



ESSAYS

The Deceptive Allure of Stage Models of Strategic Processes

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This article describes the role of stage models in organizational research. In various sections of the article, we discuss the definition of stage models, different varieties of stage models, the way that stage models will characterize strategic change, and finally, the criteria that authors, reviewers, and readers ought to apply to stage models. On the whole, the authors conclude that stage models represent an alluring yet fragile form of explanation. The authors think that the limitations of stage models usually outweigh their potential benefits in explaining transformational change.

Researchers in many fields have long tried to find theoretical models that can unravel the puzzling changes in cognitive, behavioral, group, and organizational phenomena. Many process models have been proposed such as developmental models (and their subcategory, stage models), cyclical models, evolutionary models, chaos models, complexity models, system dynamics models, game theory models, path dependency models, historical/case studies, and so on.

Some of the most compelling models have been borrowed from biology, where developmental models and stage models have been successfully used to describe an organism's growth, cellular processes, and genetics. These borrowed models are "alluring" because they provide a simple and understandable framework that explains the mechanisms by which

changes occur in natural organisms. But when biological models are misappropriated, they can result in oversimplification and dubious causal attributions. This article will explain why the "deceptive allure" of "stages" is especially vulnerable to serious theoretical and methodological pitfalls. Several questions regarding stage models in strategic management (and other areas) are addressed, such as the following:

1. What are stage models?
2. What is the underlying theoretical structure of a stage model?
3. How do the three types of stage models differ?
4. What kind of characterizations of strategic change will stage models produce?
5. How can researchers/reviewers evaluate a particular stage model?

1. STAGE MODELS

All the world's a stage,
And all the men and women merely players:
They have their exits and their entrances;
And one man in his time plays many parts,
His acts being seven ages. . . .

—Shakespeare, *As You Like It*, Act II, Scene vii

According to Shakespeare, every man proceeds through seven stages, as infant, schoolboy, lover, soldier, justice, pantaloony (!), and second childhood. Shakespeare probably wrote this stage description of a man's lifetime for the same reasons that motivate current management scholars who publish stage models. A stage model simplifies myriad facts associated with transformational change, and it reduces a complex process to a uniform, familiar, appealing, predictable, and deterministic pattern.

Developmental models include a broad, generic range of models whose only common denominator is their general concern with change. Stage models are one specific class of developmental models. Neither developmental nor stage models are cyclical because they do not tend toward an equilibrium, a dominant tendency, or return to an initial starting point. Developmental and stage models are not evolutionary (in the modern OBT sense of Aldrich, 1979) because they are not governed by variation, environmental selection, or retention.

Both developmental models and stage models describe and (maybe) explain change. They trace the conditions or activities through transformations across time periods. A general developmental model is usually presented as a series of historical observations of a continuous process. Developmental models often identify phases in a process but usually regard them more as milestones or landmarks than as predetermined outcomes. Developmental models are rather benign descriptive models that seldom make causal references to invariant evolution or predestined stages. Most developmental models make specific claims about a particular change process, not general claims about all change processes (Brainerd, 1978).

Stage models always describe discontinuous processes, so they are inappropriate for modeling incremental change. In a stage model, change is characterized as a fixed sequence of static and deterministic stages, separated by predictable, programmed, yet dramatic transformations. Figure 1 illustrates the dif-

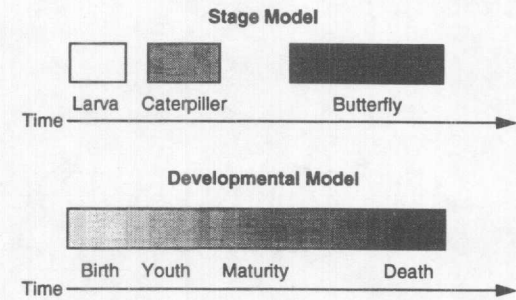


Figure 1: Models compared: The life cycle of a butterfly

ference between the general developmental model and a restricted stage model. A stage model captures the concept of transformation much more vividly than a general development model, adding to the "allure" of the stage model as a mechanism for describing discontinuous change. Compared to developmental models, stage models are more clear-cut, more powerful explanations, and therefore more attractive to theorists. Their allure can be traced to their simplicity, their powerful and general claims, their ease of pictorial representation, and their legitimization by way of a link to biological sciences. But their allure invites misunderstanding and misuse. Too often, dynamic processes are force-fit into the rigid "procrustean bed" of a series of prescribed stages.

2. UNDERLYING ASSUMPTIONS IN STAGE MODELS

Five principal assumptions are implied when an "ideal" stage model is used to characterize a process. Each assumption is discussed below.

Stages and Transformations Represent a Programmed Process

Change must move in only one direction as the result of a predetermined or programmed process. Moreover, an invariant initial stage and an invariant destination stage almost always anchor stage models. Change occurs as subjects move in lock step from one stage to the next. All subjects must begin at the first stage and move relentlessly toward the final stage

along a predefined path. In its purest form, the stage model represents change as a series of periods of stability punctuated by abrupt transformations. Stage models represent change as a process of unfolding elements or attributes that must originate in the subject because the model is insulated against environmental circumstances. Stages represent the unfolding manifestations of immanent, preordained sequences—"instincts," perhaps—that were present before the beginning of the process, even to the extent that overall change can be seen as self-explanatory. To sum up, stage models are deterministic and prone toward set-piece explanations of transformation and discontinuous change.

Stage Models Specify Transformational Changes

Change movements are orderly and predictable but not smooth. For stage models to work, there must be predictable yet abrupt transformations between the stages (setting them off against general development models). The characteristics of each stage must represent a dramatic change from the characteristics of the previous stage. By implication, the overall logic of stage models requires discontinuity and transformation. For example, models such as Levinson's (1978) *The Seasons of a Man's Life* portray challenging life transitions from one stage to the next stage. Transitions are described as difficult, painful events that cannot be accomplished without a major expenditure of energy (Greiner, 1972). Transformations are a necessary precondition for stage models.

Stages Require One-Way Movement Along Designated Linear Paths

Stage models depict change moving along fixed paths through an invariant sequence of conditions. This unidirectional pattern of movement is predicated on the maturational logic borrowed from biology. A stage model usually delineates a change pattern that every normal subject inevitably follows. The path is not necessarily fixed as a single track. Sometimes, models specify a restricted series of alternative tracks, as illustrated in Figure 2. However, models that specify multiple tracks still imply that change processes are largely deterministic and internally programmed. Movement along the tracks presents itself as a universal experience, and subjects are compelled to follow a rigid path. Stage models are easily undermined by

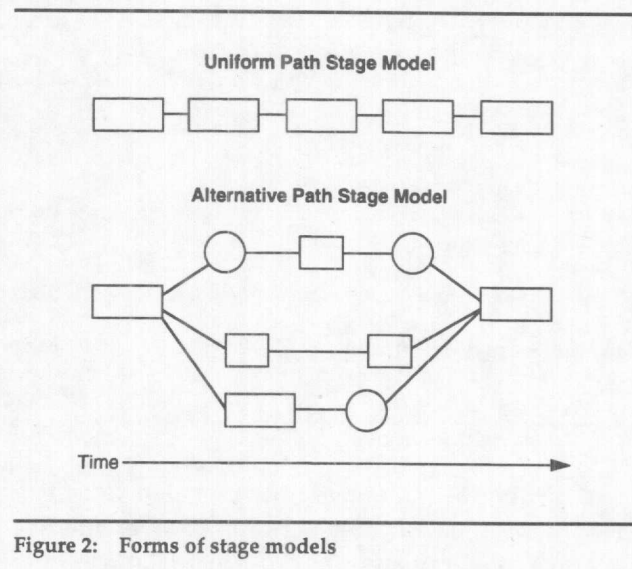


Figure 2: Forms of stage models

empirical observations, such as regressing to previous stages, stalling in a particular stage, or recycling—all of which are incompatible with stage models' underlying logic.

Stage Processes Often Imply Progress

In stage models, change is often synonymous with progress. Consider the connotations of terms such as *human development*, *economic development*, or *faculty development*. Many stage models expressly regard movement through the stages as the equivalent of progressive achievement in the sense of advancement, blossoming, or growing up. For example, Parsons (1966) held that the passage of groups of humans through stages (primitive to archaic to historic empires to modern society) exemplified a process of society perfecting itself. Piaget was similarly unequivocal about the improvements in a child's intelligence as he or she grew (described in Boden, 1979). Kohlberg (1984) implied that higher level stages of moral reasoning signified moral superiority. Additional examples of stage models used in the social sciences are shown in Table 1.

This tendency for stage models to equate natural movement through stages with improvement in the condition of the subject has attracted blistering criticism. For example, Granovetter (1979) discussed the subject of "advancement" in stage models in detail. In keeping with scientific standards of detachment, it is now considered unwise to compare individuals, groups, or societies on any scale of relative achieve-

Table 1
Stage Models From the Social Sciences

<i>Model and Author</i>	<i>Stages in the Model</i>
Stages of Civilization (Tylor, 1881)	Savagery → Barbarism → Civilization
Stages of Civilization (Toynbee, 1946)	Growth → Stagnation → Disintegration
Growth of Society (Parsons, 1966)	Primitive → Archaic → Historic Empire → Modern
Moral Development (Kohlberg, 1984)	Obedience Punishment → Instrumental Individualism → Mutual Expectation → Law & Order → Social Contract → Universal Values
Mental Development (Piaget, described in Boden, 1979)	Sensory-Motor → Preoperational → Concrete Operational → Formal Operations
Development of National Economy (Porter, 1990)	Factor Driven → Investment Driven → Innovation Driven → Wealth Driven
Seasons of a Man's Life (Levinson, 1978)	Childhood → Adolescence → Early Adulthood → Middle Adulthood → Late Adulthood

ment or superiority. Contemporary scholars recognize that any designation of superiority is inherently biased and runs counter to traditional scientific norms (Mandelbaum, 1987; Nisbet, 1972). Even those stage models, which expressly disavow any judgmental aspects, may convey inadvertent connotations and normative judgments.

Stage Models Minimize the Effects of Context and History

In discussing path-dependent processes, Hirsch and Gillespie (1997) stated the "central ideal" of historical thinking:

Reality occurs not as time-bounded snapshots within which causes affect one another . . . but as stories, cascades of events. And events, in this sense, are not single properties or simple things, but complex conjunctures in which complex actors encounter complex structures. (p. 16)

Historical facts are essential inputs for any type of change-process description. When stage models make reference to history, context, or environment, these factors are regarded as mainly fixed. Environmental selection and history hardly matter at all compared to the prescribed tracks, which govern stages and transformations. One must ask whether this viewpoint about context, history, human agency, and chance can produce a realistic description of transformational change processes. There is a strange paradox because radical transformations are presented as deterministic, internally programmed processes, largely insulated from environmental variation and historical contingencies. To put it another way, stage models are

"staged," in the sense of Shakespeare's "stage" plays. The actors only follow their script.

3. THREE TYPES OF STAGE MODELS OF STRATEGY PROCESSES

It is important to examine some important distinctions between the different types of stage models because discussions and debates among authors, reviewers, and colleagues are often unproductive due to misunderstandings about the specific usage of stages in a particular study. In particular, scholars need to recognize that stage models come in three varieties: metaphorical, descriptive, and causal (Brainerd, 1978). Each variety is discussed below.

Metaphorical Usage of Stage Models

Metaphorical use occurs when stages, phases, or steps are used as mere stylistic devices to package theory, concepts, or findings. In this application, stages are not real variables, constructs, or factors—they merely reinforce an expository theme. Rhetorical use of stage models serves as a metaphorical device, an arbitrary yet convenient literary gambit to assist readers in comprehending the concepts being described. For instance, Erikson's (1963) model of psychosocial development is often cited as an example of an expository stage model.

Metaphorical use is most clearly discernible (a) when the research rests on vague definitions of stages, (b) when stages are "discovered" post hoc—they often mysteriously "emerge" from "thick" data; (c) when the stages are peripheral to the main topics of the research; (d) when little or no empirical evidence is presented to directly substantiate the presence of stages;

and (e) when researchers openly state that they cannot defend their stages with empirical evidence.

Consider Gioia and Chittipeddi's (1991) story about strategic change at a large public university. Gioia and Chittipeddi described strategic change as a fourfold linear process of envisioning, signaling, revisioning, and energizing. These phases were also associated with cycles of "understanding/influencing" as well as "cognition/action" (p. 444). They described the CEO as a major active participant in strategic change:

The initiation of strategic change can be viewed as a process whereby the CEO makes sense of an altered vision of the organization and engages in cycles of negotiated social construction activities to influence stakeholders and constituents to accept that vision. (p. 434)

Gioia and Chittipeddi (1991) illustrated their stage concept with an account of the experience of a new university president as he tried to change an entrenched bureaucracy at a large public university:

dismissal of several old guard administrators, reorganizations of the senior administration, strategic planning process (pp. 439-440), met with many groups to espouse his vision (p. 442), controlled the change and membership of study groups (p. 443).

In essence, the narrative describes the process of the CEO trying to influence and outmaneuver college administrators—which may be an entirely reasonable interpretation.

Was Gioia and Chittipeddi's (1991) use of stages metaphorical? Several points suggest that it was. First, the authors repeatedly insist that they followed interpretive principles in their study: "The stage model emerged from . . . second order analysis . . . discern[ing] deeper patterns and dimensions of understanding . . . [to make] the study meaningful to other researchers" (p. 438). The stages were never rigidly defined, and no systematic evidence was presented or tested to establish the validity of the model. In fact, the authors noted that the stages in their model were not clearly distinctive:

These processes and activities are somewhat less clear cut than the linearity implied by [the stage model]. Like all visual representations, the figure oversimplifies complex organizational processes in favor of conceptual clarity. Companion processes like sense-

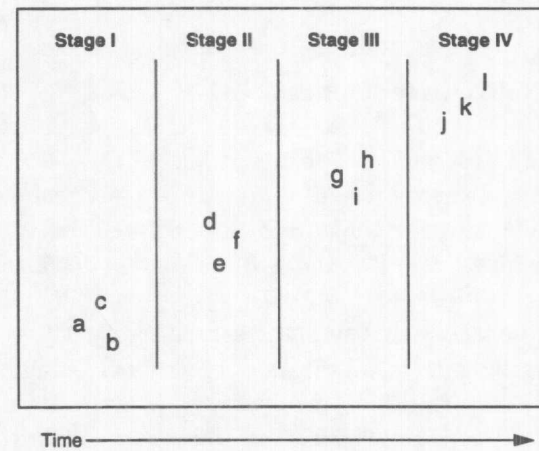


Figure 3: Descriptive stages derived from empirical research

making/sense-giving, understanding/influence, and cognition/action often overlap or occur more or less simultaneously. (p. 444)

Another clue to the stage usage in Gioia and Chittipeddi (1991) was their use of restrained terminology, which does not carry the powerful connotations of causal stages. Indeed, they used the term *phases* rather than *stages* in the text. In addition, they often placed their terms inside single quotation marks, such as "phases" (pp. 438, 443), "envisioning" (p. 443), "revisioning" (p. 438), "signaling" (p. 438), "energizing" (pp. 438, 443), and "sense-making" (p. 442). This indicates that the terms are to be taken provisionally, not in their full, literal meaning. Lastly, and most significantly, the authors simply stated that their main concepts are intended as a metaphor:

The imagery conveyed by metaphors like 'sensemaker' and 'sensegiver' broadens the conception of top management activities. . . . These metaphors also complement or subsume other related descriptive metaphors. (p. 446, emphasis added)

When stages are used as metaphors, several important implications follow. First, the stages are not really measurable constructs, variables, or factors. Second, the stages cannot directly embody the substance or findings of the research itself. Third, the stages cannot be used as sources of explanation. As a result, metaphorical models have only limited significance from the point of view of positivist social science research-

ers. Metaphorical stages qualify as a rhetorical device, consistent with a postmodern orientation.

Descriptive Usage of Stage Models

Some authors propose models of descriptive stages, which represent aggregate events, features, characteristics, or behavior. Under this usage, stages represent emergent patterns or clusters of correlated characteristics, factors, or composite variables. Descriptive stages are usually treated as empirical regularities that arise as the by-product of other fundamental processes, as illustrated below.

To illustrate how stages may be used in a descriptive manner, let us examine Porter's (1990) description of the competitive development of national economies. Porter outlined four stages of economic development: factor-driven, investment-driven, innovation-driven, and wealth-driven. He explained these stages:

Despite the diversity of most economies we can identify a predominant or emergent pattern in the nature of competitive advantage in a nation's firms at a particular time . . . involving the successive upgrading of a nation's competitive advantages. (pp. 545-546)

Here it is important to note that the stages were called a "predominant emergent pattern." It is reasonable to interpret this language as meaning that these stages are both descriptive (derived from the data) and possibly dependent variables—a result of the economic activity. According to Porter (1990), the stages are useful because they "provide one way of understanding how economies develop" (p. 546). Porter offered four qualitatively distinct stages derived from a plethora of causal factors and effects. Next, Porter explained the nature of each stage. For instance, the factor-driven stage occurs when a nation's "internationally successful industries draw their advantage almost solely from basic factors of production, natural resources, favorable growing conditions for certain crops, or an abundant and inexpensive semi-skilled labor pool" (Porter, 1990, p. 547). This description of the factor-driven stage was followed by a discussion of the complex characteristics, which created this "emergent pattern" that defines the stage. These characteristics include "competing solely on price," "use of inexpensive technologies," "foreign capital goods," "modest domestic demand," and so on. Porter then characterized the other three stages in a similar way. Next, Porter ex-

tended his discussion to the question of how the stages arise:

A nation's industry progresses through the first three stages because forces are present that create the potential for higher-order competitive advantages and put pressure on the industry to seek and achieve them . . . factor creation mechanisms, motivation, and domestic rivalry. (p. 560)

In effect, the stages are simply collections of correlated, coexistent characteristics, which result from the operation of independent causal variables such as factor creation. In addition, Porter (1990) carefully hedged about the role of his stages in economic development by contrasting his model against the stage model presented earlier by Rostow (1971). He offered several important qualifications:

It is not inevitable that a nation pass through the stages. . . . The stages do not purport to explain everything about a nation or its development process. . . . Nations [can] falter or fall backward in their economic development . . . Each nation goes through its own unique process of development. . . . The process of moving through the stages can take many paths, and there is no single progression. . . . Nations do not inevitably progress. Many nations never move . . . national economies seem able to skip stages. (pp. 545, 561-564)

It is obvious that Porter (1990) was acutely aware of the many empirical pitfalls that can sabotage stage models, and he deftly maneuvered around them.

Porter's (1990) model of economic development satisfies several important criteria for the satisfactory use of stage models as descriptive models: (a) the stages are defined as qualitatively distinct; (b) the characteristics that comprise each stage are delineated; (c) the stages are associative constructs, not independent variables; (d) the causal factors that produce the appearance of stages are pinpointed; and (e) general claims are downplayed. However, note that the underlying characteristics are all continuous variables. So it seems that the analysis of these underlying characteristics and their separate variance would be more fruitful than the study of the stages themselves.

Casual Usage of Stage Models

Some authors postulate full-fledged models of developmental stages as independent variables and imbue the stages with causal significance. A causal model goes beyond merely detecting patterns of activ-

ity or behavior that imply descriptive stages. In "ideal" causal models, the stages signal the operation of a maturational process. In other words, the existence of a specific sequence of stages reflects the operation of a latent mechanism that governs the formation, growth, transformation, and maturity of stages (Boden, 1979).

The main challenge for scholars lies in identifying and explaining the underlying processes that account for stages without resorting to circular reasoning. A tautology occurs when stages are used to "explain" observations, which are actually features of the stages themselves. For example, you can't explain your son's "defiance of authority" by the fact that he is a teenager, if defiance of authority is one of the characteristics that defines *teenager*.

Isabella's (1990) research on interpretive processes approaches a causal stage model. In an effort to expand knowledge about the "interpretive processes associated with organizational phenomena" (p. 7), she studied 40 managers in an urban financial institution. She found

a sequence of four distinct stages—anticipation, confirmation, culmination, and aftermath—through which interpretations progress. Each stage has a predominant frame of reference, interpretive task, and construed reality. The transition from one stage to another is initiated by a trigger event and fueled by the personalization of that trigger. (p. 31)

Even though the 40 subjects for her study included "all 11 members of the institution's top management, including the 3 executives who held major decisional roles in the key events" (p. 11), the study portrays those managers in a mainly passive role. In her research, the stage model gracefully asserts its seductive power to paint a picture of change marching inexorably forward. Strong internal programming motivated these stages, underscored by the realization that five widely varied kinds of key change events (acquisition of firm, naming a new president, establishment of a quality program, relocation of headquarters, and organizational restructuring) each produced exactly the same interpretive stages reported by the 40 manager-subjects! The implied robustness of interpretive stages is remarkable:

These events . . . unfolding over time, they *demand* continual adjustment and present unending challenge for all concerned. . . . As change unfolds, different as-

sumptions and orientations are *required* at different times in the process. . . . [In the aftermath stage] *there comes* a growing, concrete realization of the permanent *changes* wrought and of the consequences of those changes and the event itself have for the organization and its members. (Isabella, 1990, pp. 7-8, 25, emphasis added)

The use of the words *tangible*, *major*, and *unfolding* to describe a stage process, which demanded and required and wrought change, portrays irresistible strategic change, which does not leave much room for multiple interpretations, context, random events, or managerial initiative. The interpretations of the managers were developed through a fixed process of retrospective adjustment that forced them in line with "realities." In effect, managers' interpretations were dictated by the stage process:

Since each *event* brings with it the need to create new norms and execute new behaviors, old views just may not be effective. New working procedures or relationships, new facilities and interaction patterns, new and unfamiliar surroundings, or *new rules and dictates* make the development of new realities instrumental. (Isabella, 1990, p. 23, emphasis added)

The study explains how managers' interpretations were changed to match events:

The actual occurrence of an event triggers the interpretive shift from confirmation to culmination. . . . In all cases a discernible and tangible event created a major change in the organizational texture and communicated that a *new reality was in order*. (Isabella, 1990, p. 30, emphasis added)

In addition to a distinctive interpretation of change, the data also revealed

processes that move individuals from one interpretive stage to another. *External events* appear to precipitate such shifts . . . events signaling that a new cognitive definition of the situation is required. . . . *Managers* involved in a change need to *undergo* an alteration of their cognitive structure. (Isabella, 1990, pp. 8, 26, emphasis added)

When stages drive interpretation, when "processes move individuals," managers must adjust themselves and their thinking to the unfolding reality of the inevitable stage process. In summary, Isabella's (1990) research presents a highly deterministic stage process. Stages were treated as powerful independent vari-

Table 2
Stage Models From the Organizational Sciences

Model and Author	Stages in the Model
Product Life Cycles (Rink, 1976)	Introduction → Growth → Maturity → Decline
Organizational Decline (Weitzel & Jonsson, 1989)	Blinded → Inaction → Faculty Action → Crisis → Dissolution
Organizational Life Cycles (Quinn & Cameron, 1983)	Entrepreneurial → Collectivity → Formalization & Control → Elaboration of Structure
Mentality of Members (Torbert, 1974)	Fantasies → Investment → Experiment → Openly Chosen Structure → Determination → Productivity → Community → Liberating Disciplines
Major Organizational Activities (Adizes, 1979)	Courtship → Infant → Go-Go → Adolescent → Prime → Maturity
Problems Lead to Evolution & Revolution (Greiner, 1972)	Creativity → Direction → Delegation → Coordination → Collaboration
Interpretations of Homelessness (Dutton & Dukerich, 1991)	Homelessness as Police Issue → Homelessness as a Corporate Issue → Homelessness as Business & Moral Problem → Homelessness as Regional Image Problem → Homelessness as Regional Competitiveness Issue
Internal Social Control (Kimberly, 1979)	Marshall Resources → Obtain Support → Form Identity → Form Structure

Table 3
Stage Models in Strategic Management

Model and Author	Stages in the Model
Process Model of a Project (Bower, 1970)	Definition → Impetus → Context
Strategy Types (Galbraith & Nathanson, 1979)	Simple → Functional → Holding Co. → Multi-Div → Global
Passages of Problem Formulation (Lyles, 1981)	Awareness → Triggering → Exploration → Diplomacy → Rationalization → Confrontation → Resolution
Stages of Taking Charge (Gabarro, 1987)	Taking Hold → Immersion → Reshaping → Consolidation → Refinement
Evolving Interpretation of Key Events (Isabella, 1990)	Anticipation → Confirmation → Culmination → Aftermath
Initiating Strategic Change (Gioia & Chittipeddi, 1991)	Envisioning → Signaling → Revisioning → Energizing
Seasons of CEO Tenure (Hambrick & Fukutomi, 1991)	Response to Mandate → Experimentation → Selection of Enduring Theme → Convergence → Dysfunction
Strategy & Structure (Scott, 1971)	Stage 1 (One Man Rule) → Stage 2 (Functional) → Stage 3 (Diversified- Divisional)

ables, and managers' interpretations and actions were treated as dependent variables.

From a theoretical point of view, causal models are the most powerful application of stage models because their explanations are general, simple, and predictable, and the stages can act as independent variables in the analysis. These powerful advantages make causal models deceptively alluring to researchers. However, researchers who use a causal model for strategic change (or anything else) must acknowledge painful trade-offs, as described below.

4. IMPLICATIONS OF STAGE MODELS FOR STRATEGIC PROCESSES

Many researchers offer stage models of organizational and strategic processes. For example, Cameron and Whetten (1983) viewed more than 30 published

stage models used to describe the growth of organizations. Many such representations (among them Greiner's [1972] model of "Evolution and Revolution," now a classic in organizational literature) also extend into the overlapping literatures in strategic management (Galbraith & Nathanson, 1979), managerial information processing (Lyles, 1981), and organizational decline (Whetten, 1987). Some organizational models that describe stages are listed in Table 2, and some strategic process stage models are listed in Table 3.

It is important to note that none of the models of strategic processes shown in Table 3 incorporates all of the biases previously mentioned. Each model must ultimately be evaluated on its own merits—all stage models need not be painted with the same brush, even though they share family resemblances. For instance, some researchers who offer life cycle models of organizational growth stress that progress (in the sense of

enrichment or superiority) is not necessarily implied by movement from "primary" stages to "advanced" stages in their particular models (Whetten, 1987).

Despite their apparent differences, stage models gravitate toward central tendencies and serious limitations. When used inappropriately, stages can misdirect research and impede understanding by placing tight constraints on the change processes involved. Specifically, stage models tend toward the following:

- diverting research attention away from the environmental context;
- downplaying the role of human agency, initiative, originality, and innovation in strategic choice;
- highlighting universal experiences at the expense of different experiences between subjects;
- ignoring inconvenient historical facts, contingencies, and random events.

Each of these implications is considered in the following examples from the strategy literature.

Stage Models Divert Attention From the Context of Change

Maturation logic is central to developmental models. Whether they portray the history of industrial markets, the study of mathematics, or the rise and fall of civilizations, something "unfolds." Whatever unfolds at one moment was, in the moment before, folded and hidden from view, just awaiting the fulfillment of some prerequisite condition. Some mysterious internal program directs the unfolding, so that development proceeds according to prearranged imperatives. The concept of unfolding also implies a pattern of change, which is largely independent from the subject's environmental context. To illustrate, consider the most compelling example of such a process—human growth and development. Humans physically grow from childhood to old age in a process mainly dictated by a genetic code. Physical growth proceeds largely independent from the person's social and physical environment. When a stage model is imposed on any process, it concentrates attention on the maturational pattern itself. Stage models divert attention from the examination of interactions between the organization or organism and its environment. In effect, the environment is treated as a "given" factor. As a result, stage models paint portraits of organizations or managers whose life history can best be explained as the natural result of predetermined factors without

reference to human volition, environmental forces, and so on. To illustrate the introverted focus of a stage model approach, we briefly consider Gabarro's (1987) model of "taking charge."

Gabarro (1987) described a five-step process of general managers taking charge of new assignments. Gabarro's five stages included taking hold, immersion, reshaping, consolidation, and refinement. Transitions between these stages were described as "waves" signifying periods of transformational organizational changes. Gabarro characterized the stage process as

a taking charge process that can be characterized as occurring in a series of predictable stages of learning and action. In successful transitions managers progressed through these stages as they gained greater knowledge and mastery of their assignments. (p. 6)

He also described it as

a series of stages in which the new manager's emphasis alternates between learning and action in what appears to be sequentially predictable fashion. (p. 13)

Gabarro's (1987) viewpoint about the nature of stages was unequivocal. His five stages were insulated from the environment, contingencies, historical trends, and chance:

These stages and patterns are found in successful transitions *regardless of the kind of succession* (insider versus outsider), turnaround versus nonturnaround, the industry or organization involved, or the manager's prior functional background. (p. 7)

On the whole, Gabarro (1987) reported that stages unfold in an invariant, inexorable pattern regardless of context. In other words, once the "taking charge" process begins, it runs to completion in a completely predictable fashion. Consequently, Gabarro's descriptions of managerial activity concentrate on vivid illustrations of activities consistent with tasks dictated by the stages. As a result of concentrating on stages, the larger environmental context retreats into relative insignificance in Gabarro's study. If that wider context had any impact, it is doubtful that Gabarro would have been able to detect it because environmental effects would have been inconsistent with his main themes. To sum up, the environment was not treated as a variable that could affect Gabarro's stage model.

By Stressing the Theme of "Unfolding Logic," Stage Models Downplay the Role of Strategic Choice

Child (1972) examined the role of strategic choice in organizational theories. He lamented what he regarded as the marginalization of strategic choice in many theories. He complained that theories that focus their attention on environmental forces (or developmental forces) portray managers in passive, dependent roles. Child's critique applies directly to stage models, which (often inadvertently) view managers in a passive, reactive, and marginal role.

To illustrate, Greiner (1972) made a classic statement about organizational growth and change. According to Greiner, organizations pass through five qualitatively distinct stages (creativity, direction, delegation, coordination, and collaboration). These stages are separated by four abrupt transformations labeled as "crises" (leadership, autonomy, control, and red tape). Greiner explained the nature of the stages, why they occur, and their implications for managers. In many ways, Greiner's article typifies the position attacked by Child (1972). Several comments from Greiner's article summarize his dim view of managerial strategic choice. For example,

My position in this article is that the future of an organization may be *less determined by outside forces* than it is by the *organization's history* . . . behavior is determined primarily by previous events and experiences, not by what lies ahead. (Greiner, 1972, p. 38, emphasis added)

In other words, managerial choices are determined by past events, not by current deliberations about strategy for the future or consequences of those choices: "Top leaders should be ready to work with the flow of the tide rather than against it . . . they should be cautious since it is tempting to skip phases out of sequence" (Greiner, 1972, p. 45). Put another way, managers do not really change or guide the firm. Instead, they simply adapt themselves and their thinking to the process of development that unfolds according to an in-built pattern. Greiner (1972) remarked, "I also doubt that managers can or should act to avoid revolutions" (p. 45). To sum up, according to Greiner, "revolutions" are not planned, instigated, or directed by managers.

By emphasizing the inflexibility of the stages and downplaying the role of managerial choices, Greiner (1972) portrayed managers as powerless figureheads, not as decision makers. Such a characterization is

Table 4
Port Authority Organizational Characteristics

Organizational Characteristic Mentioned	Percentage of Informants
Professionalism, technical expertise, no social service expertise	100
Ethicality, altruism, public service	44
Commitment to quality	36
Commitment to region's welfare	36
Employee loyalty and employee family	32
"Can-do" mentality	25

largely inconsistent with much of the literature in strategic management (Andrews, 1980; Ansoff, 1965; Child, 1972; Schendel & Hofer, 1979). Our point is this: By forcing organizational change into the procrustean bed of a stage model, it was inevitable that managerial initiative, creativity, and deliberate choice would receive short shrift.

Stage Models Highlight Universal Experiences and De-emphasize Individual Differences

Stage models stress uniform experiences. Patterns of common experience are essential in the development of stage models because they provide the empirical evidence that stages exist. Common experiences exemplify the power of an underlying developmental logic. In a stage model, innovations, serendipity, aberrations, and accidents must all be regarded as part of the error term. That is, empirical variations weaken the assertions of stage models in several ways. *Stagnation* occurs when subjects get "stuck" at a particular stage. *Regression* occurs when subjects violate the logic of the model by moving backward through stages, instead of forward. *Repetition* occurs when subjects repeat particular stages instead of making transitions to the next stage. *Skipping* occurs when subjects bypass a stage. *Erratic durations* occur when subjects spend unusual lengths of time in particular stages. Erratic durations raise questions about the fixed-time element implicit in stage logic. Individual differences such as those listed above reveal the "Achilles heel" of stage models. Any variance undermines the assumption that the stages are rigidly programmed and predictable. It is only when the similarities of common experience dramatically overshadow individual differences that stages remain convincing.

Dutton and Dukerich (1991) examined how the "strategic issue" of encroachment by homeless people on Port Authority facilities affected the Port Authori-

ty's response. Dutton and Dukerich found that the issue of homelessness went through a series of interpretive phases. During each phase (stage), the Port Authority reconceptualized the homeless problem.

The Port Authority's self-identity served as the stable background against which authority members interpreted the homeless issue, evaluated organizational responses, and justified organizational actions. According to Dutton and Dukerich (1991), the Port Authority's organizational identity served as a powerful element of restraint as well as a source of motivation when organization members tried to cope with homeless people, bad publicity, social service agencies, and outside groups.

By making identity the cornerstone of their study, Dutton and Dukerich (1991) needed to show that the Port Authority had a distinctive identity. That organizational identity consisted of professionalism, ethicality and altruism, commitment to quality, commitment to region, employee loyalty, and can-do mentality. Their evidence about shared identity consisted of self-reports from authority personnel. Table 4 summarizes their findings.

Without a predominant Port Authority identity, one shared by nearly all members, widely varying interpretations of the homeless issue would surely result. Interpretive phases (which must encompass all members) could never emerge from a heterogeneous membership. Reviewing their evidence, summarized in Table 4, suggests that some Port Authority members did report common ideas about the characteristics of the Port Authority. However, the same evidence reveals that Port Authority members universally shared only one characteristic, professionalism. Only a minority of members subscribed to any of the other five identity characteristics. So it is difficult to agree with Dutton and Dukerich (1991) that a "can-do" mentality constitutes an essential ingredient in the Port Authority identity when 75% of the informants never mentioned it. In other words, Dutton and Dukerich's concentration on phases (stages) led them to look for and rely on similarities, when, from their own evidence, large differences were present.

Summary

Because of their underlying logic, stage models have important limitations. These special limitations affect the way that processes are represented through the models and make them more accommodating toward some theoretical orientations than others do. Re-

searchers who study organizations in ambiguous, dynamic, and unpredictable environments are unlikely to find stage models helpful because of the regular, predictable, and introverted orientation of those models (Mintzberg, Raisinghani, & Theoret, 1976; Nutt, 1984).

Researchers who advocate managerial strategic choice will generally find stage models unsatisfactory because the models tend to mitigate both the context and the decision-making elements of strategic choice. Researchers who study strategic processes with an eye toward differences seldom present stage models to characterize their observations because they are searching for something unique about each organization. On the other hand, a case researcher who studies a single institution or a single process with the objective of generalizing his or her findings might be more susceptible to the allure of a stage model. In the same vein, researchers who adopt a "closed-system" viewpoint of organizations can find much that is appealing in the introversion and independence of processes as portrayed by a stage model. Researchers who crave similarity or simplicity or crystalline precision may prefer the compact logic of lock-step stage models. Overall, stage models are alluring for some research orientations. So it is important for researchers to carefully evaluate the inherent trade-offs implied by the underlying tendencies of a stage model because the attractions of the stage model are deceptive when the brittleness of stage models is neglected (as illustrated by the examples above).

5. CRITERIA TO GUIDE EVALUATION OF STAGE MODELS

Adding to the previous discussion, this section summarizes some provisional criteria for classifying and evaluating the different types of growth models that we encounter in organizational studies and strategic management. These guidelines are offered to researchers who devise growth models and to reviewers and colleagues who see and evaluate stage models. Authors must do the following:

- state which usage (metaphorical, descriptive, or causal) is intended,
- provide evidence of abrupt transformations between stages,
- fully delineate all independent or dependent variables involved with stages,

- identify the causal forces driving the stages (in a causal stage model),
- not "overwork" the stages by making the "stages" a substitute for findings.

Authors Must State Which Usage Is Intended

We previously presented a discussion of the different ways that stage models could be put to use. It is important that authors who promote stage models understand the differences inherent in the three forms and communicate them clearly to editors, reviewers, and readers. Many of the published stage models were presented without defining their stages, without showing evidence of transformations, without explaining the use of stages, and apparently without understanding fully the pitfalls of stage models.

Authors Must Provide Evidence of Sharp Qualitative Distinctions and Abrupt Transformations Between Stages

For stage models to make sense, the stages must be distinct, and the transition from one stage to the next must be abrupt and discontinuous. Many of the stage models found in the literature (some shown here) simply do not present any evidence of precipitous changes between stages. The reason for this might be that most stage models really represent continuous features or characteristics. For instance, Porter (1990) did not offer evidence for real transformations between stages. Moreover, his stages consist of continuous variables or characteristics. So, why not describe this economic development process as a continuous function of underlying variables? Why stages? Why exchange the analytical virtues of continuous variables for categorical stages?

Authors Must Fully Describe Any Independent or Dependent Functions of the Stages

It is obvious that researchers must always define stages. However, an extra problem arises when stages are used as constructs or variables. The literature contains many examples in which stage "explanations" disguise tautologies. Circular reasoning occurs when the stage is inadvertently used to explain its own underlying dimensions. For instance, we do not accept

causal statements such as, "We are poor because we have no money," or "The child sucks his thumb because he is in an oral stage," as valid explanations. To avoid circular reasoning, researchers must insist on separate identification and measurement of dependent and independent variables that figure as explanatory factors or stages.

In a Causal Model, Authors Must Identify the Forces Driving the Transformations

Although stage models all concern change over time, it is ironic that so many stage models do not explain change! Metaphorical and descriptive stage models (probably a majority of those listed in Tables 1, 2, and 3) do not generally explain change. Instead, they merely document evidence of changes having taken place. Many descriptive stage models of change processes show us that something is changing, but they do not explain why it is changing or why it is changing in the pattern of a particular stage model. Descriptive stage models are limited in their usefulness unless they move beyond the stages themselves toward identifying and explaining the underlying forces that drive the "programmed" changes. In the case of causal models in particular, it is essential to define and measure the underlying variables that produce the stage pattern because those underlying forces are the essence of the model itself, and they are the key to the powerful allure of causal models. Examples of stagelike models that move in this direction include Utterback and Abernathy (1975), Tushman and Anderson (1986), and Anderson and Tushman (1990). Their models portray technological change as moving in a predictable linear direction, stages or phases are described, and the process is punctuated by transformations. Although these models suffer from many of the limitations listed in previous sections of this article, they have the great virtue of offering plausible explanations of the underlying causes driving the observed processes.

Authors Must Not "Overwork" Stages

In some studies, there is a tendency for researchers to overextend and overwork their stages. Authors who have presented metaphorical stages sometimes discuss them as if stages were independent variables, or they use stages as the rationale for unwarranted predictions or recommendations. Researchers who

lack empirical findings can be tempted to offer a metaphorical stage model as a substitute for results. In short, researchers sometimes inadvertently "smuggle" ideas, findings, and explanations into their conclusions, which have their basis more in the alluring stage model than in the study itself. For example, in discussing the implications of her findings, Isabella (1990) stated that "resistance to change might alternatively be viewed, not as obstacles to overcome, but as inherent elements of the cognitive transition occurring during change" (p. 34). She reasoned that particular cognitive reactions to change processes, such as mistrust, self-centeredness, or resistance always arise, then later fade, as the different stages of the interpretive process unfold. If so, cognitive reactions associated with the first stage of interpretation, such as suspicion, will taper off due to "natural processes" as change inexorably moves to the next stage. Because resistance is only a characteristic of early stages, resistance must peter out as the change process moves ahead. This implies that managers who are designing change (cf. managers in the study) might not be required to devise any strategy to deal with the problem of "resistance to change." Therefore, it is difficult to determine whether Isabella's recommendations flow from analysis of her data or simply follow from the underlying deterministic structure of the stage model itself.

All in all, these unhealthy tendencies may be the result of the seductive appeal of stage models combined with lack of knowledge about stage models on the part of researchers, editors, and reviewers. The problem can be corrected by paying more attention to the usage of stages and by making stage modelers produce more convincing evidence supporting transformations and stages.

CONCLUSION

Throughout this article, we have shown that stage models are alluring because they exert a powerful intuitive appeal through their familiarity, simplicity, generality, visual attractiveness, linear determinism, and intuitive logic. But this appeal is deceptive because it is accompanied by many basic theoretical and empirical limitations that sabotage their usefulness, making them vulnerable to devastating critiques (Mintzberg et al., 1976; Nutt, 1984).

Given the inherent theoretical limitations that undermine every stage model, we estimate that few or-

ganizational change phenomena can be validly characterized as stages. Metaphorical stage models can best be defended as a postmodern form of self-expression—just one point of view about multiple realities, a linguistic gambit. At best, descriptive stage models only represent a shorthand version for more interesting underlying continuous variables. Therefore, researchers ought to direct their main attention toward the underlying independent variables and the dependent variables they affect. Appropriate phenomena for causal stage models are hard to find and harder to empirically verify because they cannot cope with variance.

In our view, discontinuous change—involving cognitive, affective, behavioral, organizational, and strategic processes—is fundamentally inconsistent with the linear determinism of stage models. In fact, it strikes us as ironic that stage models are used to describe radical change. Dramatic change processes may be more consistent with system dynamics, contingency theory, historical accounts, evolutionary models, punctuated equilibrium, game theory, chaos theory, path dependency, or complexity theory—rather than the deterministic, ahistorical, introverted, inexorable workings of a stage model.

To sum up our argument, it is our view that stage models usually turn out to be more deceptive than alluring because they cannot withstand close scrutiny if they are serious causal models, and they are simply a summary or a rhetorical device if they are descriptive or metaphorical stage models.

The thrust of our comments can be extended one last step. We suspect that the underlying weaknesses of the stage model also apply to many models (of dramatic change) that are presented as life cycles, phases, paths, states, levels, trajectories, convergence-reorientation, and so on. Many of these models also contain an internal structure that tends toward overly deterministic, linear explanations that force-fit divergent facts and indeterminate time periods into fixed patterns.

REFERENCES

- Adizes, I. (1979). Organizational passages: Diagnosing and treating lifecycle problems of organizations. *Organizational Dynamics*, 8, 3-25.
- Aldrich, (1979). *Organizations and environments*. Englewood Cliffs: Prentice-Hall.
- Anderson, P., & Tushman, M. L. (1990). Technological discontinuities and dominant designs: A cyclical model of

- technological change. *Administrative Science Quarterly*, 35, 604-633.
- Andrews, K. R. (1980). *The concept of corporate strategy* (Rev. ed.). Homewood, IL: Irwin.
- Ansoff, I. (1965). *Corporate strategy*. New York: McGraw-Hill.
- Boden, J. M. (1979). *Jean Piaget*. New York: Viking.
- Bower, J. L. (1970). *Managing the resource allocation process*. Cambridge, MA: Harvard University Press.
- Brainerd, C. J. (1978). The stage question in cognitive-developmental theory. *Behavioral and Brain Sciences*, 2, 173-213.
- Cameron, K., & Whetten, D. A. (1983). Perceptions of organizational effectiveness over organizational life cycles. *Administrative Science Quarterly*, 26(4), 525-545.
- Child, J. (1972). Organizational structure, environment and performance: The role of strategic choice. *Sociology*, 6, 1-22.
- Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. *Academy of Management Journal*, 34, 517-554.
- Erikson, E. (1963). *Childhood and society*. New York: Norton.
- Gabarro, J. (1987). *The dynamics of taking charge*. Cambridge, MA: Harvard Business School Press.
- Galbraith, J., & Nathanson, D. (1979). The role of organizational structure and process in strategy implementation. In D. E. Schendel & C. W. Hofer (Eds.), *Strategic management*. Boston: Little, Brown.
- Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic Management Journal*, 12, 433-448.
- Granovetter, M. (1979). The idea of advancement in theories of social evolution and development. *American Journal of Sociology*, 85, 489-515.
- Greiner, L. E. (1972). Evolution and revolution as organizations grow. *Harvard Business Review*, 4, 37-46.
- Hambrick, D. C., & Fukutomi, G. D. S. (1991). The seasons of a CEO's tenure. *Academy of Management Review*, 16(4), 719-743.
- Hirsch, P., & Gillespie, J. J. (1997, August). *Unpacking path dependence: Differential valuations accorded history across disciplines*. Paper presented at CISTEMA Workshop on Path Creation and Dependence, Copenhagen.
- Isabella, L. A. (1990). Evolving interpretations as change unfolds: How managers construe key events. *Academy of Management Journal*, 33, 7-41.
- Kimberly, J. R. (1979). Issues in the creation of organizations. *Academy of Management Journal*, 22(3), 437-457.
- Kohlberg, L. (1984). *The psychology of moral development*. San Francisco: Harper & Row.
- Levinson, D. J. (1978). *The seasons of a man's life*. New York: Knopf.
- Lyles, M. A. (1981). Formulating strategic problems: Empirical analysis and model development. *Strategic Management Journal*, 2, 61-75.
- Mandelbaum, M. (1987). *Purpose and necessity in social theory*. Baltimore: Johns Hopkins University Press.
- Mintzberg, H., Raisinghani, D., & Theoret, A. (1976). The structure of "unstructured" decision processes. *Administrative Science Quarterly*, 21, 246-274.
- Nisbet, R. (1972). *Social change*. New York: Harper.
- Nutt, P. C. (1984). Types of organizational decision processes. *Administrative Science Quarterly*, 29, 414-450.
- Parsons, T. (1966). *Societies: Evolutionary and comparative perspectives*. Englewood Cliffs, NJ: Prentice-Hall.
- Porter, M. E. (1990). *The competitive advantage of nations*. New York: Free Press.
- Quinn, R. E., & Cameron, K. (1983). Organizational life cycles and shifting criteria of effectiveness: Some preliminary evidence. *Management Science*, 29, 33-51.
- Rink, D. R. (1976). The product life cycle in formulating purchasing strategy. *Industrial Marketing Management*, 5, 231-242.
- Rostow, W. W. (1971). *Politics and the stages of growth*. Cambridge, UK: Cambridge University Press.
- Schendel, D. E., & Hofer, C. W. (1979). *Strategic management: A new view of business policy & planning*. Boston: Little, Brown.
- Scott, B. (1971). *Stages of corporate development*. Cambridge, MA: Harvard University Press.
- Torbert, W. R. (1974). Pre-bureaucratic and post-bureaucratic stages of organization development. *Interpersonal Development*, 5, 145-165.
- Toynbee, W. R. (1946). *A study of history*. New York: Oxford University Press.
- Tushman, M. L., & Anderson, P. (1986). Technological discontinuities and organizational environments. *Administrative Science Quarterly*, 31, 439-465.
- Tylor, E. T. (1881). *Primitive culture* (2 vols.). London: John Murray.
- Utterback, J., & Abernathy, W. J. (1975). A dynamic model of process and product innovation. *Omega*, 33, 639-656.
- Weitzel, W., & Jonsson, E. (1989). Decline in organizations. *Administrative Science Quarterly*, 34, 91-109.
- Whetten, D. (1987). Organizational growth and decline processes. *American Sociological Review*, 13, 335-358.