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THE EMERGING PARADIGM OF STRATEGIC BEHAVIOR

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Several apparently conflicting empirically tested theories have been advanced as explanations of strategic behavior. This paper suggests that the theories differ because they were based on observations of organizations in different environmental settings. The paper proposes a paradigmic framework which legitimizes and accommodates the respective theories.

INTRODUCTION

Scientific interest in strategic behavior of purposive organizations traces back to the early 1950s. Since then several different and apparently conflicting theoretical explanations of strategic behavior have been offered. Schools of thought have been formed, dedicating to enriching the respective theories and to establishing their superiority over theories proposed by the other schools.

But all of these schools appear to be studying the same problem. Some of us call it the problem of policy formation, others of strategy formulation. It concerns the logic which guides the process by which an organization adapts to its external environmental.

Some of us argue that the process of strategic adaptation is essentially an organic one, and is best left unmanaged. Others recognize a key role for management, but disagree about whether the process of managing strategy should be incremental or discontinuous. Some think that strategy is essentially an implicit concept. Others argue that it can be both implicit and explicit.

Although the disagreements among the schools are many, the common dedication to the study of the logic of strategic behavior has led us to the establishment of both a journal (*Strategic Management Journal)* and a professional society (Strategic Management Society).

The question before us is what are we to do about the present state of theoretical affairs? One way is to continue as before to struggle for the ascendancy of our respective viewpoints, but if we do so, we shall remain, as do many other professional and scientific groups, proverbial cobblers without shoes. While we dedicate our lives to discerning the logic of the object of our interest, we shall fail to take the opportunity to understand the logic of our own evolution. While we seek to understand the strategy of other organizations, we shall forego the exciting opportunity to discern the strategy of our own behavior.

Fortunately, a conceptual framework is available for identifying the logic of the evolution of research. This framework, proposed by Thomas Kuhn (1972), is built on the concept of a *scientific paradigm*, and of its evolution through time.

One of the exciting aspects of the concept of a paradigm is that it puts the apparently contradicting theories into a common perspective, and frequently converts contradictions into complementarities. An equally exciting aspect is that the paradigm shows the way to previously unexplored and important research areas.

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As the title indicates, it is the purpose of this paper to describe the shape of the emerging paradigm of strategic behavior.

I will begin by a brief description of the evolution of epistemology of science and then focus on the seminal contributions of Thomas Kuhn (1972), who was one of the first, if not the first, to propose a rich explanatory model of the evolution of science. Using Kuhn's model, I will next examine the evolution of research on strategic behavior. Finally, I will identify several aspects of the emerging paradigm of strategic behavior.

EPISTEMOLOGY OF SCIENCE

Concern with the process by which individuals acquire knowledge and understanding of their world traces back to antiquity. The Greeks have called this concern the problem of epistemology and made it one of the cornerstones of the science of philosophy.

Our concern is not with the general human knowledge but with the knowledge of the scientific community, thus with the *epistemology of science*.

Since the beginnings of modern science, many great scientists have made important contributions to epistemology, among them the great mathematician and philosopher Rene Descartes. His thoughts had great appeal and influence on natural scientists. And by the twentieth centry the scientific community has adopted his 'rationalist' hypothesis that knowledge is the result of logical cognition succinctly described by his famous phrase 'je pense, donc je suis' (I think, therefore I am). This hypothesis sees epistemology as a problem of human cognition by individual and independent scientists. The steps in the cognition are embodied in the famous 'scientific method'.

In the 1930s another great mathematician and philosopher, Alfred N. Whitehead (1958), challenged the scientific method as an inadequate description of scientific progress and suggested that the progress was as much a psychological as a cognitive-logical process. He argued that, in times of scientific turbulence and discontinuity, psychological rather than cognitive variables become dominant, and that the scientist's commitment to his earlier scientific viewpoint blinds him against accepting developments which challenge this viewpoint. To quote, Whitehead said 'A man with a successful explanation of his prior reality becomes a pathological case in dealing with a new reality'.

Whitehead's (1958) views received support from scientist–novelist C. P. Snow whose novels show scientists as flesh and blood human beings who compete fiercely against one another, and who have been known to doctor their scientific data in pursuit of government grants and Nobel Prizes.

In the 1960s two milestone contributions were made by Thomas Kuhn (1972: 80–104). In the first he combined the rational and the psychological views of the individual scientist and imbedded them into a sociological/political framework of the community of scientists. In his second contribution he proposed a multi-disciplinary model of the process of the evolution of science. As the key concept of this model he proposed the powerful and seminal concept of the *scientific paradigm*.

In the succeeding pages I will apply Kuhn's concepts to the research on strategic behavior. But first a brief description of these concepts is in order.

What is a Paradigm?

'Hypothesis' and 'Theory' are concepts familiar to all scientists. Figure 1 demonstrates their relationship to a paradigm.

As the figure suggests, a paradigm is a 'scientific umbrella' which at once unifies and reconciles several preceding theories which have appeared to be contradictory.

For example, Einstein's great and elegant paradigm, expressed in a single equation $e = mc^2$, unified several branches of physics which previously had been regarded as independent branches of knowledge. In particular, the paradigm reconciled two prior theories about propagation of light (The Corpuscular Theory of Newton and The Wave Theory of Huygens).

Thus, a paradigm is a quintessential theory, or a meta-theory, to use the language of mathematics. It derives its unifying power through its 'bird's-eye' view of reality which is on a higher level than the views which had been taken by prior theories.

An apt analogy is the game of 'blind mans bluff' in which several blindfolded individuals

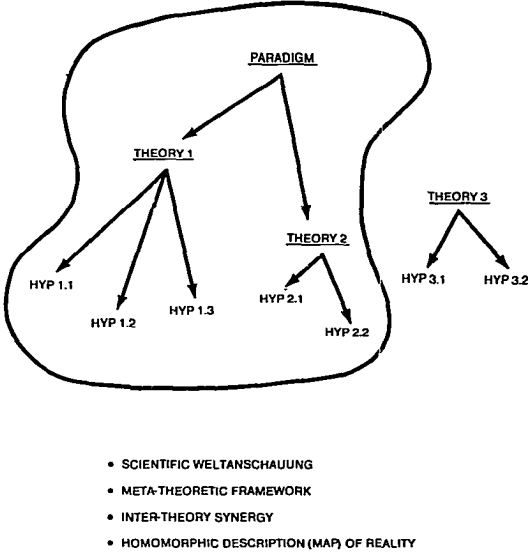

Figure 1. Concept of scientific paradigm

proceed to construct a theory of the elephant by feeling his respective parts.

The 'leg man' will feel the massive pillars on which the animal supports its weight and will theorize about his means of locomotion. The 'trunk man' will construct a theory of the elephant's feeding process. The 'sex man' will eulogize his reproductive organs.

Each of these theories is a valid description of a part of the total elephant's reality. Indeed the life of a caged, chained, and castrated elephant is closely described by the student of the trunk.

But none of the theories describes the total elephant.

Removal of the respective blindfolds is akin to the formulation of the 'elephant paradigm' which unifies the partial theories into a systems theory of the entire elephant.

But each paradigm has its own limitations. Thus, as Figure 1 suggests, other proven theories about the same aspect of reality may remain outside the boundaries of a paradigm. Thus, a highly relevant question is what determines the boundary of a valid paradigm. Or, to revert to our previous bird's-eye analogy, how high must the bird rise in order to obtain a unifying insight.

This question poses a classic dilemma, typically encountered by individuals who, for the first time, discover the system's character of reality: That the various phenomena are interrelated and 'everything depends on everything else'. If, in addressing the dilemma, one rises to the level of the entire universe, nothing of scientific significance can be said, and one is reduced to mouthing platitudes about general systems theory.

If one stops at too low a level of aggregation, one is back in the blind mans bluff game, in which other parts of the total system strongly interact with the subsystem being studied. The result is that conclusions derived from the study of the subsystems do not explain all of the essential aspects of its behavior.

The above discussion of the dilemma of the paradigmic boundary begs its own answer: *The slice of reality encompassed by a paradigm is such that most of the phenomena within this reality can be satisfactorily explained by studying the interior of the reality.* Put differently: phenomena outside the reality encompassed by the paradigm do not have a major influence on what is being studied within. Returning to our animal analogy, the above definition of a paradigmic boundary makes

it clear why a thick-skinned, powerful and self-sufficient elephant is the proper level of aggregation for formulating an 'elephant paradigm'.

It may be worthwhile to express this vital but complex concept in formal mathematical language.

The behavior within any bounded part of reality depends on both the variables inside the boundary (endogenous variables) and the variables outside (exogenous).

The purpose of a scientific inquiry is to explain behavior within the chose boundary. This explanation can be represented by a symbolic equation:

Behavior = f (exogenous, endogenous variables)

The boundary of chosen reality is a *paradigmic boundary* under one of the following conditions:

1. When the behavior function can be decomposed into two connected functions:

   $B = f$ (endogenous) * g (exogenous)

2. Or, when a large part of the intradomain behavior can be explained by the endogenous variables.

Mathematically this latter condition can be expressed in two ways:

i. The correlation coefficients of the endogenous variables are much higher than for the exogenous variables.
ii. The sensitivity of the behavior to the endogenous variables is higher than for the exogenous:

$$\frac{\partial B}{\partial \text{(endogenous)}} \gg \frac{\partial B}{\partial \text{(exogenous)}}$$

Thus, the distinction between a theory and a paradigm is that the former provides only a partial explanation of its chosen reality. This deficiency becomes evident in practice under two common conditions:

i. When an empirical test of the theory is inconclusive.
ii. When alternative explanations of the same phenomenon are offered by other theories.

Both of these conditions have been much in evidence during the past 30 years in research on strategic behavior.

PREPARADIGM PHASE OF THE EVOLUTION OF KNOWLEDGE

Around the concept of paradigm Kuhn (1972) has built a model of the process by which scientific knowledge develops and accumulates.

When a new part of reality first receives scientific attention, as strategic behavior did in the 1950s, different groups of researchers begin to study the new reality, using their respective scientific optics and interests. Thus, the study of strategic behavior attracted the attention of mathematicians and engineers whose interest is in logical decision making, of psychologists whose concern is with individual human behavior, sociologists interested in organizational behavior, and political scientists concerned with the workings of power.

Researchers also chose different objects for their research. Some studied government bureaucracies, others universities, or 'typical' business firms, or pathological ones in the grips of a crisis. Until recently, relatively few of us spent time studying business successes.

Out of these efforts emerged different theoretical perceptions of strategic behavior.

One group of researchers has reached a conclusion that, unless an organization is threatened by a survival crisis, its strategic behavior is unmanaged, organic, and serendipitous determined by socio-political forces. When confronted by a crisis, the organization focuses its attention on finding a survival solution. But the process remains organic, unguided by logic, and politically focused on the search for a strong 'savior' who will lead the organization out of the crisis. We shall refer to this model as the *organic model* of strategic behavior.

Another group of researchers, whose seminal contributors were March and Simon (1958), Thompson (1967), Cyert and March (1963), portrayed strategic behavior not as a serendipitous socio-political process, but as reactive, inertial, and incremental adaptation to dysfunctions in organizational performance. Interestingly enough, in works of this group, like those of the organic school, the word 'manager' is rarely

encountered. Instead the operative word is 'The Organization' or 'The Firm'. This model can be appropriately named the *reactive model.*

Mintzberg (1980) was a pioneer in remedying the omission of managers through his seminal study on how managers manage. Quinn (1978) made an important contribution through his work on logical incrementalism. A managed firm is now seen not as a reactive adapter, but as a deliberate shaper of its own development. The logic of this development is inertial. Management chooses and guides strategic development through steps which are logical incremental extensions of the prior historically successful steps. Based on this model Mintzberg defined a firm's strategy as the logic which underlies the incremental development. In this model key managers are individual actors, and they make their decision 'locally', without reference to a global plan for the firm. However, decisions by different managers are consistent with one another, because they grow out of a mutually experienced strategic history of the firm. We shall call this the *ad hoc management* model of strategic behavior.

Chandler (1962) made a pioneering contribution to the understanding of *ad hoc* behavior under conditions where the logic of incremental evolution is made invalid by a major environmental discontinuity. He observed that, unlike in the organic model, under conditions of impending crisis, management does confront the need for a redefinition of its strategic logic.

Chandler's (1962) research shows that managers react to, rather than anticipate, discontinuities. But, unlike in the organic adaptation, they react before a survival crisis strikes. Once triggered, the search for a new strategy is deliberate, non-incremental, although not systematically planned. It proceeds by trial and error and stops when a new promising strategy has been developed.

In addition to the understanding of strategy formation, Chandler made a pioneering contribution toward a paradigmic view of strategic behavior. His works shows that the focus on strategy formation, which characterises the other schools of research, is inadequate as an explanation of strategic behaviour. When a new strategy is put in place, it frequently fails to produce satisfactory financial results. Chandler shows that the cause is a misfit between the new logic of strategic development and the internal configuration of the enterprise. As a result, a period of search for strategy is followed by a period of adaptation of structure until strategy and structure are once again in harmony with each other and profitability recovers.

Yet another school of researchers whose early contributors were Steiner (1969), Robert Stewart (1963), Ringbakk (1971) and Ansoff (1979), pictures the firm to be guided by a comprehensive and explicit strategy which is systematically planned and co-operatively executed. This model, which on frequent occasions has been anticipated and interpreted as prescriptive, was in fact based on observation of systematic planning which emerged in so called 'leading' firms during the late 1950s: the General Electrics, the IBMs, the Texas Instruments of the business world.

The model is of a strongly and comprehensively managed firm which tries to anticipate rather than react to future threats and opportunities from the environment. Based on this anticipation, such firms make a choice of their future strategy, based on a comparison of incremental and discontinous strategies. Strategic decisions are not 'local', made by individuals in different parts of the firm, but 'global', made through an organization-wide systematic strategic planning process. We shall call this the *systematic management model.*

The salient characteristics of behaviors depicted in the four theoretical viewpoints described above are summarized in Table 1. The shape of the strategic elephant certainly does not leap to the eye! This poses the following problem:

1. All observers concerned themselves with a phenomenon called strategic behavior.
2. All were highly qualified and respected members of their profession.
3. All have empirical evidence to support their conclusions.
4. And yet, the pictures of strategic behavior are different and contradictory.

According to Kuhn (1972), this state of affairs is typical during the *pre-paradigmic phase* in the development of a science. The contradictory state of affairs typically leads to a confrontation among the respective theories. Schools of followers are formed, each engaged in research to provide additional support of the respective theoretical notions. The debates among schools tend to be

Table 1. Four models of strategic behavior

Model	Change Process	
	Incremental	Discontinuous
Organic	Serendipitous Evolution	Crisis Mutation
Reactive	Reaction to Dysfunctions	Crisis Mutation
Ad Hoc Management	Episodic, Local Extrapolation	Trial and Error Search
Systematic Management	Periodic Comprehensive Extrapolation	Comprehensive Periodic Anticipation

in the nature of confrontations of alternative 'Truths'. Rather than seek a common truth, the respective schools attempt to gain acceptance of their particular conclusions.

It is difficult to keep such confrontations impersonal and factual, because their group asserts to have its own empirically valid facts. Personality conflicts and political struggles for ascendancy become inevitable.

According to Kuhn (1972) this state of affairs continues until a unifying paradigm emerges which reconciles and legitimizes the conflicting claims.

A MODEL OF EVOLUTION

This process of emergence is illustrated in Figure 2. As discussed in the preceding section, the process starts when a previously unexplored area of reality first receives scientific attention. As Figure 2 shows, a period of evolution of several contradictory-appearing theories results in conflict and a struggle for the minds of researchers.

Out of the conflict emerge glimmers of commonality and compatibility, and a convergence process starts which culminates in a generally accepted paradigm. This may occur through a process of gradual convergence of the theoretical views, but, more likely, brilliant new insights, like Chandler's (1962) put the preceding developments into a new perspective.

The following *paradigm elaboration* stage is a period of scientific harmony. The participants of the scientific community share a common higher level truth. Research is continued in the respective theoretical streams but, instead of clashing, they nourish and reinforce one another.

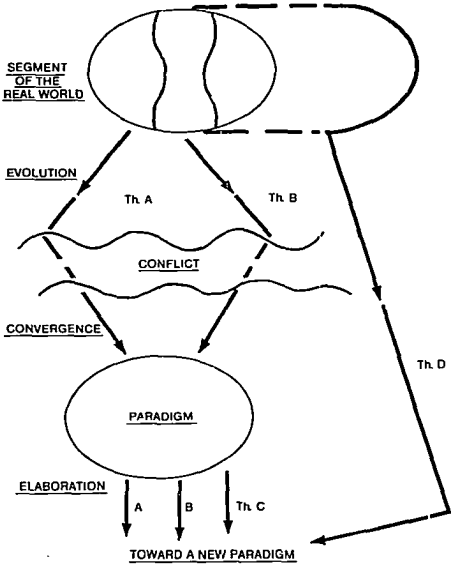

Figure 2. Paradigmic model of scientific progress

The paradigm's boundary frequently turns out to be greater than the combined boundary of the antecedent theories. As a result, novel research thrusts are triggered which further enrich the understanding of the area of reality.

Eventually, saturation sets in. All the important insights have been obtained, and research tends towards a detailed concern with dotting the scientific i's and crossing the t's.

Brilliant creative scientists, who gave the shape and directions to the historical theories, now lose

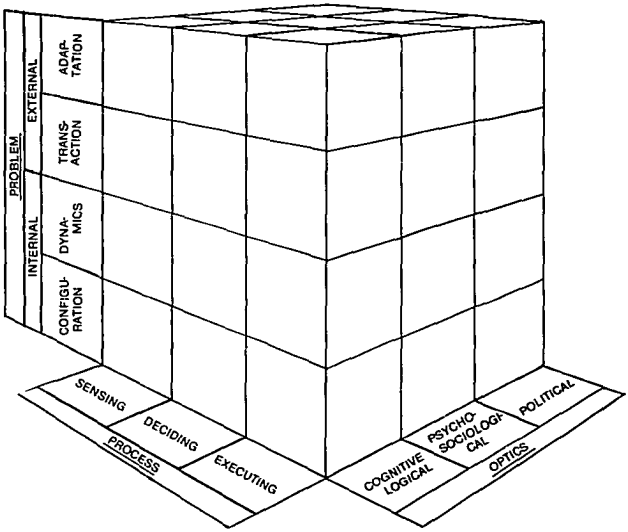

Figure 3. Dimensions of behavior

interest, just as the brillant young people who enter the field. So, energies are now focused on a different or a larger reality, and thus a new preparadigm evolution cycle starts.

Its course of evolution is likely to be even more turbulent and conflict-laden than that of the first paradigm. The reason is that the individuals who break with the historical paradigm are a minority of mavericks who are resisted by a large and generally mediocre orthodoxy of the adherents to the historical paradigm.

But for the purposes of this paper, this second stage is in a relatively distant future. For the study of strategic behavior the interesting problem is the emergence of the first paradigm.

THE PARADIGMIC CUBE

In the remaining pages I will sketch this observer's perception of the emerging paradigm of strategic management. We shall first discuss the paradigmic boundaries and secondly the quintessential theoretical concept.

Figure 3 shows the cube of dimensions which can be used to describe organizational behavior. Three principal dimensions are identified:

1. The problem dimension
2. The process dimension
3. The rationality dimension, which alternatively can be described as the scientific optic.

Before Chandler's (1962) seminal work the focus of research on strategic behavior had been on the problem of strategic adaptation. The internal configuration and dynamics were regarded as given, described by the organization's strengths and weaknesses.

Chandler (1962) called attention to the fact that the internal configuration is not static but dynamic, and that it has a strongly coupled relationship with the external adaptation. The title of Chandler's book, *Strategy and Structure*, was unfortunate because it focused subsequent attention of researchers on the strategy–structure relation which is only one aspect of the overall configuration and dynamics of an organization.

More recently, management practice has thrown up the concept or organizational culture as the determining correlate to strategic behavior.

In the seventies Ansoff, Declerck, and Hayes (1976) suggested that not one but several key organizational characteristics have a strong interdependence with strategy. These are: managers, culture, information base, systems, structure, and capacity of management. For the combined action potential of these characteristics they suggested the term *organizational capability*.

My expectation is that the historical search of a two-variable correlation (strategy–structure, strategy–culture, strategy–manager, etc) will prove too limited to explain strategic behavior, and that the capability–strategy will emerge as the paradigmic relationship (for a practical application see Chapter 3.3, Ansoff, 1984).

Returning to the external problem dimension, from the 1950s on the transactional activity has acquired the name of *operations management* and the *adaptation activity* that of *strategic management*. Since the former had long been studied, and the latter was brand new, research became focused on the latter. The justification was that strategic activity is distinctive and different from the operating activity.

While the distinction is real, the two activities coexist within organizations and compete with one another. They compete for attention, skills, resources, and money. This competition has been identified long ago by March and Simon (1958) who proposed the 'Gresham's Law of Planning' which states that, if left uncontrolled, the operational activity suppresses the strategic activity. An article in *Business Week* (1984) titled 'Will Money Managers Wreck the Economy?' gives strong support to the March and Simon Law.

With singular exceptions, the past studies of strategic behavior neglected the strong intercoupling between the operating and the strategic work. As a result, a commonly encountered difficulty of translating strategic plans into strategic reality remained unexplained and was named 'paralysis by analysis'. Subsequently, Ansoff (1984) suggested that paralysis by analysis is a manifestation of Gresham's Law.

As far back as the 1970s Declerck (in Ansoff, Declerck and Hayes, 1976) suggested that the proper paradigmic perspective on organizational behavior must include links and interactions between operating and strategic behaviors. He suggested the term *Intergrative Management* to describe the integrated perspective.

Another way to state Declerck's (1976) suggestion is to say that the paradigm of strategic behavior must include its strong interdependence with the operating behavior.

THE PROCESS DIMENSION

We next turn attention to the process by which strategic activity takes place. The three key subactivities of *sensing* the *need* for action, *deciding* upon an action, and *executing* it have been recognized for a long time.

But, with significant exceptions, the bulk of research attention has been on the middle segment, which has been variously called strategy formation or strategy formulation.

At the sensing end, the pioneering exceptions have been Theodore Levitt's (1960) enunciation of the concept of strategic myopia, Aguilar's (1967) empirical research on environmental surveillance, Pound's (1969) work on problem finding.

Historically, the execution has been treated as the logical aftermath of the strategic decision, quite similar to the well understood implementation process in operations management. As a result, it also has received little research attention.

The focus on the strategy formation has typically been accompanied by the assumption that it can be studied independently of the two other subprocesesses and, furthermore, that sensing – deciding – executing is a natural sequence. These assumptions that the process is *partitioned* and *serial* have typically remained hidden from view, and the reason is that they are a direct consequence of the Cartesian knowledge paradigm which is imbedded in the Western scientific culture. The great philosopher's phrase 'Je pense, donc je suis' can be paraphrased, using the planner's jargon, into 'decide first, execute afterwards'.

But, from the very beginning of intensive strategic activity in business firms, experience began to show two deficiencies in the serial, partitioned process assumption:

1. Both the sensing and the execution activities have a determining influence on strategic action. As Levitt (1960) argued, 'marketing myopia' may delay the deciding activity to the point of organisational crisis. And, as a

highly experienced and frustrated manager said, 'It's no trick to formulate a strategy, the real problem is in implementing it'.

2. The serial attention to the activities is an intellectual model which is a special case of observable strategic behavior.

Recent comparisons of Japanese and Western models of management have shown two significant facts: 1) that the strategic process tends to work more effectively in Japanese enterprises; and 2) that the process used by the Japanese is not serial but parallel, in which elements of sensing, deciding, and executing are present throughout the strategic act (Ansoff, 1984: Chap. 6.4).

In summary, evidence suggests that a paradigmic perspective on the process dimension will be based on the assumptions of: a) dynamic interdependence of sensing, deciding and executing; and b) parallel, rather than sequential, progress through the three stages. A basic shift will take place from the serial Cartesian knowledge paradigm to a Western adaptation of the parallel 'Confucian' paradigm. (For an example of such adaption to management of change see Ansoff (1984: Part 6).)

THE SCIENTIFIC OPTICS AND ENVIRONMENTAL SETTING

The third dimension of Figure 3 deals with the scientific perspectives which researchers bring to their model building. It is along this dimension that the differences among the alternative models of strategic behavior identified in an earlier section become accentuated.

1. The *organic model* is based on a political–social optic. It portrays organizations in which power is distributed among several groups, and no group is powerful enough to force its will on the rest. As a result, bargaining and power struggles are the mechanisms through which choices are made. There is multiplicity of cultures each with its own map of reality, norms, values. There is no agreement upon common goals for the organization.

   Such behavior is commonly observable in government bureaucracies and in universities. Since they are introverted and unresponsive to the environment they can survive only in environments which put little pressure on the organization to use its resources effectively. (See the Concept of Environmental Dependence in Ansoff, 1979, Chap. 4).

2. The reactive firm *is* under pressure to perform, because failure to perform means a failure to survive. The underlying optics are social–anthropological. The behavior is the result of interaction between the organizational *survival drive* (Ansoff, 1979, Chap. 2) and *organizational inertia*.

   The environmental settings in which such firms are observed are characterised by slowly and incrementally evolving challenges, and low competitive intensity. This occurs for example in competitively and technologically stable oligopolies. The reason that management is not visible in such firms is that it is non-agressive and content to coast with the firm's historical culture and dynamics.

3. In the *ad hoc management model* the perspective is psycho-sociological. Managers are very much in evidence and they drive the firm to high performance norms. But they do this within a sympathetic historical culture, and are therefore able to gain a supportive consensus for their decisions. While the power of inertia is strong, managers use this power by sticking to incremental changes, consistent with historical behavior of the firm. The fact that changes are incremental does not mean the firm is not an agressive competitor. On the contrary, many successful 'growth firms' fit the ad hoc model.

   The environment in which such firms are observed are strongly competitive. Growth is strong and extrapolative. The new challenges are incremental and typically 'local' in the sense that they affect only one part of the entire firm.

4. The *systematic management model*, as originally observed in practice, and as formalized by Ansoff in 1965, is based on logical reasoning. One basic assumption is that top management is committed to leading the firm into new strategic domains whenever the necessity for doing so becomes clear.

Table 2. Domains of Validity

Model	Scientific Optic	Decision Process	Power	Culture	Environmental Pressure
Organic	Political-Social	Conflict Resolution	Distributed	Multiple	Weak
Reactive	Psycho-Social	Pluralistic Consensus	Distributed	Homogeneous	Moderate
Ad Hoc M'G'T	Psycho-Social	Guided consensus	Decentralized	Homogeneous	Strong
Systematic --1985*	Cognitive-logic	Forced Consensus	Centralized		
--1984	Multi-Disciplinary	Guided Consensus	Strong Center	Cultural Transform	Very Strong

* Ineffective model.

Another assumption is that management relies on comprehensive logical anslysis in selecting the new domains.

A third assumption is that employers and lower level managers are 'reasonable people who will do reasonable things' even if these 'things' violate the historical intertia. Thus the original systematic model was built on a single optic—the optic of cognitive logic.

The model was conceived in practical situations in which novel technological, social, economic, or political discontinuities made reliance on logical incrementalism dangerous to the future survival and success of the firm. The model found ready acceptance in firms whose management is both entrepreneurial and committed to the logical rationality (e.g. Texas Instruments, General Electric, IBM).

The *systematic model* has been subjected to repeated practical trials. Invented contemporaneously in a small number of firms, it became popular and was adopted by a large number of followers. The results were frequently disappointing (See Ansoff, 1984, Chapter 3.2) and on many occasions firms retreated to earlier non-strategic systems of management (such as budgeting and long range planning).

But the disappointments also produced learning. It became progressively clear that the shortcomings of the model were not due to the use of cognitive logic, but rather to its failure to include the other three scientific optics shown in Figure 3.

The major strategic reorientation which the systematic model is intended to manage is organizationally wrenching and affects the built-in culture, security of individuals, and the historical power structure. To represent this complex transition as a process of logical inference is to neglect major forces which affect both the decisions and the outcomes.

As a result of this learning, there has been a steady progress from the rational model of *Strategic planning* (Ansoff 1965) to the present multidisciplinary model of *strategic management* (Ansoff, 1984).

The preceding discussion suggests that each of the four models has its *domain of validity* determined, on the one hand, by the internal configuration/dynamics of the organization, and, on the other hand, by the environmental pressures to which it is subjected. These domains are described, in summary form, in Table 2.

While the limited optic of systematic management was the furthest from reality, there is much evidence to suggest that all of the optics are relevant to all organizations, albeit in a minor role. A brillant illustration was offered by Allison (1971) in his study of the Cuban Missile Crisis.

Thus on the dimension of scientific optics, the paradigmic view requires that all four shown in

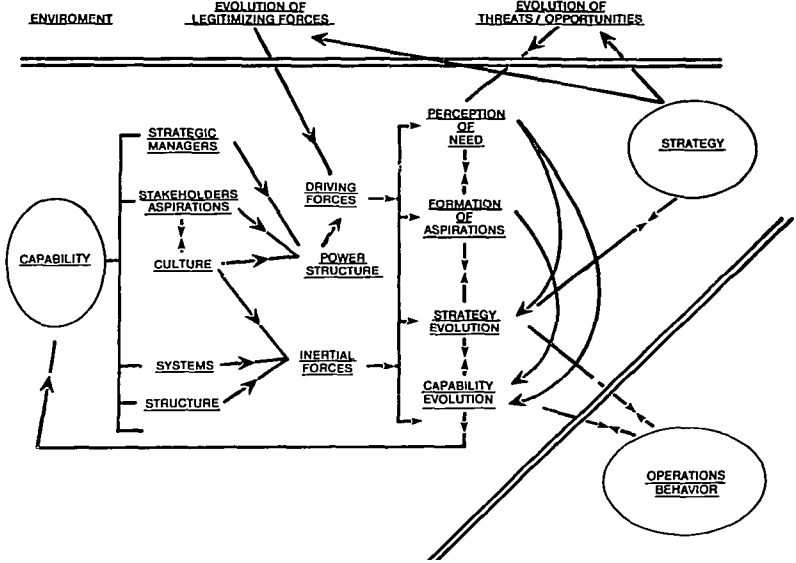

Figure 4. Paradigmic complexity

Figure 3, and probably the socio-anthropological optic, be included in explanations of strategic behavior.

PARADIGMIC COMPLEXITY

Figure 3 defines the *paradigmic cube*: the minimal set of dimensions necessary to explain the observable variants of strategic behavior. Figure 4 presents the scope of *paradigmic complexity*.

The right half of Figure 4 presents the key activities and flows in strategic behavior. The left half presents the key forces which determine the flow and interaction patterns. The figure is intended as a paradigmic meta-model from which the special case models can be derived and compared to one another.

The *meta-model* is complex and a full analysis is obviously beyond the scope of this paper. (A book length exploration of the model is found in Ansoff, 1979). Instead I will confine myself to selected comments.

1. The models of Table 1 can be derived as special cases from Figure 4 by selecting the relevant forces, concepts, interaction paths which connect them. For example, the organic model dispenses with formation of shared aspirations and there is no consensus on organizational needs. The incremental strategy/capability evolution occurs directly in response to local need perceptions by members of the organization. The need perception process is introverted. The linkages to the outside environment are weak, and the major influences on strategy/capability come from the internal stakeholders, acting through the power structure, and from the organizational inertia.

   By contrast, in the original version of the systematic management model neither the stakeholder influence nor inertia is important. The key influence forces are the strategic managers and the legitimizing environment. The action is forced to flow in an undirectional sense: Perception–aspirations–(objectives)–strategy–'structure'. Both strategy and capability evolution are serially structured into planning and implementation.

   The reader can test the completeness of Table 2 by testing it against other strategic behavior models.

2. Table 2 sheds light on a quaint controversy which has raged during the past few years over whether strategy follows structure, or vice versa. The controversy is simply resolved by recognizing that it can go either way in both descriptive and normative senses.

   In the old days the phrase 'when in doubt reorganize' commonly used in business was descriptive of the primacy of 'capability thinking'. In recent years, 'when in doubt, change strategy' approach is evidenced daily by the business literature.

   It has been recognized that the 'capability first' approach has much merit when the need to change strategy is not urgent, and that 'strategy first' is necessary under urgency. Further, it has been pointed out that simultaneous development of strategy and capability is an attractive time saving alternative. (see Ansoff, 1984, Part 3 and Part 6.) The figure provides for all of these alternatives.

3. The recent preoccupation with culture as the pivotal component in strategic response is one in a line of earlier successive preoccupations with structure, systems, management by objectives etc, as the pivotal concepts in strategic behavior. Table 2 suggests, that while at a given point in time one of the components of the overall organizational capability may be relatively more important than others, the overall manner in which the capability influences strategic behavior depends on five basic forces:

   1. The drive and skills of the key managers.
   2. The aspirations of the other influential stakeholders within the firm.
   3. The power structure through which they interact.
   4. The culture of the organization.
   5. The problem solving competence of the organization which, in turn is embodied in the systems and structure.

   A change on one of the above variables is unlikely to be productive, unless the others are brought in line with it. This point is amply illustrated by Chandler (1962).

4. The arrows linking strategy–capability to the operational activity are critical to the explanation of strategic behavior. There is a 'love-hate' relationship between strategy and operation. On the one hand today's strategic activity generates organizational potential which makes tomorrow's operations both possible and effective. On the other hand, the two activities are sharply different and compete for the same organizational resources.

   The inherent conflict between the operations and the strategic activities was the stimulus of the transition from the original normative concept of strategic planning to the modern concept of strategic management (Ansoff, Declerck, and Hayes 1976).

5. Changes in the coupling between organizations and society during the past 30 years have added importance to the environmental influence on strategic behavior. This coupling is represented by the *Legitimizing forces* in Figure 4. What has started in the U.S. as a concern with 'social responsibility' of business, has progressed in both the U.S. and Europe to a concern with the manner in which society influences both the role of the firm in society, and the way it does business. For example, it has been widely pointed out that the recent changes in strategies in the automotive business in the U.S. have been due as much to government regulation as to Japanese competition.

6. The coupling between strategy and operations is so important that treating the latter as an exogenous influence, in the manner shown in Figure 4, becomes problematic in some cases.

   One such case is the organic model in which the operations work tends to smother the strategic. Another is the case in which the strategic and operations activities are both intense, for example, in forms whose environment is strategically turbulent and competition is intense.

   Fortunately for the emerging paradigm of strategic behavior, there is a trend in business practice today to build organizational boundaries between the two kinds of activity, thus making it possible to treat it as an exogenous phenomenon.

   But there is little doubt in this observer's

mind that the following organizational paradigm will be a *general management* paradigm which will encompass both strategic and operational activities as endogenous variables. The level of complexity of this second generation paradigm will be obviously very much higher.

THE PARADIGMIC CONCEPTS

In addition to the flows and interconnections Figure 4 presents the minimal set of concepts which are necessary to accommodate the observable varieties of strategic behavior.

The concepts which describe strategic behavior are shown in the middle of the figure. The steps labeled *perception of need* and *formation of aspirations* will be familiar to all readers.

Strategy evolution is used to replace the more usual sequence of strategy formation followed by implementation, because, as discussed before, in many types of strategic behaviors the two subactivities are neither clearly separable, nor sequential.

Capability evolution is similarly an aggregate concept which describes the process by which the organizational configuration and its dynamics evolve over time (thus accommodating the evolution of culture, structure, systems, managers, power structure).

In the paradigmic perspective of Figure 4 nothing is implied about the functionality of the respective activities. The perception of need may be inaccurate, or too late to avoid a survival crisis. The strategy may evolve contrary to the avowed objectives of a firm. Capability may evolve out of step with strategy, or in a way which is not supportive of strategy evolution.

The functionality and directionality of action which are observed in a particular organization are determined by the set of forces shown at the left of Figure 4.

As the Figure shows, two categories of forces operate on the strategic evolution process: *active forces* which exert vital direction-changing influence, and *inertial forces* which act to perpetuate the historical momentum of the organization.

The figure shows that the vital forces interact and exert influence through the medium of a *power structure*, an aspect of organization which, until recently, received little attention from researchers in strategic behavior.

The currently popular concept of *culture* is seen as exerting both a driving and an inertial influence. In the former case, militant and powerful cultures within the organization seek to assert their primacy, in the latter case culture acts as a change-resisting force.

The *strategic managers* in Figure 4 are defined as the group of individuals whose nominal job responsibility is to guide strategic evolution in a manner which is functional to the commonly held aspirations (objectives) of the organization. But, in actual practice, strategic managers often have a split personality; in part, they discharge their nominal job responsibility, but they also seek to influence the process in a direction which fulfills their personal aspirations (e.g. for power) (Ansoff, 1979).

Finally, but importantly, the Figure shows that the external *legitimizing environment* exerts a major influence on strategic evolution. This influence takes several forms: *expectations* regarding organization's contribution to the environment (raison d'etre; limits (*mission scope*) placed by regulatory bodies on the *strategic degrees* of freedom; financial *subsidies; rules of the game* under which the organization must develop.

This aspect of the paradigmic model was barely observable in the days of early research in strategic behavior. Since then it has emerged very rapidly to become a major determinant of strategic evolution.

To summarize, Figure 4 shows that strategic behavior is shaped by two influences: the environment of the organization and its internal capabilities. In return, strategic behavior shapes both the capability and the environment. This triangular interactive relationship was formulated many years ago in the systematic strategic planning model under the name of the 'strategic triangle'. But it was formulated in a simplistic and prescriptive way which made it unacceptable to other observers of strategic behavior. When the normative triangle experienced difficulties in practical applications, the natural tendency of other Schools of research was to reject the 'strategy triangle' concept. The concept was rediscovered, renamed as 'strategy-structure' and became popular thanks to the work of Chandler (1962).

Thus, what we may call the quintessential relationship of environment–capability–strategy has withstood the test of time.

SUMMARY: THE SHAPE OF THE EMERGING PARADIGM

A paradigm of strategic behavior will have been established when a majority of the influential researchers and students in the field agree on a formulation which can be used to accommodate their particular interest and perspectives.

What is presented in this paper is one observer's view of the paradigm's forthcoming shape. Its major characteristics are the following:

In order to accommodate and explain most observable types of strategic behavior the *paradigmic scope* should be as follows:

1. The *scientific optic* should be multi-disciplinary including as a minimum, interactions and influences of political, sociological, psychological, and cognitive-logical rationalities.
2. The *problem space* should include the interaction of strategic behavior with the configuration and dynamics of the organization.
3. The *interaction between strategic* and *operating* behaviors should be included in the problem space, whenever both coexist and lay major claims on resources and energies.
4. The strategic evolution *process* should be treated *holistically* combining sensing, deciding, and executing.
5. The *evolution should be viewed as a parallel and mutual feedback process*. Serial sensing–deciding–executing model must be treated as special case.
6. *Domains of validity* should be identified for each model which purports to describe strategic activity.

The basic *paradigmic relationship* which applies to all varieties of strategic behavior can be summarized as follows:

Strategic evolution of an organization is determined by a three-way feedback interaction between forces of the environment, the internal configuration and dynamics of the organisation, and its strategy.

THE FINAL QUESTION: WHAT GOOD IS A PARADIGM?

1. A paradigm provides a 'scientific umbrella' under which previously *conflicting theories can coexist and prosper.*
2. It *refocuses the energies* of the competing schools of theorists *from conflict* with others *to exploration and mutual enrichment.*
3. The paradigmic perspective typically *stimulates new theoretical departures.* For example, the paradigmic perspective converts the recently popular chicken and egg argument of 'structure first' versus 'strategy first' into a more fruitful purusit of an answer to the question 'when is structure first, when is strategy first, and when do they develop in parallel?'.
4. A paradigm *defines the domains of applicability* of the respective theories.
5. As a consequence, a paradigm *defines* the *conditions under which normative prescriptions* based on the respective theoretical models *should be used in practice.*

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