Between "Paralysis by Analysis" and "Extinction by Instinct"

Ann Langley

IN THEIR DECISION-MAKING ACTIVITIES, MANAGERS NEED TO TREAD A FINE LINE BETWEEN ILL-CONCEIVED, ARBITRARY DECISIONS ("EXTINCTION BY INSTINCT") AND AN UNHEALTHY OBSESSION WITH NUMBERS, ANALYSES, AND REPORTS ("PARALYSIS BY ANALYSIS"). THE AUTHOR EXAMINES THE OVER- AND UNDERUSE OF FORMAL ANALYSIS AND DESCRIBES ITS UNDERLYING MOTIVES. SHE IDENTIFIES THREE TYPES OF SITUATIONS THAT LEAD TO EXCESSIVE ANALYSIS AND THREE THAT LEAD TO INSUFFICIENT ANALYSIS. SHE CONCLUDES THAT, SINCE THE CAUSES ARE FREQUENTLY STRUCTURAL, SIMPLY EXHORTING MANAGERS TO BE MORE OR LESS ANALYTICAL IS UNLIKELY TO SOLVE THE PROBLEM. ATTENTION MUST BE GIVEN TO DEEPER STRUCTURAL AND CULTURAL ISSUES. MOREOVER, BECAUSE THE OBVIOUS SOLUTION TO ONE PROBLEM MAY DRIVE THE ORGANIZATION TO THE OPPOSITE ONE, RATIONAL YET EFFICIENT DECISION MAKING IS A COMPLEX BALANCING ACT THAT REQUIRES FREQUENT DIAGNOSIS AND REALIGNMENT.

I come from an environment where, if you see a snake, you kill it. At GM, if you see a snake, the first thing you do is go hire a consultant on snakes. Then you get a committee on snakes, and then you discuss it for a couple of years. The most likely course of action is — nothing. You figure the snake hasn’t bitten anybody yet, so you just let him crawl around on the factory floor.” — Ross Perot

As time passes, old management formulas become outmoded and are replaced by new ones, but the underlying message is often the same: formal analysis — the systematic study of issues — can help organizations make better decisions. This seemingly plausible hypothesis is supported by an extensive literature in cognitive psychology that shows convincingly that unaided human judgment is frequently flawed. For example, people seem to be unduly influenced by recent or vivid events, consistently underestimate the role of chance, and are often guilty of “wishful thinking.” Formal analytical techniques are a way to avoid such problems.

However, the “rational” approach has also had some influential detractors. For example, Peters and Waterman condemn formal analysis for its bias toward negative responses, its degree of abstraction from reality, its inability to deal adequately with nonquantifiable values, its inflexibility and bias against experimentation, and finally its tendency to lead to paralysis. In fact, most of us are familiar with “paralysis by analysis.” If we have not experienced it in our own working environment, we have certainly seen it in the unending parade of studies, inquiries, papers, and reports of all shapes, sizes, and colors emerging from government agencies. And, as the opening quotation shows, large private corporations are also a fertile breeding ground for this disease.

Thus managers need to navigate between two deadly extremes: on the one hand, ill-conceived and arbitrary decisions made without systematic study and reflection (“extinction by instinct”) and on the other, a retreat into abstraction and conservatism that relies obsessively on numbers, analyses, and reports (“paralysis by analysis”). But why do some organizations become bogged down in analysis? Why are certain decisions insufficiently analyzed? How can rationality and efficiency be combined? These are the issues I explore in this article.

At first glance, one plausible explanation for the over- and underuse of formal analysis is that it depends on cognitive styles — i.e., individual aptitudes and preferences for analytical or intuitive thinking. In this case,
paralysis by analysis would be associated with people who are naturally drawn to numbers, while the reverse (extinction by instinct) would be associated with impulsive managers with intuitive cognitive styles. However, as I show here, the fundamental forces that cause an organization to do too much or too little analysis in making a decision are frequently more complex: they relate to the patterns of participation, power, opinion, and leadership surrounding issues.

I base my argument partly on examples taken from the professional and scientific literature and partly on my empirical study of the role of formal analysis in three different organizations: a public service firm, a hospital, and an arts organization. This qualitative study involved more than eighty interviews with senior and middle managers, analysts, and professionals. In each organization, in collaboration with the CEO, I identified from eight to ten strategically important issues. I then inventoried all incidences of formal analysis carried out on these issues (based on the presence of a written analysis). I then classified the formal studies into four categories of complexity ranging from “armchair analyses” to “major studies” and traced the studies’ role in decision making through interviews, documents, and observations. In the next section, I draw on this data to examine the purposes of formal analysis. This helps define several situations in which analysis is overused or underused. Examples from the business literature show that these phenomena are not restricted only to the three organizations I studied.

Why Formal Analysis Is Used

To examine the use of formal analysis, it is important to understand the range of motives behind it. March and Feldman pointed out that people in organizations often tend to collect more information than strictly necessary for decision making, partly to influence others and partly to be seen as “rational.” Based on my research, I defined four broad categories of purpose behind analysis: information, communication, direction and control, and symbolism. Similar categories have emerged in other discussions in the literature.

* Information. “I want some information to base decisions on around here.” Information relieves uncertainty. Information gathering may be proactive as people use analysis to help them reflect on an issue. At other times, it is reactive, as people seek information to verify others’ ideas.

* Communication. “I prepared the report because I knew we had to justify the project.” People often initiate formal analysis when they have few doubts, but use analysis to make their views known or persuade others.

* Direction and control. “But they have to meet their objectives.” Managers sometimes initiate analysis to solve a problem or implement a decision. They may ask subordinates, a staff person, consultant, or task force to produce the reports, often by specific deadlines.

* Symbolism. “It gives the impression that we’re concerned.” Formal analysis may symbolically convey rationality, concern, and willingness to act, even when, in reality, the initiator of the analysis is either impotent or indifferent to the issue. Analysis also postpones decisions, consumes energy that needs to be redirected, or occupies otherwise idle people.

Thus formal analysis would be less necessary if people could execute their decisions themselves and nobody had to convince anybody of anything. In fact, the more strategic decision-making power is shared among people who cannot quite trust each other, the more formal analysis may become important. I do not imply here that formal analysis is a purely political tool and should therefore be categorically and cynically ignored. I simply focus on its dual role in decision making. When used for gathering information, it may help determine and improve the substance of decisions directly, as most of the literature indicates. But it can also help bind individuals’ decisions together to create organizational decisions through communication, direction and control, and symbolism. The second, political, role should not be automatically despised. On the contrary, when different organization members do not necessarily have the same goals or the same information sources, analysis helps to improve decisions indirectly by ensuring that ideas are thoroughly debated and verified, and that errors in proposals are detected before implementation. Thus almost all formal analysis is potentially useful, as frequently (but not always) happened in the three organizations I studied.

I now look more specifically at the five factors that can stimulate organizations to do more or less formal analysis. I then examine in detail the situations in which paralysis by analysis and extinction by instinct occur and provide examples of these situations and possible solutions.

Contextual Factors That Affect Use of Formal Analysis

The first factor influencing the amount of analysis is the breadth of participation. Because analysis is often used in interactions with others, the more an issue requires the participation of people at different levels and functions, the more likely it will be formally analyzed.

The distribution of power is a second critical factor. Power enables individuals to do what they want without
having to convince others. The more that power over an issue is dispersed within an organization, the greater the tendency to use formal analysis. Power is often associated with authority, but expertise may also be a major source of power, especially in professional organizations, high-tech firms, or multidivision corporations.

The range of opinions on an issue can also influence the amount of analysis. A manager may use formal analysis when uncertain or when already convinced but wanting to influence others. But if all participants think the same way, analysis may seem unnecessary — there is no one left to convince.

The first three factors are structural in many ways. However, two individual factors can also affect the quantity of analysis. The first is leadership style. For example, in a disagreement between functional managers, both parties might do an analysis to convince the top leader. For the reasons I described earlier, this process can be extremely useful — as long as the leader is ready to both examine the information seriously and, at the same time, come to a decision or propose a solution. On the other hand, a highly directive leader will ignore the studies, insisting on his or her own viewpoint. In the long term, this leadership style will discourage analyses. At the opposite extreme, a more cautious, passive, or highly consensual leader may encourage many studies and analyses that simply increase the decision maker's confusion.

The second individual factor is a difference in cognitive style: some people are naturally intuitive, while others are more analytical. Thus, even when one individual retains exclusive decision-making power, the quantity of analysis depends on that individual's cognitive style.

These factors suggest conditions that may favor excessive or insufficient use of analysis (see Figure 1). Thus the risk of paralysis by analysis is highest for issues in which participation is widespread, power is dispersed, opinions diverge, leadership is passive, and cognitive styles are analytical. At the opposite extreme, the risk of extinction by instinct is highest when participation is limited, power is concentrated, opinions converge, leadership is autocratic, and cognitive styles are intuitive.

I now discuss six typical pathological situations based on my research results: three showing paralysis by analysis and three, extinction by instinct. Each situation is characterized by a different configuration of the contextual factors I have described.

**Paralysis by Analysis**

The three situations in which organizations carry out excessive formal analysis are labeled the "dialogue of the deaf," the "vicious circle," and the "decision vacuum."

**The Dialogue of the Deaf**

"The issue was completely blocked; it became a dialogue of the deaf."

In this situation, an organization engages in a seemingly interminable exchange of documents and reports between hierarchical levels, which fundamentally disagree. Some people believe they know what to do and carry out analyses to justify their project, but they are unable to force the issue onto the organizational agenda because participants at other levels are either indifferent or opposed. Repetitive analyses lead nowhere because the parties simply do not understand each other. In fact, cognitive psychologists' studies have shown that formal analysis has little influence on people who are already strongly committed. However, because analysis is often the primary route to obtain approval and communicate their convictions, people continue to prepare reports even though they suspect they will be ignored. At the same time, managers at other levels may sometimes find it easier to ask for more data than to reject proposals categorically.

For example, the large teaching hospital in my research needed sophisticated medical equipment. The project passed several internal levels, but when it reached an external government agency, it met with opposition. One manager commented:

"We presented the project as a priority, but they thought we were committed in advance to this choice, and they didn't appreciate our criteria. They thought we had other motives. So we had to produce all kinds of statistics and explanations."

The blockage cascaded down as doubt grew in the minds of managers who had previously approved the

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**Figure 1** Factors That Affect the Quantity of Analysis

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<th>Risk of Paralysis by Analysis</th>
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project. They commissioned further studies and became very demanding in their concerns not only to make the right decision but also to ensure its approval and restore their credibility. At the same time, the original proposers resented wasting time on analyses that seemed completely futile.

In multi-tiered organizations, in which power and expertise are not necessarily concentrated at the top, the futile dialogue is often endemic, paralyzing communication between levels and creating universal frustration. While some managers complain of the time wasted in preparing studies, others decry the lack of rigor or imagination. The structure of interactions surrounding project initiations and approval tends to perpetuate a problem that results less from cognitive style than from a lack of trust among people at different levels.

- **Treatment and Prevention.** What can be done to avoid this common situation? Clearly, where a person is located in the hierarchy affects his or her ability to prevent it or make corrections. While those at the bottom may be unable to modify the structure of approval mechanisms, they may be able to adjust how they influence upper management. A first step could simply be developing greater sensitivity to top management’s concerns. For example, one organization I studied made considerable progress on a project after the requesting department assigned a new member to prepare the report. A manager remarked:

   *What I liked was that, for the first time, we got an unemotional analysis of the issue. The new guy made an effort to put together all the information. And even if he arrived at the same conclusion as before, I didn’t mind, because he looked at it objectively.*

   However, beyond this, Bower (on capital budgeting), Burgelman (on intrapreneurship), and Dean (on the acquisition of new technology) have shown that, while rational appeals are usually necessary, their effect can be greatly enhanced by measures such as coalition building.10

   In other words, stronger, more credible analysis needs to be combined with informal sources of influence.

   People at mid-level have an interesting role in vertical communications because, as gatekeepers to higher levels, their own credibility depends partly on the quality of the projects they support.11 It is not surprising therefore that they sometimes demand more information to make a decision; they need to be certain that they can respond to any question without necessarily understanding the project as well as its original promoters. Paradoxically, middle managers who fail to demand high standards in project preparation may indirectly generate even more paralysis as their projects are resisted at higher levels. Requests for more information may cascade up and down the hierarchy, accompanied by considerable frustration and disillusionment. In an illustration of the critical role of leadership, middle managers’ weakness does not help either project promoters in formulating their proposals adequately or others who are trying to understand the project’s merits.

   At the top of the organization, the problem can be attacked at the structural level. Top management needs to ask whether decisions are made at the appropriate level and whether all the current levels are necessary. Bureaucratic excesses created by the need for communication between numerous levels have often been cited as a reason for the declining competitiveness of such large corporations as IBM and GM in the late 1980s and early 1990s; “dismantling of the hierarchy” has become a popular management fad.11 The business press suggests that firms like Xerox and Becton-Dickinson are improving their response time by replacing traditional hierarchies with more fluid structures in which project teams make the decisions.12 This may be one way to eliminate useless and time-consuming dialogues between levels. However, as I will show later, fluid structures can generate their own problems.

The Vicious Circle

*“Studies were simply the ammunition in a battle.”*

The second mode of paralysis by analysis is manifested in persistent paper fights between people at the same level. It usually occurs when there is wide participation and a diffuse power structure. The two main elements are horizontal conflict (i.e., between different functions or organizational subunits) and uncertainty, ambiguity, or hesitation at the top. Each side generates large amounts of formal analysis as it tries to convince the other and persuade uncommitted top managers. Senior management, in turn, may also initiate analysis, hoping that it may bring about a consensus, clarify the direction, or at least postpone the problem. One interview described such a process:

   *There was internal disagreement. People were trying to block. And if somebody is going to block something, they’ve got to come up with a reason. So both people are probably doing some kind of study — a study to cause the block and a study to unblock the block. And if the block is unblocked, then there’s a new block, and you’ve got to have a study to unblock that, and so it goes on.*

   Unfortunately, because of top management’s uncertainty, all this analysis is unlikely to clarify the situation...
and may even enhance divergence. Previously committed
people are not easily persuaded, and uncommitted people
become even more confused by conflicting analyses from
opposing factions; the situation becomes a vicious circle.

A vivid illustration is the arts organization I studied,
which planned to enter a new market. A planning ana-
lyst initially convinced the CEO that the idea was worth
considering, but the marketing manager had different
views, and opinions among the other functional areas
were divided. After the planner initiated several analyses,
the board of directors tentatively decided to proceed and
set up a committee of all functional managers.

From the start, the committee members could not
agree on the decision's meaning. Without the CEO's
clear direction, the committee worked at cross-purposes,
with different members pursuing their own objectives
and undermining their colleagues' analyses. They hired
various consultants to analyze parts of the project, but
not everyone accepted their validity. A consensus to do a
pilot test was further weakened by dissension among
board members. A new committee (excluding some of
the fiercest protagonists) was chosen to design the test,
but its members still disagreed on what it should encom-
pass, and it collapsed. After senior management set up
another committee, which also fizzled, a much smaller
team hired more consultants to analyze the finances and
consolidate the previous work into a board presentation.
Meanwhile, the CEO's preoccupation with other prob-
lems, combined with the consultant's somewhat negative
evaluation and management's growing disillusionment,
led to the project's eventual demise.

My data and reports of other studies in the literature
support the conclusion that top management's uncer-
tainty, ambiguity, division, or passivity contribute signifi-
cantly to the vicious circle. In some organizations,
the problem seems endemic, relating to the dispersion of de-
cision-making power. A manager at the arts organization
commented: "There's a kind of 'participation' ideology
here that dates from the sixties. There's also the possibili-
ty of role reversal. So nobody dares tell anyone else what
to do."

Demolishing hierarchical structures as a way to elimi-
nate dialogues of the deaf may inadvertently create some
of these problems, as I suggested in the previous section.
Fluid structures with multidisciplinary teams bring deci-
sions closer to the action, but, without clearly defined re-
sponsibilities, they can be as paralytic in conflict as the hi-
erarchies they replace. For example, Dumaine describes
the difficulty of the changes implemented at Becon-
Dickinson; marketing and engineering team members
were unable to agree on a new product design, and the
team leader (an engineer) had insufficient authority to
impose his views, thus slowing the process down consid-
erably. While several large U.S. firms are struggling to
break down their traditional hierarchies to improve the
speed of decision making, reports in the business press
have suggested that Honda has initiated a transforma-
tion in the opposite direction, at least partly for the
same reason!9

However, organizational structure cannot be blamed
in all instances of the vicious circle. Even in organiza-
tions with strong hierarchies, passive leadership can have
similar effects. A manager in a traditionally structured
firm commented:

Our previous CEO didn't make decisions, so we stopped
sending him things because he would always send them to
the board. We were always doing studies, mountains of
analysis to justify things, and it had to be absolutely obvi-
ous that it was the right decision. If the board wasn't unan-
imous, we had to go back to work. With the new CEO, it's
completely different — he's the one who makes decisions.
The problem is that we hired a lot of analysts, and now we
don't know what to do with them.

- Treatment and Prevention. How can an organization
avoid vicious circles or escape from them once they are
established? Again, a person's available courses of action
depend on where he or she is located in the organization.
The problem is at least partly outside the direct control of
those at the bottom — i.e., the people who initiate and do
most of the analysis. The structural aspects of the situa-
tion (wide participation, diffuse power, divergent opin-
ions, and passive leadership style) naturally encourage
them, and in this context, they may find it practically
impossible to avoid an ongoing analysis war even if they
know that such wars are usually unconstructive. How-
ever, a first step out of the impasse is adequate diagnosis.
Since vicious circles tend to feed on themselves (with
opinions becoming more and more irreconcilable as
hostilities escalate), the earlier the diagnosis, the more a
satisfactory resolution may be possible diplomatically.

Both sides need to consider whether their debate really
focuses on facts or on fundamental values and objectives.
Daft et al. distinguish between situations of "uncertainty"
(in which facts are unclear) and situations of "equivoca-

city" (in which values and objectives are unclear). They
argue that while "hard" information sources (statistics or
reports) can relieve uncertainty, "softer" but "richer" ap-
proaches (face-to-face discussions) are needed to relieve
"equivocality." Thus, in these situations, the ping-pong
battle of irreconcilable analyses should be set aside in
favor of richer forms of debate. Mitroff et al. have suggested a formal structure for this that they call "dialectic inquiry." Aid by independent facilitators, the various groups formally identify the essential assumptions behind their options, and all participants then attempt to find a negotiated solution — either a compromise or, preferably, a "synergistic" synthesis that integrates different viewpoints. All these initiatives may fail, however, if leaders intentionally or unintentionally encourage the perpetuation of equivocality, which brings us to consider the leader's role in resolving vicious circles.

Most of the literature on the efficacy of various kinds of leadership styles supports the theory that laissez-faire or passive styles enhance conflict. In my research, more directive leadership prevented diverging opinions from degenerating into vicious circles; this did not necessarily mean acceptance of one side or the other, but could mean the development of an acceptable compromise so issues did not fester unresolved. In the case of persistent disagreement, those with power to decide must decide, preferably after listening to others' views. In her research on decision making in "high velocity" computer firms, Eisenhardt examined the effects of various kinds of leadership style on decision-making speed (and indirectly on organizational performance). She noted the superiority of "qualified consensus," in which top managers first attempt to develop consensus among interested parties, air all views, and then impose a decision that accounts for these views. Styles in which agreement was sought at all costs or deadlines determined decisions were much slower and also more political. Barnes and Kriger's study of leadership in a variety of organizations imparts much the same message.

Unfortunately, adopting a new leadership style is difficult, even if a person recognizes the limitations of his or her current behavior. Thus sometimes the leader may need to be replaced. The vicious circle may most easily be broken if those at a level above the principle participants (the board, if the leader is a chief executive) intervene. Repeated buck-passing, conflict, bypassing hierarchy in lower ranks, mountains of paper, and frequently postponed decisions are signs that such action should be considered.

The Decision Vacuum

"We did a study right out of the textbook. The only problem is we haven't done anything yet."

In the third situation of paralysis by analysis, analysts become theoreticians isolated in their ivory towers, cut off from reality. A manager remarked: "They were there to collate a lengthy report, which I thought was much too long. They did an enormous amount of work on it and got into a whole lot of theoretical nonsense."

A decision vacuum has a number of specific characteristics: a professional analyst, consultant, or staff group with a mandate for a wide-ranging study; an imprecise deadline and lack of immediacy; and top management's uncertain direction of the analysis. Often, the analysts are not really to blame for the vacuum; management has provided no clear vision for their work. For example, one organization explored the issue of diversification; it hired a full-time analyst to design a strategy and identify possible areas for development. The analyst hired consultants and, for two years, accumulated a mass of information. Yet, the link between the data and the substance of the decisions was always unclear. Because the analysis had been delegated to someone other than the decision maker and was so broadly focused, the decision maker's thinking was often out of phase with the analytical work being done.

In theory, formal analysis should help to reduce uncertainty by providing information. However, my research suggests that analysts who have no direction or structure will invent their own — and there is no guarantee that it will correspond to managers' interests. Strategic planning exercises can easily fall into this trap, as one manager commented:

One danger is that the people who do the analysis aren't necessarily those with a sufficiently broad personal vision — or they don't have sufficient authority to impose their personal vision. So there's some distortion in the whole exercise. A lot of papers get written, but when you reach the top, it doesn't necessarily correspond to what I would call a strategic choice.

Every popular new management approach is susceptible to the vacuum, whether strategic planning, management-by-objectives, total quality management, or business process reengineering. As techniques become fashionable, avant-garde firms want new groups of staff specialists to implement them. However, unless organizations are careful when setting priorities, the groups can easily grow out of control, creating rituals that justify their size and importance but with limited impact. Hammonds and DeGeorge describe how Florida Power & Light found itself with a quality improvement staff of seventy-five people that the parent company's new CEO labeled "a bureaucratic organization that was outliving its usefulness."

One activity that created the bureaucracy was the firm's application for the prestigious Deming award for quality, which required managers to compile hundreds of pages of analysis; "employees [were] trundling mountains of data stored in milk crates around headquarters."
Extinction by Instinct

In a study of public policy decision fiascoes (e.g., the Bay of Pigs), Janis identified “groupthink” as a major cause of poor decision making. As he describes it, groupthink occurs when decision makers who work closely together develop a high degree of solidarity that clouds their vision, leading them to suppress negative feelings about proposals. I have identified three situations in which there was insufficient analysis, two of which bear some relationship to Janis’s groupthink phenomenon. A common element underlies these cases: weak checks and balances in the decision-making process. The power or willingness to challenge choices is absent or temporarily suspended, and the organization converges too rapidly on a unique vision, leading to extinction by instinct.

The Dominant Leader

“If the CEO is not on the right track, it is difficult for someone under him to say, ‘Whoo . . .’”

Warren Hathaway, chairman of Berkshire Hathaway, Inc., has remarked, “Because the CEO dispenses all favors, his biggest problem is to avoid being treated like God. Second is to avoid thinking he is God.” Indeed, in many organizations, it is not easy to contradict or argue too vigorously with the boss. As a respondent in my study suggested, even when managers feel they know more than a superior, they may suppress doubts because of career considerations; “Senior managers were convinced. They believed in it, because it’s believe or die, no more, no less.”

Deliberately or not, the CEO in an organization with a traditional structure can easily dampen opposition. Fear, respect for authority, and even admiration may make skeptics hesitate when confronted with a confident CEO. An interviewee commented: “With him, everyone waited to see what he would say because, in any case, he would have already considered all sides of the issue.”

Extinction by instinct is caused by the combination of narrow participation in decisions, centralized power, and a highly directive leadership style (see Figure 1). This is less a problem if the leader acts in the organization’s interests, understands the firm, and has strong ethics and cognitive capabilities to make decisions. However, if a manager does not force serious questioning, a leader will sometimes make mistakes. Colleagues will become “yes” people, and groupthink will take over decision making. And a dominant CEO may not discover his or her mistakes (not to mention others) because fearful employees withhold information. It may be particularly difficult for a successful CEO to admit the possibility of error.

• Treatment and Prevention. What can lower-level
managers do about the boss who has lost touch with reality and seems to be driving the organization in the wrong direction? Hirschman discusses three different strategies that members can adopt: "exit" (leave the organization), "voice" (attempt to force changes from within), and "loyalty" (accept things the way they are). Each individual can evaluate the risks and benefits of each strategy. However, if the organization is really on the wrong track, true loyalty requires an attempt to communicate reservations and concerns to the leader.

How can a confident, independent CEO in a traditional organization avoid the pitfalls and temptations of absolute power? The obvious (but difficult) answer is to make sure that power is never absolute, surround oneself with other confident, independent people, and encourage discussion and debate on every decision. Some suggest using devil's advocates for all major decisions by assigning one individual or subgroup to argue against the dominant view. The "dialectics" approach of Mitroff et al. could also be used in this way. These formal (and analytical) approaches may sensitize managers to the risks of proposed actions and generate better decisions.

A company can also protect itself from the risks of dominant leadership with an independent, competent board of directors that takes its role seriously. In each of the three organizations I studied, the board had questioned at least one major internal decision — in one case, on profitability, in another, strategy, and in the third, because the decision bypassed normal priority-setting procedures. Two cases involved decisions that were the CEO's "baby" — a pet project that had not been subjected to the analytical scrutiny that the CEO normally would have insisted on if the promoter had been someone else. Fortunately, the board provided a safety net by asking critical questions and offering guidance. However, some boards are dominated by insiders and can be easily manipulated by senior management. Others simply do not adequately represent the firm's shareholders. Pearce and Zahra have shown that firms with more powerful boards tended to perform better than those with less powerful ones. Moreover, interestingly, CEOs seemed to prefer more powerful boards: "Powerful boards convey to shareholders at large an image of effective checks and balances that helps to assure shareholders that their interests are well protected."

Parallel Power

"The project would have passed anyway. We could have done some more work, but we couldn't have stopped it."

In complex organizations, people at various levels may have power over certain types of decisions. Parallel power is a situation in which individuals or groups low in the hierarchy are powerful enough to do what they want, even when contrary to organizational objectives. Such power may be based on privileged access to external or internal support that enables individuals to bypass normal decision-making channels. It may also come from specialized expertise, as in the case of a physician in relation to a hospital administrator (here, the authority relationship may be denied entirely) or a division head in relation to the head office of a diversified corporation.

In fact, as organizations become more complex, they face increasing control and coordination problems. Leaders do not have the time or knowledge to personally manage everything and must therefore trust others not only for executing decisions but also for innovating and developing. And despite many attempts, no one has yet invented a perfect system of incentives and rewards to ensure that a manager's actions will always be consistent with organizational objectives. Parallel power can lead to extinction by instinct in at least two ways. First, senior managers may accept ideas from lower-level managers that are not necessarily in the company's interests, either because they have insufficient information to ask the right questions, or because opposition would not seem legitimate. For example, in this hospital I studied, an administrator could not easily question a physician's decision to prescribe treatment for a particular patient — even if the treatment had major political, strategic, and financial implications. Thus demands for analysis in such situations could only be symbolic, since the medical staff held the balance of power. In another case, a physician unilaterally found a donor for some expensive medical technology that was not necessarily a top priority. This problem seems to occur most often in the public sector where certain members are largely immune from sanctions (like doctors in hospitals) and where special interest groups may be most easily mobilized.

Second, top managers may make decisions without all the necessary information because subordinates do not provide it. For example, in one case in my research, a CEO was attempting a turnaround that required drastic cuts in certain areas and major staff transfers between units. Although the CEO was clear about his goals, he lacked the knowledge to define them in detail. He was therefore forced to rely at least partly on different functional managers, some of whom were unhappy about the change. Since their proposals did not always satisfy his requirements, the CEO ended up imposing his own ideas and running the risk that, with inadequate information, the changes would be poorly conceived, leading to errors. Some lower-level managers may have even hoped for this.
These difficulties partly underlie several well-known failures of unrestrained, unrelated diversification. For example, Miller documents the rise and fall of such firms as Litton Industries, Automatic Sprinkler, and Investment Overseas Services, which were developed rapidly by acquiring companies in sectors far removed from their original base. Their control systems were overwhelmed by the complex task of managing the diverse businesses. Parallel power became endemic.

TREATMENT AND PREVENTION. Privileged access to decision influences is one factor underlying parallel power. Managers naturally want to obtain information from many possible sources, but when access is unequal and political games systematically begin to control decisions, objectives are subverted, decisions are arbitrary, and formal decision-making procedures become empty rituals. Once this pattern is established, it feeds on itself, as people who might have played by the rules see that the only successful route is through backroom politics. Thus the best way to prevent access abuse is for top managers to make their own decision-making procedures transparent. Although, as I showed, the hospital I studied was certainly not immune from parallel power, the CEO was indefatigable in defending the integrity of the formal peer review for decision making and avoiding the appearance of ceding to informal pressure. A senior physician suggested that, despite the occasional breach, he generally succeeded, “In general, I like the way decisions are taken. They may be decisions with which you do not agree. But at least there's some intelligence brought to bear, a certain consultation before making a decision.”

Another cause of parallel power is the information gap between managers at different levels. An experienced manager who is deeply in touch with his or her own organization and its environment is less likely to fall victim to extinction. However, in large, complex firms, this deep intuitive understanding is often beyond many managers’ capabilities. Their visceral response is to demand more formal analysis for direction and control as a substitute for informal tacit knowledge. Various planning techniques have been developed for precisely this purpose (from the portfolio matrices of the 1970s and early 1980s to the “shareholder-value-based” planning of the late 1980s and early 1990s).

Harold Geneen, the charismatic builder of ITT, a diversified, once highly successful conglomerate, favored an aggressive form of control by analysis. Geneen has commented, “The drudgery of the numbers will set you free.” His “freedom” may look like slavery to most of us when we read that he personally pored over the numbers until 10 or 11 p.m. every night. Moreover, control by analysis can be counterproductive if pushed too far, creating a climate of escalating distrust as lower-level managers increase the subterfuge of control avoidance in parallel with growing demands for information from above. One interviewee remarked, “We know from one year to another that the influence we had on the strategic plan may land us with obligations we'd rather not have, so people do not always collaborate fully. When you know a system, you abuse it.”

In fact, we are back full circle to the dialogue of the deaf. Exclusively relying on formal approaches to fill the information gap may drive an organization to the worst of both worlds: paralysis by analysis and extinction by instinct — piles of analyses and reports but little useful information.

Next is the third element behind parallel power: the misalignment of personal and organizational objectives. If incentives and rewards systems are designed so that autonomous decisions generally reflect organizational goals, there are fewer risks with parallel power. However, in the case of professional groups with crucial expertise, this is difficult. For example, the hospital in my study had limited control over rewards to the medical staff because they were not on its payroll. Beyond formal systems, however, an alternative approach binds people to the company, not by economic interest but by commitment to a value system or organizational culture. An inspiring mission (e.g., healing the sick), promotion from within, and charismatic leadership may help develop such a culture. Loyalty to the organization rather than to a limited function may also be stimulated by ensuring that managers rotate between different units and positions, a strategy that the hospital CEO favored. But a strong culture is difficult to achieve, especially in a large company, and is not without drawbacks, as indicated in the next section.

NATURAL UNANIMITY

“I made a presentation at the management committee. Everyone applauded.”

When everyone in power instinctively shares the same opinion on an issue, the wise manager should be wary. Unanimity is unlikely to lead to an objective evaluation of options, and normal checks and balances may be short-circuited. Unanimity may mean that a proposal has strong value, but it may also be symptomatic of a disturbing trend, i.e., a uniformity in which members share values and beliefs and that excludes deviation from the decision-making process. Obviously, a strong culture has many advantages, but when the organization is faced with discontinuities, this same culture becomes a liability, as common beliefs become invalid, ultimately
leading to extinction by instinct. IBM, praised during the 1970s and 1980s for its motivating culture, is a striking example. The same culture, dominated by values that worked well for marketing mainframes, later became a barrier to the company's success in new markets. This phenomenon has confronted several major firms and industries in the 1980s and 1990s, leading to cultural changes, or "paradigm shifting," i.e., the adaptation to fundamentally new rules. 

Natural unanimity may also occur when a corporate head office or a government agency invests in an area for strategic reasons but then fails to apply normal control criteria to the specifics of resource use. Because the decision seems to be in everyone's interest, there is no counterweight. Hamermesh describes this problem at Memorex following its use of portfolio planning matrices; certain business units received a mandate for growth that became virtually a blank check for investment. In my own research, a new government directive led the arts organization to rapidly promote a previously rejected project. One manager remarked:

_The new policy said we should develop in this area. It was like a magic word — everyone leaped on it. Management needed some content, so they looked around to see what there was. They'd looked at this old project in the past and said there was no chance._

In this case, the proponent of the project had done a good deal of analysis earlier. However, the urgency to produce something — anything — to satisfy an outside requirement was certainly not conducive to thoroughly analyzed proposals.

Finally, natural unanimity may also occur on a small scale within subgroups that have evolved narrow viewpoints synchronized with the rest of the organization. Dividing a firm into distinct functional groups invites this kind of parochialism. Interviewees described the arts organization I studied as a set of fortresses or self-sufficient Byzantine fiefdoms. Given the strongly held, shared beliefs in each unit, it is not surprising that interaction between them often resulted in all-out war (the vicious circle I discussed earlier).

- **Treatment and Prevention.** What I have described is an inward-looking organization detached from its environment. In the extreme, escape from this predicament almost certainly requires a fresh perspective that can come only from outside: new managers and/or outside consultants. IBM eventually took this route. Ideally, however, organizations should avoid this situation through systems of checks and balances by tolerating deviance, using devil's advocates, and doing appropriate independent analysis.

As for staff analysts, the professional literature for planners and analysts stresses the importance of developing mutual understanding and harmonious relationships with line management. Based on my research, however, I suggest that the need for good relationships has been greatly overemphasized. Managers in my study were often interested in analysts' work precisely because of its ability to challenge existing approaches. One remarked, "Pete was seen as a far-out guy, and Fred wanted to see what a far-out guy would make of it." And as one consultant put it:

_I would say 90 percent of consultant studies are not implemented. It has to be that way. If I were a manager, I wouldn't implement them either. The manager has to use his judgment; he has to live with the thing. Analyses only serve as a challenge._

Overemphasis on staff-line cooperation and implementation may lead to a situation in which it is in the analyst's interest to be co-opted by the line managers. The easiest way to ensure implementation is to recommend only those actions that the line managers agree with. But this is not necessarily useful to an organization and may lead to mutual admiration and, ultimately, natural unanimity. The effectiveness of the staff-line dichotomy depends on maintaining a certain tension between the two. When the tension disappears, the staff may not be doing its job.

The idea of creating a capacity for challenge can obviously be extended beyond the traditional staff versus line activities. For example, in the public service organization I studied, the CEO frequently set up task forces so that someone outside the functional area nominally responsible was assigned team leadership. He commented:

_The best came out of it because one group worked on the problem, while another had responsibility for the project. They didn't like this very much, but got involved. They came to all the meetings, generated ideas, and worked hard, but it was somebody else who reported to management._

This approach also provides for second opinions without an elaborate staff bureaucracy and forces discussion among functional groups. Pascale points out that contention can be constructive if harnessed at the right time to ensure variety in thinking.

**Toward Equilibrium**

In the previous sections, I have looked at several deci-
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<th>Table 1</th>
<th>Toward Equilibrium: Solution Paths (and Their Nemeses)</th>
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<td><strong>Dialogue of the Deaf</strong></td>
<td><strong>Technical Solutions</strong></td>
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| | **Structural Solutions** | • Eliminate levels of hierarchy  
• Decentralize decision making (flow: parallel power; vicious circle) |
| | **Cultural Solutions** | Stronger socialization to common values (flow: natural unanimity) |
| | **Leadership Style Solutions** | Set broad objectives but greater delegation of details to line and less reliance on staff (flow: parallel power; natural unanimity) |
| **Vicious Circle** | **Technical Solutions** | Conflict resolution techniques; dialectic inquiry; soft systems analysis, etc. (flow: natural unanimity; amplified vicious circle) |
| | **Structural Solutions** | Centralization, clarification of hierarchical responsibilities (flow: dominant leader; dialogue of deaf) |
| | **Cultural Solutions** | Stronger socialization to common values (flow: natural unanimity) |
| | **Leadership Style Solutions** | More directive, less consensual leadership style (flow: dominant leader) |
| **Decision Vacuum** | **Technical Solutions** | Require staff work to be sponsored and budgeted by line departments (flow: parallel power; dialogue of deaf; vicious circle) |
| | **Structural Solutions** | Reduce size of staff groups, create temporary staff mandates (flow: dominant leader; parallel power) |
| | **Cultural Solutions** | Develop action-oriented culture (flow: all forms of extinction by instinct) |
| | **Leadership Style Solutions** | Less delegatory style with respect to staff groups (flow: dominant leader) |
| **Dominant Leader** | **Technical Solutions** | Forced questioning techniques (e.g., devil's advocacy) (flow: vicious circle; dialogue of deaf) |
| | **Structural Solutions** | • Decentralization of decision making  
• Division of top job (flow: parallel power; vicious circle) |
| | **Cultural Solutions** | Develop participative management culture (flow: vicious circle; dialogue of deaf) |
| | **Leadership Style Solutions** | More consensual, less directive leadership style (flow: vicious circle) |
| **Parallel Power** | **Technical Solutions** | More stringent approval requirements (e.g., planning formats, value-based evaluation of strategies) (flow: dialogue of deaf) |
| | **Structural Solutions** | • Development of corporate staff groups (flow: decision vacuum; dialogue of deaf)  
• Priority selection by peer evaluation (flow: vicious circle) |
| | **Cultural Solutions** | Stronger socialization to common values (flow: natural unanimity) |
| | **Leadership Style Solutions** | More internally informed, less detached leadership (e.g., promotion from within) (flow: natural unanimity) |
| **Natural Unanimity** | **Technical Solutions** | • Forced questioning techniques (e.g., devil's advocacy)  
• More stringent approval requirements (flow: vicious circle; dialogue of deaf) |
| | **Structural Solutions** | Enhance role of staff and especially outside consultants (flow: vicious circle; dialogue of deaf; decision vacuum) |
| | **Cultural Solutions** | Develop culture tolerant of deviance, conflict, competition, etc. (flow: vicious circle; dialogue of deaf) |
| | **Leadership Style Solutions** | More externally informed leadership (e.g., promotion from outside) (flow: dialogue of deaf; parallel power) |
sion-making pathologies associated with either excessive or insufficient formal analysis and examined how the problems can be corrected or avoided. I now draw these diverse elements together, beginning with a brief summary of the strategies and concluding with two general observations (see Table 1).

Avoiding Extinction by Instinct
The key element of any strategy for avoiding extinction by instinct is to install checks and balances into the system so that people must think through their ideas. Formally, this can be done through cross-functional teams, staff advisers, or procedures like "devil's advocacy." Informally, managers must learn to tolerate dissidence and encourage their colleagues to express doubts about proposals. External consultants and board members can also improve decision making. In addition, the legitimacy and integrity of the decision-making system needs to be protected. Propositions from various parts of the organization need to be treated transparently, equitably, and consistently to avoid arbitrary, ultimately indefensible decisions based on privileged access rather than mature reflection.

Avoiding Paralysis by Analysis
In paralysis by analysis, checks and balances have become so dominant that it is virtually impossible to get anything done. In environments where speed to market is an important competitive advantage, this is a major problem. Efficient arbitration is needed to produce rapid, rational decisions. As I indicated earlier, this may mean reexamining where decisions are made in the hierarchy and whether all levels are necessary. In addition, while listening to dissident opinions, leaders must be prepared to make up the organization's mind. And staff groups cannot remain isolated, detached from immediate decision making. Finally, although commitment to common values and overarching goals may become a problem if the environment changes dramatically, it is a very powerful asset in responding to routine ongoing challenges.

Although formal analysis is a purely technical activity, the factors that stimulate its use (or nonuse) are very often political or interpersonal. Therefore I argue that if we want to influence the way organizations reason, we must look at the context in which people make decisions. To stimulate both rationality and efficiency in decision making, we need to design organizations and approaches that combine constructive checks and balances with effective ways to arbitrate.

Given the apparent contradiction between these goals, achieving both rationality and efficiency in decision making is far from easy. In fact, almost all the solutions I propose contain the seeds of their own defeat: if pushed too far, they will send the organization from one pathological situation to its opposite (see Table 1). We can observe this phenomenon in the way managerial fads and fashions come and go, with the excesses of one trend serving as points of departure for the next (e.g., from scientific management to human relations, from strategic planning to organizational culture to process reengineering). Management is a dialectic process in which cycles of diagnosis and readjustment never end. When decisions are consistently driven either by irrational impulse or by obsessive number crunching, a new cycle of diagnosis and adjustment is overdue.

References

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2. See, for example:
D. Kahneman, P. Slovic, and A. Tversky, Judgement under Uncertainty: Heuristics and Biases (Cambridge, England: Cambridge University Press, 1982);
R.M. Hogarth, Judgement and Choice: The Psychology of Decision (Chichester, England: Wiley, 1980); and
3. See, for example, H. Mintzberg, Mintzberg on Management (New York: Free Press, 1989);
4. The expressions were borrowed from:
5. For further details, see:
J. Pfeffer, Managing with Power (Boston, Massachusetts: Harvard Business School Press, 1992);

8. This statement is perhaps more controversial than previous ones. Some authors have argued that formal analysis is more applicable to situations where there is little uncertainty or conflict. See, for example: J.W. Dean and M.P. Sharffman, "Procedural Rationality in the Strategic-Decision Making Process," Journal of Management Studies 30 (1993): 587-610.

My data suggest that conflict and uncertainty cause people to generate more analysis, although this analysis may sometimes have limited effects on decisions. See: J.G. March and H.A. Simon, Organizations (New York: Wiley, 1958); and Feldman and March (1981).


11. See, for example, Nisbett and Ross (1980).


25. The term "decision vacuum" was inspired by R.G. Corwin and K.S. Louis, "Organizational Barriers to the Utilization of Research," Administrative Science Quarterly 27 (1982): 623-640. These authors describe how public sector evaluation research is often ignored because it falls into a "policy vacuum" where there is no clearly identifiable sponsor who might have any need for it.


33. There has been considerable debate in the management literature on the relative merits of the devil's advocate and dialectic enquiry approaches for decision making. Cosier and Schwenk represent a reconciliation (compromise or synergistic solution) by opposing protagonists of the two different methods. See: R.A. Cosier and C.R. Schwenk, "Agreement and Thinking Alike: Ingredients for Poor Decisions," The Executive 4 (1990): 69-74.


34. Mitroff et al. (1979).


36. For an accessible description of agency theory and its relevance to...
organization theory, see:
38. Much of the discussion in this section is inspired by Allaire and Fisirotu. See:
43. G. Donaldson, and J.W. Lorch, Decision Making at the Top (New York: Basic Books, 1983); and
34. R.G. Hamermesh, Making Strategy Work (New York: Wiley,

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