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**Center for
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**Mental Judo as Practiced by Top
Executives: Guidelines for Surviving in
Turbulent Times**

**CEO Publication
G 86-10 (88)**

**Ian I. Mitroff
Susan A. Mohrman
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There aren't a thousand people in this nation who are good integrators of knowledge...We have those who know all about highflying exotic X's and nothing about something over here, and what you have in crisis decision-making is not specialized decision-making. It is the integration at the highest levels of lots of information and requires people who can with confidence, span...areas...But if you generally haven't trained people with that capability--and we're a long ways away from training them at the level [of the] White House--you're in for serious trouble.

Richard Béal,
Science 1

For over the past fifteen years through various consulting and workshop assignments, we have been studying the thinking patterns of top executives. In the past five years in particular, we have witnessed a dramatic shift in their ability to confront the unpredictable. The top executives at the best companies to whom we have talked and with whom we have worked clearly understand that it is no longer "business as usual." Global competition has forced a recognition that if they are to survive, let alone prosper, they will have to learn to manage and to think very differently about a world that is more unpredictable and turbulent than ever before.

This article represents a compilation of some of the many "broad guidelines" that the best executives are using to confront the turbulent and the unpredictable. In no case do we know of any single executive who practices all of them in a systematic and coordinated fashion. We believe however that this is precisely what more and more top executives will need to learn to do if they and their organizations are to make it through the perilous times in which we live.

Outrageous Thinking and the Art of Survival

About fourteen years ago, a sociologist by the name of Murray Davis published an utterly fascinating article in an unfortunately obscure social science journal.² The article was entitled, appropriately enough, "That's Interesting." It

shows as powerfully as any single source we know why ordinary thinking is no longer adequate in dealing with the issues of the first two chapters.

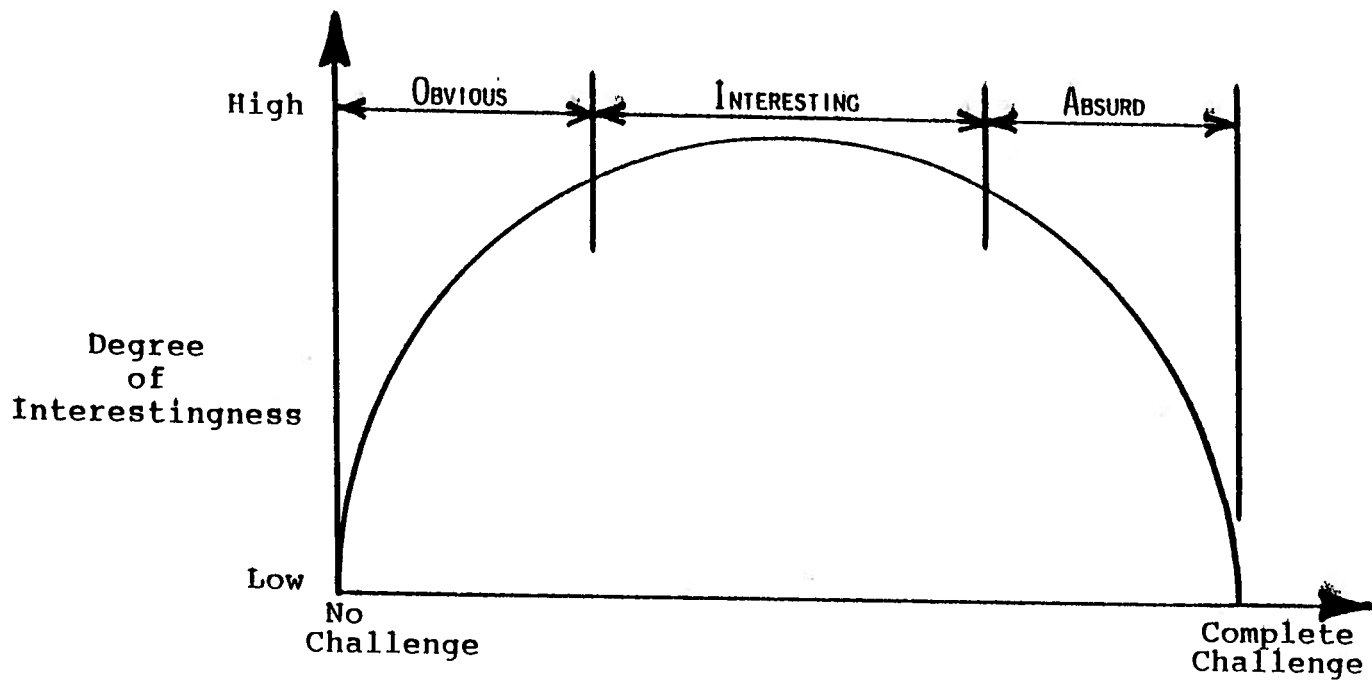
Davis sets out to answer the following question: What made the great social scientists like Karl Marx and Sigmund Freud "great," whether one agreed entirely with them or not? Davis's answer was not that they produced theories which were somehow truer and better than those produced by the average mortal for there are no perfectly true theories in science. All theories are merely approximations which break down at some point and hence fail to explain fully what they purport to explain. Reality is just too complex to be captured by any single theory no matter how powerful it is.

Davis's contention was more subtle and hence much more interesting. He proposed that the great social scientists were great precisely because they produced theories that were "interesting." Aha! But what makes a theory interesting? According to Davis, an interesting theory is one which first raises up to the surface an assumption that a significant body of people believe, almost without question. Second, the theory mounts a very strong challenge to the unstated assumption. And third, it reverses the initial assumption with a strong counter assumption that is the complete opposite of the initial one.

A simple example is the view of the human mind before and after Freud. The initial assumption was that the complete contents of the mind were available for inspection by consciousness. With Freud, the counter-assumption was that significant parts of the mind are not available to consciousness, and indeed, are repressed from consciousness by the unconscious. Hence, Freud produced a theory which was interesting because he showed how the mind conspires against itself to prevent it from being known both to itself and to others.

Davis points out however that "interestingness" is a very tricky business. If one gives a talk or writes a paper that affirms everything a group believes, the likely response is, "that's obvious!" and hence, "that's not interesting!" On the other hand, if one challenges in the strongest way one of a group's most sacred assumptions, certainly if one challenged all of a group's most sacred assumptions, then the likely response is, "that's absurd!" or "that's outrageous!" and hence, "that's not interesting either."

Davis didn't put his insights into the shape of a curve, but if he did, the result would have looked something like Figure 1. The "O" stands for the "that's obvious" region. "I" for the "that's interesting" region; and "A" for "that's absurd or outrageous" region. Notice that the two extreme points, extreme obviousness and extreme absurdity or maximum challenge to



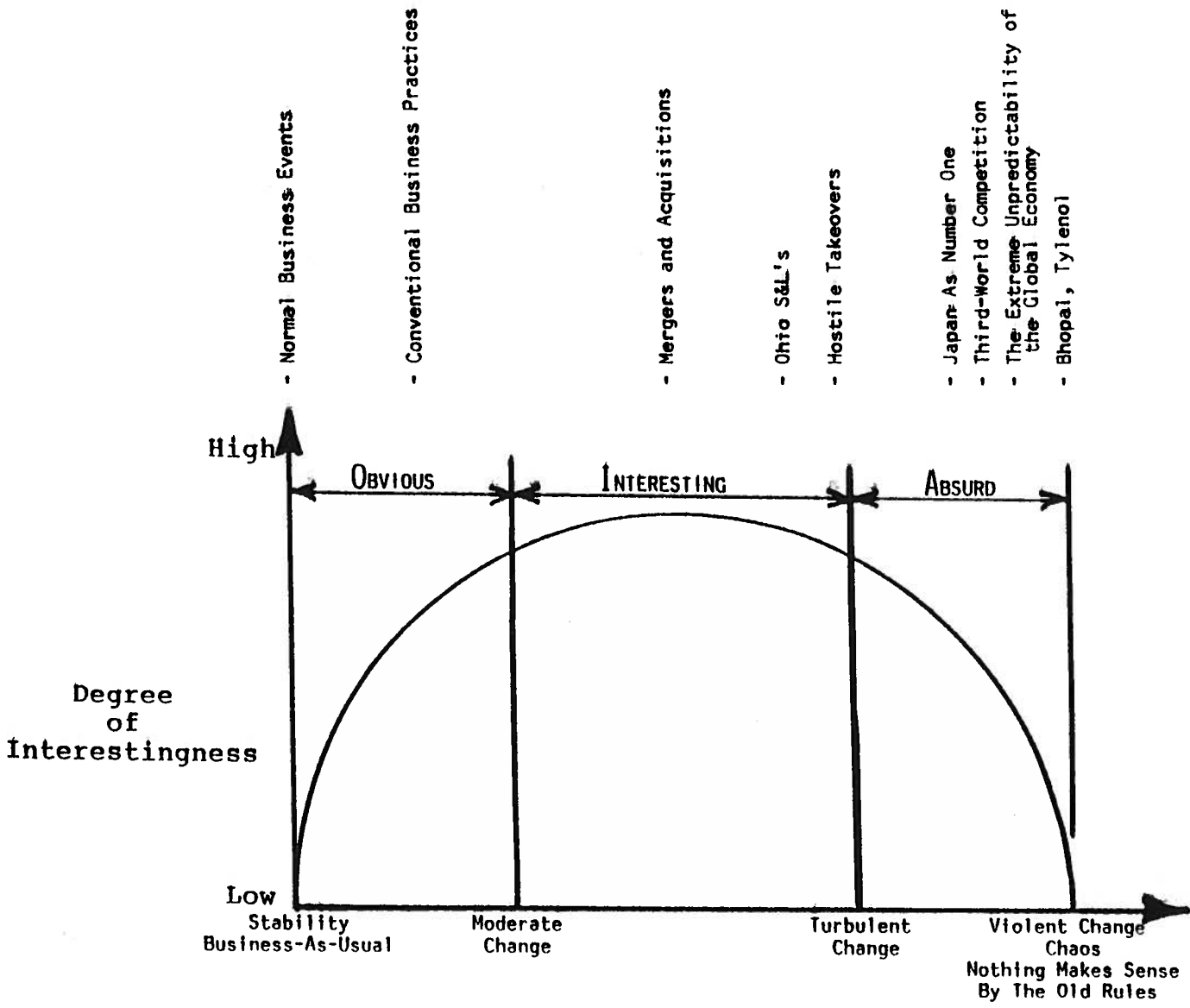
Degree To Which An Assumption Is Challenged

Figure 1

one's beliefs, are perceived by most people as uninteresting.

We think this simple figure helps to get to the heart of what's truly different about today's world. In particular, look at Figure 2. At the top of Figure 2, we've placed some critical events as to roughly where they might be located along the horizontal axis which measures the degree to which one's world has been shaken by recent events. We are not contending that everyone would necessarily agree regarding our exact placement of particular events. Rather, the placement is merely meant to indicate the kinds of things that in our experience most people find easy versus difficult with which to deal.

Thus, for example, from the talks Mitroff and Ralph H. Kilmann³ have given on the Tylenol and Bhopal tragedies it is clear that for most people these events are clearly in the extreme parts of the "A" region. The reason is that they represent the complete breakdown of normalcy. They represent a world gone completely berserk and bizarre by forces most people can neither comprehend nor are prepared to deal with either intellectually or emotionally. They don't even want to acknowledge the existence of such events since even this is too anxiety raising. This is unfortunate indeed since even though one cannot prevent the complete occurrence of such events,



Degree to Which One's World Is Challenged

Figure 2

there are things that one can do to lessen their impact and even block their occurrence.

From our collective experience, it's also clear that most people, at best, have been "trained" (not broadly "educated") to move only marginally into the "I" region. One could argue, and we would agree, that the most innovative companies like 3M are those which foster an environment that encourages people to move much further into the "I" region than they could do on their own. It's well known from social science research that groups can either retard or enhance the risk-taking or innovativeness of their individual members. And in our experience, the best executives are those who are able to move more deeply into the "I" and "A" regions.

We thus have a fundamental gap between the kind of phenomena the world is thrusting at the vast majority of individuals and organizations and what they are mentally and emotionally prepared to deal with. The trouble is that we see no slowing down whatsoever in both the rate and the number of phenomena intruding from the "A" region. If individuals and organizations are thus going to cope with these phenomena, they have no choice but to learn the kind of thinking that is best suited to coping with the extreme outer reaches of the "I" and "A" regions. For if extreme challenge to the existing order of things comes out of these regions, then it is also the case

that extreme creativity and intrapreneuring come out of them as well. Thus, it is not only to cope with extreme disturbance that we must learn to deal with phenomena in the "I" and "A" regions but to grasp the most creative opportunities. The highest hallmark of creativity is the ability to move deeply into the "A" region, to tolerate the extreme anxiety that is associated with the ideas that are found there which, by definition, go completely against the grain of conventional wisdom, to see the faint outlines of a new idea that will revolutionize human affairs, and finally, to move that idea back into the "I" region so that it will be in a form that will make it understandable and acceptable to the vast majority of people who on their own could never tread into the "A" region. Since very few can undertake this journey, which is as difficult as any known to man, and survive the mental and emotional hazards associated with it, those who successfully accomplish it deserve the label "hero." Thus, we are asking, what guides do we have to help one engage in heroic thought?

The following are eight of the broad principles or guidelines which if they are followed in the general spirit in which they are intended are helpful in allowing one to practice "mental judo," i.e., to turn events in the "A" region to one's advantage:

- (1) Seek out the obvious; but do everything in your power to challenge and even to ridicule it.
- (2) Question self-sufficiency. Only a fool thinks he (or she) can solve a complex problem completely by himself. By oneself, no one is omnipotent although more often than not one is impotent without others.
- (3) Question and challenge all constraints. The most limiting constraints are generally those which are self-imposed by one's frame of reference or particular viewpoint. They are usually not imposed by the problem itself but rather by the mind-set of the problem-solver.
- (4) Question and challenge as many assumptions about the problem situation as is possible. Remember that what's self-evident to you is usually evident only to one's self and not to anyone else.
- (5) Question the scope, the definition, or the boundaries of a problem. More and more frequently what's left out of the statement of a problem is as critical as what's left in.
- (6) Question whether a problem is to be "solved," "resolved," or "dissolved." There is a vital difference between each of these ways of disposing of important problems. These variations of the verb "to

solve" are not the same. Most people do not appreciate the nuances that exist between them. Each represents a critically different way of approaching important problems.

- (7) Question logic. Being logical and being right are not always the same thing. The more logical sounding a proposed solution to a complex problem is, the more it deserves thorough and unrelenting challenge.
- (8) More is not always better. Neither is bigger. For every proposed action with regard to an important problem examine carefully whether: (a) more of a desirable action actually leads to less of a desired outcome; (b) less leads to more; (c) less leads to less; and finally (d) more leads to more.

There are other guides that are valuable in coping with complexity, but in our experience these are more than sufficient to get one started on the road to practicing mental judo, i.e., to taming problems before they conquer us. And in fact, most other principles fall under one of these eight as a subset.

Since so many of these principles refer to the same thing, we're not going to discuss each one of them in the order in which it occurs in our list or necessarily by itself. Instead we're going to discuss a number of them together. When

we're through however the reader should have no trouble in getting a feel for what each individual principle is getting at and how all of them complement and relate to one another.

Undermining the Obvious by Challenging All Constraints

Perhaps no other event in recent times than what happened to banks shows how vitally critical it is for businesses of all kinds to challenge the obvious by questioning all constraints. As we argued in chapter one, that event was deregulation. Prior to deregulation traditional banks wrongly assumed that because other institutions were currently prevented by Federal law from encroaching on their turf, they would always be prevented from doing so. Banks thus took what was only a particular social contract at one point in time as an inviolable natural constraint. They couldn't have been more wrong. They were in fact almost dead wrong.

What happened is by now well known. For some time prior to deregulation, Sears Roebuck, the nation's largest merchandiser and retailer, knew that they already had existing in place the world's largest, computerized, credit network. It began to dawn on Sears that if this credit network could be converted into a generalized financial network, then literally overnight they could become one of the world's largest and most versatile financial institutions. Because Sears already owned

an insurance company (Allstate) as part of their normal business, and because a large part of their internal operations and customer services were already computerized, thus permitting ease and quickness of transmitting important information, Sears figured that if it could add other critical financial functions to its already growing stock of services, it could become a generalized financial service institution for the large and growing middle income segment of the population. This made good sense because it made good business. It was precisely this segment that the large banks had long since ceased to consider as a source of new business since the middle-income segment was not considered as one to whom one could sell expanded financial services such as estate planning, retirement investments, etc. As a result, the banks not only failed to take institutions such as Sears as an important new source of competition, but they seriously failed to anticipate the new markets and the new services that would be required and invented to serve them. While it was no simple matter to repeal old laws and to institute new ones, the Federal banking laws were eventually amended nonetheless. The result as we all know was, and still is, the fiercest competition in almost any industry bar none for consumer dollars.

The principle should be crystal clear: there is not a single constraint under which any business now operates that

should be taken as fixed or inviolable for all time. Indeed, one should make it a constant and everyday matter to list all the constraints under which one currently operates and to continually think how impending events could undermine every single one of them, at best to render them irrelevant.

For instance, consider the case of Keffel and Esser. Keffel and Esser was once one of the largest makers of slide-rules in the world. Slide rules are small mechanical devices that engineers and scientists have used for years to perform complex calculations before the advent of the small, portable, hand-calculator (HC) and the personal computer (PC). Keffel and Esser (K&E) had assumed that the calculations engineers and scientists constantly performed would best be performed by slide-rules and that as a result engineers and scientists were strongly attached to the products K&E made. But as a result, in literally a few short years' time K&E was completely left out of the HC and PC markets. K&E was in effect constrained by its own assumptions from entering the HC and PC markets. In a matter of a few years, the HC and the PC completely replaced the slide-rule so that to be in the slide-rule business was in effect to be in the buggy whip business.

The rule is thus to challenge every and all constraints as much as is possible. The world, and in particular one's competition, is under no obligation whatsoever to respect what

one takes as a dire constraint. In fact, if we were your competition, the thing we would hope for most is that your thinking would be completely hemmed in by what you have traditionally taken as a constraint of your business. For this very reason, if there is one thing and one thing alone that is most valuable for a business to know, it is this: what do we and our competition take as completely binding constraints? Further, how can both sets of constraints be overcome? There are no more important questions for any individual in any business to ask, whether they have immediate answers or not, and indeed, precisely because they most often will not have immediate answers. They must be asked nonetheless.

In short, if you want to think creatively, you must learn to love and to tolerate the questions themselves, and especially the ones that have no easy, immediate, quick-fix answers or solutions. For nothing kills off creativity faster than those old conversation stoppers, "that's impossible; it's not feasible; it's never been done before because it can't be done." Entrepreneurs and intrapreneurs make it a fundamental point never to be dissuaded by such stoppers. They in fact detest them.

At the time of the writing of this chapter, Mitroff and Mohrman are currently working with one of the world's largest, most respected, and easily identified members of the entertain-

ment industry. This company, which must remain unnamed, has had a long and distinguished history of innovation. Unfortunately, one's history, however long and distinguished it is, is no guarantee that one will continue to innovate. As one of the later sections of this article shows, being successful can actually work against an organization. It can cause it to ossify around the things that brought it success in the past even when they are no longer appropriate in a changed environment. Thus, the organization with which we are working is struggling to recreate its innovativeness. It is struggling in effect to learn the lesson that the very actions that once thrust it way out on the curve of innovation (or in our language, way into the "I" and "A" regions) are no longer innovative in today's world. Because this organization is a victim of its own past successes, it is struggling to overcome the constraints that its past successes have placed on the way it does things. Without wanting it, they have settled into the "not-invented-here" syndrome. They would be horrified to hear it but it is true nonetheless that they have come very close to killing off the very spirit of intrapreneuring that once made them a pinnacle of creativity without peer. It is thus not enough to move deeply into the "I" and "A" regions once. The trick is to maintain it. This is in fact the most difficult task of all.

Ackoff gives an amusing but importantly instructive example of how thought is often constrained by the all-too-human desire not to appear ridiculous to one's fellow human beings. The case concerns an organization that made very small items of very high value. As a result, the items were easily concealed in a person's body or clothing. As a further consequence, the items were being stolen at a rate greater than the organization could tolerate.

At a brainstorming session, conventional proposal after proposal was rejected as infeasible which in fact they were in this case. The conventional proposals ranged from installing highly sensitive metal detectors to weighing scales. But the items were so tiny that scales were infeasible in this case. After some time, one participant finally made a highly unconventional proposal which was instantly dismissed with derision by everyone present. Since the valuables were removed in the clothing of employees, he suggested that they work in the nude and that they dress and undress for work on the company's premises.

Fortunately for this company, a subgroup later took the original "outrageous" idea and converted it into one that was not. Working in the nude was not the thing that was essential; inspection in the nude was. Further, since the items were such that water destroyed them, the subgroup suggested that at the

end of the day workers be required to go through a water shower before being allowed to go home. Whatever one thinks of the ethics of this proposed solution (and we have serious reservations about it), and whether the problem is really something else such as poor management/worker relations is another, but important, matter. The main point remains nonetheless. One can not attain creativity unless one is prepared to court the absurd, to visit the ridiculous, and to raise dumb questions. Indeed, the raising of at least one dumb question a day is central to intrapreneur's credo if not to his or her very modus operandi. The excellent organizations are those which have a greater understanding, appreciation and tolerance for this behavior in their company culture. They have a history of sponsoring, supporting, and protecting oddballs and their off-the-wall ideas.

As a final short example, there is a problem which is classic and hence which is given in many short courses on creativity. A long, very narrow pipe is buried in the ground. At the bottom of the pipe is a ping pong ball that can not be gotten out by reaching one's hand down for it. On the ground are a series of items such as a clothes hanger that might be useful in retrieving the ball. One after one, however, all these items can be shown to fail. Among the ways of retrieving the ball there is one that we all carry around with us as part

of our natural biological makeup. It has to do with the fact that if water can be poured into the tube, the ping pong ball will float to the surface. When most people first think of this solution, they smile but keep it to themselves. You can literally see the smiles spread across a group as one by one they arrive at the solution. They are constrained nonetheless by custom not to mention it among one another. It's just too outrageous and embarrassing. But then so is being a second-rate economic power as the result of the failure to develop the kinds of minds that can challenge current constraints, and by doing so, produce new ideas and the new businesses that result from them.

If You Want to Resolve a Problem, Then Dissolve It

Most people when first presented with the problem of the ping pong ball in the pipe first assume that the solutions are all external to them. This is of course reinforced by the fact that they are given a bunch of external objects such as a clothes hanger to divert their focus. It is only after exhausting all these diversions do they finally turn to see themselves as possessing one of the solutions. They have then broadened the definition of the problem.

Ackoff gives a beautiful example of how critical it is to broaden the definition of a problem before attempting to seek a solution for it:

A large European city used double-decker buses as its principal means of public transportation. Each bus had a crew of two, a driver who occupied a cab separated from the rest of the bus, and a conductor who had three functions. The conductor signaled the driver when there were passengers who wanted to get off at the next stop, signaled again when to start, and collected fares from those who had boarded. Fares were normally collected when the bus was in motion to make the stops as short as possible. During peak hours this often required the conductor to force his or her way through the crowd on both levels in order to collect fares. Frequently the conductor failed to return to the entrance in time to signal the driver not to stop. (The driver was required to stop unless a signal not to was received.) Therefore, the driver often stopped when there were no passengers to discharge or take on board. Such unnecessary stops bred hostility between drivers and conductors, the drivers being on a meet-the-schedule incentive system, and the conductor being penalized for failure to collect fares if spotted by an unidentified inspector.

The hostility became overt and culminated in a "war" between the two relevant unions. A number of efforts to solve the problem by bringing drivers and conductors together into group discussion failed. Most of these meetings ended in violence.

An outsider was brought in to help. He broadened [underscoring ours] the problem to include the stops as well as the buses. When this was done it was discovered that at peak hours there were more buses operating than there were stops. This led to a solution in which conductors were located at the stops during peak hours, not on the buses [underscoring ours]. Then they could collect fares from passengers while they were waiting for a bus. Conductors could signal drivers when to start by using a button located at the rear entrance to the bus, and passengers could signal the driver when they wanted to get off by pulling a cord placed around the sides of the bus. Not only did this reduce delays, but it made fare collection easier. When the number of buses in operation was less than the number of stops, at off-peak hours, the conductor could return to the bus.⁴

The point of this example should be clear. How, after all, can one cope with a system that is increasingly global without broadening the definition, certainly the impact, of all problems? Indeed, isn't the very notion of "broadening" all problems inherent in the very concept of a "global system"?

We just don't educate people to appreciate this. We don't educate them to ask constantly, and hence naturally, how all problems not only impact on but increasingly are a part of one another. But then as we indicated in the introduction to this article, this is beginning to occur to the top executives of our most innovative organizations.

Before we leave this section, it is important to note that this simple example contains another very important lesson. It has to do with the distinction between "solving," "resolving," and "dissolving" a problem. The fundamental reason for broadening a problem is that more often than not it points out the futility of looking for an exact solution within the original definition of the problem. Thus, in the simple example due to Ackoff, it is futile to look for an exact solution to the problem by staying solely within the definition of the problem as consisting only of drivers, conductors, buses, and the interrelationships between them. Once the critical notion of stops is added, one ceases to look for a solution within the limited domain of the initial formulation of the

problem. One in effect "dissolves" the initial problem by taking a broader view of the problem.

Finally, within the new definition of the problem, one no longer looks for an exact solution that is best for all time. Instead, one looks for a solution that is "good enough," one that in effect allows one to manage the problem as it changes over time. This is called "resolving" the problem.

The notion of "resolving" instead of "solving" problems is important because it reveals the difference between handling problems in a simpler world and the immensely more complex one in which we now live. In earlier periods, problems were supposed to be static. Once a problem was defined, its definition was not supposed to vary. Hence, once a solution was arrived at, it too was supposed to be static, and hence, not to vary over time. In effect, the problem was solved once and forever.

The systems age changed all this. Problems now change as fast and in many cases faster than the solutions that can be gotten to the original problems. Hence, it is more important than ever to know which are the truly important problems to work on and which definitions of them are the fruitful ones to attempt to manage. Indeed, the motto of the systems age is: far better an approximate ball-park solution to an appropriate definition of the right problem than an exact, precise solution to an inappropriate formulation of the wrong problem. What

good does it do to solve the wrong problem precisely? But to do this demands an attitude of "mental judo." You have to be prepared to challenge all constraints, distrust simplicity, question the boundaries of a problem, and as we shall see next, challenge as many assumptions as possible.

Challenge All Assumptions

We have steadily been inching towards the notion that in a complex environment there is nothing more fundamental that one can do to cope than to raise up to the surface as many of one's important assumptions and to challenge all of them as strongly as is possible. It is a strong characteristic of the best individuals and organizations that they are constantly doing this.

A colleague of ours, James O'Toole, has recently examined the assumptions upon which one of our major industries, the automobile, was based. In a provocative paper titled "Declining Innovation: The Failure of Success,"⁵ O'Toole argues that a relatively small set of assumptions, ten in all, can be identified with the initial success of U.S. automobile companies. When those same companies, however, failed to change their assumptions in tune with the realities of the changing times, those very same assumptions were responsible for their subsequent near death, or at the very least, severe economic ill-health. Examining the assumptions of General Motors (G.M.)

in particular, O'Toole states the case, both succinctly and well:

The guiding principles that led to [G.M.'s] early success were crystalized into operating assumptions for all subsequent generations of managers.

All the guiding assumptions were based on the pioneering policies that had made [G.M.] one of the most successful industrial organizations in the world. By repeating what had made it successful in the past, the company became even more successful. In turn, they reinforced the legitimacy of the operating assumptions. These assumptions then became unchallengeable--and unchallenged. Why challenge an idea with eternal validity? Only a fool would knock success.

Alas nothing fails like success.6

The basic assumptions which described G.M.'s core belief system as it entered the 1970s were as follows:

1. [G.M.] is in the business of making money, not cars.
2. Success comes not from technological leadership but from having the resources to quickly adopt innovations successfully introduced by others.

3. Cars are primarily status symbols. Styling is therefore more important than quality to buyers who are, after all, going to trade up every other year.
4. The U.S. car market is isolated from the rest of the world. Foreign competitors will never gain more than 15 percent of the domestic market.
5. Energy will always be cheap and abundant.
6. Workers do not have an important impact on productivity or product quality.
7. The consumer movement does not represent the concerns of a significant portion [of] the U.S. public.
8. The government is the enemy. It must be fought tooth and nail every inch of the way.
9. Strict, centralized financial controls are the secret to good administration.
10. Managers should be developed from the inside.⁷

As we all know by now, the world changed drastically in the 1970s. The environment caused the assumptions, which had served G.M. so well in the past, to be outdated, worn, and invalid. Almost overnight, their very success and their very existence was severely threatened:

Gasoline became expensive; the auto market became internationalized; the rising cost of (and time required for) retooling made it necessary to be

a leader rather than a follower in the introduction of new technology; consumer values changed from styling to quality; the size of families shrunk; people could no longer afford to trade their cars in every few years; worker values and attitudes changed; successful government relations required cooperation rather than an adversarial; the few "kooks" in California who bought Volkswagens and read Consumer Reports [became] an important segment of the auto buying public....By 1980 the environment had changed so thoroughly that the brilliant assumptions created by the company's founders to meet the exigencies of the environment of the 1920s were inappropriate in the radically-altered environment fifty years later.⁷

O'Toole correctly points out that innovation necessitates a continual scanning of the environment for changes, however minute, that are always occurring.⁸ Even more difficult, it requires each organization to act on those changes before it is too late to take positive advantage of them. It is important to act before one is forced to backtrack from a situation one did not want to get in to begin with.

Table 1 presents a more systematic and comprehensive analysis of all ten assumptions that composed G.M.'s past

TABLE I

ASSUMPTIONS AND COUNTER-ASSUMPTIONS FOR G.M.

<u>GENERIC TYPE/CONCERN</u>	<u>INITIAL ASSUMPTIONS</u>	<u>COUNTER-ASSUMPTIONS</u>
1. What business are we basically in? Who has basic control of the organization?	1. GM is in the business of making money, not cars. (The accounting and finance people have taken over control of the organization.)	1. GM is primarily in the business of making quality cars, not money. Any organization that forgets its fundamental purpose for going into business in the first place will not achieve one of its fundamental financial objectives. (The engineers and the accounting/finance people should share control.)
2. What must our posture toward innovation be?	2. Success comes not from technological leadership but from having the resources to quickly adopt innovations successfully introduced by others.	2. One can not give up technological leadership in a world that is more competitive than ever. One no longer has the luxury of time in a more complex environment.
3. How does the customer fundamentally view our product?	3. Cars are primarily status symbols. Styling is therefore more important than quality to buyers who are, after all, going to trade up every other year.	3. Quality plus styling are equally important in a more competitive market where even the cheapest car is expensive by past standards and where the competition is able to produce well-crafted and stylish products.
4. How much control do we actually have over our outside environment? How much can we really insulate ourselves from it?	4. The American car market is isolated from the rest of the world. Foreign competitors will never gain more than 15 percent of the domestic market.	4. The American car market will never be as isolated from the rest of the world as it once was. Foreign competition is here to stay and it will always be significant.
5. What are the basic resources this organization needs in order to do business and how available will they be in the future?	5. Energy will always be cheap and abundant.	5. Energy will never again be cheap or abundant.
6. What are the skills and education of our personnel that we need to presume in order to do business?	6. Workers do not have an important impact on productivity or product quality.	6. Even with automation, worker attitudes and skills at all levels are more important than ever.

T A B L E 1
(Page 2)

ASSUMPTIONS AND COUNTER-ASSUMPTIONS FOR G.M.

<u>GENERIC TYPE/CONCERN</u>	<u>INITIAL ASSUMPTIONS</u>	<u>COUNTER-ASSUMPTIONS</u>
7. How isolated are we from the shifting concerns of our customers?	7. The consumer movement does not represent the concerns of a significant portion [of] the American public.	7. Given the rising costs of all products, the increasing concern with the environment, there will continue to be some organizations that will represent these concerns. Any organization that ignores these concerns is dangerously deluding itself.
8. What is our attitude toward the government? Who do we perceive to be our natural enemies, our allies, why?	8. The government is the enemy. It must be fought tooth and nail every inch of the way.	8. The government is a significant factor in the environment and as such it must be dealt with whether one likes it or not. It is too easy to blame others for those problems that are due to us.
9. Which type of controls are appropriate?	9. Strict, centralized financial controls are the secret to good administration.	9. Compulsive financial controls are the cause and effect of bad administration. There is all the difference in the world between a financial system that <u>controls</u> an organization and one that <u>enables</u> it to do what it wants to and should do.
10. How closed off is our organization to new ideas from the outside? How open, how trusting are we? What's our organizational culture like?	10. Managers should be developed from the inside.	10. The culture of an organization should be continually assessed to ensure that it has not become a closed system that is resistant to new ideas.

belief system. The table shows the generic concerns or issues that each assumption represents. The table also shows a set of inverted assumptions that is counter to each of the original ten assumptions. The counter assumptions thus represent the strongest challenge to the original belief system.

It's not therefore the case that we lack either the methods or the tools for challenging critical assumptions. The question is more whether we have the will to apply the tools.

Some analysts have contended that one of the worst things that could have happened to G.M. happened recently. It announced a net income of more than \$1 billion for the second quarter of 1983. "[Its] earnings for the year will probably be the best since 1978."¹⁰ What's bad about this? Not that G.M.'s making money once again and shows signs of turning around. Rather, it's that new success is not only premature but it's still thought by too many within G.M. as due to returning to the tried and true, proven ways of the past.

The changes G.M. is attempting are greater in scale and scope than those of the 1970s--indeed greater than anything the company has undertaken since the days of Alfred P. Sloan, Jr. and perhaps unprecedented for any organization of G.M.'s size and complexity. At the same time, many of G.M.'s 45,500 managers have yet to get the message [underscoring

ours]. One G.M. executive glumly mused last fall that from what he could see, no more than half the company's managers had really grasped the need to change old ways of operating. Overconfidence dies hard, particularly in an organization as conservative as G.M. And of course it dies all the harder when sales and profits are moving up.11

What's sad is that what's true of G.M. is now truer of all organizations today more than ever in our history. That the need for change is more drastic and more widespread is clear to our best analysts:

Long runs of standardized products brought America unparalleled prosperity. True, that prosperity was interrupted by a great depression and by periodic recessions. But these were interruptions, nothing more. High volume, standardized production always restored prosperity.

America has been unwilling to give up this vision. The present economic decline, after all, superficially resembles earlier ones. Many people cling to the hope that it is also temporary, caused by passing phenomena that have little to do with the underlying organization of American production-- "instabilities" in Middle Eastern oil fields....Once

these scourges are behind us, so this reasoning goes, America's prosperity will be restored.¹²

If this is what the body of American business thinks, then perhaps outrageous knowledge is not so outrageous after all. What's truly outrageous is living in the status quo-- especially when the cracks in the assumptions upon which the status quo is built are becoming more apparent every day.

In fairness, there is growing evidence that significant parts of G.M., starting with its chairman Roger Smith, have gotten the message that it can not operate with many of its old assumptions.

More Is Not Always Better

As much as we have steadily been inching towards the conclusion that the challenging of key assumptions is vital, we have also been inching even more towards the even more fundamental conclusion that success in today's environment demands entirely new ways of thinking critically. Critical thinking is in fact the key.

Critical thinking demands a different logic. In ordinary thinking, or better yet, the kind of reasoning that was appropriate for the World as a Simple Machine, more or bigger was always supposed to be better. Thus, if an organization produced a 15% return on initial investment (ROI) last year or last quarter, then it would be better off if it produced an

even greater ROI, say 20%, next year or quarter. Unrestricted growth, particularly of something that could be quantified--hence, the bottom line--was better, everything else being constant. Thus, growth became an obsession if not a fetish unto itself. The generic expression that best captures the nature of this relationship is, more of something initially thought to be desirable leads to something else thought to be just as or even more desirable. Briefly put, the basic thought is, "more leads to more."

The simple relationship "more leads to more" has been the normal order of things, or business as usual, up to recent times. There are serious stirrings that bigger or unrestricted growth is no longer better. As we shall shortly see in the next chapter, there are strong doubts emerging that organizations can continue to grow in an unrestricted manner and still produce the same desirable end benefits we have come to enjoy. The argument is that at some critical point, sheer size or unrestricted growth of anything, no matter how desirable it appears, becomes self-defeating and hence leads to its opposite. The generic expression that best captures this state of affairs is, "more leads to less."

A new standard is emerging with which to organize U.S. and world business. It is a standard which is based in part on the ideas of the late economist E.F. Schumacher, the author of

the best-selling book, Small is Beautiful.¹³ The spirit of this new relationship is best captured by the expression "less leads to more." Instead of an uncritical acceptance of sheer growth or that bigger is necessarily better, this position advocates instead that what really matters most in any relationship is its quality. Quality refers more to the fact that what really counts, in business as in anything, is the continual development of the capability to improve one's quality of life. Many businesses have realized this and have thus deliberately refused to grow for growth's sake alone. Thus, for instance, WQED public TV, the producers of the award-winning National Geographic Specials, has steadfastly refused to increase the number of shows (four) it makes each season despite the considerable and continual pressures on it to keep producing more. WQED instinctively knows that it is better to keep the audience wanting more than to saturate its devouring appetite. They know that in quality TV programming "less is definitively more."

The same lesson is beginning to dawn on more and more manufacturers. Thus, for instance, the U.S. auto manufacturers have had to learn, painfully it might be noted, what European and Japanese manufacturers have known for years, that in building cars "less or smaller cars can certainly be more" with regard to the changing lifestyles of consumers.

Although many a business wishes that they might have learned that "less can be more" without having had to suffer near death, some have at least learned the lesson. And in actual fact, there may be no way short of a near death experience to learn what on the surface appears to be a crazy proposition. As one Fortune writer put it:

Poets and sages have often told us that adversity can be good for us, and quite a few American corporations that came through the late recession have proved the point again. Like International Harvester, they emerged leaner, having sold off sidelines and cut unit costs in their main businesses. Competitors at home and abroad are likely to find them meaner too. An observation once popular among architects can also be applied to business--sometimes less is more.¹⁴

As Russell Ackoff, one of the most penetrating, perceptive, and biting analysts of business around today, has put it in contrasting growth versus development or quality, "cemeteries grow each year but they don't develop." To which we might add, so do trash heaps and toxic waste dumps.

We have pursued growth unrelentingly and unreflectively without an accompanying concern with quality. The new world out there is forcing us to challenge all this. We can no longer plan any new business actions without considering whether less might be better. Indeed, the feature article in the May 27, 1985 issue of Business Week is devoted to the proposition that "small is beautiful." It's not only an idea whose time has come, but as is now so often the case, it shows that the world of business is the leading edge for many of the social experiments occurring in our society.

Summary: Essential Lessons

1. Make it a fixed habit to continually list and to challenge the constraints under which your current business, industry, etc., now operates. List also those of your competition, etc. Make it a continual point to think how every single one of those constraints could be undermined. Show what new business opportunities could result from their erosion. Do not think for one moment that any constraint will last for all time.
2. Ask continually whether you are attempting to solve the wrong problem precisely. Examine how a problem would look differently if its definition were expanded, contracted.

3. List at least seven to ten implicit, taken-for-granted assumptions upon which your business was founded and hopefully made it a success. Ask how every one of them could be responsible for your business's "failure of success." Ask which assumptions are still valid, invalid?
4. Examine any and all proposed business actions from the standpoint of whether "more is always better." Force yourself if need be to examine seriously whether "less might be more." In fact, how might you profit more from less? How might your competitor? Don't think that you can get by in today's world by not asking such questions.

Notes

1. quoted in R. Jeffrey Smith, "Crisis Management Under Strain," Science, Vol. 225 (August 31, 1984), p. 908.
2. Murray Davis, "That's Interesting," Philosophy of Social Science, Vol. 1 (1971), pp. 309-344.
3. See Ian I. Mitroff and Ralph H. Kilmann, Corporate Tragedies, Product Tampering, Sabotage, and Other Catastrophes, Praeger, New York, 1984.
4. Russell L. Ackoff, Creating The Corporate Future, Plan or Be Planned For, New York, John Wiley,
5. James O'Toole, "Declining Innovation: The Failure of Success, A Summary Report of the Seventh Twenty Year Forecast Project," Center for Futures Research, Graduate School of Business, University of Southern California, California, pp. 1-28.
6. Ibid., p. 4.
7. Ibid.
8. Ibid., p. 5.

9. See Richard O. Mason and Ian I. Mitroff, Challenging Strategic Planning Assumptions, Wiley, New York, 1981, for a detailed discussion regarding how to surface and challenge important assumptions that bear on a business's continued success.
10. Charles G. Burck, "Will Success Spoil General Motors?" Fortune, August 22, 1983.
11. Ibid., p. 100.
12. Robert B. Reich, The Next American Frontier, Times Books, New York, 1983.
13. E.F. Schumacher, Small Is Beautiful,
14. Anne B. Fisher, "International Harvester Lives!" Fortune December 26, 1983, p. 70.