

RESUMO

Este trabalho relata a primeira fase de um estudo mais amplo focado em estratégias emergentes (não planejadas) em organizações empresariais e formas de aproveitá-las. Um exame crítico da literatura pertinente a essa idéia é apresentado, é proposto um arcabouço conceitual para servir de base à parte empírica do estudo, a relevância da epistemologia para os administradores é salientada e são propostas perguntas a serem respondidas e metodologias de pesquisa para a segunda fase. A finalidade central do estudo todo é saber até que ponto as organizações podem preparar-se para usar estratégias emergentes com eficácia e assim aperfeiçoar seus processos estratégicos.

PALAVRAS-CHAVES

Estratégia empresarial; processo estratégico; estratégias emergentes.

ABSTRACT

This paper reports on the first phase of a larger study focused on the occurrence of emergent (unplanned) strategies in business organizations and ways to take advantage of them. A critical review of the most pertinent literature bearing on this idea is given an account, a conceptual framework is proposed to serve as a basis for the empirical part of the study, the relevance of epistemology to managers is pointed out, and research questions and methods are proposed for the second phase. The pivotal purpose of the entire study is to know to what extent organizations can get ready to use emergent strategies effectively and thus improve their strategy processes.

KEY WORDS

Corporate strategy; strategy process; emergent strategies.

TABLE OF CONTENTS

I. Formulation of the research problem.....	3
II. The spreading use of the term “emergent strategy”	4
III. Origin and history of the concept of emergent strategy.....	7
1. Lindblom	7
2. Chandler	12
3. Bower	14
4. Quinn.....	17
5. Mintzberg	19
6. Burgelman	36
IV. Other interpretations of strategy emergence.....	40
1. Emergent goals.....	42
2. Retrospective sense-making.....	46
3. Strategic learning	54
4. Complexity theory.....	58
V. The role of planning	66
VI. Three recent empirically grounded accounts of strategy emergence	75
1. Eisenhardt.....	75
2. Osborn	79
3. Andersen	88
VII. A useful classification of environmental factors conditioning strategy making.....	93
VIII. Proposed conceptual framework	105
IX. The managerial relevance of epistemology	111
X. Proposed research questions and methodology for the second phase.....	118
XI. Conclusion	122
XII. Bibliography	127
Appendix I The hypotheses formulated in the research proposal.....	138
Appendix II Research done in Brazil on emergent strategies.....	140

MOBILIZING EMERGENT STRATEGIES

Fabio L. Mariotto

I. FORMULATION OF THE RESEARCH PROBLEM

The research presented here is the first phase of a larger effort to study the phenomenon of strategy emergence, with the objective of integrating it to models of the strategic management process.

The larger project will consist of three phases. In the first one, reported here, a survey and critical review of the national¹ and international literature on the subject has been carried out, to identify concepts, models and research methods pertinent to the idea of emergent strategy. The result of this phase is a proposed conceptual framework, a discussion of the relevance of epistemology to managers, and proposed research questions and methodology for the empirical study to be conducted in the second phase.

The second phase will be an empirical study, in which one or more actual cases of companies operating in Brazil will be examined, with the purpose of obtaining empirical results that shed light on the issues raised in the first phase. The number of cases to be studied will depend, on one hand, on the chosen paradigm and research methodology and, on the other hand, on the available resources and time.

The third and last phase will be the elaboration of a model of strategic management that incorporates the findings of the two previous phases.

¹ Research on this topic in Brazil is minimal. What was found is commented on in Appendix II.

II. THE SPREADING USE OF THE TERM “EMERGENT STRATEGY”

“Emergent strategy” has become a fashionable term and it is used today with a variety of different meanings. Its popularity derives as much from the prestige of the word “strategy” as from the spreading use of the word “emergent” and its variants, as in the expressions “emerging markets,” “emerging industries,” and “emerging technologies.” But it is probably true that the word “emergent” in turn also owes much of its popularity to the idea of emergent strategy.

The term “emergent strategy” was coined by Henry Mintzberg in the 1970s [Mintzberg, 1978], to mean a pattern in a stream of (strategic) decisions actually made that was not consciously intended. That was in contrast to “deliberate strategy,” a pattern of decisions that was intended. At the time Henry Mintzberg proposed this distinction, the profession of the strategists was putting a lot of faith on formal strategic planning processes. The idea proposed by Mintzberg, that strategies may emerge from an unplanned process was certainly not new, but it must belong, in the view of those professionals, to an anomalous category, one whose existence was justified only to complete a taxonomy and be an object of curiosity. Deliberate strategies were the rule, emergent strategies, the exception.

As late as in 1987, Mintzberg remarked:

“Virtually everything that has been written about strategy making depicts it as deliberate process. First we think, then we act. We formulate, then we implement. The progression seems so perfectly sensible. Why would anybody want to proceed differently?” [1987: 68].

Further on, he argues:

“We’ve all heard stories [of strategies emerging]. But since we tend to see only what we believe, if we believe that strategies have to be planned, we’re unlikely to see the real meaning such stories hold” [1987: 68].

A study done by Richard Pascale [1984] evidenced that strategies presented as deliberate after the fact, may actually have been emergent. In the study he tells about Honda’s strategy to penetrate the U.S. motorcycle market at the end of the 1950s. While a BCG report described the process followed by Honda as highly planned and deliberate, interviews made in 1982 by Pascale with Honda executives revealed a different perspective of what happened, showing that the followed strategy was clearly emergent.

In the last few years, the idea of emergent strategies and decisions has been rapidly spreading throughout the business literature. A quick inspection at the Internet shows that the deliberate/emergent dichotomy in strategy already shows up in most strategy syllabi of the best business schools. The concept of emergence is being applied also to other organizational phenomena: decisions, structures, processes. There is even an academic journal dedicated to the subject, titled *Emergence: A Journal of Complexity Issues in Organizations and Management*, published by the Cognitive Science Society. There is also an entity named *The Santa Fe Center for Emergent Strategy* (www.santafe-strategy.com).

There seems to be no doubt that we are witnessing a change of paradigm in management. To Kuhn, the proliferation of articulations, the disposition to experiment with anything, the resort to philosophy and the debate over fundamentals are all symptoms of a transition from a normal science to an extraordinary one. [Kuhn 1970: 91, quoted in Lowendahl & Revang 1998] These signs are visible in the present conceptions about management. The change of paradigm can be noted at three distinct levels:

1. ***In organizational forms***. Perhaps the most ostensible sign of new concepts in management is the proliferation of new organizational forms, within an effort to

make the organizations more flexible, more competent, and more responsive to clients and new challenges. [Starbuck 1993b; Teece 1996]

2. *In new ways to think organizations*. Concurrently to the appearance of new organizational forms, new theories of how to manage these organizations are also coming into view. [Miles & Snow 1986; Bourgeois 1984; Quinn 1992]

3. *In the research methods on organizations*. Also evolving are research methods used to study organizations and their management. [Morgan 1983; Denzin & Lincoln 1994]

The research reported here explored changes on these three levels.

Object of the present study

The objectives of this first phase of the study were the identification and choice of a conceptual framework (or the formulation of a new one), of a research paradigm, and of a methodology for the empirical study to be conducted in the second phase of the larger study. In order not to limit the usefulness of this first phase, it was made independently of the continuation of the study, so that its results are valid and useful in themselves. With this spirit, the objectives in this first phase were the following:

1. To systematize and critically review the international literature on emergent strategies within human organizations.
2. To identify and classify the alternative models of the strategic process presented in the literature and the role that emergent strategies play in each.
3. To formulate research questions to be answered in the empirical phase of the study.

4. To evaluate research methods that may be utilized in the second phase of the study (or other studies with a similar concern). The criteria used for this evaluation are spelled out.

III. ORIGIN AND HISTORY OF THE CONCEPT OF EMERGENT STRATEGY

In this section we present a historical view of the concept of emergent strategy, looking first at authors who introduced important elements contained in this concept, even if the term “emergent strategy” was not always used by them.

1. LINDBLOM

In many respects, Charles Lindblom is a forerunner of the concepts to be discussed here. His 1959 article, “The Science of ‘Muddling Through’”, is relevant to the theme of emergent strategy in at least four points:

1. It pioneers a descriptive model of policy making², in contrast to the normative models then favored in the literature;
2. It defends an approach that is capable of dealing with complexity in actual practice;
3. It recognizes that in real life the definition of goals is often simultaneous with the definition of actions and inseparable from it;
4. It shows how the approach he describes works in integrating, at society’s level, the decisions made by individual administrators.

² In this paper, Lindblom treats decision making and policy making as synonymous. Today, we might use the term “strategy making” as well.

In other respects, the approach described by him parts company with emergent strategies. For instance, his model is essentially incrementalist. While emergent strategies often arise in incremental ways, as we shall see, they may also occur as disruptive, fundamental changes.

At the time Lindblom wrote this article, the approach he challenges, the “rational-comprehensive” one, was dominant in the planning literature. Nowadays, it has much fewer supporters, therefore his contribution may seem less bold, even less relevant, under today’s eyes. But for the development of our theme, it will be useful to examine how he challenges the rational-comprehensive approach, because the latter embodies some of the basic aspects of deliberateness (the opposite of emergence) in strategy making and implementation.

Lindblom describes two approaches for the formulation of policy by public administrators. In the first approach, (then) widely extolled in the literature, when faced with the responsibility of formulating policy for a given issue, the administrator would start by listing all related societal values involved. He³ would then consider all possible policy alternatives, he would compare them in terms of attainment of the values, using for this every available theory, and he would finally choose the alternative that maximizes these values. Implicitly, he would regard the choice he made in this manner as thorough and final.

This approach is preached but not practiced, Lindblom points out. An alternative approach is actually followed by public administrators. Having to formulate policy in a given instance, the administrator would choose a simple goal as the guiding value, knowingly disregarding most other social values as beyond present interest. He would then outline a few policies occurring to him, he would compare alternatives, relying on past experience (instead of theory), and he would select an alternative by choosing simultaneously among values and instruments for achieving them. He would not consider this choice as thorough and final, but instead he would

³ At the time Lindblom wrote the article, there was not yet a concern with gender neutrality.

expect to repeat this sequence as conditions and aspirations change and as predictions improve.

Lindblom calls the first approach “rational-comprehensive” and the second one “successive limited comparisons,” or incremental, approach. Metaphorically, he also calls the first the “root” approach (because it starts from fundamentals anew each time) and the second the “branch” approach (because it continually builds out from the current situation).

He cites the reasons why the root approach is not used in practice:

1. Citizens, representatives, and administrators disagree on basic values; and even majority preferences are seldom spelled out;
2. The relative importance and the tradeoffs among objectives are difficult to establish even at the level of the administrator himself; and
3. Social objectives do not always have the same relative values: marginal gains change according to the situation in which one is.

Rational-Comprehensive (Root)	Successive Limited Comparisons (Branch)
1a. Clarification of values or objectives distinct from and usually prerequisite to empirical analysis of alternative policies.	1b. Selection of value goals and empirical analysis of the needed action are not distinct from one another but are closely intertwined.
2a. Policy-formulation is therefore approached through means-end analysis: First the ends are isolated, the means to achieve them are sought.	2b. Since means and ends are not distinct, means-end analysis is often inappropriate or limited.
3a. The test of a "good" policy is that it can be shown to be the most appropriate means to desired ends.	3b. The test of a "good" policy is typically that various analysts find themselves directly agreeing on a policy (without their agreeing that it is the most appropriate means to an agreed objective.)
4a. Analysis is comprehensive; every important relevant factor is taken into account.	4b. Analysis is drastically limited: i) Important possible outcomes are neglected. ii) Important alternative potential policies are neglected. iii) Important affected values are neglected.
5a. Theory is often heavily relied upon.	5b. A succession of comparisons greatly reduces or eliminates reliance on theory.

Source: Lindblom (1959)

Table 1. Comparison of the two decision-making processes described by Lindblom.

Table 1 presents a comparison of the two approaches. From the five points listed in the "branch" approach, we may draw the following propositions regarding this approach that are relevant to the discussion of emergent strategies:

- 1a. Goals and actions are decided on simultaneously;
- 2a. Means and ends need not (must not?) be separated by analysis;
- 3a. Consensus on actions is better than consensus on values or objectives;

4a. Simplification may increase relevance and comprehensiveness in practice if not in theory;

5a. Decisions are provisional and need not rely on theory.

Lindblom's defense of the limited-successive-comparisons approach hinges primarily on the argument that the other approach is impossible in practice except for very simple problems. But he also presents additional arguments to justify the approach. He argues that the approach enhances relevance and realism: politically impossible alternatives are thus inherently discarded; and limiting the focus to small variations around present policy makes the most of available knowledge. It also attains a certain degree of comprehensiveness. This is achieved through division of labor among various agencies, allowing each to be the watchdog of the others. A process of mutual adjustment among groups representing diverse factions of public opinion is also possible in this system. In fact, when decisions are only incremental variations of known policies this mutual adjustment is more feasible.

These ideas of mutual tutelage among administrators and mutual adjustment among political interest groups is very relevant to emergent strategies. What Lindblom is saying is that in complex decisions involving the interests of a large number of diverse constituencies the described approach is a feasible way to achieve relevance, realism, and a certain degree of comprehensiveness.

Lindblom acknowledges some pitfalls in this approach. The method has no built-in safeguard for all relevant values; it also may lead the decision-maker to overlook excellent alternative policies. To these we add the fact that local search may invite shallow and short-term decisions.

The most important contribution Lindblom's ideas bring to the discussion of emergent strategies is probably how he models the way strategic decisions are actually made. He presents it as local, instead of global optimization, if we use the jargon of optimization theory. This local optimization is achieved through local

search, which consists of marginal adjustments around the present position. He advocates its use for complex situations (which is usually the case in public choice).

Incrementalism may seem at first less defensible in business organizations than in the public arena, where political possibility is paramount. But the fact that in today's complex business situations the number of issues and stakeholders is increasing makes these situations more similar to those faced in the governmental domain. The approach of allowing local search by individual administrators with the concomitant exercise of mutual tutelage and the mechanism of mutual adjustment among interested parties thus remains an interesting concept to be examined further in the context of emergent strategies.

2. CHANDLER

Alfred Chandler is a notorious champion of deliberate (i.e., intended) strategy. In his classic study of four large U.S. corporations in the first decades of the 20th Century, he advanced the idea that strategies are formulated at the organization's top and that the definition of organizational structure follows the definition of strategy [Chandler 1962].

Yet, twenty-one years later, Burgelman [1983] argued that different conclusions could be drawn from the study data presented by Chandler. In reexamining these data, Burgelman found support to the contention that, in the cases reported, strategy and structure followed what he called autonomous strategic behavior, that is, strategic initiatives at lower management levels that fall outside the scope of the current concept of strategy. In Burgelman's reading, the study data indicate, first, that major structural adjustments came in response to serious problems that appeared after the firm had undertaken strategic initiatives outside its traditional lines. Secondly, and more relevant to our discussion:

“The case data also indicate that these strategic initiatives were not the result of an a priori clearly formulated corporate strategy on the part of top management. Rather, the corporate strategy *emerged* through a somewhat haphazard process. It was the result of final authorizations by top management of strategic projects that had successfully absorbed the firm’s excess resources and promised to do so profitably in the future” [Burgelman 1983: 62, emphasis added].

These projects appeared as a result of management’s perception, at various hierarchical levels, of changes in the environment and the opportunities they created for utilizing firm’s resources.

Thus, he concludes, the data seem to indicate that structural arrangements reflected efforts to consolidate the results of autonomous strategic initiatives. The new strategy recognized and incorporated these autonomous actions. “In the final analysis,” Burgelman says, “Chandler’s study seems to indicate that changes in corporate strategy followed autonomous strategic behavior” [62].

Chandler’s case data show that multiple hierarchical layers of management were involved in originating and promoting strategic initiatives. Chandler recognizes the influence of lower levels in determining the content of the strategy, but he clearly maintains the idea that top management always retained its prerogative of choice. Burgelman argues that in the du Pont case at least, top management’s influence was very limited, and department heads’ influence was actually significant.

Burgelman quotes a passage where Chandler raises crucial questions related to where strategies are formed:

“But if the stockholders and the board became captives of the fulltime administrators, were not the professional entrepreneurs themselves captives of their subordinates? Were not the information and alternatives available to the top determined, possibly quite unconsciously, by junior executives down the line? Must not then the enterprise or the organization as a whole be considered responsible for the basic economic decisions? If this is so, then no individual or

team of individuals can be identified as the key decision makers in the private sector of the American economy” [Chandler 1962: 313, quoted in Burgelman 1983: 63].

Chandler’s own answers to these questions are that top management had more opportunity and technical competence to evaluate the proposals brought to them than in the case of stockholders and the board. In addition, strategic decisions often involved more than one department, therefore the president had the final decision. Chandler wants to demonstrate that top managers were the key decision makers. [Chandler: 313-314].

To Burgelman, the case data do not support this “heroic view of top management” [Burgelman 1983: 63]. He stresses the fact that the “autonomous” strategic initiatives coming from lower levels in the hierarchy often involved areas unrelated, or only marginally related to the traditional lines of business of the firm [62].

Burgelman’s reading of Chandler’s study has the merit of calling attention to the emerging quality of many of the strategic initiatives described in the study. In particular, the following propositions can be extracted from Burgelman’s review:

1. Strategies formulated by top management often are consolidations of strategic initiatives coming from lower management levels which fall outside current businesses;
2. These initiatives arise both from changes in the environment and by the perception of managers at various levels of the opportunities for the use of firm’s resources that these changes offer.

3. BOWER

In his classic study *Managing the Resource Allocation Process*, Bower [1970] takes on himself to model the resource allocation process in large organizations, on the

premise that adequate models were not available at the time. There was then a theoretically sound theory of capital budgeting, but it had little to do with what really happened in real corporations, possibly because it was based on unrealistic assumptions, which Bower was able to identify.

Two obvious facts underlie his reasoning: decisions made by subordinates crucially affect the choices presented to their superiors; and these subordinate decisions are the real determinants of corporate commitment. But how are strategic objectives attended to by the capital allocation process? How could we improve the process to promote the achievement of strategic objectives?

Bower tested and modified his ideas through a two-year study of a large diversified company. His analysis revealed that the investment process could be divided into two sub-processes: definition and impetus. In the definition sub-process, the basic technical and economic characteristics of a proposed investment project are determined. It is initiated by managers concerned with facilities in response to detected discrepancies between objectives and physical means to achieve them. In the impetus sub-process, the project is sponsored by a higher-level manager seeking to boost his influence and reputation.

These two sub-processes develop in a “structural context,” which comprises the formal organization and the reward system used for managers. Because the structural context can be controlled by top management, the latter is in a position to influence the behavior of managers further down the hierarchy. Through the structural context top management can influence the type of proposals that will be defined and given impetus, so that investment proposals reflect strategic planning. In this model we can see influence flowing in two directions. From the top down, top management influences the behavior of lower-level managers through the setting of strategic objectives and the control of the structural context. From the bottom up, lower-level managers define new investment projects and middle-level managers sponsor some of these and take them to top management for approval. Thus the study recognized multiple actors taking place in strategic formation.

Bower's study shows strategy emergence in a sense different from the autonomous initiatives disclosed by Burgelman in Chandler's study. In the present case, business-level strategies emerge as a result of a broader corporate strategy instrumented with a structural context

Two additional points deserve emphasis in connection with emergent strategies. First, in the process described by Bower, the information received by top managers about projects originating down lower in the organization is poor, because it is restricted to quantitative data, under the false assumption that they are the only reliable kind of data. As a consequence, top managers are faced with having to approve projects without more subjective, but also richer, information about them. In the cases studied by Bower, the result was that projects that reach the top level seeking approval were seldom turned down:

“Once a project is sponsored, it is almost always approved by top management. They are loathe to second guess the judgements of the men selected for intermediate-level management precisely on the basis of their ability to evaluate the technical-economic content of product-market subunit plans and projects. That is why batting average is so important. It reflects the ability of middle-level management to judge lower-level generalists” [Bower 1970: 6].

The second point, related to the first, is that this process makes it difficult to evaluate joint effects different proposals may have, synergies that could be exploited. Bower notes:

“Unless higher-level management intervenes, the sum of initiating-level plans is more likely to be a meaningless catalog than anything else” [336].

This lack of integration is a serious limitation of the system, indicating that the way emergence from the bottom up is handled should be improved.

Several years later, Bower and Doz [1979] enunciated a significant outgrowth of this line of research, which implies an alternative view of the role of top management in the strategic process:

“Thus, in contrast to strategy formulation as the critical direction-setting general management activity, this new process school of research suggested an alternative, that is, managing the strategic process” [Bower & Doz 1979: 58].

The “new process school of research” in strategic management flourished in the following years.

4. QUINN

Another author that contributed to the idea of emergent strategy was James Brian Quinn. Starting in 1977, he conducted a line of research on how real companies actually arrive at their strategic changes. In 1980 he summarized the results in the book *Strategies for Change: Logical Incrementalism* [Quinn 1980]. In it, he starts by recognizing two approaches to strategy change that were at the time covered in the literature. The first, the formal planning approach, can make a contribution, he says, but “such planning can be only one of many building blocks in a continuously evolving structure of analytical and political events that combine to determine strategies in large institutions” [15]. The other, the power-behavior approach, was seen as having enhanced our understanding about multiple goal structures, the politics of strategic decisions, bargaining and negotiation processes, satisficing in decision making, the role of coalitions, and the practice of “muddling” in public sector management. But this literature has been far removed from strategy making, it has ignored the contribution of useful analytical approaches and it has offered little practical guidance for the strategist [16].

In response to the limitations of these two approaches, Quinn reports the results of his research. He states that neither of the two approaches above adequately

characterized the way successful strategic processes operated in the companies he studied. Instead, he found that:

1. Effective strategies tended to emerge from a series of subsystems of organizational activity, each developing its goals and strategies.
2. The logic underlying the formulation of effective strategies was so powerful that it can be recommended as the best approach for creating strategy in large organizations.
3. Because of cognitive and process limits, the strategies were arrived at by an approach most appropriately described as “logical incrementalism.”
4. Such incrementalism is not “muddling.” It is a purposeful, effective, proactive management technique for improving and integrating both the analytical and the behavioral aspects of strategy formulation [16-17].

The way strategies take shape in these companies deserves more detailed attention. In these large institutions,

“[S]trategies . . . tend to emerge in ways that differ quite markedly from the usually prescribed textbook methodologies. The full strategy is rarely written down in any one place. The processes used to arrive at the total strategy are typically fragmented, evolutionary, and largely intuitive. Although one can frequently find embedded in these fragments some very refined pieces of formal strategic analysis, the real strategy tends to *evolve* as internal decisions and external events flow together to create a new, widely shared consensus for action among key members of the top management team” [15].

In explaining how a strategy emerges under the logical incrementalist approach, he remarks:

“[S]trategy deals with the unknowable, not the uncertain. It involves forces of such great number, strength, and combinatory powers that one cannot predict events in a probabilistic sense. Hence it is logical that one proceed flexibly and experimentally from broad concepts toward specific commitments, making the latter concrete as late as possible in order to narrow the bands of uncertainty and to benefit from the best available information” [56].

He goes on to say:

“The most effective strategies of major enterprises tend to emerge step by step from an iterative process in which the organization probes the future, experiments, and learns from a series of partial (incremental) commitments rather than through global formulations of total strategies. Good managers are aware of this process, and they consciously intervene in it” [58].

And he concludes:

“In recent years there has been an increasing chorus of discontent concerning corporate strategic planning. . . . [Many managers] have relied on the awesome rationality of their formally derived strategies and the inherent power of their positions to cause their organizations to respond. When this does not occur, they become bewildered, if not frustrated and angry. Instead, successful managers who operate with logical incrementalism build the seeds of understanding, identity, and commitment into the very processes that create their strategies. By the time the strategy begins to crystallize in focus, pieces of it are already been implemented” [145].

5. MINTZBERG

The authors reviewed so far were forerunners of the idea of unconventional ways of strategy making, but the term “emergent strategy” proper was only coined in the 1970s by Henry Mintzberg [Mintzberg 1978]. We will also refer to a later article,

where the concept is explained at length [Mintzberg and Waters 1985]. The notion of emergent strategy was created together with those of intended strategy, realized strategy, and deliberate strategy. In their research of the process by which strategies take shape in organizations, Mintzberg and his research associates at McGill felt the need to define strategy in a way that was independent of the process by which the strategy developed. In particular, it was deemed useful to define strategy in terms of what the organization really did, of what specific strategic actions were actually put into effect. To this end, they defined strategy as “a pattern in a stream of decisions,” later reformulated as “a pattern in a stream of actions.” The value of this definition is at least twofold. First, it provides an operational definition to the concept of strategy, that is, it allows an independent observer to scrutinize the behavior of an organization and, by recognizing patterns or consistencies, to identify its strategy (as operationally defined). Second, it allows the recognition of consistent strategic actions as a strategy, no matter whether there is an explicit plan or not.

This concept of strategy enlarges the traditional view of strategy. According to this traditional view, strategy is a plan, it is formulated by the organization’s leaders, it sets goals and action plans, and is then implemented. In this view, strategy is (a) explicit, (b) developed consciously and purposefully, and (c) made in advance of the specific decisions to which it applies [Mintzberg 1978: 935]. According to Mintzberg, this classical view is incomplete for the organization and non-operational for the researcher. It conceals an entire category of decisional behavior of organizations that any student of strategy would consider strategic. And it forces the researcher to study strategy formation as a perceptual phenomenon [935]. In contrast, by focusing on what the organization actually did, the proposed definition encompasses both strategies spelled out in plans and strategies that take shape in other ways.

A comment is in order. By conceptualizing strategy as an entity that can exist in the absence of a plan, Mintzberg created a real revolution, more important than it can appear at first sight. Strictly, strategy without plan is a contradiction in terms. The Greek origin of the word “strategy” denotes clear objectives, planning and

command. Dictionary definitions of strategy mention “plan,” “method,” and “stratagem.” It must be understood that Mintzberg stretches the meaning of the word and uses strategy in the sense of a pattern of actions leading to a better performance, that is, a pattern typical of one that would have followed a strategic plan. This was not entirely original with Mintzberg nor was it confined to administrative thinking. In evolutionary biology, for instance, some authors (e.g., Levins [1973]) attribute particular survival “strategies” to animal or vegetable species. What they mean is, of course, that these species have certain traits or behave in certain ways as to survive, but evidently this is not to say that these traits and behavior are conscious or intentional. Anyway, Mintzberg started a new language to express strategic phenomena.

The traditional view of strategy as a plan is called “intended strategy” by Mintzberg. The pattern in a stream of actions (what the organization actually did) is called “realized strategy.”

Based on these two concepts, two more are introduced. “Deliberate strategy” is a pattern in action that was carried out according to a plan, that is, it is an intended strategy that was in fact realized. “Emergent strategy” is a pattern in action that was carried out in absence of a plan or in disagreement with an existing plan.

For a strategy to be perfectly emergent, there must be absence of intention. (But there must also be consistency in action over time, otherwise simply there is no strategy.) It is difficult to imagine action in the *total* absence of intention, but the purely emergent strategy is an extreme ideal type and, in any event, Mintzberg and Waters [1985] found in their research cases that came pretty close to this ideal extreme.

Mintzberg prefers to speak of absence of, or disagreement with, *intentions* instead of a plan. It is not clear why he chose to avoid the word plan, but in any event the word intentions does not appear to be adequate. Intentions may be precise as well as vague, they may refer to specific actions to be taken or just to broad goals to be

pursued. It is clear that in the case of emergent strategies, where plans do not exist or are not followed, broad goals will in general exist. These are intentions.

Mintzberg and Waters go on to illustrate deliberate and emergent strategies. These are not presented as dichotomous categories, however, but rather as extreme cases in a continuum that admits intermediary cases. A pure deliberate strategy as well as a pure emergent strategy are ideal types and are difficult to find in the real world. But Mintzberg and Waters say that in their research they found cases rather close to these extremes.

For the purpose of this study, it is important to examine how they characterize the pure polar cases, for this will throw light on the essence of the emergence concept. Thus, to Mintzberg and Waters, for a strategy to be perfectly deliberate, that is, for it to be a pure deliberate strategy, at least three conditions must be satisfied. These are:

D1. There must be precise, explicit, and detailed intentions;

D2. The intentions must have been collective, that is to say they must have been shared or else accepted from the organization's leaders, "probably in response to some sort of controls" [258];

D3. The intentions must have been realized exactly as intended.

About the last condition, they stipulate that there must have been no interference of an external force, which implies that the environment is perfectly predictable, or totally benign, or else fully controlled by the organization. It should be noted the authors' concern with control, which appears in the second and third conditions, if only implicitly.

The conditions defining a pure emergent strategy could be inferred from the three conditions above. It would suffice to negate them. Thus, a pure emergent strategy would have to satisfy the following conditions:

E1. Intentions are non-existent, or are imprecise, implicit or sketchy;

E2. Intentions exist, but they are not collective;

E3. Intentions exist, but they are not realized as intended.

But condition E1 excludes conditions E2 and E3, therefore a pure emergent strategy cannot be defined as one that satisfies the three conditions simultaneously. In fact, the three conditions D1-D3 that typify deliberate strategies are three different dimensions, which correlate but run to different directions. Thus, one might say that there are three distinct forms of pure emergent strategy, one for the negation of each condition.

It might appear that it would be enough to establish the single condition that prior intentions do not exist as the dominant one and thus define pure emergent strategy by condition E1. However that would exclude from the category of emergent strategy two other cases, that in which intentions (even precise, explicit, detailed) do exist but they are not collective and that in which intentions exist but are not realized exactly as intended. These cases also depict interesting cases of emergence.

The three conditions, E1-E3, which we argue could typify cases of pure emergent strategy, suggest the various ways by which strategies may emerge:

1. Prior intentions do not exist, and as actions follow a consistent pattern, this pattern *emerges* as a strategy; or else intentions do exist but are not precise, and a strategy *emerges* as actions make a consistent pattern come into view more clearly;
2. Intentions are entertained by one or only a few actors so that the pattern *emerges* to the rest of the organization;
3. The pattern of actions follows a different course than intended so that it *emerges* to overrule the intended strategy.

Mintzberg and Waters, however, define a pure emergent strategy in a simpler way. In addition to being a consistent pattern in action (which is also a condition to E1-E3 above, otherwise there is no strategy), they stipulate the single condition:

E'1. There must be no intention about it.

Apparently, by restricting a pure emergent strategy to this single case, Mintzberg and Waters wanted to establish a degree of emergence among cases E1-E3 above, considering the case where intentions do not exist to be a more extreme display of emergence than when intentions exist. Yet, when they give an example of the most emergent type of strategy they found in the real world, it turns out to be a case where the environment imposes a pattern in action on the organization. In this case, it is not made explicit whether there were previous intentions or not.

In the same paper, when restating the dimensions that characterize deliberateness, and at other points further on the text, Mintzberg and Waters present the three dimensions in a modified form, emphasizing control:

D'1. Intentions must be explicit;

D'2. There must be central control over organizational actions (“tight control over the mass of actors in the organization” [263]);

D'3. The environment must be predictable or controllable, implying also tight control of the organization over the environment.

According to this version, deliberate strategies would be those that unfold under the control of the organization's leadership, emergent strategies those that unfold out of control. But condition D'3 is rather demanding, including control over the organization's environment. The authors say that in the case of a pure deliberate strategy, no external force (market, technological, political, etc.) could have interfered with the previous intentions. “The environment, in other words, must have been either perfectly predictable, totally benign, or else under the full control

of the organization“ [259]. As for a pure emergent strategy, Mintzberg and Waters seem to identify it in the case when an environment directly imposes a pattern of action on an organization.

Thus, in this version we could define the conditions for emergent strategy this way:

E"1. Intentions are non-existent, or are not explicit;

E"2. There is no central control over organizational actions;

E"3. The environment is unpredictable and uncontrollable.

As in the first version of the conditions (E1-E3), the second and third conditions (E''2 and E''3) refer to cases where intentions do exist but other circumstances characterizing emergence are present.

But it must be noted that what is meant by control in this case is only the agreement of facts to expectations, not necessarily the effort required to make adjustments. For example, the environment may behave as expected simply because it is a stable environment, not necessarily because the organization exercised a significant degree of control over it. Therefore, the actual exercise of control may or may not be needed for an intended strategy to become deliberate.

This concern with control is somewhat puzzling. It is clear that, to the extent that an organization is able to control the internal actors and the environment outside it will have better conditions to realize its intended strategies and turn them into deliberate ones. Thus control is a circumstance that facilitates the realization of intended strategies. But it need not be construed as a condition for a strategy to be considered deliberate, as an intended strategy may well be realized as intended despite lack of control, for instance, simply because there was no internal opposition and the organization ignored the environment.

Presumably Mintzberg and Waters wanted to characterize a degree of deliberateness related to the obstacles the organization has had to overcome to realize its intended strategy: the larger the obstacles, the larger the amount of control needed, and the larger the degree of deliberateness (“strength of intention” or “will power”).

Conditions D’3 and E’3 characterize the opposition deliberate-emergent strategy by the degree of interference of the external environment with the organization’s pattern of action. Accordingly, in a deliberate strategy, the interference would be null or minimal, while in an emergent strategy the interference would be maximal, the environment directly imposing a pattern of action on the organization. Thus, in this characterization of the two antithetical cases, either the organization controls the environment (pure deliberate strategy) or is controlled by it (pure emergent strategy).

Why is it necessary to consider the impact of the environment to characterize deliberateness or emergence? Is it not enough to consider how strategies are formed inside the organization? The reason could be that Mintzberg and Waters implicitly include the results of the pattern of action as an integral part of the strategy. In fact, suppose strategy meant only a pattern of action, irrespective of the actual results. Then to realize a strategy it would be sufficient to carry out the actions as intended, regardless of what the outcome might be. But then a strategy could be said to be deliberate even when the environment unfolded in utter disaccord with the expectations of the strategy formulators. Mintzberg and Waters seem to rule out this possibility. It could be argued that they do it because they want to include the results of the pattern of action as integral to strategy.

Yet, Mintzberg and Waters explicitly admit that a realized strategy may be unsuccessful in its consequences [260] and that “the degree of deliberateness is not a measure of the potential success of a strategy” [*ibid.*]. They say that in their research they have come across deliberate strategies that have been dramatic failures [*ibid.*]. Thus the condition of control is not needed even to guarantee that the strategy is successful. As a hypothetical instance, consider a case in which the

environment impacts the organization but its intended strategy is not changed and the organization fails. Still, it is a deliberate strategy, is it not?

These arguments seem to establish the irrelevance of success for the characterization of deliberate strategy. Ironically, the assumption of success is essential for the definition of emergent strategy. For when we consider a pattern of action consistent, implicitly we are referring to a successful instance.

We think that the key to understanding why Mintzberg and Waters presented the two versions of the conditions characterizing deliberate and emergent strategies, the second explicitly stressing control, is in distinguishing two different times when the definition is applied. D1-D3 are, typically *ex-post* conditions, applicable to define whether a strategy was deliberate or not after the fact. In contrast, D'1-D'3 could be seen as *ex-ante* conditions, to evaluate the chances of a strategy becoming deliberate before the fact. If our interpretation is correct, then conditions E''1-E''3 would likewise be *ex-ante*. But since emergent strategies cannot be known before the fact, these conditions could be interpreted as the circumstances that foster the appearance of emergent strategy.

Mintzberg and Waters go on to illustrate types of strategy with different degrees of deliberateness/emergence by means of examples taken from their research. We will concentrate on a few on these strategy types which seem most useful to a further discussion of emergence and for later reference.

The most emergent strategy type found by Mintzberg and Waters in the real world, the closest to a pure emergent strategy, were *imposed* strategies. These occur when the environment directly forces the organization into a pattern in its stream of actions. From the point of view of using emergent strategies as tools, this case is of little interest, because by assumption there is little to be done. However, there is an interesting remark by the authors, saying that “[many] planned strategies in fact seem to have this determined quality to them – pursued by organizations resigned to co-operating with external forces” [268].

A more interesting type of strategy that is close to a pure emergent one is that of *consensus* strategies. They originate through mutual adjustment. As actors learn from each other and from their various responses to the environment, they converge on patterns that works for them and that become pervasive in absence of central or common intentions. These strategies are quite emergent. Here, convergence is not driven by any intentions of a central management nor even by prior intentions widely shared among other actors. It just evolves through the results of a host of individual actions. Thus, the consensus derives more from collective action than from collective intention. This will have important implications for our discussion of the role of action in strategy (Sections 4.1 and 4.2).

Two other strategy types in which the role of emergent strategies is central are umbrella strategies and process strategies. *Umbrella* strategies originate in a condition of partial control, where the leadership establishes boundaries, targets, or a sense of direction. Other actors respond to their own forces or to a complex, even unpredictable environment. Here the condition of tight control is relaxed. Strategies are partly deliberate, partly emergent. One might say they are deliberately emergent.

Process strategies emerge within a process controlled by the leadership (through selective hiring, creating a new structure, etc.), in which content is left to other actors. Strategies are partly deliberate, partly emergent and, again, deliberately emergent.

Closer to the opposite extreme of deliberate strategies, other strategy types are recognized by Mintzberg and Waters. *Planned* strategies originate in formal plans. Precise intentions exist, formulated and articulated by central leadership. The plan, elaborated in as much detail as possible, is backed up by formal controls to ensure surprise-free implementation. The external environment is assumed to be, if not benign or controllable, then at least predictable. Strategies are mostly deliberate.

Entrepreneurial strategies originate in the unarticulated, imprecise, personal vision of an entrepreneur. Intentions are pre-existent but are adaptable to new opportunities. He or she is able to impose his vision on the organization through his

or her personal control of its actions, that is, through giving direct orders to its operating personnel. The organization's environment is often a protected niche, less subject to unpredictable change. Compared to the planned strategy, the entrepreneurial strategy provides more flexibility, at the expense of the specificity and articulation of intention. The strategies are relatively deliberate but may emerge. This type of strategy is conceptually valid, but it is difficult for an outside observer to verify whether prior intentions existed, that is whether the strategy was deliberate or emergent.

Ideological strategies originate in a collective, shared vision, controllable through indoctrination or socialization. Intentions can usually be identified. While the intentions of the planned and entrepreneurial strategies are imposed on the organization by one center, those of the ideological strategy are positively embraced by the members of the organization. The organization is often proactive over against its environment. Strategies are quite deliberate.

It will be useful for our analysis to examine in these strategy types the degree of explicitness of the strategy to the organization members along time, as this has important implications for the organization's learning. Planned strategies are clearly explicit from the beginning. In fact, they are the ones most early explicated. Now entrepreneurial strategies to the extent that they are formed inside the mind of the entrepreneur may remain unexplicated and be deliberate only to him.

Ideological strategies become recognizable as a pattern as they unfold. Being collective, they may become gradually explicated, although this is not necessarily so. Similarly, umbrella strategies and process strategies may become conscious and explicit but not necessarily. Consensus strategies clearly become conscious and explicated with time. Imposed strategies may or may not become conscious or explicit.

Therefore, of the various types of strategy identified by Mintzberg and Waters, some are, or become, explicit as time elapses. Others may, or may not, become explicit.

The Adhocracy as the habitat of emergent strategies

According to Mintzberg, emergent strategies are characteristic of a certain type of organization that he calls Adhocracy. In a book in which he advances a typology of organizational structures [Mintzberg 1979], he characterizes each type of structural configuration. One of the aspects he looks into is the strategy making process in each type.

The Adhocracy, one of the configuration types, is essentially an organization structured by projects and organized primarily around experts. Sophisticated innovation requires a special kind of organizational configuration, one that is able to mingle experts drawn from different disciplines into smoothly functioning ad hoc project teams. More specifically, such configuration is characterized by the following elements: it operates in a dynamic and complex environment, demanding sophisticated innovation; each product is complex and unique, which forces the organization to engage highly trained experts and combine their talents in multidisciplinary teams; these experts are grouped in functional units for housekeeping purposes but are deployed in temporary teams to work in their projects; the organization relies on mutual adjustment as the key coordination mechanism; hierarchy, direct supervision, standardization, rules, and performance controls are discouraged; power is diffused in uneven ways, according to the expertise needed in each situation [Mintzberg and McHugh 1985]. “The Adhocracy combines organic working arrangements instead of bureaucratic ones with expert power instead of formal authority” [Mintzberg 1979: 447]. Later, Mintzberg dubbed this configuration also “Innovative Organization” [Mintzberg & Quinn 1996]. Examples of Adhocracy are consulting firms, research-based organizations, advertising agencies, and avant-garde film companies. Mintzberg claims that Adhocracy is the organization structure of the future [1979: 459].

As acknowledged by Mintzberg [1979: 432], previous studies had characterized organization structures with similar elements, such as Woodward’s [1966] process producers, Burns and Stalker’s [1966] electronics firms, Lawrence and Lorsch’s

[1967] plastics companies, Galbraith's [1973] Boeing Corporation, and Chandler and Sayles' [1971] NASA.

To Mintzberg, strategy making in the Adhocracy is different from other configurations in a number of crucial aspects. First, in sharp contrast to the other types, control of the strategy formulation process in the Adhocracy is not clearly placed, at the top or elsewhere. In addition, "the process is best thought of as strategy formation, not formulation, because strategy in these structures is not so much formulated consciously by individuals as formed implicitly by the decisions they make, one at a time" [1979: 443]. Thus, the formulation-implementation dichotomy typical of planning in more machine-like structures loses its meaning in the Adhocracy.

"It is in the making of specific decisions within and about projects – what would normally be considered implementation – that strategies evolve, that is, are formed, in the Adhocracy. That is because when the central purpose of an organization is to innovate, the results of its efforts can never be predetermined. So it cannot specify a strategy – a pattern or consistency in a stream of decisions – in advance, before it makes its decisions. Such patterns at best *emerge* after the fact, the results of specific decisions" [1979: 443, emphasis added].

Action planning is particularly difficult in this structure, because while the ends may be clearly defined, the means are not.

"[The means] must be worked en route to the goal, by trial and error. So only a general kind of action planning can take place, one that sets out broad, flexible guidelines within which the work constellations can proceed to make their specific decisions. Again, therefore, it is only through the making of specific decisions – namely those that determine which projects are undertaken and how these projects turn out – that strategies evolve" [1979: 447].

This way, strategy never stabilizes in an Adhocracy, but changes continuously [444]. Yet if strategy evolves continuously, then strategy formation is controlled by

whoever decides what projects are done and how. Strategy evolves as a multitude of these decisions are made, each project leaving its imprint on the strategy. Decisions are so intertwined and so many people are involved that we cannot single out any one part of the organization as the place where the strategy is made. Everyone who gets involved has a hand in influencing the strategy that gets formed. So the power for decision making is distributed widely throughout the organization [444-446].

It could be argued that if strategy forms in the Adhocracy as a continuous and decentralized response to the environment, then it is merely reacting to problems than proactively seeking opportunities. The research at McGill indicates that it does both, it continuously tries to read the environment to find out where to go next, but it does so to innovate, to create new products and services to serve the environment. “So perhaps strategy making in Adhocracy is best described as *opportunistic reaction*” [Mintzberg, Quinn & James 1988: 621, emphasis added].

For Mintzberg, the strategist at the Adhocracy is a pattern recognizer, seeking to detect emerging patterns. Broad general guidelines as to corporate intent may be established as an umbrella, under which detailed strategies can emerge. Strategies deemed inappropriate can be discouraged, while more appropriate ones can be encouraged through more conscious attention and concentration of resources. But emerging strategies can be also accommodated by shifting the umbrella. In this case, we face the paradox of leadership changing its intentions to accord with the realized behavior of the organization. But that, Mintzberg says, can be a key to successful strategy making in the Adhocracy [Mintzberg, Quinn & James 1988: 627].

The presence of emergent strategy in the Adhocracy is made more explicit by Mintzberg and McHugh [1985]. Their study examines in detail the strategy making process in the National Film Board of Canada, an agency of the federal government of Canada to produce and distribute films. Mintzberg presents a detailed and extensive description of the ways strategies were made in this Adhocracy during an extended period of time, from 1939 to 1975. To track the strategies, Mintzberg and other McGill researchers made an historical reconstruction of the Board’s strategies

over time. Using first archival data, they looked for traces of decisions and actions taken by the organization, sorting them into various strategy areas, as well as for traces of environmental trends and events as well as performance indicators. The data were then analyzed to infer patterns or consistencies over time and to infer overall periods in the history of the organization. These results were then checked with the inclusion of more qualitative data obtained through reports of the period and interviews with key people present at each major change in strategy. Note that this method construes strategies as realized patterns of consistent actions over time, as observed from the outside. The researchers then brainstormed to give a theoretical interpretation to the data.

In their conceptual analysis, they start asking why patterning of behavior appears at all in such a loosely-coupled organization, so needing of uniqueness in its output. Why is consistency necessary? They offer three main reasons: the organization's intrinsic need to take advantage of its capabilities, fashion, and administrative needs, such as efficiency or economy.

They note that patterns formed aside from or sometimes even despite managerial intentions, often in response to the needs of a variety of people in the organization, as well as forces in the environment. Some of the ways strategies emerged were pointed out by the authors:

1. A single, seemingly inconsequential decision, meant to be ad hoc, establishes a precedent that evokes a pattern.
2. That single decision may not even be deliberate. A thin stream of activity eventually takes hold and begin to pervade the organization.
3. A peripheral strategy pursued in a pocket of the organization later pervades the organization which seizes on it.

As we saw, the crucial trait that distinguishes emergent from deliberate strategies is the absence of intentions in the former. But, as Mintzberg and McHugh argue, the

determination of intention in a collective context such as an Adhocracy is complex and worthy of attention by organization theorists. This goes to the heart of the very meaning of “organization” itself, which means collective action in the pursuit of a common objective [188].

A grass-roots model of strategy formation

At the end of their article, Mintzberg and McHugh synthesize the observed processes of strategy emergence in what they call “a grass-roots model of strategy formation.” It is a biological metaphor of the strategic process comprising the following six points [194-6; we quote the text as more tersely restated in Mintzberg & Quinn, 1996].

1. *“Strategies grow initially like weeds in a garden, they are not cultivated like tomatoes in a hothouse.* In other words, the process of strategy formation can be overmanaged; sometimes it is more important to let pattern emerge than to force an artificial consistency upon an organization prematurely. The hothouse, if needed, can come later.
2. *These strategies can take root in all kinds of places, virtually anywhere people have the capacity to learn and the resources to support that capacity.* Sometimes an individual or unit in touch with a particular opportunity creates his, her, or its own pattern. This may happen inadvertently, when an initial action sets a precedent. Even senior managers can fall into strategies by experimenting with ideas until they converge on something that works (though the final result may appear to the observer to have been deliberately designed). At other times, a variety of actions converge on a strategic theme through the mutual adjustment of various people, whether gradually or spontaneously. And then the external environment can impose a pattern on an unsuspecting organization. The point is that organizations cannot always plan when their strategies will emerge, let alone plan the strategies themselves.

3. *Such strategies become organizational when they become collective, that is when the patterns proliferate to pervade the behavior of the organization at large. Weeds can proliferate and encompass a whole garden; then the conventional plants may look out of place. Likewise, emergent strategies can sometimes displace the existing deliberate ones. But, of course, what is a weed but a plant that wasn't expected? [. . .]*
4. *The processes of proliferation may be conscious but need not be; likewise they may be managed but need not be. [These processes] need not be consciously intended . . . Patterns may simply spread by collective actions, much as plants proliferate themselves. Of course, once strategies are recognized as valuable, the processes by which they proliferate can be managed, just as plants can be selectively propagated.*
5. *New strategies, which may be emerging continuously, tend to pervade the organization during periods of change, which punctuate periods of more integrated continuity. . . . Organizations, like gardens, may accept the biblical maxim of a time to sow and a time to reap (even though they can sometimes reap what they did not mean to sow). Periods of convergence, during which the organization exploits its prevalent, established strategies, tend to be interrupted periodically by periods of divergence, during which the organization experiments with and subsequently accepts new strategic themes. The blurring of the separation between these two types of periods may have the same effect on an organization that the blurring of the separation between sowing and reaping has on a garden – the destruction of the system's productive capacity.*
6. *To manage this process is not to preconceive strategies but to recognize their emergence and intervene when appropriate. A destructive weed, once noticed, is best uprooted immediately. But one that seems capable of bearing fruit is worth watching, indeed sometimes even worth building a hothouse around. To manage in this context is to create the climate within which a wide variety of strategies can grow.” [Mintzberg & Quinn, 1996: 689-690]*

They say that such a climate can be created in several ways:

- by establishing flexible structures
- by developing appropriate processes
- by encouraging supporting cultures; and
- by defining guiding “umbrella” strategies.

Top management can observe the process to see what happens, encouraging those initiatives that look promising and discouraging others. The strategic initiatives that do arise may originate anywhere in the organization, often coming from way down, where the detailed knowledge of products and markets reside. To reach the level of top management, these initiatives must be identified and “championed” by middle-level managers. Occasionally, it will make sense to shift or enlarge an umbrella to cover a new pattern – in other words, to let the organization adapt to the initiative rather than vice-versa.

The model is called “grass-roots” because the strategies grow up from the operational base of the organization. Later, it was alternatively called “learning model” [Mintzberg & Quinn 1996: 691].

It should be remarked that Mintzberg does not just describe emergent strategy formation, he promotes and advocates it, in part out of his belief in the increasing relevance of the Adhocracy as an organizational model.

6. BURGELMAN

In Burgelman’s [1983] model of the strategic process in large divisionalized firms strategy emerge in at least two different senses. Business-level strategies may emerge (be “induced”) as a result of a broader corporate strategy instrumented with

the various administrative mechanisms that direct the interests of the strategic actors in the organization. On the other hand, corporate strategy itself may be shaped by the corporation's attempt to incorporate deviating ("autonomous") strategic initiatives coming from managers lower down in the organization. Accordingly, two kinds of strategic activities are distinguished: *induced* strategic activities are initiated within the firm's current concept of corporate strategy, *autonomous* strategic activities emerge outside the scope of the current strategy.

Burgelman's key reference is his own study [Burgelman 1980] of unrelated diversification through internal corporate venturing. This study has provided systematic field data to support the concept of autonomous strategic behavior and provided other insights in the corporate context of internal corporate venturing.

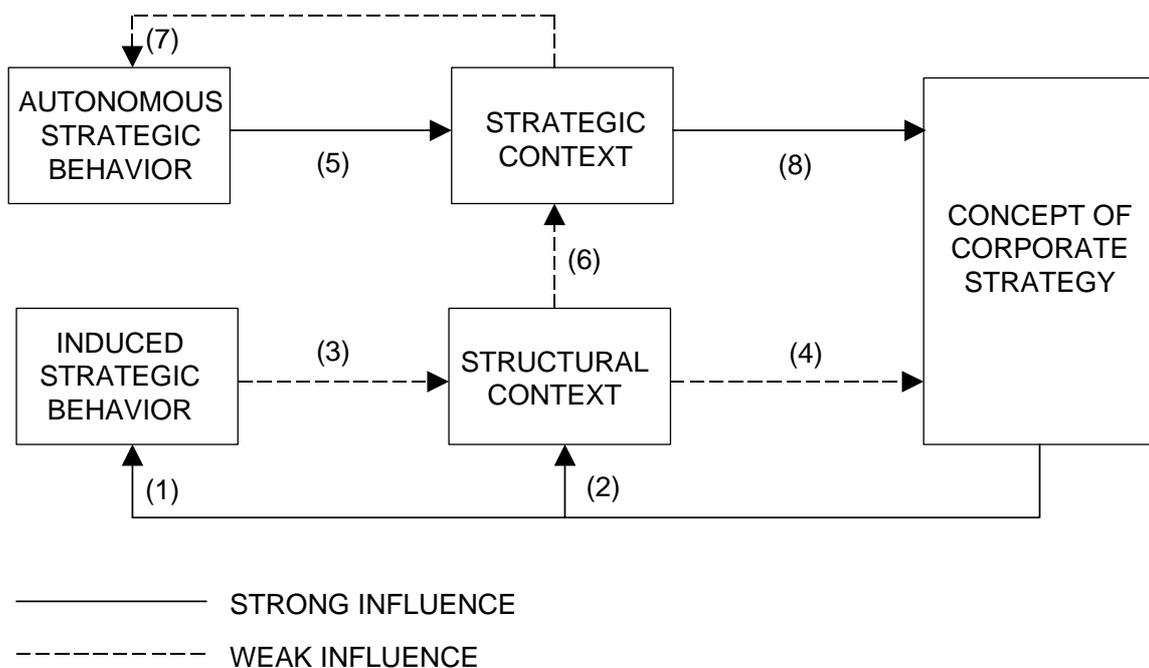
A rereading of Chandler's [1962] and Bower's [1970] landmark studies reviewed above provided Burgelman with additional elements for the formulation of his model of the strategy process in large divisionalized corporations.

The model is represented in Figure 1. The two generic categories of strategic behavior discussed above are discerned: induced (following the current strategy) and autonomous (addressing new opportunities). Induced strategic behavior uses the categories provided by the current concept of strategy to identify opportunities that conform to this concept. Typically this include new product development projects for existing businesses, marketing development projects for existing products, and strategic capital investment projects for existing businesses. This is the type of strategic behavior documented by Bower [1970] and is one form of strategy emergence.

Autonomous strategic behavior occurs in large firms that have a reservoir of entrepreneurial potential. Entrepreneurial participants at the product/market level conceive new business opportunities, champion efforts to mobilize resources, and create momentum to exploit these opportunities. Middle level managers try to create broader strategies to embrace these new business activities and to obtain the support of top management. This is the type of strategic behavior documented by Burgelman

[1980]. The process as described parallels Bower's conception and extends it to apply to autonomous (instead of induced) initiatives. Autonomous initiatives attempt to escape the selection of the current structural context. They provide change in corporate strategy. This is another form of strategy emergence.

Note that both types of behavior produce emergent strategies, but strategies emerge in a different sense. In induced strategic behavior, strategies form as detailed means of achieving the broad goals stipulated by the current concept of strategy. In autonomous strategic behavior, strategies form outside the current strategy and require changes in it.



Source: Burgelman [1983]

Figure 1. Burgelman's model of two coexisting modes of strategic behavior.

Corporate strategy strongly influences the structural context and induced strategic behavior (loops (2) and (1)). To the extent that top management achieves a high degree of control over this process, the influence of induced strategic behavior in causing changes in the structural context or in the corporate strategy itself is weak (loops (3) and (4)). Autonomous strategic behavior, on the other hand, causes an impact on corporate strategy through the workings of the strategic context (loops (5) and (8)). The effect of the structural context on the strategic context was found to be weak in Burgelman's previous study (loop (6)). Finally, the degree to which middle management is successful in activating the process of strategic context determination provides guidance for further entrepreneurial initiatives at the operational level (loop (7)).

Two selective processes are considered in the model. The structural context selects induced initiatives, through the various structures and mechanisms that direct the interests of the strategic actors in the organization. The strategic context selects autonomous initiatives through the efforts of middle managers to link autonomous behavior into corporate strategy.

Burgelman draws two implications of his study which are relevant to the present one. One implication refers to the dilemma resulting in large firms from the two opposing tendencies toward stability and change.

“Coherence, continuity, and stability in corporate strategy require the institutionalization of strategic behavior through strategic planning systems. Corporate entrepreneurship and the resulting strategic renewal of large, complex firms, on the other hand, require the interlocking autonomous strategic initiatives of individuals at operational and middle levels, and an experimentation-and-selection approach at the corporate level. Maintaining a pragmatic balance between these fundamentally different requirements presents a major challenge for top management” [68].

His paper, Burgelman maintains, suggests that such challenges may be faced more aptly by recognizing the different requirements of the different strategic situations represented in the model, which coexist in the organization [68].

Another implication refers to organizational learning. Current corporate strategy is a frame of reference or “paradigm” about the bases of the firm’s past success. It provides guidance for action. But it also crystallize attitudes, managerial styles and an ideology of success. Therefore, autonomous strategic behavior, identified here as a major source of strategic renewal, is likely to face nonrational obstacles.

IV. OTHER INTERPRETATIONS OF STRATEGY EMERGENCE

Several interrelated concepts were reviewed so far, all describing the emergence of strategy in some sense. Concisely, these views stated that:

1. Strategies may emerge as a result of “muddling through”, an incremental process in which each individual administrator make decisions on the basis of experience, limited analysis, successive limited comparisons, and choosing goals and actions simultaneously [Lindblom 1959].
2. Strategies may emerge as a result of autonomous strategic initiatives coming from lower levels in the hierarchy arising both from changes in the environment and by the perception of managers at various levels of the opportunities for the use of firm’s resources that these changes offer [Burgelman’s (1983) reading of Chandler 1962].
3. Strategies may emerge as a result of strategic initiatives coming from lower levels in the hierarchy and induced by top management through a “structural context”, thus reflecting strategic planning [Bower 1970].

4. Strategies may emerge from a process which is purposeful, effective, and proactive, but at the same time fragmented, evolutionary and largely intuitive. In this process, strategy tends to evolve as internal decisions and external events flow together to create a new, widely shared consensus within top management [Quinn 1980].
5. Strategies may emerge spontaneously anywhere in the organization initially as unintended patterns in action and may become organizational as they become collective [Mintzberg & McHugh 1985].
6. Strategies may emerge in two ways in the same organization: from autonomous strategic initiatives originating at lower levels in the hierarchy and outside the current strategy, and from induced initiatives also coming from lower down and within the current strategy [Burgelman 1983].

In what follows, some further ideas related to emergence but more distant from the literature reviewed so far will be commented on. In these perspectives:

1. Strategies may emerge as they are discovered in action [March 1976]
2. Strategies may emerge through ongoing, retrospective sense-making, within a learning process that substitutes for rational decision making [Weick 1995].
3. Strategies may emerge as a result of a process of learning over time, in which initiatives at lower levels in the organization create streams of experience that may be reinforced and converge into patterns [Mintzberg 1990].
4. Strategies may emerge as patterns that arise in complex adaptive systems as an unpredictable result of the interplay of autonomous agents each acting in accordance with its individual local rules [Waldrop 1992].

Finally, it must be acknowledged that many other authors have presented conceptions of the strategic process which describe some sort of emergence. Among these, the following may be cited:

1. Strategies may emerge as they evolve over time from an indescribable mix of operating decisions [Wrapp 1967].
2. Strategies may emerge as the result of experimentation [Nystrom & Starbuck 1984].
3. Strategies may emerge as the result of improvisation [Miner, Moorman & Bassooff, 1996].

These last three will not be reviewed here, but some of their ideas will appear interspersed in the discussion of the previous four.

1. EMERGENT GOALS

We have been talking about the emergence of strategy as a pattern in action that develops when intentions are either absent or contradicted. But what if one deliberately acts first, *in order* to discover his or her own intentions? This question was explicitly taken up by James March [1976].

March starts by observing that in most of the Western world, individuals and organizations see themselves as making choices. The proper way to make choices, so goes the theory, is first to evaluate alternatives in terms of goals, on the basis of information currently available, and then to choose the alternative that is most attractive in terms of the goals.

This process has been refined with the use of a number of sophisticated techniques and gave rise to various normative theories of choice. These theories start with the following three prerequisites:

1. *Pre-existence of purpose.* An organization is often defined in terms of purpose. Action within an organization is justified in terms of purpose.
2. *Necessity of consistency.* Action should be made consistent with belief. Actions taken by different parts of an organization or at different times should be consistent with each other.
3. *Primacy of rationality.* Things should be done with a full understanding of why they are being done. This implicitly rejects impulse, intuition, tradition, and faith. (At most, faith and tradition may be acceptable as ways to establish values or to generate alternatives.)

March remarks that this theory is deficient in at least one important aspect, namely in the treatment of human goals. It is not concerned with the origin of goals, actors are assumed to have pre-existing values.

It is so obvious that in real life objectives are fluid and ambiguous that it should seem strange that a theory that ignores how goals are formed can be so widely accepted. The classic justifications for the non-treatment of goals are that goal development and choice are independent and can be separated, and that it would be intractable in a normative theory to show how values should be defined.

March refutes these excuses and affirms that human choice behavior is at least as much a process for discovering goals as for acting on them. He gives an elucidative example of two alternative theories of choice behavior that differ in this respect. He calls them theory of childhood and theory of adulthood. According to the theory of childhood, parents lead the child to do things that are inconsistent with his (her) present goals because they believe that he (she) can only develop into an interesting person by coming to appreciate objects of experience that he (she) initially rejects. According to the theory of adulthood, choices are consequences of our intentions and actions should come as close as possible to achieving our goals. In short, adults know what is good for themselves but children do not.

Perception of this asymmetry has fostered educational and child-rearing ideologies designed to grant children the right to imagine that they know what they want. But instead of trying to adapt the theory of adulthood to children, we might better adapt the theory of childhood to adults, March proposes.

Values change, and they are developed through experience. Therefore, adults, as well as children, should be encouraged to develop more interesting wants.

Techniques already exist that reveal inconsistencies in preferences and goals, but the utility of these techniques depends on the assumption of pre-existent (if unclear) values which can be discovered. Expressions like “self discovery” or “finding oneself” presuppose finding something that is already there. But if our value premises have to be “constructed” rather than “discovered,” our present procedures may be insufficient.

March proposes a different approach. He suggests we treat action as a way of creating interesting goals at the same time that we treat goals as a way of justifying action. His contention is that not always, not usually, but sometimes individuals and organizations need to act before they think.

He remarks that the presently available technology for making choices, which he calls “technology of reason,” is not sufficient for doing this. It needs to be supplemented with what he provokingly dubs “technology of foolishness.” To act in order to discover or construct goals in an intelligent way means to make decisions now in terms of goals that will only be known later. March says he does not know in details what is required to do this but he outlines a plan of attack. First, he notes that we might have to use practices that go against some of our most cherished prejudices, to wit, the forbiddance of imitation, coercion and rationalization. All of these could be used to find out goals through action. All of these also involve dangers and could easily be used perversely, but we should be able to develop techniques to use these practices more effectively.

We must also employ some strategy to suspend the rational requirement of consistency. In fact, March argues, we need a mechanism for allowing us to do foolish things. He suggests we use playfulness, a deliberate and temporary relaxation of rules to explore and experiment with the possibilities of employing alternative rules. Playfulness also recognizes reason. It implies an agreement that at a certain point the play will be halted or else that it will be integrated into the structure of intelligence. Playfulness here is to be used as an instrument of intelligence, not a substitute for it. This way, play and reason can be functional complements.

“Playfulness is a natural outgrowth of our standard view of reason. A strict insistence on purpose, consistency, and rationality limits our ability to find new purposes.” [77]

Unfortunately, play and reason usually are behavioral competitors, March points out. Culturally, the emphasis on reason drives out play and vice-versa. We must find ways to help individuals and organizations to experiment with doing things for which they have no good reasons. March suggests that we treat goals as if they were hypotheses, intuition as if it were real, hypocrisy as if it were a transition, memory as if it were an enemy, and experience as if it were a theory.

More broadly, if we knew more about the technology of foolishness and were willing to apply it to organizations or society, we would likely have to:

1. Re-examine the functions of management decision. One of the primary ways in which the goals of an organization are developed is by interpreting the decisions it makes. Managers should view their decisions not as flowing directly from a pre-existent set of goals but rather as a process of overthrowing preconceived notions of what the organization is doing.
2. Modify our view of planning. A manager must tolerate the idea that he (she) will discover (or construct) the meaning of yesterday's actions in the experiences and

interpretations of today and that a plan is often more useful as an interpretation of the past than as a guide for the future.

3. Reconsider evaluation. Evaluation criteria need not be specified in advance. We can evaluate what the organization did yesterday in terms of what we believe to be important today. Experience should be used deliberately to evaluate our values as well as our actions.
4. Reconsider social accountability. Individual preferences and social action must be consistent but both change over time. Leaders must anticipate preferences through action and provide social experiences that modify individual expectations.
5. Accept playfulness in organizations. We must encourage organizational play by permitting some temporary relief from control, coordination, and communication.

March concludes by advocating further development of a technology of foolishness to complement the presently available technology of reason. Foolishness may be a good way to overcome some of the problems of our current theories of intelligence. “It preserves the virtues of consistency while stimulating change.” [81]

The ideas presented in March’s essay open a new dimension to the understanding of strategy emergence. Not only strategies may take shape in the absence of prior intentions, the intentions themselves may emerge as the organization acts. If an emergent strategy is consistency in action, goals may turn out to be the result, not the cause, of such consistency.

2. RETROSPECTIVE SENSE-MAKING

According to Karl Weick, “organizations are often reluctant to admit that a good deal of their activity consists of reconstructing plausible histories after-the-fact to

explain where they are now, even though no such history actually got them to precisely this place.” [1979: 5] Weick calls this retrospective sense-making. He is fond of using a phrase to epitomize sense-making: “How can I know what I think till I see what I say?” [1979: 5] (This memorable phrase was reportedly said by a little girl in the 1920s when told to be sure of her meaning before she spoke. [Weick 1995: 12]) Weick calls it a “recipe for sense-making” and shows that it can be used in many variations, such as: “How can we know what we think until we see what we did?”

Weick posits that action precedes thought, an idea advanced also by other authors, such as Zimbardo [1969] and Bem [1974]. Yet, he says, people are usually rewarded when they behave as if the opposite were true, trying to think before they act. But you seldom know what you are saying or doing until the words have already been said or the action is already done.

All understanding originates in reflection and looking backward. Weick says that the idea of retrospective sense-making derives from sociologist Alfred Schutz’s analysis of “meaningful lived experience.” According to Schutz, a representative of existential phenomenology, the act of attention presupposes an elapsed experience, therefore people can know what they are doing only after they have done it. [Weick 1995: 24]

Much sense-making can be viewed as writing plausible histories for what was done. Ambiguity of meaning is removed when a history is supplied which could have generated the actions. Weick quotes Harold Garfinkel, the inventor of ethnomethodology:

“In place of the view that decisions are made as the occasions require, an alternative formulation needs to be entertained. It consists of the possibility that the person defines retrospectively the decisions that have been made. The outcome comes before the decision. . . . The rules of decision making in daily life . . . may be much more preoccupied with the problem of assigning outcomes their legitimate history than with the question of deciding before the actual

occasion of choice the conditions under which one, among a set of alternative possible courses of action, will be selected.” [Garfinkel 1967: 114, quoted in Weick 1979: 195]

Weick remarks that this means that the situation of choice is decision-*interpreted*, not decision-*guided*. He cites and summarizes some experiments which show attitudinal differences between prospective and retrospective modes of thinking, the latter being much more powerful. In these experiments, typically two groups of subjects were asked to describe the same future event. Subjects in one group were asked to describe it imagining they were writing before the event occurred. The other group was asked to imagine they were writing after the event had already taken place. The second group made descriptions that were significantly more precise and detailed than the first.

When an event yet to happen is treated as if it is over, this aids sense-making because that imagined completion can be related more easily to similar believed causation patterns that have already been used in the past.

The implications of these ideas to strategy making are put by Weick in a radical and ruthless statement:

“Organizations persistently spend time formulating strategy, an activity that literally makes little sense given the arguments advanced here. Organizations formulate strategy *after* they implement it, not before. Having implemented something – anything – people can then look back over it and conclude that what they have implemented is a strategy. The more common (and misleading) way to look at this sequence in organizations is to say that first comes strategy and then comes implementation. That commonplace recipe ignores the fact that meaning is always imposed after the fact and only after elapsed actions are available for review.” [1979: 188]

To Weick, retrospect is a dominant concept in sense-making. That is why students of sense-making find forecasting, strategic planning, contingency planning and

other projections into the future as wasteful and misleading if they are disconnected from reflective action and history.

Among the more recent studies on sense-making listed by Weick, some relate directly to strategy. Smircich and Stubbard [1983] show that the environment within which strategies unfold are environments of the strategists' own making. Mintzberg and McHugh's [1985] study is mentioned. Another study, by Porac et al. [1989], deserves a more detailed description.

Porac et al.'s investigation illustrates yet another concept introduced by Weick, that of "enactment." Organizations create for themselves the realities which they then view as "facts" to which they must accommodate. This way, they create (at least part of) the environments that then impose on them. Despite their apparent concern with objectivity and concreteness, organizations are in truth saturated with subjectivity and abstraction. Much of what worries organizations is of their own invention. This construction of one's own reality and subsequent acting as if it were true is called "enactment" by Weick.

"The term 'enactment' is used to preserve the central point that when people act, they bring events and structures into existence and set them in motion. People who act in organizations often produce structures, constraints and opportunities that were not there before they took action." [Weick 1988: 307]

The relationship between enactment and sense-making is in that people make sense of their worlds and, by so doing, they create, or enact, a part of the environment they face.

Porac et al. interviewed executives from 17 firms manufacturing high-quality cashmere sweaters in Hawick, Scotland. The investigators were interested in finding what consensual identity and causal beliefs were constructed by top managers to make sense of their organizations and their environment; and how these beliefs related to strategy and how they evolved over time. The study describes how mental models of the strategists in that group of firms determined perceptions of competing

organizations and responses to competition. The findings are consistent with retrospective sense-making and enactment, as the study shows how the structure of that industry both determined and was determined by managerial perceptions of the environment.

These manufacturers claimed to have a business strategy of selling premium-quality products to high-income customers, using specialist distribution channels. But this strategy had not been really planned, it evolved over the years in response to problems faced by the firms in the market and was discovered *retrospectively*. For instance, these firms used hand finishing instead of more efficient automated equipment, because of the local availability of a large pool of skilled workers. But the managers interpreted their continued use of craft-like methods as part of a deliberate high-quality strategy.

That Weick's ideas are at times overstated is acknowledged by himself. In his classic study of enacted sense-making in crisis situations, he declares: "[E]ven if the relative importance of enactment is exaggerated and borders on hyperbole, the important outcome of such exaggeration could be discovery of unexpected places to gain control over crises." [1988: 316].

Two other points about Weick's ideas and relevant to strategy making are highlighted by Dennis Gioia and Ajay Mehra [1996] in their review of *Sensemaking in Organizations*. One is that Weick construes sense-making as a strictly conscious process, thus ignoring the importance of unconscious meaning-making. A second point is even more relevant to strategy. Weick implicitly dismisses forward-looking prospective sense-making, as if it were a myth. In Weick's view, the way sense is made of future events is by putting oneself in a further future, imagining that they have already occurred, and then attributing meaning to this "past" experience. This may be a seductive thesis, Gioia and Mehra argue, but it seems that Weick is not carrying the phenomenology of everyday experience to its full potential use.

"If retrospective sense-making is making sense *of* the past, prospective sense-making is an attempt to make sense *for* the future," Gioia and Mehra observe

[1229]. Prospective sense-making is much more tentative, and also more creative than retrospective sense-making, they say. They recall Kierkegaard's famous commentary that life is most clearly understood backward, but it must be lived forward. Weick's view is attuned to the first half of this commentary, they remark, but it minimizes the other half. We all make use of projective futures to avoid stumbling through life. The phenomenology of everyday organizational experience also involves speculating about the future.

“When engaging in prospective sense making, . . . we envision a tentative future state but [unlike in retrospective sense-making] are unable to construct an account of how to get there. Yet it is this very act of envisioning the future that supplies an impetus for action.” [Gioia & Mehra 1996: 1230]

Based on this comment, Gioia and Mehra suggest an expansion of the domain of sense-making to include both retrospective and prospective elements.

But despite Weick's extreme view that sense-making is only possible in retrospect, one can find in his writings some hints about the use of plans and intended strategies. We will refer to two instances, the first regarding Weick's use of maps as metaphors for thinking organizations and the second about jazz improvisation as a metaphor for organizational analysis.

In exploring the map simile, Weick [1990] repeats his cherished story of the Hungarian soldiers lost in the Alps. A young lieutenant sent a small reconnaissance unit into the frozen over region. A storm fell and it snowed for two days. The soldiers got lost and did not know what to do, when one of them found a map in his pocket. With it, they were able to find their way back. When they arrived safe and sound at the camp, the lieutenant, much relieved, asked to see the map. It was a map of the Pyrenees!

Weick reasons that the main effect of the map was that it prompted action from the soldiers and it was mainly through action and its consequences, not so much through what the map actually showed, that they found their way. In a similar way, causal

maps used by managers have the effect that they animate those who use them and it is animation, not the map itself, that imposes order on the situation. People need to adopt the myth that their maps are a credible enough version of the territory that they can act intentionally. [8] He goes on to say:

“Thus, trappings of rationality such as strategic plans are important largely as binding mechanisms. They hold events together long enough and tight enough in people’s heads so that they do something in the belief that their action will be influential. The importance of presumptions, expectations, justifications, and commitments is that they span the breaks in a loosely coupled system and encourage confident interactions that tighten settings. *The conditions of order and tightness in organizations exist as much in the mind as they do in the field of action.*” [Weick 1985: 127-128, quoted in Weick 1990: 9]

In what regards organizational improvisation, he uses the vehicle of jazz improvisation as an orienting analogy. He starts with a long quote of Berliner speaking of jazz, which is worth reproducing because of its insightful content:

“[T]he popular definitions of improvisation that emphasize only its spontaneous, intuitive nature – characterizing it as the ‘making something out of nothing’— are astonishingly incomplete. This simplistic understanding of improvisation belies the discipline and experience on which improvisers depend, and it obscures the actual practices and processes that engage them. Improvisation depends, in fact, on thinkers having absorbed a broad base of musical knowledge, including myriad conventions that contribute to formulating ideas logically, cogently, and expressively. It is not surprising, therefore, that improvisers use metaphors of language in discussing their art form. The same complex mix of elements and processes coexists for improvisers and for skilled language practitioners; the learning, the absorption, and utilization of linguistic conventions conspire in the mind of the writer or speaker – or, in the case of jazz improvisation, the player – to create a living work.” [Berliner 1994: 492, quoted in Weick 1998: 544]

Weick comments on several examples and arguments presented in the literature to speculate that retrospect is significant in improvisation. He cites Ted Gioia's contention that unlike an architect who works from plans and looks ahead, a jazz musician "cannot look ahead at what he is going to play, but he can look behind at what he has just played; thus each new musical phrase can be shaped with relation to what has gone before. He creates his form retrospectively." [Gioia 1988: 61, quoted in Weick 1998: 547]

The jazz musician, says Weick, creates something that is consistent with what has already been presented, contributes to its emerging structure being built by the group of players, and creates possibilities for the other players. This suggests that in improvisation intention is loosely coupled to execution, creation and interpretation need not be separated in time, and sense-making, rather than decision-making, is involved. All of these conjectures, if applied to organizations in general, run against the usual assumptions adopted by organizations, those of implementation following intentions, interpretation following creation, and decisions following sense-making.

Weick also reviews Mangham and Pye [1991], who propose close parallels between jazz improvisation and organizing. Their study shows that managing shares with jazz improvisation such characteristics as concurrent reflection and action; concurrent rule creation and following; patterns of mutually expected responses; action informed by codes; continuous mixing of the expected and the novel; and heavy reliance on intuition and imagination.

Weick argues that quality management and jazz improvisation share many common features.

"Successful quality management occurs when people are newly authorized to paraphrase, embellish, and reassemble their prevailing routines, extemporaneously. Furthermore, they are encouraged to think while doing rather than be guided solely by plans." [Weick 1998: 549]

Weick also cites Starbuck's [1993a] suggestion that good doctors do not base their treatment on diagnosis. If a diagnosis is inferred at all, this occurs retrospectively, after the patient is cured. When you are faced with ambiguous events, often you have no substitute for acting your way into an eventual understanding of them.

Both the map and the jazz improvisation metaphors show that Weick's ideas, even if biased in overplaying the mental structuring *of* the past in detriment of the mental structuring *for* the future, contain the seeds of new ways to interpret strategy. Like maps, strategies can be stimuli to action, but they can be more. They can be provisional guides to action that action itself can reform as new understanding is generated. And like jazz improvisation, organizational action can be based on more than mere retrospection and follow patterns, codes, and a mastery of the language to build new futures.

3. STRATEGIC LEARNING

In the last thirty years, organizational learning sprouted and flourished as both an academic and a pragmatic field. There is virtual consensus that organizations of all sorts need to adapt to rapidly changing environments, learn from past successes and failures, detect and correct errors, anticipate and respond to threats and opportunities, carry on experiments and learn from them, and innovate continuously.

The popularity of this theme grew out of an increasing awareness that, in order to survive in the global economy, organizations must catch up with the swift pace of change by learning to adapt briskly. The burgeoning literature that has grown in this period on organizations as learning systems dates back to Cyert and March's *A Behavioral Theory of the Firm* [1963] and includes works by Normann [1977], Argyris and Schön [1978], Senge [1990], and Nonaka and Takeuchi [1995], to cite a few. As noted recently by Argyris and Schön [1996], this literature can be roughly classified in two branches, one directed to the practicing manager, the other to the

academic researcher. Despite considerable differences in perspective and method, the two branches converge on certain basic ideas. Both emphasize the importance of recognizing, surfacing, criticizing, and restructuring “mental models” used in organizations. And both distinguish between single-loop and double-loop learning and between paradigm-constrained and paradigm-breaking learning.

This literature tends to focus on the management of change and not on strategy formation as such. But it must be commented on here for two reasons: first, because of the link that Mintzberg establishes between learning and emergent strategies; and second, because learning provides a useful framework to reconcile March’s and Weick’s heterodox propositions with more traditional perspectives on decision making and strategy formation.

In 1990, in his now famous classification of the ten schools of thought of strategy formation, Mintzberg embedded the concept of emergent strategy in what he called the *learning school of strategy formation*. He affirms that traditional views of strategy emphasize control to the exclusion of learning.

“It is the concept of emergent strategy that opens the door to learning, because it acknowledges the organization’s capacity to experiment. A single action can be taken, feedback can be perceived, and the process can continue until the organization converges on the pattern that becomes its strategy.” [Mintzberg 1990: 151]

Mintzberg remarks that in its most extreme form, emergent strategy means that there is no learning, since any appearing order is unintended. Patterns just form, driven by outside forces or needs rather than from conscious thought. But learning does take place at the interface of thought and action, as actors reflect on what they have done.

Mintzberg acknowledges Weick’s contribution to the learning school, through his concepts of retrospective sense-making and enhancement (see Section 4.2 above). The combination of sense-making with emergence raises all sorts of interesting

ideas, Mintzberg notes. “For example, organizations may learn by recognizing patterns in their own behaviors, thereby making their emergent strategies of the past deliberate for the future.” [1990: 153]

According to Mintzberg, the learning school is based on a few premises, the most important of which is the following:

“The complex and dynamic nature of the organization’s environment, often coupled with the diffusion in the organization of its knowledge base for strategy making, precludes deliberate control; strategy making must above all take the form of a process of learning over time, in which, at the limit, formulation and implementation become indistinguishable.” [1990: 154, italics in original]

Strategies can emerge and take root in all kinds of ways. Whatever their origin, the initiatives create streams of experience that may be reinforced and may converge into patterns to become emergent strategies. This process may be spontaneous or may be consciously managed, as emergent patterns are recognized and made deliberate. In this conception, the role of leaders is *“not to preconceive deliberate strategies, but to manage the process of strategic learning.”* [155, italics in original]

Mintzberg remarks that the learning school is based on descriptive research of what real organizations actually do when faced with a complex external or internal situation. He notes that this school does not view organizations’ responses to these situations as merely passive, but rather as learning steps to create innovative strategies.

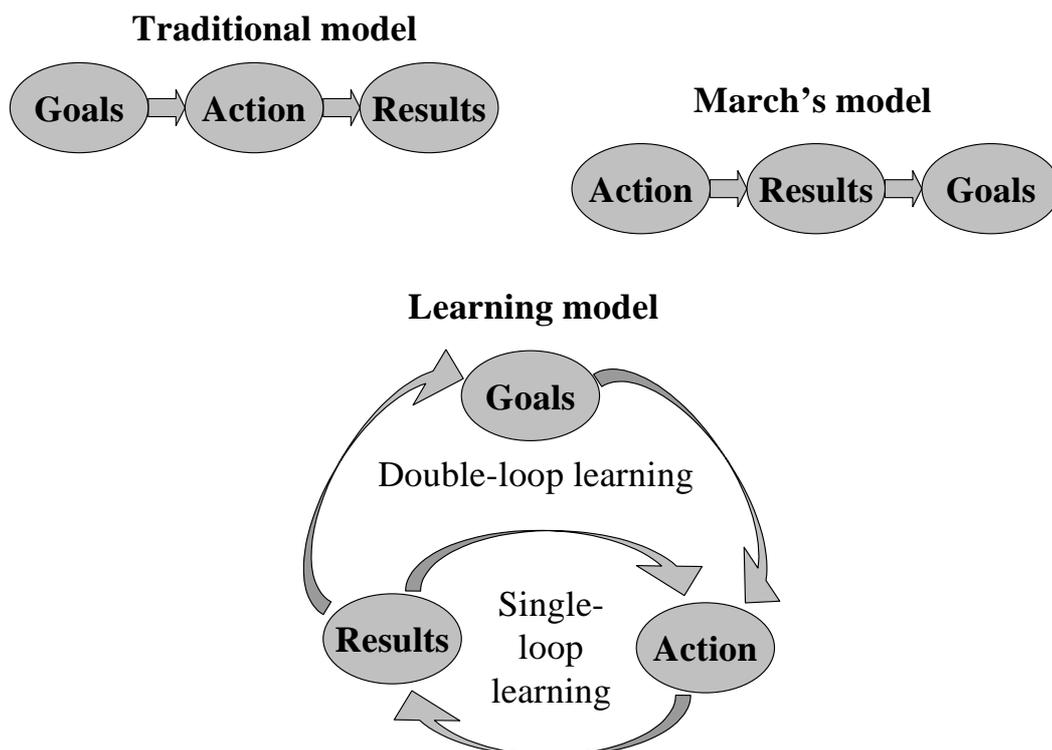
The second reason why we are bringing up the learning literature is that learning provides a useful framework to make compatible March’s and Weick’s views with more traditional stands on strategic decision making.

Figure 2 shows in graphical form our following argument. In the traditional model of organizational decision making, action follows the setting of goals. In March’s interpretation, in contrast, at least sometimes goals follow action. The two views

can be reconciled through a learning model, in which goals and action influence each other. Action is carried on in the absence of goals or prompted by fuzzy or inadequate goals. The organization interprets action in terms of its results, which leads the organization to correct the action (single-loop learning) or, in some cases, to (re)formulate its goals (double-loop learning).

In the case of single-loop learning, we are dealing with deliberate strategies and controls, while in double-loop learning we may be dealing with emergent strategies and goals.

A similar model may be built for Weick's ideas, by replacing "goals" by "sense" or "meaning" in Figure 2.



Source: Author

Figure 2. Thesis, antithesis, and synthesis in the interpretation of strategy formation.

4. COMPLEXITY THEORY

In contrast to the subtle, but elegant, models examined above, complexity theory offers another approach to the study of organizations and emergence which is rather cumbersome. Complexity theory was initially developed to explain physical and biological phenomena.

There is not yet a consensus on what complexity theory is, or even on what complexity is. Several years ago, Seth Lloyd, a physicist of the MIT, compiled a list of 31 definitions of complexity. [Horgan 1995] Recently, attention has been focused on complex adaptive systems, which are made up of a large number of independent agents interacting with each other in myriad ways. These systems exhibit typical characteristics, like spontaneous self-organization, adaptivity, and the ability to stay in a condition intermediate between order and chaos, named “the edge of chaos.”

The development of complexity theory has been centered at the Santa Fe Institute, a small but influential think tank supporting six full-time researchers and counting on 50 outside collaborators. There has been some uncertainty, even among sympathizers and collaborators of the Institute, about whether complexity theory will yield profound, unifying insights about complex phenomena unfolding in nature or will have its day and pass. Even collaborators have complained that there has been too much hype and meager results. Other similar movements in science during the 20th century have failed to live up to the great expectations put on them: information theory, cybernetics, catastrophe theory, and chaos.

Perhaps one reason for complexity theory’s notoriety is that it may provide an answer to the question: Can we get a handle on this world of unprecedented laissez-faire? [Berreby 1998] In fact, the use of complexity theory in business and economics has been often associated with Adam Smith’s notion of the “invisible hand.” But John Holland, from the University of Michigan and doing research at the Santa Fe Institute, admitted that “[t]he invisible hand is a term for a property we don’t know very much about.” [Berreby 1998]

The method researchers employ to study complex adaptive systems is computer simulation. New modeling techniques such as cellular automata, neural networks, and genetic algorithms, together with object-oriented languages, provide the computational infrastructure for the simulations. But sole reliance on simulation has been appointed as a weakness of complexity studies.

Despite these shortcomings, there has been increasing interest in applying complexity concepts to organizations. In a recent article, Philip Anderson⁴ [1999] presents an up-to-date appreciation of the possible contributions offered by complexity theory to the advancement of organization science. He refers specifically to the theory of complex adaptive systems, which he considers a genuinely new way of simplifying the complex and of encoding natural systems into formal systems. Such systems are characterized by four key elements, described below.

First, these systems are comprised of agents, each equipped with its own set of decision rules on how to act given the agent's perception of its own local environment. Different agents may or may not have the same set of rules and these sets may or may not evolve over time. Because agents' decision rules can evolve, complex adaptive systems are more adaptive than other systems in which agents operate with unchanging rules. One revealing way to look at these systems is to see agents' cognitive and knowledge structures competing with one another as the system evolves, forming an internal ecology of ideas, initiatives, and interpretations.

Second, these systems display self-organizing behavior. Pattern and regularity emerge in these systems without the intervention of a central controller. This is the natural result of nonlinear interaction, not of any tendency of individual agents to prefer or seek order. A defining feature of complexity is that self organization is a natural consequence of interactions among agents. Ironically, students of organizations have the habit of abstracting away nonlinear interactions from their

⁴ Philip C. Anderson is Associate Professor of Business Administration at the Amos Tuck School of Business, Dartmouth College. He should not be confused with Philip W. Anderson, the 1977 Nobel Prize laureate in physics, who has been a long-time collaborator of the Santa Fe Institute.

models in order to make them more tractable. But, in so doing, they block the emergence of patterns. Anderson notes that to study these behaviors in organizations it will be necessary to combine computer simulation with empirical observation at the level of the interactions between agents.

Third, in these systems agents adapt by attempting to optimize their own payoffs, not by forecasting the system-level consequences of their individual choices, which they are unable to do. Each agent keeps adapting to its local environment, which continually shifts. The payoffs of individual agents depend on the choices made by the other agents. Thus individual agents and clusters of agents coevolve with one another. Kauffman [1995; cited in Anderson 1999] argues that all complex adaptive systems evolve to “the edge of chaos.” This expression means an intermediary condition between a high degree of order and stability, such as displayed by crystals, and utter chaos, such as exhibited by heated gases. Nothing novel can emerge from systems in the former extreme condition, while systems in the other extreme are too orderless to retain any pattern. At the border between rigid order and randomness (at the edge of chaos) complex systems feature characteristics that allow new patterns to keep emerging. Under these conditions, such systems will experience many small changes punctuated by infrequent, irregular, and massive changes, a phenomenon well known to organization theorists as “punctuated equilibrium.”

Fourth, complex adaptive systems are nested hierarchies which include other complex adaptive subsystems. These also undergo evolutionary changes. Shifts in system-level characteristics may alter the way agents interact; actions can proceed along feedback loops but also can change these loops. In addition, complex adaptive systems can evolve through the introduction of new agents or new decision rules. This may be done by importing agents or rules from outside the system, or by recombining agents or decision rules. Within organizations, it is usual for groups, teams, and task forces to function as arenas where new ideas and behavior emerge from the recombination of previous ideas and behavior.

Anderson then explores the implications for strategic management of the use of such models. He notes that present organizations are moving toward greater connectedness, environments are becoming hypercompetitive, and the relationships between actions and outcomes are getting more complex and exhibiting nonlinear behavior. In environments far from equilibrium, Anderson says, adaptive changes must be evolved, not planned. He sees adaptive change as “the passage of an organization through an endless series of organizational microstates that emerge from local interactions among agents trying to improve their local payoffs.” [228] In such conditions, *management’s task is not to shape the pattern that constitutes strategy but rather to shape the context within which it emerges.*

Anderson proposes that managers do this by operating two levers. They can alter how each agent perceives its local environment and individual payoffs. And they can reconfigure the “organizational architecture” within which agents adapt.

The modification of agents’ perception includes the design of reward systems but is much more than this. It encompasses everything that can change the context within which a reward system operates. Redefinition of the organization’s domain or modifying the performance measurement system may affect substantially the way agents perceive their actions and probable results.

By organizational architecture Anderson means such things as the extent of improvisation, the nature of collaboration, the typical rhythm of innovation, and the experimental changes the organization makes in its demography and structure. In other words, architecture is the organization’s own vision of how it internally operates to be adaptive.

Anderson concludes by noting that organization theory has not yet caught up with the knowledge available from the study of complex adaptive systems. One should not expect a revolution in organization science out of the application of these concepts, he says, but new vistas will be opening up and enrich the repertoire of concepts and techniques available for the study of organizations and strategic management.

As thought-provoking as Anderson's ideas are, his description of the intricacies of complex adaptive systems (which in the present review we strove to circumvent by simplifying ideas and using plain English whenever possible) makes one wonder whether complexity theory can really help in improving understanding of organizations. As Roger Shepard, a psychologist at Stanford University remarked, even if we can capture nature's intricacies on computers, those models might themselves be so intricate that they elude human understanding. [Horgan 1995] We might add that, in addition, the application of complexity theory to organizations involve important modifications – such as the inclusion of agents' consciousness and deliberate management actions – that can increase the complexity of the models.

As it is being applied to human organizations, complexity theory may provide new insights about how organizations behave and suggest looking into aspects that have been neglected in organization theories. But in its present form, it is no more than an analogy, or metaphor, applied to organizational affairs. As such, it suffers from the typical limitations of such images. [Morgan 1986]

Analogy may be helpful in two ways: it may apply a familiar image to something that is less known, thus making it more understandable; or the image, even if not familiar, may have indisputable properties that are unsuspected in the object to which it is applied, thus suggesting new aspects to be investigated in it. To be useful in the first way, the employed image must refer to a well-known thing or event whose attributes are promptly and clearly recognized. If, instead, the analogy refers to a little-understood or ambiguous phenomenon, then it will not help to understand the facts to which it is applied. Complexity theory is not yet well understood, therefore it will not help in the first way.

As for whether complex adaptive systems have irrefutable properties that, when applied to organizations, may reveal new, unsuspected properties, this is the contention of many authors, including Anderson.

But the application of complexity theory concepts to organizational phenomena often gives the impression of a dressing up of plain ideas to make them look more profound and neoteric. One example of this is Macintosh and Maclean's [1999] proposed framework for managing organizational transformation. We will describe their ideas stripping them of complexity theory terminology as much as possible, to demonstrate that their model can do without such terminology. They speak of organizational "transformation," not "change," to underscore that their model applies to transitions between discrete and distinct organizational forms, as opposed to movement along a continuum. In other words, they offer a method for managing an organization's transition from one form ("archetype") to a substantially different form. Their ideas are theoretical to a large extent, and they provide only two examples of apparent congruence between model and facts. But the logic is appealing and the model deserves to be reviewed here, especially because it involves strategy emergence.

The central element of their prescription is that, in conducting its transformation, the organization should manage its "deep structure," that is, the set of simple rules which embodies organizing principles and business logic but is usually tacit. (Deep structure is not to be confused with operational systems and procedures.) Macintosh and Maclean's proposal is that the transformation process be conducted in three stages:

Stage 1: The organization must identify the deep structure and rules that underpin its current archetype (organizational model), surfacing assumptions and sharing mental models, much as in Senge's [1990] learning organization. Underlying rules relating to both process and content are thus moved from the tacit to the codified domain. A new deep structure is then formulated, introducing new rules, keeping some old ones, and rejecting others.

Stage 2: It then creates deliberate instability, by generating far-from-equilibrium conditions, in order to create the space for the new deep structure to take hold. This is typically done through a major restructuring exercise.

Stage 3: As the new archetype emerges, the organization applies feedback loops to reinforce the new deep structure and disable the old one. Through positive feedback, nonlinear development of new systems is fostered, while negative feedback is used to suppress discarded practices.

The authors call this model “conditioned emergence.” They note that it “encourages planning at the level of deep structure and processes, whilst allowing emergence at the level of particular outcomes.” [312] It thus combines emergence with collective intention.

But where does complexity theory enter Macintosh and Maclean’s framework? As we attempted to show, their ideas are interesting in themselves and they can dispense with their allusions to complexity framework and terminology. We are not saying that these have no function in their proposal. In fact, characteristic complexity concepts like self-organization and emergence itself do increase the interest and significance of their model. But, in our view, what they add is relatively little and of doubtful validity.

Let us now turn to the role of emergence in these models. In natural complex systems, emergence means the appearance of system-wide behavioral patterns that could not be inferred from the knowledge of agents’ rules of behavior but that result from the interplay of these rules. Weather is an emergent property: small phenomena occurring in given microenvironments interact with one another and the system may end up organizing itself into an emergent structure known as a hurricane.

In a sense, natural systems can be regarded as machines, but they are very different machines from the ones we are used to. Instead of being designed from the top down, the way a human engineer would do it, living systems always seem to emerge from the bottom up. [Waldrop 1992]

Through their computer simulations, complexity researchers found out that complex behavior need not have complex causes. Complex and unexpected behavior can emerge from collections of extremely simple components.

In applying complexity theory to organizations, one should take into account that agents in these have consciousness, expectations, and will. It might be expected that these characteristics would make models even more complicated than the ones used for natural phenomena. But there is another extra entanglement. A remarkable circumstance in Anderson's and Macintosh and Maclean's papers is the fact that they both add system-wide *intentional* behavior to the system. In Anderson's model, the organization can manipulate the agents' micro-environment and design "organizational architecture." In Macintosh and Maclean's model, management brings to light the deep structure, proposes a new one, and administers the feedback loops to surface the new archetype.

Under this state of affairs, it should not be expected that the phenomenon of strategy emergence will become more assailable through the attempts at adapting complexity theory to organizations. But it can be expected that these attempts will bring useful insights into strategy emergence.

The driving forces of the application of complexity theory to organizations seem to be the availability of a new theoretical framework that serves as an inspiring image, the sophisticated computational technology now at hand, and, not least, the present prevalence of the free-market ideology.

The key contribution of complexity theory to the understanding of human organizations would seem to be its ability to explain the emergence of organized patterns at the system level as a result of innumerable autonomous actions at the individual agents' level. Not coincidentally, this is a foundation of the present widespread reliance on the market as the best mechanism for organizing economic transactions. Self organization is a crucial process in this context. Paradoxically, the authors we have reviewed do not seem to accept this pure model but instead add to it intentional behavior at the system level. This seems to indicate that pure,

spontaneous emergence is not deemed desirable in human (or at least business) organizations.

V. THE ROLE OF PLANNING

To more fully understand the place of emergent strategies in Mintzberg's thinking, it will be useful to examine what he thinks about deliberate strategies. This can be done by looking at what he says about strategic planning. Throughout his career, Mintzberg has taken a very critical stance towards it, often assuming the role of spearhead of a frontal attack on planning as a way to make strategy. In his view, none of the authors in the planning literature tried to understand how effective strategists really think or how effective strategies really form in organizations. A kind of *normative naivete* has pervaded this literature. His own research shows that strategy making is an immensely complex process involving the most sophisticated, subtle, and at times subconscious of human cognitive and social processes [Mintzberg 1994: 226].

As he himself often acknowledges, he adopted a radical position against strategic planning in order to draw attention to an often overlooked alternative mode of strategy formation, and not because he believes planning is useless. In fact, he has suggested that a comprehensive strategic planning approach to strategy formulation applies better to firms operating in stable environments, whereas unstable environmental conditions are more conducive to emergent strategic decision making [Mintzberg 1973, 1990]. By overstating his criticism on planning, he attempted to create a more balanced attitude towards it, one in which planning is no longer considered the only, or the best, way to make strategy, but one extreme way of doing it, appropriate only under certain circumstances. To draw from one extreme toward the middle, one has to pull from the opposite far end, he says, thus justifying the extremist position of his writings [Mintzberg 1994: p. 323]. Perhaps this reasoning can excuse the crusading tone of most of his argument, whereas a balanced and dispassionate treatment might be expected from a scholar like him.

In his 1994 book, *The Rise and Fall of Strategic Planning*, Mintzberg organizes his previous critical writings on planning. His central argument is that formal strategic planning systems are no good at making strategies and should not be used for that. Instead, formal planning systems should be used to elaborate on strategies or visions that already exist and help in their implementation. Most of the book is centered on summoning evidences on planning's fallacies, pitfalls and failures. He traces out the trajectory of strategic planning throughout the last decades and the evidence of its performance. His criticism is directed not to strategic planning as such, but more pointedly to the "planning school" of strategy making that he characterized in previous writings [Mintzberg 1990].

Mintzberg examines several definitions of planning offered by other authors and finally settles on the following, which in his view is representative: Planning is a formalized procedure to produce an articulated result, in the form of an integrated system of decisions [1994: 12].

Mintzberg uses a large part of his book to examine the empirical evidence on the effectiveness of planning. He surveys anecdotal evidence dating from 1970 to 1985 and some "deeper studies," including the McGill research on "tracking strategies" and Wildavsky's demolishing criticism of the PPBS (Planning-Programming-Budgeting System) experience in the U.S. However, he does not seem to have been fair at picking his evidences. For each of the several business cases of strategic failure numerous refuting examples could be cited.

He then addresses some traps ("pitfalls") in the practice of planning, such as top management's vain expectation that its endorsement of a plan will automatically engender commitment throughout the organization.

But then he sets out to go beyond these traps, which he views as mere symptoms, and to investigate more deeply into what he calls the "fundamental fallacies" of strategic planning. The criterion he uses to judge planning is the contribution it can give to strategy making. Accordingly, he calls planning's fallacies those

assumptions on which planning is deep-seated and which are wrongly regarded as promoting strategy making.

He shows that planning's claim of providing a setting where strategies can be created is based on three false assumptions: that future events and actions can be predetermined, that manager's detachment from daily operations can promote vision, and that formalization of the strategy process can promote creativity. He then sets his course to demonstrate that all of these assumptions are false.

The first of planning's fallacies is that of predetermination. It is assumed that the environment can be predicted, that the strategy making process can develop on schedule, that the resulting strategies can be imposed on an assenting environment, and that the organization remains stable to execute the strategies through programming.

All these assumptions are false, Mintzberg asserts. He specially remarks that problems, opportunities, and innovative ideas do not arise according to some set timetable; they have to be dealt with whenever they happen to be perceived. Yet, planning assumes that strategies appear at predetermined times, popping out when expected, full-blown, all ready for implementation, with that process too on schedule.

The second of planning's fallacies is that of detachment. The strategic planning model makes a sharp distinction between formulation of strategy – a task restricted to the important people in the organization . . . – and the implementation of strategy, the job of everyone else. This is justified by invoking March and Simon's dictum that "daily routine drives out planning" [255].

To Mintzberg, the way planning views how strategies are created is misconceived. Instead of the formulation-implementation dichotomy so long promoted in the planning literature, he believes the strategy making process is better characterized as a process of learning – formation in place of formulation, if you like. People act in order to think, and they think in order to act. The two proceed in tandem, like two

feet walking, eventually converging in viable patterns of behavior (that is, realized strategies).

In such a learning process, the formulation-implementation dichotomy collapses in one of two ways – one centralized, the other decentralized. In the first, the formulator implements, that is, a strong leader with a strong vision and in close touch with the operations personally monitors the impact of his or her decisions. In the decentralized way, the implementors formulate, that is, managers lower down in the organization identify and champion proposals that may shift the direction of the organization.

Detachment is promoted through the reliance on hard data. But Mintzberg points out the limitations of information provided by formal management systems. Hard information is often limited in scope, lacking richness and often failing to encompass important non-economic and non-quantitative factors.

The third of planning's fallacies is the fallacy of formalization, the assumption that the strategy formation process can be formalized. Mintzberg says that we have no evidence that any of the strategic planning systems – no matter how elaborate, or how famous – succeeded in capturing (let alone improving on) the messy informal processes by which strategies really do get developed.

Mintzberg concludes his scrutiny of planning's fallacies by stating what he calls the planning school's grand fallacy, the supposition that analysis can provide synthesis (the planning process is essentially analytical). He says:

“Analysis may precede and support synthesis, by defining the parts that can be combined into wholes. Analysis may follow and elaborate synthesis, by decomposing and formalizing its consequences. But analysis cannot substitute for synthesis. No amount of elaboration will ever enable formal procedures to forecast discontinuities, to inform managers who are detached from their operations, to create novel strategies” [p. 321].

He sums up by saying that because analysis is not synthesis, strategic planning is not strategy formation.

In the last chapter of the book, Mintzberg turns from critical to constructive. He declares that he never had any intention of dismissing planning and that he only overstated his criticism to give weight to alternative ways of strategy making. He then proposes what he thinks are viable roles for planning, plans, and planners.

For him, the role of planning reduces to strategic programming. Organizations engage in formal planning, not to create strategies but to program strategies on which the organization has already decided, that is, to elaborate and operationalize their consequences formally. Strategy formation is precluded from the model. In this role, planning can help to codify strategy (express it as to render it operational), to refine and detail it, and to implement it.

There are environments and circumstances that are more favorable to strategic programming: Stability, industry maturity, capital intensity, large size, elaborated structure, tightly coupled operations, simple operations, and external control.

Plans can usefully operate as communication media and control devices. But in the later capacity they must control also the assessment of *emergent strategies*.

What legitimate roles may planners play? Here lies perhaps the greatest contribution of the book. According to Mintzberg, planners can be finders of strategy. (A vignette suggests planners probing into and extracting strategies from the “black box” of strategy formation.) They can practice logic in action: “You plan to find out what it is you are doing” [362]. He is referring to finding emerging strategies, especially in the complex, decentralized, “learning” organization that must surface many of its strategies from below, such as high technology companies, professional service institutions, and research laboratories. A crucial aspect of the strategy process is to find these emerging patterns so that they can be scrutinized for the benefit of the organization at large. Obviously, the role of finding emerging strategies is an important responsibility of managers, but they do this in informal

and idiosyncratic ways, so that planners can help make the process more formal and systematic. This is no simple task, finding strategies in the vagaries of the organization's own behavior is a kind of detective work, being able to sort the wheat from the chaff.

A second role for planners is that of analysts. (A vignette suggests planners feeding inputs into "black box" of strategy formation.) They can provide data and models for the strategy process and scrutinize possible strategies, analyzing and evaluating them. Scenario building may be of use here.

A third role for planners is that of catalysts. (A vignette suggests planners supporting the "black box" of strategy formation.) Planners see their role as getting others to question conventional wisdom, and especially helping people out of conceptual ruts. Planners might be most useful if they would just concentrate on providing occasions for people to realize what they do. As for strategy "retreats," Mintzberg remarks that there is no special time or place to make strategy. But organizations ripe for change sometimes find such retreats critical for the crystallization of the necessary consensus.

Lastly, Mintzberg considers the planner's role as strategist. (A vignette suggests the planner getting *within* the "black box" of strategy formation.) In his characteristically sardonic vein, he does not *propose* such a role, because he does not believe that planners can do it well.

“. . . nothing we have seen in the planners' predispositions (other than to think about strategy) suggests that they have any comparative advantages over managers in these regards. Perhaps quite the opposite: their jobs limit planners' access to the right information, preclude the necessary involvement, and encourage analysis at the expense of synthesis" [p. 391].

He recognizes that some planners are creative and that some circumstances may favor planners acting as strategists.

“These may not be the traditional planners, but they are the ones who have overcome the planners’ comparative disadvantages at strategy making. That is why we mention ‘the planner as strategist’ here but do not list it as a fourth role for planners” [p. 391].

To sum up, Mintzberg sees organizations engaging in planning to program their strategies. They do it for purposes of communication, coordination and control. The roles of planners, aside from carrying out the above, are to help find strategies, to feed data and analyses into the strategy formation process, to scrutinize the strategies that came out of it, and to stimulate others to think strategically and be more knowledgeable about the strategy formation process in general. One of Mintzberg’s main underlying propositions is that plans and planners should not be the only source of strategies. On the other hand, regardless of where strategies come from, efficient strategy formation requires planning both to furnish inputs to strategy making and to scrutinize the outputs.

The role of planners will vary according to the form of the organization. (Here Mintzberg refers to his typology of organizational forms [Mintzberg 1979].) In *the machine organization*, conventional planning and conventional planners fit best. But creative planners can play a key role to signal the need for major change when it becomes necessary. In *the entrepreneurial organization*, there are minimal roles for plans or planners, but creative planners may have a niche. In *the professional organization*, planning is destined to limited success much of the analysis is conducted by the professionals themselves and is used in the debate and interplay that make up the collective process of decision making. In *the adhocracy organization (high-technology projects)*, the role of finding strategies becomes crucial, because the strategies tend to be rather emergent, providing opportunities for creative planners. In *the diversified organization*, there may be a bit of a role for headquarters’ planners as catalysts, to convey knowledge about the strategy process, but otherwise the roles seem logically left to planners within the divisions themselves.

Although Mintzberg's arguments are centered on showing that formal planning systems are inadequate to generate innovative strategies, his tone throughout this book sometimes gives the impression that Mintzberg is against planning as such. It would be absurd to try to show that planning is not necessary. As Smith [1994] says, in reviewing the book, "how can you run an airline, develop a new automobile, or build a new steelworks, without a vast amount of planning?" [151]. And he continues "the real question at issue is not whether planning, short or long term, is necessary but what are the most effective and appropriate methods of planning in different circumstances" [151]. In the last chapter of the book, Mintzberg himself says:

"[Planning] does have an important role to play in organizations, as do plans and planners, when matched with the appropriate contexts. Too much planning may lead to chaos, but so too would too little, and more directly" [415-416].

Capon [1996] says that from his meetings with senior executives of major corporations he concludes that strategic planning is alive and well, even if maybe in a different form than the overly formalistic approaches of the 1960s and 1970s [300]. And he concludes:

"Certainly, strategic planning is no panacea, but just as marriage, despite its many failures, remains a viable yet adaptive institution, so a thorough contemporary empirical study may demonstrate that strategic planning also survives robustly in an ever-adapting form" [301].

According to Smith [1994] Mintzberg's proposal that planning be restricted to programming strategies has nothing new in it. Smith argues that "although the distinction between a 'strategy' and a 'plan' has never been a hard-and-fast one, it has long been clear that a strategy is a broad statement of objectives and the policy for achieving them, and a plan is a more detailed and quantitative [statement] both of objectives and means, in other words, a first step in implementing strategy" [151]. So, what is new in this?

Of course, there is a large literature supporting strategic planning, including empirical evidence. We just cite two recent examples. A meta-study of prior planning research by Miller and Cardinal [1994] reveals a positive relationship between strategic planning and performance particularly in turbulent environments. And in a recent study of 112 US banks, Hopkins and Hopkins [1997] identify a mutually reinforcing relationship between strategic planning intensity and financial performance, i.e. strategic planning leads to higher performance, and high performance in turn spur planning activities.

These studies also revealed interesting impacts of the formality and comprehensiveness of strategic planning on performance. Miller and Cardinal's study [1994] indicated that when plans were classified by their formality, the relationship between formal plans and performance was less significant. They suggest that the planning process characteristics of flexibility, openness, and scanning are more conducive to performance than formalism, staff involvement, and analytical comprehensiveness. Hopkins and Hopkins [1997] specifically find that strategic planning intensity, as opposed to planning formality accounts for differences in performance.

Planning is essential for various reasons: it is vital for the commitment of resources, for integrating actions in different parts of the organization, for dealing with uncertainty, and for providing accountability to stakeholders, just to cite the most important. These reasons, together with the evidence just cited, seem to indicate that it is not strategic planning that should be criticized as much as the way planning has usually been carried out.

VI. THREE RECENT EMPIRICALLY GROUNDED ACCOUNTS OF STRATEGY EMERGENCE

1. EISENHARDT

The research done by Kathleen Eisenhardt and her associates throws additional light on the concept of emergent strategy. She has been concerned with strategy making in firms operating in rapidly evolving and intensely competitive markets.

A study by Brown and Eisenhardt [1997] focused on the management of change in rapidly shifting environments. They investigated multiple-product innovations in six firms in the computer industry in the U.S., Europe and Asia. This is labeled a “high-velocity” industry, one characterized by short product cycles and rapidly shifting competitive settings. In this type of environment, they argue, the traditional model of organizational change presented in the literature is inadequate. That model describes short bursts of radical change interrupting long periods of stability, a “punctuated equilibrium.” Change is rare and episodic (temporary). Incremental change is assumed to occur but radical change is the focus of interest. In this model, organizations are assumed to be static or nearly so. Under these assumptions, we might add, the classical approach to planning is feasible.

They propose an alternative to this punctuated equilibrium model, dubbed the “continuous change model,” which fits better their empirical findings about firms operating in the high-velocity computer industry of the early 90s. In this setting, change was often played out through product innovation. Brown and Eisenhardt compared firms that were successful in developing product portfolios with positive characteristics (on schedule, on time to market, etc.) with firms that were less successful. (They were able to demonstrate a positive link between successful product portfolios and post-study firm performance.) They found that successful firms shared three key properties. First, they achieved a balance between order and disorder, by combining a limited structure (clear responsibilities and priorities, formal and frequent cross-project meetings) with extensive communication and

freedom to improvise within current projects. Second, they made extensive use of low-cost “probes into the future,” such as experimental products, strategic alliances with potential customers, use of futurists (we might call them long-range planners), and frequent strategy meetings. Third, they carefully managed the transition between present and future projects, by establishing predictable time intervals between projects and using coordinating (“choreographed”) transition routines.

In the continuous change model, the successful firm faces no periods of stability. Change is occurring continuously and rapidly and is “endemic” to the firm, that is, distinctive of each peculiar firm, a home-bred feature at the heart of its culture.

Less successful firms operated under either structured, mechanistic forms of organization, or the opposite, unstructured, organic forms [such as described by Burns & Stalker, 1961]. Thus, the managers of successful firms balanced “on the edge” between these extreme structures used by the less successful firms, adopting neither a radical nor an incremental approach, but rather a third form of organization, one in which some features are prescribed or determined (e.g. responsibilities, project priorities, time intervals between projects), but others are not. Brown and Eisenhardt termed this organization form “semisttructures.” Using these semisttructures, managers were able to attain a balance between the rigidity of planning and the chaos of merely reacting to external events. The authors summarize their operation thus:

“Successful multiple-project innovation involves improvisation of current projects through limited structures and real-time communication, experimentation into the future with a wide variety of low-cost probes, and rhythmically choreographed transitions from present to future” [32].

This study deserves several comments regarding the ideas we have reviewed so far, in particular that of emergent strategy.

First, a close affinity can be noted between the described processes and structures with Mintzberg’s model of strategy making in an adhocracy. In the firms studied by

Brown and Eisenhardt, projects were a powerful organizational structure. They report that at the more successful firms, although shaped by priorities and responsibilities, the work itself was more ad hoc and iterative [14].

A second point regards planning. Managers of the successful firms did not extensively plan or rely on any single version of the future but neither were they merely reactive. Instead, they balanced between the rigidity of planning and the chaos of reacting by using a variety of low-cost probes into the future, as already mentioned. Being low-cost, a large number of these probes could be used. They were valuable because they gave managers a diversity of options in a situation where it is particularly difficult to predict which of possible futures will arrive and when. Also, by helping generate a number of possible visions of the future, these probes lowered the probability of managers being surprised by an unanticipated future. Finally, they enhanced learning about possible futures. Direct, hands-on experience through experimental products and strategic alliances create “learning by doing” [20-21]. Here we find another connection with Mintzberg’s ideas.

Two of the less successful firms planned the future, instead of probing into it. They did that by building a comprehensive strategy, creating a single view of the future, betting the product portfolio on that view, being disconnected from customers and maintaining an unchanging vision in light of changing competition [19]. This very much approaches Mintzberg’s definition of deliberate strategy. On the other hand, the other less successful firm merely reacted to unanticipated industry events [20]. This is absence of strategy.

Third, Brown and Eisenhardt also characterize the proposed paradigm as a combination of improvising in the present with probing into the future. This brief description suggests the importance of improvisation in the proposed paradigm. But the authors go a step further to maintain that the proposed paradigm represents a metaphor shift, from “disciplined problem solving” to “improvisation” [16], referring to the work of Miner, Moorman, and Bassoff [1996]. In fact, in our view, the notion of improvisation (which we briefly treated in Section 4.2 above) may be a rightfully innovative interpretation of strategy emergence.

A fourth point is the two researchers' remark that the adoption of a limited structure (clear responsibilities and priorities and formal cross-project meetings) helps people in the organization to make sense of change in a fast-changing environment, thus echoing Weick's [1979] ideas on sense-making in organizations.

Finally, Brown and Eisenhardt use concepts related to complexity theory. They point out that complex adaptive systems keep changing continuously by remaining at the "edge of chaos" – the condition between order and disorder –, rather than ever reaching a stable equilibrium. In fact, Anderson [1999], whose paper we reviewed in Section 4.4, acknowledges Brown and Eisenhardt's contribution to the application of complexity theory to organizations.

In a more recent paper, Eisenhardt [1999] presents a more all-around vision of her research and findings. She chooses to view strategy creation as strategic decision making, that is, she focuses on the process that generates strategic decisions, which, to her, is the fundamental capability of excellent firms operating in those demanding environments.

Eisenhardt does not stress the phenomenon of emergence per se and she uses the figure of strategies emerging rarely and to all appearances casually. But, as we will show, her ideas are at the heart of the concept of emergence.

She presents a collection of techniques to foster the collective creation of strategy in rapidly evolving and intensely competitive markets. Successful companies in these settings must resort to a continuing flow of temporary and shifting competitive advantages. Strategic decisions must be frequent, fast, widely supported and, of course, of high quality. Strategy is made "as you go", or in real time. When strategy is a flow of shifting competitive advantages, she argues, the choices that shape strategy matter greatly and occur frequently.

At the same time, effective strategic decision making must occur at several levels of the corporation: "at the unit level, to improvise business strategy; at the business

level, to create collective strategy and cross-business synergies; and at the corporate level, to articulate [major changes of direction]" [66].

The CEO's role in decision making is circumscribed to the province of corporate organization. He is seen as a "team player," though the most powerful. Decision making is widespread in the organization. Decision makers create strategy by using a large assortment of techniques that promote collective decision making by building collective intuition, accelerating constructive conflict (stimulating instead of avoiding it), maintaining a disciplined pace and neutralizing political behavior. For each of these purposes, Eisenhardt presents techniques that were used by the successful firms studied by her.

"These processes [the collective decision processes that results from the application of these techniques] support the emergence of effective strategy" [72]. It is pointed out that modest performers had more *predictable* and less effective strategies. That is, successful firms' strategies are less predictable, they emerge.

2. OSBORN

Osborn [1998] offers a framework explicitly to help organizations employ and exploit emergent strategies. His model applies specifically to flat, fully distributed organizations, but he hints that the concepts might be used more generally in distributed structures such as networked organizations and cooperative organizational arrangements, such as alliances, partnerships and joint ventures. He calls these new configurations "new-form organizations," as opposed to traditional-form ones.

To Osborn emergent strategies mean collectively developed strategies that respond to competitive threats ("unexpected market shifts"). "Emergent strategies . . . represent ideas that have surfaced from an organization's interactions with the customers and markets, and may suggest tactics that would not have been

considered during formal planning. . . . Emergent strategies arise from the daily activities of the business; they often represent unexpected, bottom-up ideas” [487]. Osborn’s concept of emergent strategy is thus that of an essentially reactive initiative. Also, in his framework, emergent strategies keep company with intended strategies: he speaks of an organization revising intended plans to adjust to emergent strategies [504].

He says that competitive agility rests on how quickly an organization can adapt to emergent strategies, and he sets out to show how new-form organizations can generate emergent systems to support emergent strategies [483]. To do this, he makes use of two other recently developed concepts: interactive management controls [Simons 1991] and semi-formal information systems [Malone, Lai & Fry 1992]. Thus, Osborn’s framework combines three new ideas respectively in the areas of strategy formulation (emergent strategies), organizational design (interactive management controls), and information systems support (semi-formal systems). A brief explanation of the two latter concepts is given next, starting with interactive controls.

Simons [1991] defines management control systems broadly as the “*formalized routines and procedures that use information to maintain or alter patterns in organizational activity*” [49]. He recognizes two types of management control systems. One has been presented consistently in the literature for many years. It is used to implement the strategies developed by top managers. When this type of control system is used, goals are set in advance, outcomes are compared with preset objectives, and significant variances are reported to managers for remedial action and follow-up. Strategies are developed (or approved) by top managers, plans are diffused downward through the organization and formal systems are used to detect and report deviations from the plans. Simon calls these *diagnostic control systems*. They are a tool for the practice of management-by-exception.

Another type of control system has been unearthed by his research. It was found that in certain situations, top managers use control systems far more actively, on a day-to-day basis to intervene in organizational decision-making. These may be called

interactive control systems, inasmuch as top managers use the system to personally and regularly involve themselves in the decisions of subordinates [49]. These formal systems characterize a process with the following characteristics:

1. The information generated constitute an important and recurring agenda for top management;
2. The process demands constant attention from operating managers at all levels;
3. Data are interpreted and discussed in face-to-face meetings of superiors, peers and subordinates; and
4. Underlying data, assumptions and action plans are continually challenged [50].

Through this process, new strategic initiatives are likely to emerge. “Thus, by using a control system interactively, top managers can guide organizational learning and thereby unobtrusively influence the process of strategy making throughout the firm” [50].

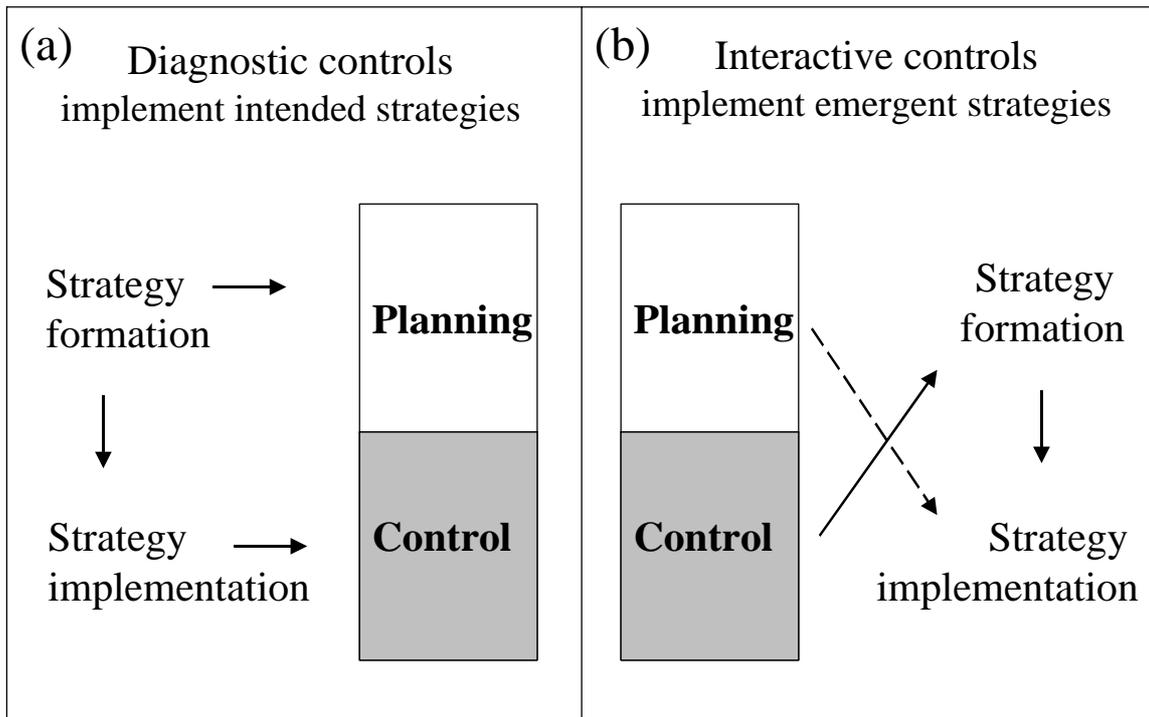
As reported by Simon, previous research suggested that top managers choose to use interactive control systems to assess a very limited number of conditions, while using diagnostic control systems for the remaining conditions, thus limiting top management involvement in the latter to periodic or exception-prompted reviews. The conditions that are chosen by managers to be monitored through interactive controls are strategic uncertainties. They do not relate to what the firm does well, that is to say, the critical success factors associated with current strategies, but rather to contingencies that could provide threats or opportunities as circumstances change, actually uncertainties associated with their visions of the future.

Traditional diagnostic systems are designed to tell top managers when actions are not in accordance with plans. But the difficult part is to know when conditions are right for seizing new opportunities and shifting direction. This is the purpose of using interactive control systems for certain areas of attention [61]. Top managers

use them to guide the informal strategy-making process by forcing personal involvement, intimacy with the issues, and commitment. They are a way of organizing attention, instead of organizing people [61].

Osborn [1998] remarks that interactive controls help the organization focus its attention on emergent strategies, they provide an agenda and a mechanism for discussion and collaboration between individuals and within teams, and they help to generate plans that are subsequently absorbed by the diagnostic systems developed for new intended strategies [488]. “They can play an important part both in surfacing relevant knowledge when it is needed and in identifying unexpected but useful courses of action in time for them to be acted upon” [489].

While diagnostic control systems are appropriate for monitoring the implementation of intended strategies (diagram (a) in Figure 3), interactive control systems are a means for surfacing and acting upon emergent strategies (diagram (b) in Figure 3). Here one is reminded of Mintzberg’s view of the strategists’ role as pattern recognizers in an innovative organization.



Source: Osborn [1998] as adapted from Simons [1988]

Figure 3. The role of interactive controls in surfacing emergent strategies.

The other concept used in Osborn's framework for dealing effectively with emergent strategies is that of semi-formal systems. While interactive controls help identify emergent strategies and line up effective organizational responses based on those strategies, the deficiencies of traditional information systems in delivering data adequately usually limit the application of this kind of controls. Such deficiencies can be reduced with the newly developed concept of semi-formal systems. These are essentially management information systems with customized computer programs to interpret data [Malone, Lai & Fry 1992]. They go a step beyond flexible displays of structured data and routines for supporting specific group decision processes, to enable a management team to structure and share a large part of its interactions and thus to build a collective and explicit understanding of emergent issues. By exploiting structures that occur naturally within management processes, they provide an opportunity to capture and express the common understandings tacitly held by team participants [489]. Technically, these systems

use the computer programming concept of “object” to represent management “objects,” such as issues, analyses and interpretations of market events.

Semi-formal information systems are adaptable to changes in market dynamics as they occur and thus may support process redesign while the interactive controls are helping strategy redefinition. Hence, it becomes possible to develop emergent systems to support emergent strategies [490].

To illustrate this framework, Osborn presents the results of an exploratory 22-month longitudinal study of Frito-Lay, Inc., an American snack food producer, supplemented by fieldwork dating to 1986. The study offered an opportunity to examine the linkages among emergent strategies, interactive controls, and semi-formal information systems. From 1986 to 1990, Frito-Lay experimented with new organizational forms for its field sales operations, redesigning them as a flat, fully distributed organization. A number of important structural changes were implemented:

1. Decision-making authority was delegated from headquarters to field offices;
2. Hierarchical layers were reduced by more than one third;
3. Less reliance was put on specialized functions;
4. Increased emphasis was given to team-based decision making; and
5. Reward structures were shifted from cost control to profitability.

By 1991, the transition from a hierarchical form to a flatter, more distributed organization had been completed.

In addition, from 1986 to 1990, the company put together information systems for collecting route-level data from each company salesperson. The company also started buying external market data coming from supermarket scanners. The amount

of information thus generated led to a severe managerial data overload. The increased level of detail in the data and the increased update frequency encouraged the regional managers to look for a new kind of information system to treat the acquisition and analysis of market data. The managers sought to create a new form of relationship with their information analysts, and started using a reporting system in which filtered data were combined with analytical tools such as spreadsheets files prepared by the analysts. These tools gradually evolved to customized software packages, incorporating working models of business dynamics.

Over time, management felt the need to organize the variety of those customized computer tools that were being generated, and started developing simple frameworks to guide the use of the analytical tools. The development of these tools “began a transition from a state of traditional, fragmented reporting that represented hierarchical and incomplete knowledge of market conditions to a state of distributed, system-supported analytical tools organized by a readily comprehensible guidance framework” [495].

The use of these semi-formal information systems had another effect: regional managers, who had traditionally focused on promotion *results*, started to pay attention to promotion planning *assumptions*. This way, they evolved from a reactive attitude to a prospective one.

These new semi-formal information systems were introduced by the company with a slight time lag across units. This afforded Osborn an opportunity of choosing two regional management teams that were at different stages of development of these systems and comparing their behavior and performance when they had to face the same crisis in 1991.

The two teams, referred to in the article as teams A and B, had similar authority, responsibility and members, and faced similar market changes. Both teams consisted of a regional general manager and four functional managers (finance, marketing, sales, and logistics), supported by younger teams of information analysts. The two teams differed, however, in that Team A had been using the

company's new information systems for over a year when the study was done, while Team B had been exposed to the new systems only for a quarter.

In 1991, Frito-Lay faced unexpected shortages in a key raw material for a heavily promoted product. Team A and Team B devised similar strategies to deal with the supply crisis. Both attempted to shift the promotion to another product category. These strategies surfaced in discussions among regional managers as they reviewed production capacity constraints and marketing commitments. However, the execution of these strategies was difficult and required moving replacement product from plants directly to customers and explaining the promotion changes to the uninformed customer base.

The behavior of the teams was traced through observation of their business review meetings, considered central to the decision-making process. During the period of the study, the meetings held by the two teams differed markedly, as they were in different stages of development of their semi-formal information systems. Team A's meetings were held weekly (instead of monthly), they were shorter, they involved fewer people, and fewer data items were scanned, of which a much smaller percentage were raw data. In addition, managers in Team B's meetings spent more meeting time presenting material to one another and less time discussing it or using it to negotiate a shared understanding of observed market events, as Team A's managers did in their meetings. Evidence is presented to suggest that Team A achieved a higher proportion of productive discussion through increased use of semi-formal information tools to filter and make sense of market trends. As a result, a higher proportion of its time was devoted to building a shared interpretation of results.

Team A was much swifter than Team B in reacting to the shortage crisis. In five weeks, it redesigned its promotion schedule, shifted company-funded advertisement to the replacement products, and made deliveries using a fleet of custom-dispatched trucks. At times, manufacturing and logistics managers were ordering large amounts of new products from the company's plants without any end-market orders from

marketing and sales managers, thus operating in a parallel, rather than the usual sequential, mode.

Team A was more successful than Team B in shifting to replacement products. This was evidenced by Team A's superior profit results, and by negative effects of Team B's actions, like demoralized sales force, disgruntled customers and lost incremental sales.

Team A's managers did face enormous difficulties in executing their emergent strategy. In working jointly to cut delivery times for the realigned promotion, they had to act largely without information. Manufacturing managers incurred in extra costs with no firm orders, logistics managers mobilized fleets with no assurance of sales, warehouse managers accepted large volumes of products with no place to put them. These managers had to make daily decisions on the basis of trust rather than on hard information.

These managers attributed part of their success to the semi-formal systems they used, which encouraged them to consider the profitability implications of their actions and enabled them to understand the challenges faced by their colleagues in other functions.

The importance of profitability models came out clearly in the study. Managers became aware that logistics costs might double, and yet incremental volume could be profitable enough to pay them off.

Osborn says that his discussion of the experience of the two business units suggests processes through which new-form organizations can support competitive adaptation when intended plans have to be revised to adjust to emergent strategies. Competitive agility, he says, derives from systems and structures which enable the organization to stay closer to their markets in at least three ways:

1. The use of interactive controls permits the organization to act on emergent strategies, that is, strategies identified bottom-up from current market experience.
2. Semi-formal systems promote increasingly systematic, anticipatory knowledge of market dynamics.
3. Semi-formal systems may contribute to distributing market guidance across functional boundaries.

These ways, in combination, offer specific mechanisms for converting emergent strategies into useful action.

In its general approach, Osborn's framework parallels Mintzberg's. While the latter addresses adhocracies, the former refers more inclusively (and more contemporarily) to new-form organizations. But Osborn's framework advances considerably over Mintzberg's in its prescriptive implications, and even though his study is exploratory, the level of specificity of his observations is highly supportive of new approaches to organize the exploitation of emergent strategies.

3. ANDERSEN

In his recent doctoral dissertation, Andersen [1998] examines the relationship between decentralized strategy formation and centralized strategic planning. He argues that emergent strategy formation relies on power dispersion which allows middle managers to take strategic initiatives and influence strategic decisions at the corporate level.

To Andersen strategy emerges out of decentralized decision making by middle managers at the business (not corporate) level. His study shows that such decentralized strategic formation (emergent strategy formation) can coexist with strategic planning and that both processes have positive effects on the performance

of the organization. This positive effect can be observed in two very different types of environments.

The study of the simultaneous occurrence of bottom-up strategic initiatives and strategic planning in the same organization opens the possibility that strategic decision making be both emergent and comprehensive.

Thus, the study focuses on the coexistence of emergence (decentralized strategy formation) and planning. According to Andersen there are two main standing paradigms on strategy formation which offer contrasting advice on how to create strategies in dynamic and complex environments. The political emergent strategy paradigm prescribes that in such environments strategic decision making should emerge in response to environmental uncertainties, while the rational analytical strategy paradigm prescribes that in such environments strategic planning processes facilitate adaptive thinking and coordinate strategic responses. Thus, at least in dynamic and complex environments emergent strategy formation and strategic planning are seen as incompatible and therefore are not considered simultaneously.

Andersen sets out to show that these are not alternatives, but that decentralized strategy making (by which strategies emerge) is compatible with centralized strategic planning, and that these two processes can complement each other and combine together to have positive effects on organizational performance, across environments characterized by differing degrees of dynamism and complexity. At least two previous field studies [Miller 1987; Jelinek and Schoonhoven 1990] had shown the coexistence of emergent strategy formation and strategic planning. Andersen worked with a sample of 185 business units to test his propositions.

The seeming conflict between emergence and planning is partly attributable to the fusion of distinct elements of the strategy process. To remedy this situation, Andersen distinguishes three different elements in the strategy formation process: strategic initiation (how decision authority is distributed), decision making (actual participation of middle managers in strategic decisions) and centralized strategic planning (emphasis the organization puts on planning). His hypotheses,

questionnaire and test results refer to empirical constructs of these and other conceptual elements.

According to Andersen the present state of the strategic decision making literature can be criticized in that:

1. The present frameworks are generally biased toward a concentration rather than a dispersion of power.
2. They fail to analyze the effects of decentralized strategy initiation in association with strategic decision making.
3. They generally consider decentralized strategic decision power and centralized strategic planning as mutually exclusive modes.

Andersen proposes a new framework, which he calls decentralized strategy formation. It presumes “a decentralized strategic decision structure, where strategic initiatives can arise from the autonomous actions of the organization’s middle managers while they participate in the organization’s strategic decisions. Strategic integration takes place through informal horizontal communication links between the decentralized decision makers” [108]. In this framework, all elements of the strategy formation process are decentralized: strategic initiatives, strategic decisions, and strategic integration [107]. The study shows that this framework is compatible with centralized strategic planning.

The empirical part of the study investigates the following issues:

1. Performance effects of decentralized strategic decision making in different industrial environments.
2. Performance effects of strategic planning in different industrial environments.

3. Performance effects of simultaneous adherence to decentralized decision making and strategic planning.
4. Performance effects of communication-enhancing information technology.
5. Performance effects of simultaneous adherence to decentralized decision making and communication-enhancing information technology.

In short, it tests the existence of performance effects of a decentralized strategic decision structure in different environmental settings, and the moderating effects of centralized strategic planning and communication-enhancing information technology.

A decentralized strategic decision structure is characterized through two dimensions, decision authority and actual participation. The study finds that both dimensions of decentralized strategic decision structure have positive effects on performance. But centralized strategic planning was also found to have positive effects on performance. Therefore, both processes contribute to improve performance.

The study hypothesized that the two processes also have a combined positive effect, that is, that centralized strategic planning has a positive moderating effect on the relationship between a decentralized decision structure and organizational performance. However, the hypothesis was not supported, as the study could not find positive interaction effects. But it found that middle managers' involvement in the strategic planning discussions (as distinct from mere participation in ad hoc decisions) eliminates *negative* interaction effects, that is, counterproductive effects from simultaneous adherence to decentralized decisions and strategic planning.

Thus, the empirical tests show that decentralized strategic decision making and centralized planning can coexist, and that even though they do not seem to reinforce each other, at least conditions can be created (middle managers' involvement) so

that they do not undermine each other. In other words, the two processes can be made compatible.

The conclusions of Andersen's study can be summarized as follows.

1. Decentralized strategy formation has positive performance effects in both high and low dynamism industries.
2. Strategic planning has positive performance effects in both environments.
3. Effective strategy formation processes are based on decentralized strategic actions taken by middle managers, middle management participation in strategic decisions, and centralized strategic planning activities.
4. The strategy formation process is characterized by distinct process elements, e.g. autonomous strategic actions, participation in strategic decisions, and centralized strategic planning, that can interact in various ways.
5. Management autonomy in conjunction with use of communication-enhancing information technology facilitates innovation in dynamic environment. In less dynamic environments information technology has a direct effect on innovation.

Therefore, decentralized strategic decision structure and centralized strategic planning each shows significant positive main effects on organizational performance, but the statistical tests do not support that simultaneous use of a decentralized strategic decision structure and centralized strategic planning re-enforces the main effects on performance.

The statistical tests lead to the conclusion that “choosing between emergence and planning in strategy development is a non-issue, because both strategy processes coexist and are important across environmental settings” [190].

Andersen's study presents concepts and propositions very similar to Burgelman's and Osborn's. His main contribution is to have tested these propositions empirically, surveying a relatively large sample of organizations. Another significant contribution is to have considered two distinct types of environment and to have found that the results are not contingent on them.

Thus, there is empirical evidence that emergent strategies and deliberate strategies can coexist in the same organization. Andersen's results are less than impressive, however. For he could not find synergistic effects in decentralized strategy emergence combined with centralized deliberate planning. In fact, he did find negative effects which were neutralized when middle management got involved in strategic decision making. This suggests that there may be a *cost* of combining centralized strategic planning with decentralized strategy formation.

VII. A USEFUL CLASSIFICATION OF ENVIRONMENTAL FACTORS CONDITIONING STRATEGY MAKING

In a recent article, Lowendahl and Revang [1998] present interesting opportunities for theoretical developments in strategy making. Their ideas raise important questions about the role of emergent strategies in postindustrial societies.

Lowendahl and Revang note that we are witnessing an evolving transformation of economic life which some have conceived as a change from an industrial (or modern) to a postindustrial (or postmodern) society. They illustrate some of the transformations taking place in business organizations.

Customers are now seen as individuals, no longer as markets and this requires a change from mass production to mass customization and a new way of doing market research, in which methods from anthropology are used to discover subjective needs. This new reality creates new demands for flexibility, building of organizational competencies, and responsiveness to changing customer requirements

and to increasing competition. Competition is often met with cooperation, as firms build alliances, participate in networks, and sign licensing agreements.

At the same time, firm-employee relationships are also evolving as talented people with specific knowledge and skills have become eagerly sought after by employers, and in many industries employers cannot expect to attract and retain excellent knowledge workers unless they can offer interesting challenges and opportunities for personal development.

Demanding customers require flexible and responsive organizations which can tailor their offerings to customers' needs, while powerful and knowledgeable employees challenge traditional hierarchical structures. These are just two aspects of a broader, fundamental transformation occurring in society. These changes require alternative approaches to strategy.

In modern mass production, a strong tendency to standardization of products and components makes it difficult for a firm to develop unique assets as a competitive weapon.

In postmodern mass customization, a firm may achieve uniqueness through the way they organize customers and assets and the way they are continuously improving these relationships.

Under these new conditions, firms may attain sustainable competitive advantage by combining assets in inimitable ways. An important element in competitive strategies in postindustrial reality is the ability to learn from experience and to convey such learning to others in the organization. In this setting, "*strategy may become strategizing, the doing of strategy*" [757], that is, deftly combining resources and activities to build and maintain relationships with the best people for maximum value creation, both to customers and to firm representatives.

Thus, the firm perceives both its internal context and its external environment as increasingly complex. The level of internal complexity increases as technology

becomes more involved, as the variety of kinds of knowledge and skills multiply, and as the level of sophistication within each knowledge and skill area goes up.

As for external complexity, its level is increasing in industries where technology and knowledge are changing so rapidly that managers find it difficult to understand clearly what is happening. “Without an overall plan or vision, solutions become local and dependent on highly competent employees interacting with the customers.” [758]

Certain industries today are characterized simultaneously by an increasingly complex competitive environment and an increasingly complex internal reality. One example is provided by professional service firms with a close interaction with sophisticated clients.

Lowendahl and Revang contend that organization forms are not static, they are historically determined and socially changing all the time. As technology and social conditions shift, so do organization forms. In industrial (modern) society, production is the key axial process, and the ideal type of organization has been a hierarchically designed one, in which hands and brain are divided and several managerial layers are necessary to coordinate and control a specialized workforce. Tasks, jobs, and positions are clearly defined as are the relationships among people assigned to them. A distinction between owners and employees also characterizes these organizations.

In postindustrial (postmodern) society, knowledge and technology become dominant social forces. As complexity increases in organizations, role occupants must acquire more knowledge to be able to recognize and respond adequately to individual situations. “Each discovery represents an expansion in required knowledge and therefore greater options and more complexity.” [759]

Organizations begin to value “human capital,” information systems, and new kinds of relationship between people in response to growing complexity. Empowered employees at all levels take broader responsibilities than in traditional hierarchies.

Knowledge workers prefer to be challenged by knowledge than by bosses. They prefer performance-oriented, task-driven organizations to authority-driven ones. Temporary hierarchies result, as employees occupy multiple roles and take shifting responsibilities depending on which role is activated and which relationship they are engaged in at each point in time.

In this context, the industrial pyramidal hierarchy, with the organization's summit as a center of information and authority, loses its importance. In fact, a strategic apex no longer exists as employees become subjects rather than objects in the organization and as their actions are defined individually in their dealings with internal and external actors. The organization itself becomes a latent process that is activated on request, with each employee performing variable roles in turn, as specialist, as mentor, or as process owner. The perspective changes from vertical (top down or bottom up) to horizontal.

In order to explore and refine these concepts, the authors propose a scheme to categorize levels of complexity faced by an organization. In this scheme, firms and industries are classified according to two dimensions related to complexity. One dimension measures the impact on the firm of complexity arising in its external environment, the other measures the impact on the firm of complexity arising internally. (The authors actually use the expression "complexification processes" instead of "complexity.") Pressures for change due to complexity vary across firms and industries.

Impact of external complexity	HIGH	II Example: Luxury cars Strategy: Differentiation Bridging and buffering Structure: Market-based grouping Theory: Open systems	IV Example: Unconventional law firm Local solutions Theory: Post-modern conditions
	LOW	I Example: Steel Strategy: Cost leadership Structure: Functional, bureaucratic Theory: Closed systems	III Example: Innovative high-tech firm Strategy: Emergent Structure: Adhocracy Theory: Processual systems
		LOW	HIGH
		Impact of internal complexity	

Source: adapted from Lowendahl and Rewang [1998]

Figure 4. Four categories of firms with different combinations of complexity.

If the range of cases in each dimension is broken down is just two categories, high and low impact of complexity, then four categories can be recognized, as shown in Figure 4. Cell I, the low-low case, corresponds to the classic industrial paradigm, where mass production of traditional raw materials typically lie. An example is the steel industry. The usual strategy in these industries is cost leadership, the structure is functional and bureaucratic. The theory for this case is embodied in Taylorism, Fordism and the Weberian bureaucracy. This theory views the firm as a closed system.

Cell II represents cases typified by traditional industries in which firms are subject to intense pressures from sophisticated and demanding customers while the internal expertise remains relatively stable, as in the luxury segment of the car industry. The typical strategy in these cases is differentiation, together with mechanisms for bridging and buffering to maintain internal efficiency. The organizational structure is usually some form of market-based grouping, like SBUs, in general combined with a functional configuration. The theory for this situation comes from Dill, Chandler, Emery and Trist, Thompson, Lawrence and Lorsch, Miles and Snow, and Porter. Their models combine an open systems perspective with the criterion of technical economic rationality. One distinct characteristic of this tradition, Lowendahl and Revang point out, has been its predominant normative spirit. In addition, not uncommonly in this tradition, descriptive studies of the historic development of strategies and structures adopt an *ex-post* stance, focusing on how strategies and structures took shape and slurring over the processes of strategy making and implementation.

Cell III contains the cases in which internal pressures are substantial due to the reliance on highly educated knowledge workers, while external pressures from customers are not so great. Examples come from innovative high-tech firms, such as software companies, hospitals, and knowledge-intensive service firms serving traditional clients. Strategy adopted by firms in these industries are typically described as emergent, and the structure the firms take up has been called adhocracy. Theory for these cases has had a processual focus. Olsen and Mintzberg are the typical theoreticians here. They have described as strategic change may be a bottom-up, emergent, and incremental process, instead of formulated at the top to be implemented next. They accept that in many firms discrepancies between intended and realized strategies are not anomalies “but rather indicate a healthy respect for local knowledge and judgment” [762].

However, Lowendahl and Revang remark, these authors do not provide any answers to how successful strategies may be developed. The adhocracy is flexible and adaptive but also rather inefficient. Strategy development at best is limited to “crafting,” the careful guiding of processes that more or less evolve by themselves.

It should be noted that Lowendahl and Revang's reading of Mintzberg's views of adhocracy is somewhat biased. As we have seen, Mintzberg clearly presents the adhocracy as an organizational form operating in a dynamic and *complex* environment [Mintzberg 1979: 459]. So, it could be argued that it already refers to Cell IV in Lowendahl's and Revang's classification. On the other hand, it is true that Mintzberg acknowledges the inherent inefficiency of the adhocracy, so it might be argued that is inadequate for the conditions in Cell IV, which require an efficient organization.

In Cell IV, the complex-complex case, firms are subject to the most extreme pressures, simultaneously from within and from without. Examples are provided by professional service firms whose clients have demanding needs, such as consulting firms involved in strategic processes, law firms covering many different specialities, and investment banks. These firms face increasing complexity in terms of both the types and the number of interactions.

Strategy and structure for firms in this cell is the central theme of Lowendahl and Revang's article. They start by looking at the theoretical possibilities. Two major challenges must be met. First, as boundaries between the firm and its environment collapse, traditional strategies of buffering and bridging become anomalies. The very idea of a boundary may become meaningless. Secondly, hierarchical pyramids also fall down, as employees require substantial degrees of freedom, thus increasing the uncertainty management faces.

New "schools" of strategy focusing on internal factors, such as resource-based theory, share the assumption that top management plays a key role in the processes of learning and competence building. The traditional response to increasing complexity in these views is a recourse to rationalization, but this may reduce uncertainty at the expense of reducing flexibility as well.

On the other hand, adhocracy does not offer a solution to highly competitive environments, where maximum quality must be delivered at minimum price, that is, where efficiency is also a requirement.

Lowendahl and Revang suggest that in order to handle the simultaneous occurrence of complexity internally and externally, a fundamentally different approach may be needed. In fact, they argue, the very distinction between the two dimensions may be a product of modernity, characteristically based on dichotomous thinking. In a post-modern view, the two dimensions might collapse into a single one.

Applying Kuhn's [1970] arguments about paradigms and incommensurability to models of strategy making, the authors propose two complementary research approaches to address the building of a new paradigm. On one hand, we need to assess the applicability of existing theories to the new typical situation. On the other hand, we need to study extreme actual cases of firms successfully coping with the new context, to explore and understand the key dimensions involved and discover new concepts, perhaps new theories.

They present and discuss briefly two examples of themes following these two complementary approaches. As an instance of assessment of existing theories, they discuss Ghoshal and Moran's [1996] critique of the normative application of transaction cost economics (TCE) to strategic and structural decisions. For Williamson, TCE's basic assumptions are that efficiency is the first-order objective for strategy and that the M-form (multi-divisional structure) is the most efficient hierarchical structure. Lowendahl and Revang argue that these correspond to the conditions of Cells I and II, what shows that Williamson's concepts are deeply embedded in the modern (not post-modern) paradigm.

According to Lowendahl and Revang, Ghoshal and Moran implicitly state that TCE is local, not general, and that its validity is limited to the contexts in which hierarchical controls reduce opportunistic behavior. Therefore, it does not apply to Cells III and IV, where the potential power of organizations to influence new solutions and people's motivation to take advantage of them is key to competitiveness.

They conclude that when the core of competitive dynamics changes, theories and models previously assumed as general turn out to be of local applicability.

The other example presented by Lowendahl and Revang refers to the second

complementary approach they propose, that of looking into extreme real cases. It is Starbuck's [1993] study of an exceptionally successful law firm based in New York City. They consider it an excellent illustration of the kind of research needed to develop relevant concepts and local solutions for Cell IV. Exploratory studies can foster more grounded theory, not for the purpose of developing grand theories of general validity, but more likely to develop new local solutions.

Wachtell was chosen because it is an outlier, being extremely successful and yet following policies that were completely in disaccord with usual practice. One key success criterion it followed seemed to be the ability to attract unusual talent and its determination to do things differently.

“To the extent that their reputation and the quality of their people lead to a positive spiraling effect with even more good applicants (attracted by colleagues and reputation) and thus even more challenging and highly paying clients, this may be the core of sustainable competitive advantage” [Lowendahl and Revang 1998: 766].

This example also highlights that in the complex-complex case, “strategy and structure are intimately intertwined as two sides of a coin” [Lowendahl and Revang 1998: 766].

These authors point out a number of research questions raised by Starbuck's description. A sample of these questions is presented below.

- What are the key strategic priorities for firms in a complex-complex context? Do they need long-term strategies?
- Which are the key dimensions that need to be consistent, for a firm to develop and maintain competitive advantage in Cell IV?

- What facilitates coordination such that highly competent and diverse individuals act like a firm?
- How do firms develop loyalty and trust such that the best customers and employees are retained?

These questions deal with strategy, structure, and, more specifically, relationships. They may be starting points for idea generation and exploration of different theories. But in keeping with the spirit of postmodern research, we should not expect to find any clear trend or tendency in this respect. In the same vein, the purpose of such case studies cannot be to generate models to be imitated, as the very success of the exceptional cases rests on their uniqueness.

For Lowendahl and Revang, postmodern reality raises a number of fundamental problems, not only for managers, but also for those conducting research. We have been trained to use ways of thinking that are inadequate to this new reality. The rationalistic attitude founded on positivistic philosophy, emphasizing objective knowledge and a search for general analytical principles, has dominated the knowledge production within the field of strategy.

Managers and professionals also think this way. The way they deal with new issues is to isolate the problem and break it down into tractable pieces. Applied to their framework, Lowendahl and Revang say, the implication would be that it is useful to study cases in Cell IV by analyzing them and reducing them to problems that could be handled in a traditional way.

The two authors go on to outline the main features of a new theoretical view of strategy making in post-modern realities. They maintain that the old positivistic approach dominating modern times is not compatible with post-modern conditions and challenges. On the other hand, our language, models, and metaphors are not yet adequate to the new ways of organizing, so that we may get trapped in our old ways. Instead of a generalist perspective, post-modern reality asks for particularized

solutions. Consequently, the uselessness of normative solutions may be at the core of post-modern research in strategy.

Lowendahl and Revang suggest that instead of looking for causal relationships and models, post-modern managers and researchers may look for pragmatic concepts that help focus attention and action. They mention a host of practical principles found in recent writings, such as “stick to your knitting,” “core competence,” “invisible assets,” “dynamic networks,” “relationship management,” “strategic intent,” “corporate culture,” “business process reengineering,” and “coopetition.”

These authors conclude by essentially saying that a new paradigm is still far from clear. “We are not sure that we need to take the extreme position of a context so different that a new paradigm is emerging,” they say, even though they detect signs of a shift. Schendel’s [1994: 2] statement that it is ‘unlikely that a single paradigm will ever govern the field [of strategic management]’ is cited as specially apt today.

Research in strategic management must confront the challenging issues posed by the new realities, they exhort.

“By paying explicit attention to the underlying assumptions and boundaries of relevance, the applicability of existing paradigms will be clarified. And by exploring new and alternative strategies and ways of organizing [in the postmodern context], we may see new and relevant concepts and paradigms emerge” [770].

Before we examine the implications of this article for a theory of emergent strategy, a few general comments on Lowendahl and Revang’s contribution are in order. First, postmodern thinking is not presented here as suggesting a new paradigm, but rather as indicating a want of a paradigm, this perception resulting from a critical assessment of the extant paradigms. Thus, at this stage we still are in search of a new paradigm, and the authors are not even sure that we really need a new one [770].

They stop short of formulating or even outlining a new paradigm. They confine their inquiry to a criticism of modern theories and to an attempt at identifying what is needed in terms of a new theory. And while they are specific in their suggestion of two ways to proceed (investigating further the limitations of current theories and studying real firms that succeed in the new context), they advance little in identifying, or even suggesting, the elements of a new paradigm.

They propose that we step beyond a grand universal theory of strategy and organization. “While organizations still have an increased need for particular solutions . . . , mainstream research searching for and responding with universal principles . . . will face a decrease in relevance” [769]. Their suggestion that strategic behavior in Cell IV may consist of local solutions, that strategy may be confined to *strategizing*, and their endorsement of pragmatic concepts such as “stick to your knitting” and “relationship management” seem to indicate an evasion from theorizing. The quest for more general principles may be a bias remnant of modern (i.e., old) thinking, as they claim, but it may also reveal a certain uneasiness with the patchwork of new findings about the postindustrial reality which still have not found a coherent framework in which they can be organized.

Secondly, the authors implicitly question the very existence of strategy in organizations operating in the complex-complex quadrant. Their views seem to suggest that in this case strategy makes more sense as an *ex-post* concept than as an *ex-ante* one. In this they come near to Weick’s [1979] concept of strategy as retrospective sense making. In fact, they mention the interpretive “school” as a processual approach to explain how strategies develop [762]. But, as we saw in Section 4.2, this approach is crippling, as it rules out prospective sense-making and the possibility of making sense *for* the future, a key role of strategy.

Despite these limitations, their ideas are very useful for suggesting advancements in our thinking about the application of emergent strategies. In their classification, emergent strategies are expressly applicable to conditions of Cell III. Would they also be applicable to Cell IV?

On one hand, it seems that they would, since the impact of internal complexity is similarly high in Cells III and IV. On the other hand, the higher impact of external complexity in Cell IV might demand another concept of strategy making, perhaps even the utter abolition of strategy. As a minimum, we should show that emergent strategies can promote adequate response to external as well as to internal complexity.

Lowendahl and Revang affirm that firms must be efficient to be competitive and the only way to be efficient in complex situations is not through division of labor, but through division of authority and initiative. Does this mean that strategy becomes just the unanticipated resultant of a myriad of autonomous actions by individuals pursuing their own local criteria? That would amount to applying to organizations the theory of natural complex adaptive systems, in the manner we examined in Section 4.4. But, as we remarked there, even the proponents of such application found it necessary to attach system-level intentional behavior to the system.

VIII. PROPOSED CONCEPTUAL FRAMEWORK

In this section, we outline a framework intended to serve as a basis for the empirical part of the study started here. Furthermore, it may help other research workers dealing with strategy processes to become familiar with the literature on strategy emergence. In addition to that, we indicate the lines along which a more detailed model could be developed. Before we present the framework, we must make explicit a few assumptions on which our propositions will be based. First, we take as definitional that an organization has a purpose. But we shall assume, in addition, that the organization's members are conscious of the organization's purpose and that they share it.

A second assumption is that a strategy need not be an objective idea to be useful to the organization. It must be recognized that in its original, pre-Mintzberg, acceptance, a strategy is clearly subjective. It is a plan of how to attain a certain

goal and it refers to future events, therefore it is an interpretation of what can be done and of what can happen. It may be utterly unrealistic and even impossible. It is merely an *intention*. Mintzberg's innovation could be regarded, in effect, as an attempt to introduce objectivity into the concept of strategy. To this end, he redefined strategy in a such way that it could be watched by an impartial outside observer. Since an observer cannot see the future, the observation must be restricted to the past, hence the concepts of realized strategy and emergent (unintended but realized) strategy as observable patterns of real actions, both types describing what was actually done by the organization. In fact, he was proposing a definition useful to the *researcher*, not necessarily to the manager, as the following quotation makes clear.

“This definition [of strategy as a pattern in a stream of significant decisions] leads us to claim that the researcher may perceive a strategy (a consistency in decisions) where the manager does not (or, at least, is not fully cognizant of it). Furthermore, what a manager states explicitly as his strategy is not that to the researcher, or anyone else for that matter, until it is manifested in a series of consistent resource commitments (decisions).” [Mintzberg 1972: 90]

We would argue that this alleged superiority of the researcher's condition to detect patterns where the manager cannot – even granting the researcher the benefit of hindsight – is debatable. The researcher is also vulnerable to his/her own biases in interpreting decisions, patterns, and causation linkages. Therefore, even defined as an observable pattern in action, strategy is liable to be subjective. But it is unnecessary to make strategy objective for it to be useful. In fact, we view strategy as an instrument that the organization can use to better attain its purposes be them objective or subjective. That goes for emergent strategies as well.

On the other hand, we do assume that a strategy must be *conscious* to be useful to the organization. But, instead of accepting Mintzberg's objectivist idea that a strategic pattern may be latent (present but not visible) and must be discovered, we prefer to adopt the less binding view that strategy may be a subjective idea. It

suffices that it be recognized by the organization – it must emerge – to become useful to it. We will come back to this point at the end of Section 9.

We also accept as a premise that planning is necessary in an organization. This is not just an assumption. As we showed in Section 5, we may take it as an established fact. Therefore, intended strategies are a necessity in organizations.

Basic model

The model presented in Figure 5 describes a process which combines intention with emergence. The process is composed of two sub-processes that evolve in parallel. In the one represented at the top of the figure, the organization's broad goals and vision, together with an assessment of market opportunities and threats guide the formulation of an intended strategy. Through a typical strategic planning process, the intended strategy is translated into planned actions. These, when carried out, lead to certain actual results, which may or may not be in accordance with management's expectations. Deviations from planned results will be detected through traditional diagnostic controls and will normally lead to correction of the action. This constitutes single-loop learning. Exceptionally, the results may be so surprising as to cause a change in the intended strategy (perhaps even in the broad goals and vision). This constitutes double-loop learning.

In the sub-process represented at the bottom of Figure 5, which we shall call *continuous strategy making*, members of the organization interact on a day-to-day basis with customers and other agents in the market and, under the general guidance of the organization's broad goals and vision, spot new opportunities or threats and act out of their own initiative. These actions and their results are being continuously monitored through interactive controls, involving managers from different parts of the organization, including top management.

The model is akin to Burgelman's [1983], represented in Figure 1 of Section 3.6, in that it also describes two parallel processes and in that one sub-process is the traditional, planned route and the other the unplanned. But the present model differs

from Burgelman's in at least one key aspect. The unplanned actions in our model are not autonomous initiatives taken by operational managers and carried up by middle-management to top managers for approval. Instead, the organization is assumed to be flatter than in Burgelman's model, so that top management is constantly involved in the process through interactive controls and may interfere whenever it feels necessary.

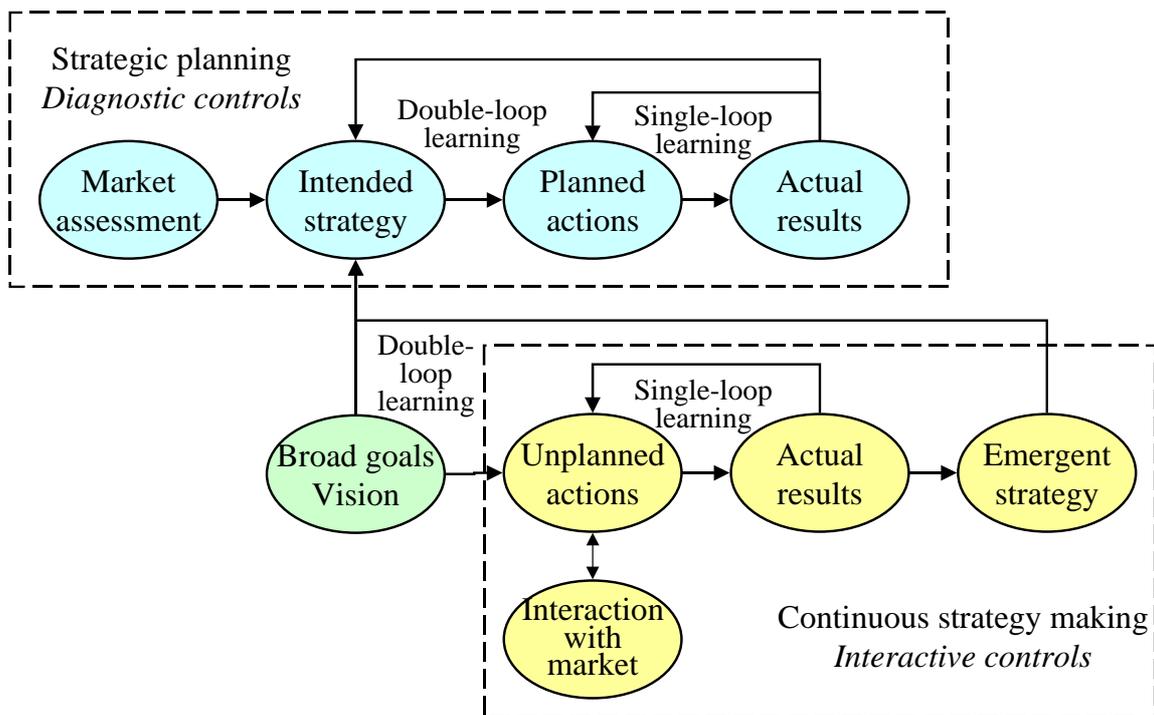
The model incorporates Osborn's [1998] and Simons' [1991] ideas of using diagnostic controls to implement intended strategies and interactive controls to implement emergent strategies. The model makes it explicit that diagnostic controls come *after* (intended) strategy formulation, while interactive controls come *before* (emergent) strategy formation.

The model also incorporates (narrow) goal emergence and retrospective sense-making in the second sub-process and strategic learning (i.e., double-loop learning) in both sub-processes.

By admitting that strategic planning can coexist with unplanned continuous strategy making in the same organization, the model also includes an idea similar to what Andersen [1998] found in his study, even though he focused particularly on the co-existence of centralized strategic planning at the corporate level with decentralized strategy formation at the business level.

Now, there is an element of simplification in the model presented, namely in the separation of the two processes as if they might evolve separately. In real organizations they will, in effect, be intertwined. For one thing, it will in general be difficult to separate actual results attributable to intended strategies from actual results attributable to emergent strategies. But the separation of the two processes is not just an analytical artifice to facilitate understanding. As found by Simons' [1991] in his study of 17 health care products firms, management picks out the issues to be monitored by interactive controls and leave the others to be monitored by diagnostic controls. The issues they choose to control interactively are those presenting large strategic uncertainties associated with their visions of the future

[Simons 1991]. So, choosing which decisions to assign to unplanned strategic decision making and which to assign to strategic planning is itself a second-order strategic decision to be made by management [Simons 1991].



Source: Author

Figure 5. Basic model for the proposed framework

As for how to operate the two sub-processes, the first one, strategic planning, is well described in the literature. The other sub-process, continuous strategy making, is itself an emergent concept, which the recent literature reviewed above tries to describe, each author presenting an embryonic perspective of what it could be. The main purpose of the larger study initiated with the present survey is to formulate a useful detailed model of continuous strategy making. The literature reviewed above presents elements that can be put together to start such a detailed formulation. But more empirical observation as well as theoretical elaboration will be necessary to

advance a prototype. Here, to complete this brief outline and in addition to the diagram presented in Figure 5, we offer a few remarks on the key aspects of the detailed model to be formulated.

Strategy making is usually a process superimposed upon an organizational structure primarily devoted to other functions. Thus, traditional strategic planning is a cyclical process of organizing intentions which is superimposed on a structure essentially designed for command and action. Continuous strategy making, in contrast, is conceived here as a process of organizing learning loops (involving interaction between intentions and actions) within a structure specifically designed for such processes.

Structures, processes and techniques such as	creating conditions of	which promote	to accomplish
Interactive controls	Continuous attention	Continuous change	Organization's purpose and broad goals
Real-time communication links	Information sharing	Seizing of opportunities	
Frequent strategic meetings	Personal involvement	Optimization of resources	
Explicit mental models	Intimacy with issues	Organizational learning	
Working models	Collective and explicit		
Scenario building	understanding		
Experimental products	Commitment		
etc.			

Source: Author

Table 2. Elements to compose a detailed model of continuous strategy making.

Such designed structure includes processes and techniques, all of them devised to create conditions under which the organization is able to change continuously, seize opportunities, optimize its resources, and learn, in order to accomplish its purpose and broad goals. These elements are exemplified in Table 2, suggesting lines along which to develop this framework into a more detailed model.

One important issue to be resolved in the next phase of the study is how to operate the two sub-processes – strategic planning and continuous strategy making – within the same organization and how to superimpose strategic planning on a structure designed for continuous strategy making.

IX. THE MANAGERIAL RELEVANCE OF EPISTEMOLOGY

The field of organization studies has been characterized by a growing plurality of approaches and paradigms. Since Gibson Burrell and Gareth Morgan published *Sociological Paradigms and Organisational Analysis* [1979], organizational researchers became more aware of the rich variety of approaches at their disposal for the study of organizations. In fact, Burrell and Morgan presented more than simply different approaches, they characterized diverse ways of seeing the world of organizations. More recently, Morgan advocated the opportunities offered by multi-paradigmatic thinking, in his *Beyond Method* [1983] and *Images of Organization* [1986, 1998]. He also discussed the opportunities and difficulties posed by paradigm diversity [Morgan 1990]. Burrell, on his part, presented a recent update of the *Paradigms* [1996], in which he emphasizes the contribution of postmodern authors, specially Foucault, to organizational thinking.

Nowhere is the plurality of perspectives in the study of organizations more evident than in postmodernism, the current revolution in organization theory. As a new perspective, postmodernism means both a perception of new world realities (“postmodern realities”) and a new way of thinking (postmodern thinking).

Postmodern realities refer to the profound changes that world society is undergoing in the last decades. From the upsurge of neo-conservatism to the rise of East Asian economic power new significant facts signal the transformation the world is experiencing.

These changes forged new ideas and new ways. Organizations, in particular, started to value flexibility, multiskilling, decentralization, and mass media, often assuming entirely new forms. On the outside, we see organizational boundaries dissolving as individual organizations come together to form chains, clusters, networks, strategic alliances, and modular corporations. On the inside, bureaucratic hierarchies are giving way to decentralized, empowered, distributed, flat, and flexible organizations. Hierarchical command is at least partially replaced by more immediate and interactive coordination.

But postmodernism can also refer to an intellectual movement, postmodern thinking, often associated with the work of Derrida, Foucault, and Baudrillard. There is no unified postmodern theory. In fact, a diversity of approaches is one of postmodernism's distinguishing characteristics. It embraces a plurality of beliefs, considers consensus a suspect value, and abhors paradigmatic unity.

But underlying this plurality of beliefs, some common themes may be distinguished in postmodern thinking (as adapted from Alvesson & Deetz [1996]):

1. *The centrality of discourse.* The experience of the world is structured through the ways discourses lead one to attend to the world and provide particular unities and divisions.
2. *Fragmented identities.* The discursive production of the individual replaces the conventional "essentialistic" understanding of people.
3. *The subjectivity of objects.* Something only becomes an object in a specific relation to someone for whom it can be such an object. The focus moves away from objects and toward the relational systems, which make up a human understanding of the world.
4. *Incredulity toward grand narratives.* Overarching propositions and theoretical frameworks are rejected and an emphasis on multiple voices and local politics is favored. Devotion to a paradigmatic unity is deemed dangerous, because it

isolates social science from practitioners and reduces the possibility of critically combining different approaches.

5. *The knowledge-power connection.* The impossibility of separating power from knowledge is recognized.
6. *Simulated realities.* Media can construct images that replace, rather than represent, an outside world. As signs start to reference other signs, they may reach the limit of representation by referencing only themselves instead of anything exterior or interior.
7. *Research as “anti-positive” knowledge.* Research attempts to open up the indeterminacy that modern science and practices have closed off. Irony and play are preferred to rationality, predictability, and order

Postmodern thinking marks a transition from a unified normal science based on positivism to a plural approach to scientific inquiry. The common themes listed above are sufficient to show the gulf that separates the two visions of the world. This distance is also reflected in the research methods used by postmodern researchers. They favor methods such as ethnography, biography, textual deconstruction, and semiotic interpretation. Recently, Kilduff and Mehra [1997] made an appeal to postmodern researchers to make an eclectic use of research methods, including the ones used by normal science, such as experimental and survey methods. They adopt a postmodernist perspective that seeks to include and propose techniques, insights, methods, and approaches from a variety of traditions, inclusive positivism.⁵

⁵ It should be noted that, since postmodern organizations and postmodern thinking are different things, one can study postmodern organizations with modern thinking (which today constitutes normal science) or modern organizations with postmodern thinking.

Strategy research has followed a different course than organization studies. It has been predominantly normative and simple-minded [Mintzberg, 1994]. Considerable animosity has characterized the relations between the two areas, and Richard Whipp [1996] has recently made an appeal toward an improved dialogue. Studies in strategy are also undergoing a transition, more clearly from a normative to a descriptive stance. But recent research, such as Lowendahl and Revang's [1998], reviewed here in Section 7, has also explored the use of postmodern ideas in strategy.

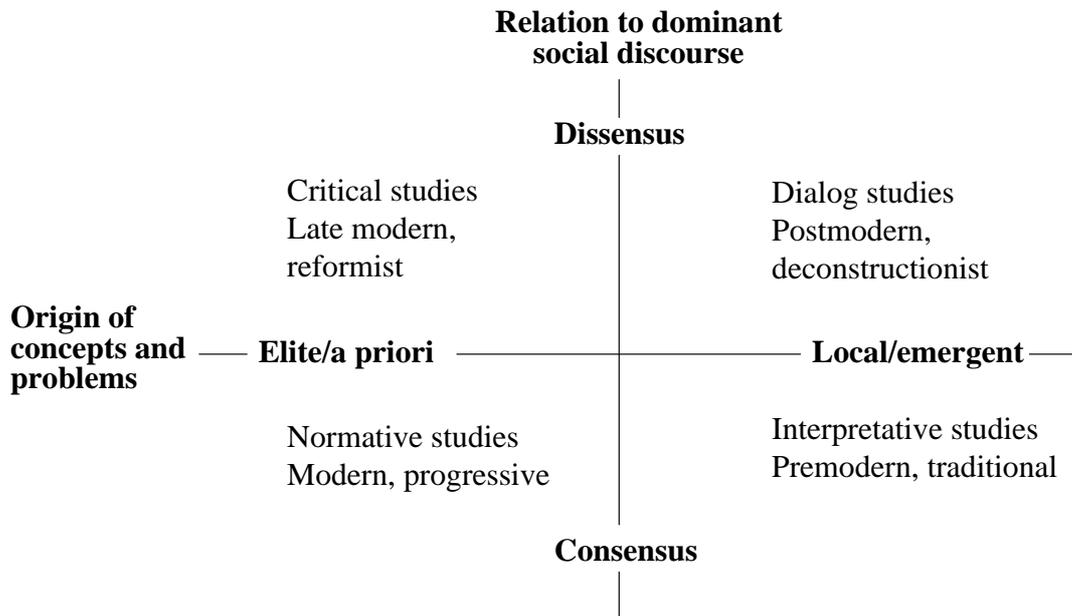
It is somewhat amusing to speculate on the evolution in the thinking of two of the foremost students of strategy, Henry Mintzberg and Michael Porter. Mintzberg's ideas are characteristic of the modern (not postmodern) paradigm of organizations. His propositions embrace bureaucracy, functionalism, and contingency theory, and he adopts a positive, normative stance. He has advanced universal typologies, law-like relations, and objectivity, all distinctive modern conceptions. Mintzberg sanctions a bureaucratic ideal of organization design. Yet, as the present survey suggests, he might be regarded as a forerunner of postmodern thinking in strategy. In fact, when he associates his (intendedly positivistic) idea of emergent strategy with retrospective sense-making (an interpretative concept), he already seems to reveal a disposition to embrace more than one paradigm.

A different, but correlative, trajectory might be argued to have been followed by Porter. In his earlier books, he employs universal typologies, such as "generic strategies" [Porter 1980]. More recently, he defines strategy as a unique, inimitable, position [Porter 1996], an idea more compatible with object uniqueness as characteristic of postmodern thinking.

A diversity of approaches in strategy studies has also existed for some time. The various perspectives were classified and described by Whittington [1993]. In a manner similar to Morgan's in organization studies, Whittington also proposes a multi-paradigmatic approach to strategy analysis, and, like Morgan, he recommends this eclectic approach to *managers*, as well as to researchers.

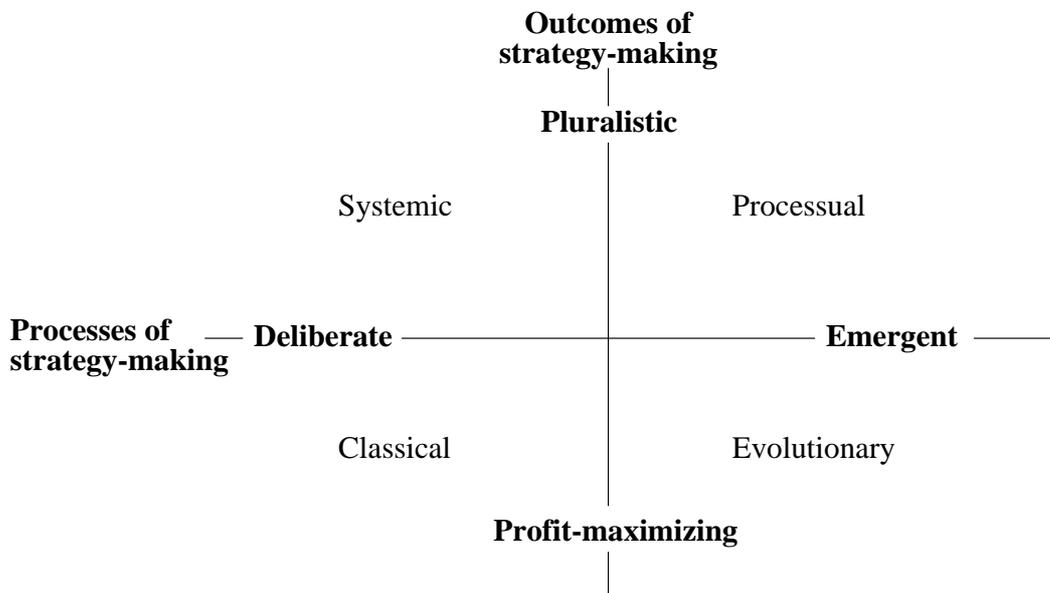
An interesting comparison of paradigm diversity in organization and strategy studies is afforded by contrasting Figures 6 and 7, the first authored by two students of organizations, the second by a student of strategy. (The two graphics were adapted by this author to facilitate the comparison.)

Both figures reveal a similar concern with classifying different research perspectives. There are even similarities between the dimensions used and even of some words. And both schemes were built to exhibit the various approaches to view organizations or strategies, respectively. A subtle difference, however, is that, while Alvesson and Deetz used their scheme simply to evince the variety of research approaches, Whittington, in contrast, use his scheme primarily to guide managers on how to apply opportunistically, at their choice, one or more of the perspectives to gain insight into a real-life issue. Thus, the comparison of the two schemes illustrates two interesting trends: a convergence between organization and strategy studies and a parallel between the epistemological position of the researcher and that of the manager.



Source: adapted from Alvesson & Deetz (1996)

Figure 6. Alvesson and Deetz’s representational practices in organization studies.



Source: adapted from Whittington (1993)

Figure 7. Whittington’s generic perspectives on strategy.

The last point seems to suggest an interesting possibility in applying strategy concepts in the real world. If each organizational strategy must be unique, if the manager must master a diversity of perspectives to innovate, then the roles of the manager and of the researcher start to have much in common. The epistemological scope of the manager starts to matter from a *pragmatic* point of view. And more, to the extent that the manager must be always creating (or at least fostering the emergence of) entirely novel strategies, he/she is in fact a paradigm creator.

If we accept the similarity of the researcher's and the manager's work in strategy making, then the question of whether a strategy is *discovered* or *invented* becomes relevant. Kuhn [1962], who originated the term "normal science," claimed that most scientists worked on puzzle-solving within some accepted paradigm. But, as Kilduff and Mehra [1997] maintain, Kuhn made clear that the scientist's commitment to puzzle-solving instead of innovative thinking is a normative stance: that is what scientists should be doing.

To Popper [1970], in contrast, puzzle-solving science is dangerous because it implies the abdication of critical thinking. To Popper, scientists are revolutionaries, not puzzle-solvers. And he dismisses as "dangerous dogma" the assumption that scientists are unable to shift between competing paradigms. [Kilduff & Mehra 1997: 462-463]

This raises the question of whether strategy making involves primarily invention or discovery (or both). The concept of intended, or planned, strategy may seem more naturally associated with invention, contrivance, or devising, while emergent, or unplanned, strategy seems to relate better to discovery, finding, or discerning. Following this line of reasoning, users of emergent strategies would be condemned to discover patterns within an accepted archetype, being unable to shift to new ways of thinking and acting. But the authors we reviewed in this survey prefer to associate emergent strategy with learning, not discovery. In a narrow sense, to learn may connote to discover, but more broadly it means to acquire knowledge through any channel, in particular through experience. While this might appear to exclude

creation (i.e., making something out of nothing and for the first time) it could be argued that learning in fact involves creative thinking.

A full development of this point is beyond the scope of the present survey. Here, it suffices to register the suggestion that creation and invention should belong to the repertoire of strategy makers and that emergent strategies should be seen not only as ready patterns lying there, waiting to be discovered, but instead as raw material ready to be used by the inventiveness and ingenuity of the organization to create innovative, unique strategies.

X. PROPOSED RESEARCH QUESTIONS AND METHODOLOGY FOR THE SECOND PHASE

A variety of research questions are raised by the foregoing critical survey. In what follows, we present the ones that appear to us as the most interesting, as classified under two major groups: questions referring to the actual utilization of emergent strategies by real organizations operating in Brazil; and questions referring to the theoretical and empirical development of a linkage between emergent strategies and the organization's external environment, a detected gap in the literature.

In the first group, the overarching research questions are: How do organizations handle unplanned strategic actions? and To what extent are organizations prepared to use effectively strategy emergence? More specific questions to be answered by each given organization are:

1. How conscious is management in this organization of the need to distinguish strategic issues and deal adequately with them?
2. Focusing on strategic actions taken in the last 5 years, how were these actions taken? Were they part of a previous strategic plan?

3. Are there recognizable strategy processes in this organization? Or, alternatively, Does the organization engage in any type of strategic planning? If yes, what are the characteristics of this process?
4. How normative is management's attitude toward strategy making?
5. How aware are managers in this organization of the fact that strategies may originate in unplanned ways? How structured is management's view that strategies may not be planned in advance but may instead be invented/discovered as the organization acts?
6. Are strategy processes in this organization flexible enough to allow for the emergence of unplanned strategies?
7. Does the organization employ any instruments or mechanisms (structures, processes, techniques) to explore emergent strategies?
8. Does management distinguish between strategic issues that must receive close, daily attention from top management and strategic issues that may be left to a periodic (e.g., yearly) follow up?
9. Are there data suggestive of a relationship between the organization's propensity to recognize and use emergent strategies and organizational performance?

As an option, the empirical research could focus on studying actual cases of organizations successfully coping with most extreme and urgent pressures coming from complexity both externally and internally, as suggested by Lowendahl and Revang [1998] and exemplified by Starbuck's [1993b] study of a law firm. Representative research questions to be raised here are:

1. What are the strategically critical success factors in organizations operating in such exacting conditions?

2. Do organizations under these conditions need long-term strategies?
3. How is strategic consistency maintained in such cases?
4. How are emergent strategies handled?

The second group of research questions result from an opportunity spotted in our readings during the development of this survey. It is a gap identified by Whipp [1996: 269] in the little explored interface between organization studies and strategy. He points out that the idea that strategy is strongly influenced by industry context is widely accepted, yet the linkages between firm-level behavior and the operation of markets and industries is scarcely investigated empirically. In particular, we might add, students rarely relate the emergence of strategies to the industry structure where the organization operates. Other authors have also hinted at research opportunities regarding this issue [Mintzberg & McHugh 1985; Clegg & Hardy 1996; Lowendahl & Revang 1998].

Some questions that might be asked of a given organization within this subject are:

1. How are internal strategy processes in this organization related to the characteristics of the industry(ies) in which it operates?
2. How do internal strategy processes relate to the competitive strategies adopted by the organization?
3. How is the organization's perception of its clients, suppliers, new entrants, intermediaries, and regulators reflected in the ways strategies are made? In particular, how do these perceptions affect the way the organizations deals with emergent strategies?

An assortment of research methods could be used in addressing these research questions. Almost all the studies reviewed in this survey had an empirical support. The research methods employed in those studies spanned a multiplicity of

approaches, specifically: personal observation and experience (Lindblom [1959]), archival historical study (Chandler [1962]), single-organization case study (Bower [1970], Osborn [1998]), interviews with executives of a small sample of organizations (Quinn [1980], Simons [1991]), several longitudinal field studies (Mintzberg [1978]), survey (Andersen [1998]), study of an extreme actual case (Starbuck [1993b]), grounded theory building (Brown & Eisenhardt [1997]), and analytical modeling (Porter [1980, 1985]).

If one were to adopt a post-modern approach to these issues, numerous other research methods could be used, such as ethnography, biography, textual deconstruction, and semiotic interpretation.

In the face of such a variety of research approaches, the researcher must choose on the basis of some criteria. Reasonable criteria in the present case seem to be the adequacy of the method to the research questions posed in the investigation and the researcher's competence in using the method. Using these criteria, two alternative methods present themselves as good candidates to be used in the next phase of this study: a statistical survey [Schuman & Kalton 1985] and a case study [Yin 1993, 1994; Stake 1994, 1995].

In either case, the method will be used as an exploratory tool, as appropriate to a subject that as yet has received virtually no empirical treatment in Brazilian organizations. The epistemological position to be assumed in the research could be classed as constructivist. According to this position,

“Knowledge consists of those constructions about which there is relative consensus . . . among those competent . . . to interpret the substance of the construction. Multiple ‘knowledges’ can coexist when equally competent . . . interpreters disagree, and/or depending on social, political, cultural, economic, ethnic, and gender factors that differentiate the interpreters. These constructions are subject to continuous revision, with changes most likely to occur when relatively different constructions are brought into juxtaposition in a dialectical context.” [Guba & Lincoln 1994: 113]

Finally, an alternative research path to continue the effort reported here would be to explore further the literature on specific topics that emerged as promising during the present survey. At least two must be mentioned. One is the issue of strategy making seen as improvisation. The literature on this topic has blossomed in the last few years [e.g. Crossan et al. 1996; Crossan 1998; Moorman & Miner 1998a, 1998b; Crossan, Lane & White 1999]. The other promising idea is that of business models. Weick's cause maps [1979], Senge's mental models [1990], and Osborn's semi-formal systems [1998] are just three instances reviewed here where the issue of business models is implied. This appears to be a topic that could promote the development of better tools for strategy making and is intimately linked with emergent strategy.

XI. CONCLUSION

In the present study we undertook a systemization and critical review of the international literature on emergent (unplanned) strategies within human organizations. Several circumstances support the present relevance of emergent strategies:

1. Increasing competition in world-wide markets.
2. Increasing velocity and complexity of the organizations' environment, demanding more flexibility and agility.
3. Spread and diffusion of economic neo-liberalism, emphasizing individualism and the free operation of markets as an efficient method of organizing society, including business organizations.
4. Increasing importance of worker participation in the working ethos.
5. Increasing recognition of the importance of intrinsic motivation as opposed to external rewards and punishment.

6. Increasing expertness of personnel, which implies an opportunity and need to make better use of their existing knowledge.
7. Recognized importance of a work system that propitiates learning and the creation of new knowledge.

In surveying the literature, the various ways in which unplanned strategies appear in organizations, as described by different researchers, were identified and classified. The many perspectives used by those investigators were likewise compared and evaluated. In addition, the various ways organizations themselves seem to perceive and deal with these processes could in some instances be inferred from the descriptions made by the researchers and this was discussed at several points in this report.

The search, selection, critique, and systemization of these several ideas led to our proposal of a basic model of strategic making, presented in Section 8, in which planned and unplanned strategy making are combined within a dual process. The model incorporates elements of a learning system, including in particular retrospective sense-making, goal emergence, and single-loop and double-loop learning.

The present inquiry also identified research questions to be answered in the empirical phase of the study and appropriate research methods to be used in providing answers to these were screened and suggested. In what follows, we summarize the most important findings in the present report.

The profound changes that world society is undergoing in the last decades have had an impact on organizations. Under the pressure of brutally intensified competition, organizations have been increasingly seeking flexibility, multiskilling, decentralization and new uses for information and telecommunications technology, often assuming entirely new forms. Increasing complexity characterize both the external and the internal environments faced by organizations. There is a need for enhanced responsiveness to ever-varying individualized customer demands, plus a

need to build a fertile and challenging working environment capable of attracting and retaining the best human talent in order to make the organization innovative and productive. These needs have created a combination of complexities that puts a tremendous pressure on the organization.

This pressure is felt particularly in the area of strategy making. The traditional way of strategy making through a cyclical, formal strategic planning process is no longer sufficient to deal with this new situation. Strategic actions must be decided in novel ways. Specifically, strategy making in contemporary organizations must give continuous, day-to-day, attention and guidance to strategic issues. The organization must be swift in opportunistic reaction as well as proactive maneuvers and this demands uninterrupted watch.

Under these conditions, strategy making must be a continuous process. In such process, the organization's broad goals and vision will tend to remain stable, but the current intended strategy will be being constantly challenged by new, emerging strategies that may eventually become the new intended strategy or else be accommodated into the current intended strategy. Emergent strategies will integrate concepts that have cropped up from the daily activities of the business, especially from the organization's interplay with its customers and markets. They may propose moves that had not been contemplated during formal planning and often contain unanticipated ideas arising from the operating levels of the organization.

Therefore, not only the organization must be structured and mobilized to be able to act quickly in its complex and rapidly changing environment, but it must also be prepared to recognize, assess, and adapt to, emergent strategies.

The key feature of continuous strategy making is the uninterrupted interaction between action and (narrow) goal definition, in a learning-by-doing process developing over time. While single-loop learning involves the adjustment of action to goals, double-loop learning involves the adjustment of goals to action. In parallel to this ongoing process, part of the strategic decisions are guided by planned current strategy. Together with the organization's broad goals and vision, current strategy

helps to provide consistency, continuity and endurance to strategic behavior. It serves as a frame of reference or model that spells the bases of the organization's past success and thus provides guidance for action. It is an interpretation both of the past and of the future.

This way, the formulation of intended strategies through strategic planning retains a role and it is not just that of programming strategy implementation, as Mintzberg proposes. Accordingly, continuous strategy making must coexist with strategic planning.

The literature survey also showed that it is possible for an organization to systematize continuous strategy making by setting up structures, processes, and techniques to put it into effect. What must be done has already been suggested in general terms by Mintzberg: establishing flexible structures, developing appropriate processes, encouraging supporting cultures, and defining guiding "umbrella" strategies [Mintzberg & McHugh 1985; Mintzberg 1987; Mintzberg & Quinn 1996]. In our proposed model we have outlined in a little more detail how to organize continuous strategy making and how to have intended strategy and emergent strategy interact with one another. A strategic planning sub-process handles intended strategies, turning them into planned actions and regulating both actions and results through traditional diagnostic controls. A continuous strategy making sub-process treats actions evolving from the day-to-day interaction between the organization and the market, turning them into emergent strategies once they become recognized as effective patterns. The conversion of isolated actions into successful patterns is supervised by interactive controls. Top management decides which decisions are assigned to the strategic planning sub-process and which are assigned to continuous strategy making.

"Continuous strategy making" is the term suggested by this author to denote this newly conceived process of strategy making that contrasts with strategic planning and, in our model, complements it. It demands more empirical research to be better understood. The present inquiry suggests that specific structures, processes and techniques can be used to create conditions under which emergent strategies can be

used for the accomplishment of the organization's purpose and broad goals. Some of these structures, processes, and techniques were outlined in Section 8 of this report.

In the proposed model, the role of management is not only to preconceive deliberate strategies, but also to manage the course of learning in the continuous strategy making process. We argued that, to be able to do this effectively, managers should be flexible and ready to appreciate different perspectives and models to interpret and direct their organizations. We went on to suggest that the manager's role in strategy making shares some peculiarities with the role of the strategy researcher and that the manager, as much as the researcher, must be ready to abandon worn-out archetypes and to devise entirely new ones of his/her creation. If strategy making is a search for the unique, managers must do more than find out why other organizations are successful. They must invent their own strategies and, to do this effectively, they must master the tools to mobilize emergent strategies.

XII. BIBLIOGRAPHY

- Alvesson, M. and Deetz, S. (1996) "Critical theory and postmodernism approaches to organizational studies", in Clegg, S. R., Hardy, C., and Nord, W. R. (eds.) *Handbook of Organizational Studies*. London, Sage: 191-217.
- Andersen, T. J. (1998) "Decentralized strategy formation, and centralized strategic planning in the new competitive environment". Doctoral dissertation, Kenan-Flagler Business School, University of North Carolina at Chapel Hill.
- Anderson, P. (1999) "Complexity theory and organization science", *Organization Science*, 10(3): 216-232.
- Argyris, C. and Schön, D. A. (1978) *Organizational Learning: A Theory of Action Perspective*. Reading, Ma., Addison-Wesley.
- Argyris, C. and Schön, D. A. (1996) *Organizational Learning II: Theory, Method, and Practice*. Reading, Ma., Addison-Wesley.
- Bem, D. J. (1974) "Cognitive alteration of feeling states: A discussion" in Lond, H. and Nisbett, R. E. (eds.) *Thought and Feeling*. Chicago, Aldine: 211-233.
- Berliner, P. F. (1994) *Thinking of Jazz: The Infinite Art of Improvisation*, Chicago, Ill., The University of Chicago.
- Berreby, D. (1998) "Complexity theory: Fact-free science or business tool?", *Strategy & Business*, 10: 40-50.
- Bourgeois, L. J. (1984) "Strategic management and determinism", *Academy of Management Review*, 9(4): 586-596.

-
- Bower, J. L. (1970) *Managing the Resource Allocation Process*. Boston, Graduate School of Business Administration, Harvard University.
- Bower, J. L. and Doz, I. (1979) "Strategy formulation: a social and political view", in Schendel, D. E. and Hofer, C. W. (eds.) *Strategic Management*. Boston, Little Brown, 152-166.
- Brown, S. L. and Eisenhardt, K. M. (1997) "The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations", *Administrative Science Quarterly*, 42(1): 1-34.
- Burgelman, R. A. (1980) *Managing Innovating Systems: A Study of the Process of Internal Corporate Venturing*. Unpublished doctoral dissertation, Columbia University.
- Burgelman, R. A. (1983) "A model of the interaction of strategic behavior, corporate context, and the concept of strategy", *Academy of Management Review*, 8(1): 61-70.
- Burns, T. and Stalker, G. M. (1961) *The Management of Innovation*. London, Tavistock.
- Burns, T. and Stalker, G. M. (1966) *The Management of Innovation*, 2nd ed. London, Tavistock.
- Burrell, G. (1996) "Normal science, paradigms, metaphors, discourses and genealogies of analysis", in Clegg, S. R., Hardy, C., and Nord, W. R. (eds.) *Handbook of Organizational Studies*. London, Sage: 642-658.
- Burrell, G. and Morgan, G. (1979) *Sociological Paradigms and Organisational Analysis*. Aldershot, Gower.

- Capon, N. (1996) Review of Mintzberg's book *The Rise and Fall of Strategic Planning* (1994), *Academy of Management Review*, 21(1): 298-301.
- Chandler, A. D., Jr. (1962) *Strategy and Structure: Chapters in the History of the American Industrial Enterprise*. Cambridge, MA, The M.I.T. Press.
- Chandler, M. K. and Sayles, L. R. (1971) *Managing Large Systems*. New York, Harper & Row.
- Clegg, S. R. and Hardy, C. (1996) "Organizations, organization and organizing", in Clegg, S. R., Hardy, C., and Nord, W. R. (eds.) *Handbook of Organizational Studies*. London, Sage:1-28.
- Crossan, M. M. (1998) "Improvisation in action", *Organization Science*, 9(5): 593-599.
- Crossan, M. M., White, R. E., Lane, H. W., and Klus, L. (1996) "The improvising organization: Where planning meets opportunity", *Organizational Dynamics*, 24(4): 20-35.
- Crossan, M. M., Lane, H. W., and White, R. E. (1999) "An organizational learning framework: From intuition to institution", *Academy of Management Review*, 24(3): 522-537.
- Cyert, R. M. and March, J. G. (1963) *A Behavioral Theory of the Firm*. Englewood Cliffs, N.J., Prentice Hall.
- Denzin, N. K. and Lincoln, Y. S. (1994) *Handbook of Qualitative Research*. Thousand Oaks, Ca., Sage.
- Eisenhardt, K. M. (1999) "Strategy as strategic decision making", *Sloan Management Review*, 40(3): 65-72.

- Galbraith, J. R. (1973) *Designing Complex Organizations*. Reading, Mass., Addison-Wesley.
- Garfinkel, H. (1967) *Studies in Ethnomethodology*. Englewood Cliffs, N. J., Prentice Hall.
- Gioia, D. A. and Mehra, A. (1996) Book review of Weick's *Sensemaking in Organizations*, *Academy of Management Review*, 21(4): 1226-1240.
- Gioia, T. (1988) *The Imperfect Art*. New York, Oxford University Press.
- Ghoshal, S., Moran, P. and Bartlett, C. A. (1996) "Employment security, employability, and sustainable competitive advantage", Paper presented at the Academy of Management annual meeting, Cincinnati, Ohio.
- Guba, E. G. and Lincoln, Y. S. (1994) "Competing paradigms in qualitative research", in Denzin, N. K. and Lincoln, Y. S. (eds.) *Handbook of Qualitative Research*. Thousand Oaks, Sage: 105-117.
- Hopkins, W. E. and Hopkins, S. A. (1997) "Strategic planning – financial performance relationships in banks: A causal examination", *Strategic Management Journal*, 18: 635-652.
- Horgan, J. (1995) "From complexity to perplexity", *Scientific American*, 272(6): 104
- Kauffman, S. A. (1995) *At Home in the Universe: The Search for Laws of Self-Organization and Complexity*. New York, Oxford University Press.
- Jelinek, M. and Schoonhoven, C. B. (1990) *The Innovation Marathon: Lessons from High Technology Firms*. Oxford, Basil Blackwell.

-
- Kilduff, M. and Mehra, A. (1997) "Postmodernism and organizational research", *Academy of Management Review*, 22(2): 453-481.
- Kuhn, T. S. (1962) *The Structure of Scientific Revolutions*. Chicago, University of Chicago Press.
- Lawrence, P. R. and Lorsch, J. W. (1967) *Organization and Environment: Managing Differentiation and Integration*. Homewood, Ill., Irwin.
- Levins, R. (1968) *Evolution in Changing Environments*. Princeton, Princeton University Press.
- Lindblom, C. E. (1959) "The science of 'muddling through'", *Public Administration Review*, 19(2): 79-88.
- Lowendahl, B. and Revang, O (1998) "Challenges to existing strategy theory in a postindustrial society", *Strategic Management Journal*, 19(8): 755-773.
- MacIntosh, R. and MacLean, D. (1999) "Conditioned emergence: A dissipative structures approach to transformation", *Strategic Management Journal*, 20(4): 297-316.
- Malone, T. W., Lai, K.-Y., and Fry, C. (1992) "Experiments with OVAL: A radically tailorable tool for cooperative work", in *ACM Conference on Computer Supported Cooperative Work*, Toronto, Ontario, Canada.
- Mangham, I. and Pye, A. (1991). *The Doing of Managing*. Oxford, Blackwell.
- March, J. G. (1976) "The technology of foolishness", Ch. 5 of March, J. G. and Olsen, J. P., *Ambiguity and Choice in Organizations*, 69-81. Bergen, Universitetsforlaget.

- Mello, R. B. (1997) “O estudo da mudança estratégica organizacional em pequenas empresas de construção de edificações: Um caso em Florianópolis”. Master’s thesis. Florianópolis, Universidade Federal de Santa Catarina, Programa de Pós-Graduação em Engenharia de Produção.
- Miles, R. E. and Snow, C. C. (1986) “Organizations: new concepts for new forms”, *California Management Review*, 30(8): 62-73.
- Miller, C. C. and Cardinal, L. B. (1994) “Strategic planning and firm performance: A synthesis of more than two decades of research”, *Academy of Management Journal*, 37: 1649-1665.
- Miller, D. (1987) “The structural and environmental correlates of business strategy”, *Strategic Management Journal*, 8: 55-76.
- Miner, A. S., Moorman, C., and Bassooff, P. (1996) “Organizational improvisation: How firms ‘make it up as they go along’ in new product development”, Paper presented at the annual meeting of the Academy of Management, Cincinnati, OH.
- Mintzberg, H. (1972) “Research on strategy-making”, *Proceedings of the 32nd Annual Meeting of the Academy of Management*, Minneapolis.
- Mintzberg, H. (1973) *The Nature of Managerial Work*. New York, Harper & Row.
- Mintzberg, H. (1978) “Patterns in strategy formation”, *Management Science*, 29(9): 934-948.
- Mintzberg, H. (1979) *The Structuring of Organizations*. Englewood Cliffs, N.J., Prentice-Hall.
- Mintzberg, H. (1990) “Strategy formation: schools of thought”, in Fredrickson, J. W., *Perspectives on Strategic Management*. New York, Harper Business.

- Mintzberg, H. (1987) “Crafting strategy”, *Harvard Business Review*, 65(4): 66-75.
- Mintzberg, H. (1994) *The Rise and Fall of Strategic Planning: Reconceiving Roles for Planning, Plans, and Planners*. New York, The Free Press.
- Mintzberg, H. and McHugh, A. (1985) “Strategy formation in an adhocracy”, *Administrative Science Quarterly*, 30(2): 160-197.
- Mintzberg, H. and Waters, J. A. (1985) “Of strategies, deliberate and emergent”, *Strategic Management Journal*, 6(3): 257-272.
- Mintzberg, H., Ahlstrand, B., and Lampel, J. (1998) *Strategy Safari: a Guided Tour Through the Wilds of Strategic Management*. New York, Free Press.
- Mintzberg, H., Quinn, J. B., and James, R. M. (1988) *The Strategy Process: Concepts, Contexts, and Cases*. Englewood Cliffs, N. J., Prentice Hall.
- Mintzberg, H. and Quinn, J. B. (1996) *The Strategy Process: Concepts, Contexts, Cases*. 3rd Edition. Upper Saddle River, N. J., Prentice Hall.
- Moorman, C. and Miner, A. S. (1998a) “The convergence of planning and execution: Improvisation in new product development”, *Journal of Marketing*, 62(3): 1-20.
- Moorman, C. and Miner, A. S. (1998b) “Organizational improvisation and organizational memory”, *Academy of Management Review*, 23(4): 698-723.
- Morgan, G. (1983) *Beyond Method: Strategies for Social Research*. Newbury Park, Sage.
- Morgan, G. (1986) *Images of Organization*. Newbury Park, Sage.

- Morgan, G. (1990) "Paradigm diversity in organizational research", in Hassard, J. and Pym, D., *The Theory and Philosophy of Organizations*. London, Routledge.
- Morgan, G. (1998) *Images of Organization: The Executive Edition*. Thousand Oaks, Sage.
- Nonaka, I. and Takeuchi, H. (1995) *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York, Oxford University Press.
- Normann, R. (1977) *Management for Growth*. New York, Wiley.
- Nystrom, P. C. and Starbuck, W. H. (1984) "To avoid organizational crises, unlearn", *Organizational Dynamics*, Spring: 53-65.
- Osborn, C.S. (1998) "Systems for sustainable organizations: Emergent strategies, interactive controls and semi-formal information", *Journal of Management Studies* 35(4): 481-509.
- Pascale, R. T. (1984) "Perspectives on strategy: the real story behind Honda's success", *California Management Review*, 26(3): 47-72.
- Popper, K. R. (1970) "Normal science and its dangers", in Lakatos, I. and Musgrave, A. (eds.) *Criticism and the Growth of Knowledge*. New York, Cambridge University Press: 51-58.
- Porac, J. F., Thomas, H., and Baden-Fuller, C. (1989) "Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers", *Journal of Management Studies*, 26(4): 397-416.
- Porter, M. E. (1980) *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York, Free Press.

-
- Porter, M. E. (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York, Free Press.
- Quinn, J. B. (1980) *Strategies for Change: Logical Incrementalism*. Homewood, Il., Irwin.
- Quinn, J. B. (1992) *Intelligent Enterprise*. New York, Free Press.
- Quinn, J. B., Mintzberg, H., and James, R. M. (1988) *The Strategy Process: Concepts, Contexts, and Cases*. Englewood Cliffs, N .J., Prentice Hall.
- Reed, M. (1996) “Organizational theorizing: a historically contested terrain”, in Clegg, S. R., Hardy, C., and Nord, W. R. (eds.) *Handbook of Organizational Studies*. London, Sage, 31-56.
- Schuman, H. and Kalton, G. (1985) “Survey methods”, in Linzey, G. and Aronson, E., *The Handbook of Social Psychology*, Vol. I. New York, Random House: 635-697.
- Senge, P. (1990) *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York, Currency Doubleday.
- Simons, R. (1998) “Rethinking the role of systems in controlling strategy”. Working paper, Harvard Business School.
- Simons, R. (1991) “Strategic orientation and top management attention to control systems”, *Strategic Management Journal*, 12(1): 49-62.
- Smircich, L. and Stubbart, C. (1985) “Strategic management in an enacted world”, *Academy of Management Review*, 10(4): 724-736.
- Smith, J. G. (1994) Review of Mintzberg’s book *The Rise and Fall of Strategic Planning* (1994), *Long Range Planning*, 27(6): 151-152.

- Stake, R. E. (1994) “Case studies” in Denzin, N. K. and Lincoln, Y. S. (eds.) *Handbook of Qualitative Research*. Thousand Oaks, Sage: 236-247.
- Stake, R. E. (1995) *The Art of Case Study Research*. Thousand Oaks, Sage.
- Starbuck, W. H. (1993a) “ ‘Watch where you step!’ or Indiana Starbuck amid the perils of academe (Rated PG)”, in Bedeion, A. G. (ed.), *Management Laureates*, 3: 65-110, Greenwich, Ct., JAI.
- Starbuck, W. H. (1993b) “Keeping a butterfly and an elephant in a house of cards: the elements of exceptional success”, *Journal of Management Studies*, 30(6): 885-921.
- Teece, D. J. (1996) “Firm organization, industrial structure, and technological innovation”, *Journal of Economic Behavior and Organization*, 31: 193-224.
- Waldrop, M. M. (1992) *Complexity*. New York, Simon & Schuster.
- Weick, K. E. (1979) *The Social Psychology of Organizing* (2nd Edition). New York, McGraw-Hill.
- Weick, K. E. (1985) “Sources of order in underorganized systems: Themes in recent organizational theory”, in Lincoln, Y. S. (ed.), *Organizational Theory and Inquiry*. Beverly Hill, Ca., Sage: 106-136.
- Weick, K. E. (1990) “Cartographic Myths in Organizations”, in Huff, A. S., *Mapping Strategic Thought*, Chichester, Wiley: 1-10.
- Weick, K. E. (1995) *Sensemaking in Organizations*. Thousand Oaks, Sage.
- Weick, K. E. (1998) “Improvisation as a mindset for organizational analysis”, *Organization Science*, 9(5): 543-555.

- Weick, K. E. (1988) “Enacted sensemaking in crisis situations”, *Journal of Management Studies*, 25: 305-317.
- Whipp, R. (1996) “Creative deconstruction: strategy and organizations”, in Clegg, S. R., Hardy, C., and Nord, W. R. (eds.) *Handbook of Organizational Studies*. London, Sage: 261-275.
- Whittington, R. (1993) *What is strategy – and Does it Matter?* London, Routledge.
- Woodward, J. (1965) *Industrial Organization: Theory and Practice*. London, Oxford University Press.
- Wrapp, H. E. (1967) “Good managers don’t make policy decisions”, *Harvard Business Review*, 45(5): 91-99.
- Yin, R. K. (1993) *Applications of Case Study Research*. Thousand Oaks, Sage.
- Yin, R. K. (1994) *Case Study Research: Design and Methods*. 2nd Edition. Thousand Oaks, Sage.
- Zimbardo, P. G. (1969) *The Cognitive Control of Motivation: The Consequences of Choice and Dissonance*. Glencoe, Ill., Scott, Foresman.

APPENDIX I THE HYPOTHESES FORMULATED IN THE RESEARCH PROPOSAL

Eight hypotheses involving emergent strategies were formulated in the research proposal. As noted there, these were not meant to represent classic hypotheses to be empirically tested (at least in this literature survey phase of the study), but rather were intended to convey the principal concerns of the researcher when the proposal was prepared. They should be taken as statements to become more – or less – plausible or defensible in the light of the results of this phase of the study. With this spirit, we present below comments on each hypothesis.

Hypothesis 1: Emergent strategies in business organizations represent a verifiable and relevant phenomenon in contemporary strategy processes

Comment: That they represent a relevant phenomenon is attested by the volume of scholarly research dealing with it. As defined by Mintzberg [1978], it is also formally verifiable, despite the subjective character of strategies in general.

Hypothesis 2: The diffusion of the idea of emergent strategy is not due merely to the limitations of the classic planning process but also, and chiefly, to the utility of this idea to present planning processes.

Comment: The research reviewed here shows that, more than simply overcoming the limitations of the classic planning process, the concept of emergent strategy is useful in meeting other demands of strategy making, such as the organization's need to learn and the need to motivate knowledgeable workers.

Hypothesis 3: Emergent strategies are more frequent than deliberate strategies in business organizations

Comment: This statement seems now, on second thought, to be hard to assess..

Hypothesis 4: *The utility of the concept of emergent strategy derives from the use that can be made of this concept as an instrument in real strategy processes*

Comment: This is nearly a tautology. But it really means that emergence should be treated as a practical, not theoretical or idealistic, concept.

Hypothesis 5: *The utility of the concept of emergent strategy is greater in organizations and conditions that follow the new paradigms.*

Comment: This point is implicitly supported by almost all the authors reviewed here, in particular by Lowendahl and Revang [1998] and Osborn [1998].

Hypothesis 6: *Decision processes that consider emergent strategies are more flexible and adaptable to the present conditions of business life.*

This seems to be evident, but in effect, it is highly debatable. Indeed, there is some recent evidence that planning may be helpful in an uncertain and dynamic environment. Besides, flexibility and adaptability have a cost. This is an interesting statement that could be turned into a real hypothesis to be tested.

Hypothesis 7: *The analysis of the emergence of strategies may profit from the analogies that this phenomenon keeps with the occurrence of discovery and invention, in which chance has an important role.*

Comment: In Section 9 of this inquiry, we have argued that the manager-strategist must go beyond merely finding out already existing schemes and invent new ways of doing things.

Hypothesis 8: *The use of emergent strategies can be systematized.*

Comment: This was one of the main conclusions of the present study, as exposed in Section 8.

APPENDIX II RESEARCH DONE IN BRAZIL ON EMERGENT STRATEGIES

A search for references to emergent strategies in Brazilian publications revealed very few items. If items with only cursory mentions to the concept are eliminated, we are left with one Master's thesis submitted to the Graduate Program in Production Engineering at the Federal University of Santa Catarina [Mello 1998]. It describes a case of organizational changes in a typical small building construction company. The case study was developed under a qualitative research methodology, to characterize the strategic changes undertaken by the firm since 1980, from the perspective of its managers. The methodology was similar to that used by Mintzberg and McHugh [1985] in their study of an entrepreneurial firm. Mello's study traced the company's history and identified several strategic periods in its strategic adaptation process. These strategic periods were analyzed in order to infer the company strategy's content and process. Among various findings about the strategic processes evolving in the company, Mello detected a great influence of its leadership but also of its stakeholders, a low emphasis on planning, the occurrence of incremental decision-making processes and the presence of emergent strategies.