Technology and demand characteristics, in turn, affect the nature of users and the evolution of institutional factors.

Users also change as a product class evolves. Early in a product class it is unclear who the users might be. Once identified, innovative users need a great amount of information to build an image of the product and distinguish it from others. If demand increases, competition increases as new firms enter with their own product forms. During this growth stage, existing product criteria are supplemented with additional criteria needed to evaluate new product forms (e.g., faster, smaller). Still later as the product class matures, buyer behavior is more routinized as products are standardized and product dimensions are clear (Howard, 1977).

As a product class evolves, the characteristics of users and user decision making becomes more certain, routine, and amenable to measurement and influence (Urban & Hausser, 1980). The target audience shifts from the relatively few cosmopolitans/innovators early in the product class to the late majority and laggards as the product class matures (Howard & Moore, 1982; Rodgers & Shoemaker, 1971). User needs and char-
characteristics become more predictable and certain as a product class evolves.

Institutional factors also affect the evolution of product classes. New firms in new product classes have no experience to work from and must create new roles, work relations, with a labor force with no established set of norms. These firms must custom design their organizations and build linkages with skeptical suppliers and buyers. These liabilities of newness represent social or institutional barriers to entry (Stinchcombe, 1965). Firms in mature product classes face an opposite set of institutional forces. As an industry evolves, traditions, expectations and work associations institutionalize social and organizational characteristics of the industry (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). These expectations and traditions reinforce behaviors in the product class and are a deterrent to change in the industry (Rowan, 1982; Whetten, 1980). Given these liabilities of experience, it is not surprising that major innovations come from organizations outside the industry (Cooper & Schendel, 1976).

Product class conditions evolve as a result of complex interrelations between demand, technology, users and institutional factors. In the absence of substitute products and/or technology, product class evolution is associated with greater and greater certainty as to markets, more predictable buyer behavior, more control over supplies and more standardized technologies. These processes are accentuated by social forces which produce industry standards and norms. While technological and user uncertainty decreases over time, resource and demand illiberality increases as markets mature and become saturated (Romanelli, Tushman, & Anderson, 1983).

As product class conditions change, so too do crucial contingencies facing individual firms. In an emerging product class, technology and product innovativeness are critical contingencies as resources are substantial yet technological and market uncertainty is high. As the market grows and the rate of product innovation decreases, critical contingencies shift to segmenting and exploiting an evolving market. In mature and decline phases, resource constraints are substantial. Here, cost, efficiency and stimulating latent demand become important strategic considerations (Moore & Tushman, 1982).

These predictable patterns in product class evolution may be disrupted by the sudden emergence of substitute technologies and/or products, or by unexpected political/legal events. The emergence of a substitute technology drastically effects the evolution of a product class as dominant firms are frequently replaced by new entrants (Tilton, 1971). For example, jet propulsion dominated piston engines and fundamentally reordered the aircraft industry. Similarly, transistors, diesel locomotives, mechanical refrigerators, electric calculators, incandescent light bulbs, electric type-
writers each represent substitute products and/or technologies which transformed their respective product classes. Where technology progress functions can predict technological changes within a given technology, substitute technologies cannot be predicted (Sahal, 1981).

Unexpected legal, social and/or political events can also transform the evolution of a product class. For example, Miles (1982) provides data on the response of the cigarette industry to legal and social threats to its existence. Similarly, Lawrence and Dyer's (1983) study of the steel, telecommunications and hospital industries also documents the effect of legal and political events on product class evolution. In sum, product class conditions evolve through periods of incremental change punctuated by both predictable and unpredictable discontinuous changes in technology and/or legal-political factors.

**Proposition 8:** Product class characteristics evolve from substantial technological, user and institutional uncertainty and resource liberality as a product class niche opens, to technological, user, and institutional certainty and resource illiberality as the product class matures and declines.

**Proposition 8A:** Product class characteristics evolve through periods of incremental change punctuated by discontinuous changes sparked by (a) the emergence of a dominant design; (b) the emergence of a substitute technology or product; and (c) major legal and/or social changes.

**Internal Forces for Fundamental Change**

While performance pressures come most directly from competitive and technological pressures, internally generated processes may also result in a redefinition of performance criteria and/or in a shift in perceptions of key strategic contingencies. Organizations are political systems; negotiated orders composed of different interest groups (Pettigrew, 1973). These negotiated orders are stable as long as performance is within some zone-of-indifference and as long as the distribution of power is stable. If organizational performance is low, inertial forces will be associated with a further decrease in performance as well as an increase in organizational turbulence. This turbulence is reflected in erratic decisions, increases in intra-organizational conflict and political behavior. Prolonged incremental change in support of an inappropriate strategic orientation leads to further crisis (and possibly failure) and to internal pressures to fundamentally change the firm's orientation. For example, Grinyer and Spender (1979) describe how extended convergence on an inappropriate strategic ori-
orientation led to declining performance, increased intra-organizational turbulence and eventual takeover.

Internal pressure for fundamental change may also result from a re-ordering in the balance of power in an organization. If, for whatever reason, one interest group gains substantial influence over others, then this group may redefine appropriate performance targets (e.g., 20% ROI vs. 5% ROI) and/or may redefine the firm's strategic orientation. For example, in the early 1970's even while Prime was a very successful minicomputer firm, a major shift in the distribution of power and authority from engineering executives to marketing and sales executives helped transform Prime from a high-priced, focused firm to a low-cost minicomputer firm selling to multiple markets. Similarly, Pettigrew's (1973) discussion of strategic change at Michaels hinges less on performance problems or changes in competitive conditions than on shifts in power within the organization.

PROPOSITION 9: Sustained low performance and/or major changes in the balance of power in an organization may disrupt the negotiated order, affecting the definition of performance objectives and motivating a change in strategic orientation.

Reorientations: Their Existence, Characteristics, and Performance Correlates

For a given set of environmental conditions, more effective organizations achieve a consistency between environmental demands and organization states. Those organizations which do not achieve both internal and external consistencies will be outperformed (Proposition 1). As organizations grow and age they develop emergent values, core beliefs, and commitments along with standard procedures which together become self-reinforcing. These emergent inertial processes operate to reaccomplish the status quo (Propositions 2, 3, 4). Given multi-level sources of inertia, organizations actively resist fundamental change; they become dynamically conservative (Downs, 1967).

Environments do change, and change quite dramatically as product classes evolve. Environmental change poses systematically different strategic contingencies over time (Proposition 8). Similarly, major changes in the distribution of power may result in a shift in performance criteria and/or a shift in a firm's strategic orientation (Proposition 9). These environmental and politically based forces for change run counter to inertial forces for stability.

If organizations, particularly successful organizations, resist fundamental change, how do they evolve in the face of environmental change?
Population ecology models argue that inertial forces are so strong that environmental shifts will be associated with waves of exits and new entrants (Brittain & Freeman, 1980). A transformational approach to evolution argues that organizations are indeed stable and inertial systems, but that they do change relatively infrequently in quantum, discontinuous shifts from one consistency to a qualitatively different consistency (Filley & Aldag, 1980; Normann, 1977; Starbuck, 1968; Watzlawick, Weakland, & Fisch, 1974).

Building on this transformational approach to organizational evolution, we define strategic reorientations as simultaneous and discontinuous changes in strategy, power, structure and controls. Re-creations are reorientations which also involve discontinuous shifts in core values. Because of the pervasiveness and centrality of core values, re-creations are the most severe and traumatic form of reorientation. Reorientations (or re-creations) are analogous to discontinuous shifts in organizational paradigms and are seen as illogical and paradoxical by organization members (Sproull, 1981). This approach to organizational evolution indicates that organizations proceed through relatively long periods of convergence which are punctuated by bursts of fundamental and discontinuous changes throughout the system which lead, in turn, to the next period of incremental change and convergence.

There is substantial support for this punctuated equilibrium model of organizational evolution. Mintzberg and Waters’ (1982) history of Steinberg Inc. finds convergent periods each extending for over 10 years until economic and/or legal conditions presented a series of crises. Each strategic reorientation involved a series of rapid and discontinuous changes in strategy, structure and core values. Miller and Friesen (1980, 1980A) found internally consistent patterns or gestalts between organizational characteristics which were resistant to change. They found that when change did occur, it happened in a revolutionary fashion as one organization type was transformed to another. Biggart (1977) describes the recreation of the Post Office Department as the old Department was destroyed and replaced by the Postal Service embodying systematically different values, structures, controls and systems. Similar metamorphic change processes which lead to a following convergent period have been reported by Grinyer and Spender (1979), Meyer and Brown (1978), Chandler (1962), Kaufman (1960), Stryker (1961) and Starbuck (1968). While organizations may be trapped in convergent periods (e.g., Hall, 1976), this research demonstrates the nature and existence of transformational change.

**Proposition 10:** Organizations evolve through periods of incremental change (convergent periods), punctuated by reorientations which lead, in turn, to the following convergent period.
If strategic contingencies change, if the organization’s strategic orientation does not fit competitive conditions, or if political shifts result in new performance criteria, organizational inertia will drive decreased organizational performance. Prolonged attention to incremental adaptation of an inappropriate strategic orientation will lead to increased intraorganizational turbulence, further crises, and either failure or a reorientation (Normann, 1977). For example, Messinger’s (1955) study of the decline of the Townsend Movement describes its executive leadership’s efforts to maintain the status quo through incremental adjustments in the face of a radically changing environment. The organization did not reorient itself and declined rapidly. Kimberly (1980) and Lodahl and Mitchell (1980) also describe the impact of inertial processes and the consequences of not reorienting as environments change.

While external conditions may be a reason for a strategic reorientation, perception of inconsistencies and executive action is required for its occurrence. Given the pervasiveness of inertial forces, both perception and action are usually triggered only by sustained low performance, a major shift in the distribution of power, and/or organizational crises. These perceptions and the response to changing strategic requirements are shaped by the characteristics of executive leadership.

Reorientations are also sparked by fundamental changes in technological and/or legal-social conditions in a product class (Propositions 8, 8A). The emergence of a dominant design marks a shift in emphasis from product innovation to process innovation. Strategically, a dominant design results in increased emphasis on market segmentation and a greater emphasis on cost and efficiency. The emergence of a dominant design will correspond to a shake-out in the product class as some firms make the transition from entrepreneurial firms to more rationalized operations. Successful firms will build on their core values and shift their strategies, distribution of power, structure and controls to fit fundamentally different strategic contingencies which emerge along with a dominant design. For example, Smith (1981) traces the evolution of early AT&T in making the transition from an entrepreneurial firm to a cost, performance conscious firm after the emergence of a dominant design in telephonic communication. Similarly, Abernathy (1978) traces the evolution of Ford Motor Co. from an entrepreneurial firm to a cost focused firm corresponding to the creation of the Ford Model T.

Substitute technologies and/or products represent a fundamentally different threat than a dominant design. Electronic typewriters, jet engines and transistors were each substitute products which eventually eliminated the market for those firms wedded to the prior technology (Tilton, 1971). Because technological and/or product substitution affects a firm’s core technological competence and values, and because technological substi-
tution brings product class conditions back to substantial uncertainty, we hypothesize they will be associated with strategic recreations and/or substantial crisis and failure rates for existing organizations (Tilton, 1971). For example, the re-creation of Singer into a technology based organization corresponds with computer-based processing displacing mechanical operations. Changes in strategy, power, structure and controls were also bolstered by fundamental changes in core values at Singer.

Reorientations and re-creations are also triggered by discontinuous changes in legal/social conditions. For example, the Kingsbury Agreement of 1913 made ATT into a regulated monopoly and sparked a reorientation which resulted in a convergent period which lasted through the late 1970s. Fundamental changes in legal, social and technological arenas are associated with the current re-creation of ATT. Substantial political and social dissatisfaction with the Post Office Department led to legal changes which, in turn, resulted in the re-creation of the Post Office (Biggart, 1977). Reorientations and/or re-creations sparked by legal, social and/or political forces are also described in Miles (1982), Mintzberg and Waters (1982) and Kaufman (1960). Legal/social changes are frequently coupled to technological discontinuities. Transformation of firms in steel, telecommunication, railroads, and power generation were each affected by the coupling of fundamental technological change (e.g., Bessemer steel process; steam engines in the railroads) and associated changes in legal/political conditions (see Chandler, 1977).

**Proposition 11:** Reorientations will be triggered by sustained low performance, major shifts in the distribution of power within the firms, and/or by discontinuous changes in product class conditions.

**Proposition 11A:** The emergence of a dominant design and/or major legal/social events will be associated with reorientations, while recreations will be most frequently triggered by substitute products and/or technologies.

Reorientations involve metamorphic changes in internal and external relations as structures, systems, processes and commitments are transformed and rebuilt. Reorientations involve substantial organizational uncertainty and chaos along with performance variability. During reorientation attempts, previous structures, systems and values become part of the organization’s past. These historical forces embody the organization’s past procedures and values and become inertial forces which resist the implementation of new strategies and systems. An organization’s history will be particularly problematic if the organization has been effective during the previous convergent period; success sows the seeds of extraordinary resistance to fundamental change. The longer and more successful
the prior convergent period, the more time these inertial forces have to develop and the more pervasive the impact of organizational history (Biggart, 1977; Morison, 1966).

As old strategies, systems, procedures and relations are replaced, as new individuals are recruited, as a new set of external and internal relations are established, reorientations expose the organization to similar liabilities of newness it incurred when the organization was born (Stinchcombe, 1965). These liabilities are, however, accentuated by organizational inertia and associated multi-level resistance to change. The longer the prior convergent period, the greater these forces for stability. Reorientations, then, involve substantial risk to the organization. To disrupt stable patterns of activities and processes, even in the face of organization-environment inconsistencies, is to disrupt the fabric of competence.

Given these inertial forces and the impact of organizational history on current behavior, we hypothesize that reorientations will be associated with an increase in organizational turbulence as the organization’s economic and political subsystems react to each other. Similarly, because of the substantial difficulty in implementing reorientations, initiating reorientations increases the risk of organizational failure. Because inertial processes are accentuated over time, the degree of turbulence and the risk of failure increase the longer the duration of the prior convergent period. Because re-creations also involve shifts in core values, they are even more traumatic events than reorientations. Re-creations will engender even greater resistance to change and will become associated with even greater turbulence and risk of failure than reorientations. Given the force of history and the impact of inertial forces on implementing reorientations (or re-creations), it is not surprising that many firms exit the industry when a dominant design emerges or when substitute technologies and/or products appear (Utterback & Reitberger, 1982).

**Proposition 12:** The longer and/or more successful the prior convergent period, the greater the inertial forces, the greater the degree of turbulence and risk of failure associated with a reorientation. These degrees of turbulence and risk of failure are accentuated in re-creations.

For high-performing organizations, reorientations are triggered by the emergence of a dominant design, substitute products and/or technologies, or by major legal/social events (see Proposition 11). The frequency of reorientations corresponds to the rate of change of these technological and legal/social conditions. Product classes where the rate-of-technical change is substantial (e.g., semiconductors) will converge on a dominant design relatively quickly and may produce substitute technologies or dominant designs more rapidly than in those product classes where the un-
Underlying technologies are changing more slowly (e.g., steel) (Sahal, 1981). Within a product class, the rate of technological change varies from substantial early in the product class to incremental as the technology matures, to substantial as a new technology replaces the dominant technology (e.g., the shifts from piston driven to jet driven aircraft). Reorientations will be more frequent in those technologies whose rates-of-change are substantial and in emerging phases of a product class.

Legal-social conditions also affect product class conditions. Those product classes or phases of a product class which experience substantial legal/social uncertainty will have more frequent reorientations than those product classes with more stable legal/social conditions. It follows that those organizations which are uncoupled from technological and legal/social conditions (e.g., some private universities), or those organizations in stable or predictable environments will have long uninterrupted convergent periods and will not engage in strategic reorientations (Meyer & Rowan, 1977; M. Meyer, 1978).

While the frequency or reorientations in a product class is contingent on technological and/or legal/social uncertainty, environmental conditions do not directly cause strategic reorientations. Organizations must perceive changing strategic contingencies, choose to reorient, and effectively implement the reorientation. These perceptions, choices and the probability of implementation are shaped by the length and effectiveness of the prior convergent period (Proposition 12). While environmental conditions do not cause reorientations, high-performing organizations will engage in reorientations which correspond to technological and legal/social conditions. Effective organizations in environments with substantial technological and/or legal/social uncertainty will have more reorientations than those effective organizations in highly certain environments. Those more effective firms in stable environments will have long and nonturbulent convergent periods (Proposition 6). Low performing firms will either not attempt to reorient or will reorient too frequently as they struggle to align themselves with environmental demands (see Table 3).

Table 3. Frequency of Reorientations, Product Class Uncertainty and Organization Performance

<table>
<thead>
<tr>
<th></th>
<th>Low Product Class Uncertainty</th>
<th>High Product Class Uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>Few reorientations</td>
<td>Many reorientations</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>No reorientations or too many</td>
<td></td>
</tr>
</tbody>
</table>
**Proposition 13:** The greater the rate-of-change in environmental conditions, the greater the frequency of reorientation.

**Proposition 13A:** High-performing organizations will have reorientations corresponding to environmental conditions. Low performing organizations will either not reorient or will reorient too frequently.

Stage models dominate the literature on organizational evolution. These approaches postulate a set of distinct and historically sequenced stages (Buchele, 1967; Greiner, 1972). Reviewing nine different stage models, Quinn and Cameron (1983) induce four sequential stages in organization evolution: entrepreneurial, collectivity, formalization, and elaboration of structure.

Because environments permit several feasible strategic alternatives (Child, 1972), because of technological social and political uncertainty, and because of the loose coupling between one convergent period and the next, there are no generic stages through which organizations must evolve (e.g., Filley & Aldag, 1980). Rather, we hypothesize that high performing organizations will have longer and less turbulent convergent periods than low performing organizations, and will have reorientations which correspond to environmental discontinuities (see Propositions 6, 13). While different strategic orientations will dominate during different phases of a product class's evolution (Proposition 1), there exists no standard, historically sequenced, set of periods through which organizations must evolve to achieve effectiveness.

Highly effective organizations, those that evolve over a product class life cycle are those that have strategic orientations which correspond to environmental demands. High-performing organizations manage both for consistency and convergence, and for reorientation and fundamental change. Reorientations must be continually reaccomplished as environmental conditions change; these reorientations must be initiated and implemented even in the face of inertial forces for stability. Thus those most effective organizations are those which manage both periods of stability and fundamental change.

**Proposition 14:** Organizations do not evolve through a standard set of stages. Rather, organizations may reach their respective strategic orientations through systematically different patterns of convergence and reorientation.

**Proposition 14A:** High-performing organizations have longer and less turbulent convergent periods than low-performing organizations, and have reorientations which correspond to product class discontinuities.
IV. CONVERGENCE AND REORIENTATION: THE ROLE OF EXECUTIVE LEADERSHIP

Section II focused on consistency, convergence and inertia; Section III turned attention to fundamental environmental change and metamorphic organizational change. This section argues that executive leadership is the primary agent capable of mediating between these contrasting forces for stability and change. While middle-level management can sustain convergent periods, only executive leadership has the position and potential to initiate and implement a strategic reorientation. Several propositions are developed linking the role and characteristics of executive leadership to our punctuated equilibrium model of organizational evolution.

The literature on executive leadership is equivocal on the linkage between executive behavior and organizational outcomes. Arguments from population ecology (Aldrich, 1979; Hannan & Freeman, 1977), bureaucracy (Downs, 1967), and resource dependence (Pfeffer & Salancik, 1978) insist that leaders are profoundly constrained by contextual and inertial forces. Pfeffer (1981) extends these ideas and argues that the core role for executive leadership is in shaping and managing social, normative and symbolic outcomes. Literature from organization behavior (Selznick, 1957; Thompson, 1967) and strategy (Miles, 1982) asserts, to the contrary, that executive leadership has a vital role in shaping both substantive and symbolic outcomes.

Romanelli and Tushman (1983) argue that a punctuated equilibrium model of organizational evolution helps reconcile these anomalous research streams. Both substantive and symbolic decisions and actions are vital, but their relative emphases shift by organization period. During convergence periods, executive leadership concentrates on symbolic actions and behavior and leaves to middle-level managers the responsibility of implementing incremental substantive changes. Because new individuals are constantly entering the organization and because the constellation of relevant others in the external environment is constantly changing, executive leadership cannot relax vigilance regarding symbolic outcomes (Barnard, 1938; Neustadt, 1980). Legitimation, explanation and rationalization are constant requirements of executive leadership during convergent periods (Proposition 7). During reorientations, however, executive leadership must engage in major substantive as well as symbolic decisions as strategies, structures, systems and commitments are reordered (Normann, 1977; Stryker, 1961).

Substantive choices regarding strategy, power, structure and controls will only be exercised during relatively infrequent and brief reorientations. Barnard’s (1938) inculcation of belief and Selznick’s (1957) embodiment of purpose are, however, important leadership functions during both con-
vergence periods and during reorientations (Romanelli & Tushman, 1983). Executive strategic choice is, then, the primary mechanism through which strategic reorientations get initiated and implemented. Environments do not cause reorientations. Rather, direct responsive activity which intervenes on prior activity patterns and establishes new patterns is required for reorientations to occur. Direct executive leadership is required because internal inertial forces operate to maintain the status quo.

Proposition 15: The dominant role of executive leadership switches from symbolic behavior and incremental substantive change during convergent periods to major substantive and symbolic change and activities during reorientations.

Executive perception and sense-making are important processes affecting the decision to initiate a reorientation. Executive leadership will either continue to elaborate an existing strategic orientation or initiate a reorientation depending on their perceptions of organizational performance and/or environmental threats. Several factors affect executive perceptions of organization/environment conditions. The same institutionalization processes that operate to induce resistance to change at the organizational level operate to systematically bias executive information acquisition, distort perceptions of organization-environment relations, and adversely affect the quality of decision making under high-stress conditions (Staw et al., 1981).

Inertial processes at the individual, group and organization levels of analysis affect executive leadership's decision-making and reduce the probability of organizational responsiveness to environmental discontinuities (Kiesler & Sproull, 1982). At the individual level, prior commitments and self-justification processes affect information acquisition and interpretation to bolster the status quo. The longer and more successful the convergent period, the greater these commitment processes operate, the lower the probability that adverse information will be sent to or be heard by the executive team (O'Reilly, 1978; Wilensky, 1967). These executive leadership inertial processes are accentuated the greater the executive team is insulated from the environment either because of ownership or legal conditions. Greater organizational ownership and/or legal control work to weaken the linkage between environmental conditions and organization behavior, and are associated with increased executive tenure, increased stability of the executive team, and idiosyncratic perceptions of environmental opportunities and constraints (M. Meyer, 1978). For example, owner/managers have immense difficulty in perceiving and/or adapting to changing competitive and organizational requirements (Christensen, 1953; Collins & Moore, 1970). Zaleznik and Kets de
Vries (1975) discuss the psychological and Allen and Panian (1982) discuss the structural determinants of this executive inertia and its accentuation over time.

These individual level inertial processes are further accentuated in older and more homogeneous executive leadership teams. Increased group tenure and homogeneity increase the team's convergence on a set of norms, values and decision making procedures, but decrease the team's informational and resource diversity. The longer an executive team remains stable, the greater its homogeneity and the greater its prior success, the more insulated it becomes, the greater the emphasis on cohesion and conformity and the more committed the team becomes to prior courses of action (Janis, 1972; Shambaugh, 1978).

Organizational, the very systems, procedures, and structures which support the existing strategic orientation, work to focus attention and filter information in support of the status quo (Wildavsky, 1964; Wilensky, 1967). Similarly, history, precedent, and widespread commitments to the status quo are reinforced by those executives whose career interests are best served by stability and incremental change (e.g., Morison, 1966). The longer the convergent period and/or the more successful the organization, the more pervasive these organization, group and individual level inertial forces.

These executive inertial processes are further accentuated under high-stress conditions. Information flow is reduced and communication networks become more centralized and dependent on formal status in high-stress conditions (Trushman, 1979). That communication which does exist under these conditions is frequently biased and distorted (O'Reilly, 1978). Executive groups under high-stress conditions further restrict information acquisition, increase conformity pressures and restrict control to a few key individuals (Janis, 1972; Kiesler & Sproull, 1982). Executives under stress rely even more on routine response patterns, become more rigid and engage in more controlling and autocratic behavior (Staw et al., 1981). These counter-productive processes are accentuated by the older and more homogeneous the executive teams. Thus those situations which demand creative problem solving may, instead, trigger increased emphasis on the status quo.

**Proposition 16:** The decision to initiate a strategic reorientation is shaped by the length and success of the prior convergent period and by demographic characteristics of the executive team. The longer and more successful the prior convergent period, the more homogeneous and stable the executive team, and the greater the executive team's ownership of the firm, the less likely will they initiate a strategic reorientation.
In sharp contrast to convergent periods, during reorientations executive leadership must engage in a series of consequential strategic choices. Executive leadership must make a series of substantive choices and simultaneously bolster these choices with attention to symbols, values and the establishment of a revised normative order. As important as these substantive and symbolic choices are, the decision to initiate a reorientation is an even more basic and consequential decision. Given the influence of inertial processes on managerial perceptions and the rigid response patterns under high-threat conditions (Proposition 16), reorientation decisions will be most frequently made under crisis conditions and will be most frequently initiated by external executives who have systematically different characteristics than those previous executives. While internal executives will be less likely to initiate reorientations, they will be more likely to successfully implement strategic reorientations.

Executives tend not to initiate reorientations from within. Chandler (1962) suggests that the psychological hazards of adjusting to new ways are a greater impediment to major change than internal politics. Similarly, Boswell (1973), Christensen (1953) and Grinyer and Spender (1979) found that organizations initiated fundamental change only after the entrepreneur died and/or after the senior executives were replaced by outsiders. Supporting these ideas, succession literature indicates that executive succession is associated with performance crisis, and that external executive succession is associated with major change (Carlson, 1962; Helmich & Brown, 1972). Externally recruited executives can develop and hire an executive leadership group with characteristics appropriate to strategic contingencies, yet must implement substantive and symbolic changes with few ties to the old system (Gordon & Rosen, 1981). Where external executives are more likely to initiate reorientations, they face substantial resistance in its implementation.

In more effective organizations, these new executives will have backgrounds, skills and abilities to deal with critical competitive contingencies. For example, Grinyer and Spender (1979) found that the new executive team which initiated a turnaround in a large engineering firm had those managerial and technical skills that a more cost conscious environment demanded. Similar shifts in executive characteristics corresponding to environmental discontinuities have been described by Stryker (1961), Smith (1982), Miles (1982), and Biggart (1977). Finally, because of the trauma associated with reorientations and the necessity for coordinated action in the face of substantial uncertainty, those reorientations implemented by a team of executives with built-in working relationships will be more effective than those reorientations driven by a set of new and unacquainted managers (Roberts, 1969). Compared to convergent periods, then, reorientations will have greater executive turnover, a greater
proportion of outside executives hired, and a greater number of simultaneous changes in executives.

Reorientations need not be driven by external succession. Where inertial processes may forestall executive leadership’s perceiving the need to reorient, executive leadership is not precluded from such perceptions and/or actions. Indeed, those reorientations which can build on prior convergent periods and use executive leadership as a visible link to the past are more likely to be successfully implemented. For example, Mintzberg and Waters (1982) describe how an executive led his retail chain through several reorientations, and personally embodied stability in core values even if strategies, systems and procedures were fundamentally altered. Similarly, key reorientations at IBM, Xerox, ATT, and Ford were each engineered by existing executive leadership (Mr. Watson, Jr., Mr. Wilson, Mr. Vail & Mr. Ford, respectively) (Abernathy, 1978; Dessau, 1975; Fishman, 1981; Smith, 1982). While reorientations will always be associated with the recruitment of a set of outside executives whose characteristics are appropriate to competitive conditions, the process may itself be more effectively implemented by existing executive leadership.

PROPOSITION 17: Reorientations are most frequently initiated through external executive succession of multiple members of an executive team, but are more effectively implemented by internal executive leadership.

PROPOSITION 17A: Characteristics of new executives and recruitment patterns discriminate between more and less successful convergent periods following a reorientation.

CONCLUSION

This paper has developed a model of organizational evolution based on a simultaneous consideration of forces for stability, forces for fundamental change, and the role of executive leadership in mediating between these contrasting forces. This punctuated equilibrium model of organization evolution focuses on both continuities and discontinuities in the lives of organizations, and assigns a vital role for greater understanding of organizational periods, environmental discontinuities, the impact of organizational history on current behavior, and the paradoxical roles of executive leadership.

Organizations evolve through convergent periods punctuated by strategic reorientations (or re-creations). Convergent periods are relatively long periods of incremental change which elaborate a particular strategic orientation. Convergent periods can be characterized by duration, degree
of turbulence and by strategic orientation. Convergent periods may or may not be associated with effective performance. Strategic reorientations involve simultaneous and discontinuous changes in strategy, power, structure and controls. Re-creations are reorientations that also involve discontinuous shifts in core values. These metamorphic events mark the end of one convergent period and initiate the following period. Only executive leadership is able to initiate and implement strategic reorientations. These metamorphic changes are either proactive responses to changing competitive conditions or the result of crises which follow extended periods of economic decline. Because of product class uncertainty and because one period is not dependent on prior periods, organizations do not evolve through a set of sequential stages. Rather, high performing organizations will have longer and less turbulent convergent periods and reorientations which correspond to environmental discontinuities.

Our punctuated equilibrium model of organization evolution borrows from ecological, adaptation and transformational approaches to evolution. Environments do actively select out firms which do not align themselves with environmental constraints. Further, strategic contingencies change as environmental conditions shift over a product class life cycle. Yet, some organizations do transform themselves. Those organizations that evolve over a product class life cycle are those that initiate and successfully implement strategic reorientations. Environments select out those firms which either do not reorient, choose inappropriate reorientations and/or can not implement strategic reorientations. Finally, for successful organizations, the period between strategic reorientations is characterized by incremental, adaptive change, as structures, systems and processes are more finely tailored to the firm’s strategic orientation.

Executive leadership takes on a vital if protean role in this punctuated equilibrium model. During convergent periods executive leadership emphasizes symbolic activities and incremental change, while during re-creations, executive leadership engages in major substantive as well as symbolic activities. Beyond these substantive and symbolic behaviors, executive leadership must also choose to initiate reorientations. Given inertial forces, which are accentuated in high-performing organizations, it is the mark of inspired executive leadership to be able to encourage inertial forces during convergent periods, and at the same time to keep vigilant of technological, market and/or legal threats and opportunities and proactively initiate and implement reorientations. The paradox of executive leadership is, then, to manage for consistency and inertia during convergent periods, and at the same time attend to competitive conditions being prepared to make seemingly inconsistent substantive and symbolic decisions to reorient the organization as product class conditions unfold.
Organizational evolution is a complex phenomenon. Organizational processes are fundamentally different between convergent periods and reorientations. Within convergent periods, senior executives reinforce core values while middle-level management makes those necessary adaptive substantive decisions, organization change is incremental and executive succession is dominated by sequential promotions from within. During convergent periods, organization inertia increases and competitive vigilance decreases; structure frequently drives strategy. During reorientations, however, executive leadership makes consequential substantive as well as normative decisions, and organization change is traumatic. Reorientations are frequently driven by outside executives and are characterized by substantial turnover in an executive team. During reorientations, organization inertia decreases, competitive vigilance increases; strategy drives structure.

There are also important differences between convergent periods. History, precedent and procedures from prior convergent periods, as well as interpretations of reorientations and associated crises provide context and constraints for future convergent periods. Current convergent periods are, then, shaped by an organization's history. This punctuated equilibrium model reflects the complexity of organization evolution and helps reconcile seemingly anomalous research results. The model highlights the importance of our understanding the determinants of both organization stability and change, and our understanding the relations between environments, organizations, executive leadership and organization history.

This period based model provides clear direction for research on organizational evolution. Because political, technological, and economic conditions of the external environment are so important in the evolution of firms, and because these conditions vary across industries, research on organizational evolution must compare alternative fates within industries. Because an organization's prior patterns of convergence and reorientation set the stage for current behavior, research on evolution must capture these historical processes through longitudinal research designs. These historical data can be used to identify reorientations and be used to test hypotheses within and between industries.

Organizations evolve through the interaction of internal convergent forces for stability and external forces for change as mediated by executive leadership. Organizations move through convergent periods demarcated by strategic reorientations. While both empirical and case research supports our thesis, directed empirical work is needed to bolster our understanding of organizational evolution. The framework presented here provides theoretical justification for pursuing such research.
ACKNOWLEDGMENT

This review has been generously supported by the Center for Strategy Research at the Graduate School of Business, Columbia University. The authors thank W. H. Newman, Phil Anderson, Robert Drazin, Meryl Louis, Hans Pennings, Lance Sandelands and Andrew Van de Ven for insightful comments and support.

REFERENCES

Carlson, R. O. Executive succession and organizational change. Chicago: University of Chicago, Midwest Administration Center, 1962.


Hall, R. H. A system pathology of an organization: The rise and fall of the old Saturday Evening Post. *Administrative Science Quarterly*, 1976, 21, 185–211.


Kimberly, J. R. Organizational size and the structuralist perspective: A review, critique and
Organizational Evolution


Nadler, D. & Tushman, M. L. A congruence model for diagnosing organizations, Organizational Dynamics, Winter, 1980.


Organizational Evolution


