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ESSAY

Run, Rabbit, Run!

But, Can You Survive?

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> Those who know the past too well are condemned to repeat it!
>
> Animals are molded by natural forces they do not comprehend. To their minds there is no past and no future. There is only the everlasting present of a single generation—its trails in the forest, its hidden pathways in the air and in the sea.
>
> anthropologist Loren Eiseley (1978, p. 37)

At the Museum of Natural History in New York City, a series of panels graphically depicts natural selection at work. In one panel, a fox runs after a rabbit. In another, a tiger is poised to kill a fox. Rewording the quotation from Hamel and Prahalad (1994) cited by Porac and Rosa (1996), each panel emphasizes a focused, pristine, and unwavering strategic intent reflecting each animal's idiosyncratic abilities that define its reality in a competitive arena. To survive, each animal must rely on the competitive advantages stemming from its own unique abilities. Consistent with this metaphor, Porac and Rosa conclude, "This is the lesson that business students must be taught"(p. 42).

Given this narrow framing of the world, nothing much else matters. Ultimately, outcomes are inevitable and determined. There is no choice in such a world. All have to rely on what they do best. Pursued by a fox, it makes a lot of sense that the rabbit should run as fast as possible. In the circumstances, it's the best thing to do. Looking at the panel, though, it's not clear that running will be enough to save the rabbit.

In praising managerial narrow-mindedness, Porac and Rosa (1996) seem to be advocating a return to a reliance on natural selection as the appropriate guide to strategy. This seems strange after they have acknowledged that human cognition is anything but narrow and enables people to take into account so many more possibilities than animals seeking food and survival. Specifically, they emphasize that managerial cognition is multifaceted, including abstract causal knowledge, behavioral routines, and memories of concrete experiences. Yet, having acknowledged cognitive diversity and flexibility, Porac and Rosa suggest that such capacities are simply disruptive and that managers should rid them-

AUTHORS' NOTE: We have benefited from discussions with S. Sunderesan, Batia Wiesenfeld, Arun Kumaraswamy, and Ari Ginsberg.

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selves of them. They note how descriptive studies have shown that managerial cognitive structures

> develop an internal consistency over time that cannot . . . be easily penetrated by noisy and contradictory stimuli, and . . . become sticky and difficult to change because they are based on assets, routines, and skills that are imprinted into an organization by historical circumstances. (p. 36)

Moving to a normative perspective, Porac and Rosa depict this stickiness as an asset, arguing that "managers should be taught to identify what their firms do best and to pursue it relentlessly" (p. 36). Yes, run, rabbit, run!

In writing our original essay on "deframing" (Dunbar, Garud, & Raghuram, 1996), we wished to highlight how cognitive capacities through "frames" are critically important, enabling both organizational accomplishment and organizational change. We agree that human cognition as it plays out in organizational life has both the complexity and the limitations noted by Porac and Rosa (1996). Our disagreements stem from aspects of cognition they ignore. Specifically, human cognition is not time-bound but can easily conceive of events in the past, the present, or the future. This gives people the ability to self-consciously assess what they and their organizations have done, what they are doing, and what they might do. As a result, managers can create options for changing their competencies.

Our original essay on deframing focused on how these self-conscious aspects of human cognition might be enhanced and used. It clarified what is required to overcome the "stickiness" typical of established organizational frames and competencies. Deframing implies abandoning frames to formulate new ones. This process emphasizes social deconstruction and then social construction. It does not entail a comparison of existing frames as Porac and Rosa (1996) suggest. Deframing, like framing, reflects the unique circumstances of the specific firm.

We proceed with a short exploration of the limits and capacities of human cognition. We then review how some prominent computer industry firms are exploring different frames. We suggest that in contrast to the assertions of Porac and Rosa (1996), managers in firms operating in rapidly changing environments are conscious of the limits and risks associated with current frames and are preparing themselves for the need to deframe. We conclude by reiterating the managerial importance of framing and, also, the option to deframe.

WIDE HATS AND NARROW MINDS[1]

> On the one hand, the human brain is Procrustean, always trying to force something to fit its preconceptions. On the other hand, it's always looking for new ways to piece things together, new categories that can be created. We worry about whether something has a real identity, or is just a figment of our imaginations.
>
> neurobiologist William H. Calvin (1990, p. 319)

Progressing from the section displaying primates to the section displaying humans at the Museum of Natural History, one senses an important difference. The panels no longer suggest creatures trapped with only the competencies they were endowed with at birth. Rather, the panels imply humans have the cognitive wherewithal to use technologies to extend their physical and cognitive abilities and accomplish tasks they have not achieved before. One gets the sense that humans cannot only respond to the world or shape it in ways that match their competencies but, also, they have the ability to abandon their past and create a new future. This flexibility is hinted at, for example, in the contrasts between the panel displaying icemen wearing animal skins to protect themselves from the arctic cold, and the adjoining panel featuring an aborigine wearing a loin cloth to help him survive the sweltering desert heat.

These images evoke thoughts about how humans adapt to different environments. They also remind us of the enormous impact humans have had in shaping the world as we now know it. Indeed, the world we interact with is, increasingly, not a natural one, but an artificially created one. In this humanly built world, variations are not always random, nor do selection environments preexist. Moreover, humans are not relatively powerless like animals, for they do not have to enact scripts based only on the past.

What is the source of human power? It is the human brain that enables people to adapt to and, also, shape the world. The human brain is a complex and marvelous structure enabling people to go beyond mere survival and to engage in the creation of complex thoughts, both individually and along with others. As the physicist Heinz Pagels (1988) stated, "We are evidently unique in our symbolic ability, and we are certainly unique in our modest ability to control the conditions of our existence by using these symbols" (p. 328).

How can the extent of this ability be recognized? We now know that the human brain's ability to engage in symbolic manipulations does not stem from its rela-

tive size. There was a time, however, when craniologists and anthropologists invested enormous efforts exploring the correlation of the human brain size with intelligence. The brain of Baron Georges Cuvier, an eminent French biologist, was at the center of the controversy and a specific target of scientific investigation. As recounted by Gould (1986), the debate was between the two eminent anthropologists of the time—Paul Broca, founder of the Anthropological Society and the world's greatest craniometrician, arguing in favor of the mass hypothesis, and Louis Pierre Gratiolet arguing against. The story goes that after the death of the respected Cuvier, Broca had Cuvier's brain weighed and found that it measured 1830 grams. In the ensuing debate, one of Broca's lieutenants struck the lowest blow: "I have noticed for a long time that, in general, those who deny the intellectual importance of the brain's volume have small heads" (Gould, 1986, p. 122).

Although Broca had attempted to gain the initiative by suggesting Cuvier's brain mass was convincing evidence in itself, this proved insufficient to clinch the argument. One reason was that Cuvier's brain had been discarded after it was weighed and so checking it was not possible. Ever resourceful, however, Broca brought forth Cuvier's hat to demonstrate that Cuvier's head had indeed been very large. Subsequently, according to Gould (1986), eminent researchers in the anthropological society spent enormous amounts of time measuring the sizes of human hats and correlating these measures with attributed intelligence!

The purpose of recounting this story is to illustrate how the brightest people of a time, some of whom wore very wide hats, could still have very narrow minds. As Gould (1986) points out, if we laugh derisively at this story, we miss the point. If intelligent people at one time invested intense energy on issues that now seem foolish, then in part, the roots of this apparent foolishness lie in our lack of understanding of the frames they were relying upon to produce meaning.

This story also highlights a paradoxical aspect of human cognition. On one hand, the human brain is capable of very complex thought processes, including the envisioning of new phenomena. On the other hand, it also makes Procrustean transformations and then justifies them. Indeed, the human brain's brilliance can also be its undoing. No matter what the phenomena are, we can come up with explanations and justifications even as we constantly fall into retrospective rationality traps. Confronted with contrary evidence, we can come up with more powerful explanations that incorporate or dismiss such evidence and serve, ultimately, to further narrow the mind. We are also subject to a number of cognitive biases of which vividness, availability, and anchoring are but a few (e.g., Kahneman & Tversky, 1984). Indeed, as we have learned from Porac's work (e.g., Porac & Thomas, 1990), the narrowing of the mind is an ongoing simplification process. Often, this process is further reinforced by social interactions that lead to conformity, focus, and the elimination of alternative views (Janis & Mann, 1977).

This, then, leads to the critical question: *Should we seek to narrow cognitive capacities or to enlarge them?* Here, we have a debate with Porac and Rosa (1996). Should we restrict ourselves to what we can identify, observe, and are good at, as they suggest? Or should we also consider options that we can imagine, model, and conceive of as possible, as we would suggest? Porac and Rosa advocate only restriction and narrowing. We acknowledge this cognitive tendency but, as a result and in addition, we advocate the need for having the option of enlarging our cognitive capacities.

HINDSIGHT, FORESIGHT, AND NO SIGHT

> Contrary to what I once thought, scientific progress did not consist simply in observing, in accurately formulating experimental facts and drawing up a theory from them. It began with the invention of a possible world, or a fragment thereof, which was then compared by experimentation with the real world. And it was this constant dialogue between imagination and experiment that allowed one to form an increasingly fine-grained conception of what is called reality.
>
> molecular biologist François Jacob
> (Calvin, 1990, p. 206)

Are We Condemned to Repeat Our Past?

The popular adage is that those who don't know the past are condemned to repeat it. Particularly in environments characterized by rapid change, though, there may be virtue in not knowing the past so well. For, as Porac and Rosa (1996) point out, path dependencies and an emphasis on maintaining internal consistency constrain future possibilities. In turn, if left unchecked, such a momentum may lead organizations

to escalate their commitments to failing courses of action (Dunbar, Dutton, & Torbert, 1982; Staw, 1981).

Implicit in this position is an appreciation that technological "realities" are both socially and cognitively constructed (Garud & Rappa, 1994). Cognitive processes allude to "sense-making" (Gioia & Chittipeddi, 1991) at the micro level of individual cognition. Social processes allude to "sense-giving" at the macro level of shared cognition. To the extent that these two processes converge, those advocating the micro realities that are consistent with emerging macro structures are the heroes. To the extent that they diverge, however, those advocating the micro realities that are inconsistent with emerging macro structures are the villains.

Our example in the deframing article (Dunbar et al., 1996) was the IBM Corporation that got too steeped in its own past. Despite its significant control over the market, even this $65 billion company could not stem the momentum associated with the onset of distributed computing. This new frame for organizing computing directly challenged the time-sharing computing environment on which IBM's sales of mainframe computers were based. It was only after this unwavering commitment to the past was deliberately abandoned via a CEO transition that IBM Corporation was able to explore different roads to the future.

Academics, too, are realizing the need for deframing. For instance, Hamel and Prahalad (1994) who Porac and Rosa (1996) cite in support of their position favoring managerial narrow-mindedness are, currently, advocating just the opposite. Specifically, in their call for papers for the Strategic Management Society conference, "Competing in the New Economy: Managing Out of Bounds," Hamel and Prahalad (1996) say,

> In this age of transformation, we need to ask how relevant is the corpus of knowledge we call strategic management to the new information age and the new economy it is building? We want to develop a conference program of ideas—new ideas, new theory, new applications, new concepts—that are relevant to a manager facing the new millennium. To do this, we need to escape old constraints, old thinking, old questions, and address everything that is new. Let's break out of the old paradigms; let's challenge received dogma; let's have the courage to ask new questions; let's rekindle our passion for relevance.

Hamel and Prahalad are not alone in their plea to unlearn the past in order to face the realities of the rapidly changing, new information world. Gates (1995) too, whose firm, Microsoft, is spearheading many changes in the information revolution, states,

> We are all beginning another great journey. We aren't sure where this one will lead us either, but again I am certain this revolution will touch even more lives and take us all farther. (p. xi)
>
> The revolution in communications is just beginning. During the next few years, major decisions will have to be made by governments, companies, and individuals. These decisions will have an impact on the way the highway will roll out and how much benefit those decisions will realize. It is crucial that a broad set of people—not just technologists or those who happen to be in the computer industry—participate in the debate about how this technology should be shaped. If that can be done, the highway will serve the purposes users want. Then it will gain broad acceptance and become a reality. (p. xii)

These quotations illustrate how leaders are increasingly recognizing the importance of considering how they might let go of past commitments in order to create a different future. The strategic importance of unlearning is becoming at least as important as learning (Hedberg, 1981; Nystrom & Starbuck, 1984). As a result, those who know the past too well and who are relentlessly committed to it are surely going to be the ones who are condemned to repeat it.

In arguing this way, we are not advocating change for its own sake. If a firm has invested nontrivial resources into assets that are nonfungible, then it may be too late. We are suggesting, however, that the deframing option may persuade managers to explore investments in assets that are fungible, an option that is increasingly becoming possible with information-mediated technologies such as flexible manufacturing systems.

Can We Create Our Futures?

We agree with Porac and Rosa (1996) that firms compete by shaping their competitive environments, and we have written about these processes in terms of "path creation" (Garud & Rappa, 1994) and "technology sponsorship" (Garud & Kumaraswamy, 1993). We do have a debate, however, on the extent to which leading firms can escalate commitments to a course of action that is totally inconsistent with the emerging world. Hence, although firms must believe in their competencies and focus their efforts to shape the larger environment, they must, at the same time, be willing

to disbelieve their own realities based on their existing competencies and be prepared to be shaped by a larger environment that they may not be able to control (Garud & Van de Ven, 1992).

A clue to the process we have in mind lies in the notion of crediting and discrediting. Weick (1979) develops this concept to address the vagaries of the human mind as it oscillates between narrow-mindedness and broad-mindedness. As Arno Penzias, Bell Lab's chief scientist suggests, either of these extremes is dysfunctional (Farnham, 1996). To avoid the extremes, Weick suggests that we discredit (i.e., when we believe, we must also disbelieve) and credit (i.e., when we disbelieve, we must also believe). Whereas Porac and Rosa (1996) subscribe to the latter to the exclusion of the former, we, like Weick, adopt a more symmetrical position (see also Ginsberg, 1994, p. 159). Specifically, we recognize the importance of framing, but, having recognized its importance and indeed its seductive appeal, we also suggest the importance of possessing the ability to deframe during occasions when change might be rapid or when we might confront totally different worlds as we cross cultural boundaries. From this perspective, our deframing article (Dunbar et al., 1996) is just one link in the overall scheme proposed by Weick.

There are examples in the business world where discrediting leads even the largest, most powerful firms to abandon the idea of fully controlling the future. For instance, both Microsoft and Intel have adopted positions that suggest a departure from an unwavering strategic intent based solely on internal capabilities built up over the past. For instance, in contrast to having a resolute and exclusive commitment to complex instruction set computing-based (CISC-based) Pentium chips as described by Porac and Rosa (1996), Intel has in fact entered into a collaborative relationship with Hewlett Packard that aims to create a hybrid chip (labeled the "P7" chip) integrating features of Intel's CISC chips with HP's advanced reduced instruction set computing (RISC) chips (Vijayan, 1995).

On another front, the distribution on the rapidly emerging Internet "computer" of Sun Microsystems' Java software technology is, potentially, a mortal threat to Microsoft (Elmer-Dewitt, 1996). Java on the Internet has the potential to make software programs for individual computers, the basis for Microsoft's sales, redundant. Commenting on Microsoft's efforts to gain a foothold on the Internet, Marc Anderson, CEO of Netscape Corporation, suggested that Microsoft was out of its depths in the emerging Internet terrain. This seems to imply that Microsoft is doomed. What Marc Anderson does not acknowledge, however, is that Microsoft chairman Bill Gates possesses an ability to deframe. Indeed, Gates recently endorsed Sun's Java technology, acknowledging that Sun's Java was out to usurp what Microsoft had accomplished (Elmer-Dewitt, 1996).

What About the Present?

A closer look at these two examples suggests that companies like Microsoft and Intel may publicly espouse products based on current competencies even as they privately work on discrediting their past and creating new competencies for the future. After all, they want customers to invest in the products that are emerging from current competencies to generate funds for the creation of future competencies. The idea of achieving competitive or sustainable advantage (Ghemawat, 1986) seems past for most of these firms. As computer chips continue to exhibit declining price-to-performance ratios in accordance with Moore's law (Schlender, 1995, p. 91), the best that can be achieved is a transient advantage (Garud & Kumaraswamy, 1993). The continual generation of transient advantages requires that management generate new options and this, in turn, requires an ability to deframe. As Andy Grove, the CEO of Intel Corporation states, in an industry characterized by such relentless change "only the paranoid survive" (Schlender, 1995, p. 91).

Given these rapid changes and the ways firms are responding to them, we see an indeterminacy in some of the concepts strategic management researchers are relying on. Consider, for instance, the concepts of "core competence" and "strategic intent" that Porac and Rosa (1996) build upon. The notion of core competence suggests a set of competencies that have been honed over a number of years. Yet, competencies are continually evolving, and they often become recognized as "core" only with hindsight. More important, by the time we might know what is core, the environment may have changed to such an extent that a core competence of yesterday may be a "core millstone" for the future and even today (Garud & Nayyar, 1994).

The notion of "unwavering" strategic intent can also generate problems. As Porac and Rosa (1996) suggest, unwavering strategic intent focuses attention in one direction and excludes everything else. Such a stance can be rewarding if, with hindsight, it turns out to be the victorious path. But for every success, there

are many more failures, and one obtains little understanding by consistently sampling on the dependent variable.

Porac and Rosa (1996) use Volkswagen (VW) as an example to demonstrate the power of unwavering strategic intent based on core competencies built in the past. They describe how in 1948, VW used prewar designs to produce the phenomenally successful "Beetle," which quickly developed a strong reputation for economy, quality, reliability, and ease of service. The company then held to this design for more than 15 years. Porac and Rosa report that, facing increased competition in the late 1960s, however, VW explored other designs. Because these new models failed to generate the same economic success as the Beetle, they see this exploration as a mistake.

To use this observation to argue that change was not warranted misses the point we want to make about deframing. With hindsight, Porac and Rosa (1996) assess VW's efforts as a mistake. Their assessment is made looking back in time. Executives working in real time, however, have to look forward. From the standpoint of deframing, VW's "mistake" is, in fact, an "experiment" serving as an important probe into the future. The fact that VW retracted to its "original" position after having explored its options does little to reduce the value of its exercise in deframing.

To appreciate this point, consider the plight of U.S. auto manufactures in the early 1970s. If they were to follow Porac and Rosa's (1996) recommendations, these auto manufacturers ought not to have considered any future possibilities and, when confronted with the oil crisis, they should have continued to escalate their commitments to the building of "gas guzzlers." How much better it would have been if these auto manufacturers had been able to deframe before the oil crisis; as it is, we can be relieved at their abilities to deframe after the oil crisis and accordingly to change their competencies.

Returning to the VW example, Porac and Rosa (1996) imply attributes such as economy, quality, reliability, and ease of service have retained the same meanings from 1938 to 1975. Our own experiences with automobiles and their surrounding attributes suggest a different scenario. Even as we speak, the notion of automobile quality, for example, is being redefined by industry executives. Recently, it has been associated with an ability to provide customized products at a low price (Kotha, 1995). This notion of quality requires a framing of manufacturing operations that is very different from the way they were framed during the "Fordist" era (Garud & Kotha, 1994). In a similar vein, we think that VW would have had to deframe in order to understand and meet emerging notions of economy, quality, reliability, and ease of service to come up with their design for the VW Rabbit.

It is interesting to juxtapose the concepts of core competence and unwavering strategic intent around which Porac and Rosa (1996) build their arguments with the concepts Hamel and Prahalad are presently advocating. Specifically, consider their notions of "competing for the future" (Hamel & Prahalad, 1994) and "managing out of bounds" (Hamel & Prahalad, 1996). The idea of competing for the future seems to overcome some of the shortcomings of the core competency concept by suggesting the need to continually foster processes that dynamically fashion, build, and shape competencies to suit and create emerging realities. In other words, the idea of competing for the future seems to weaken the links between competencies of the past with those of the future through continual actions in the present. The idea of managing out of bounds seems to go even further, calling for abandonment of the past in order to appreciate the basis for emerging new realities that no person or firm can control. This is in line with our notion of deframing or, more accurately, our notion of possessing the tools to deframe.

The question, still, is how one can do this. Astley (1985) suggests that if current understandings are to be reconsidered, new information must first be registered. Then, it must be isolated to preserve its uniqueness, rather than processed so the equivocality it generates is removed. This contrasts with the usual fate of most new information that managers receive. Typically, new information is absorbed and its equivocality generating potential removed. Its uniqueness is obliterated by assessments made based on existing frames. Only by isolating and preserving rather than processing informational input is it possible for the implications of a deframing effort to be considered.

In our original article (Dunbar et al., 1996), we described processes managers may need to pursue to unlearn current frames and allow ideas for new frames to take root in a cognitive world cluttered with confirming redundancy. That is, we explained the steps that the registering and isolation of new informational input entails. To stop the focusing powers of deductive logic, for example, managers must place these capacities on hold and, instead, examine the premises that are currently the basis of their deductions. Instead of relying on institutionalized understandings for inter-

preting information, alternatives must be explored. These two steps open up possibilities for interpreting information in new ways. To explore the possible implications of new information, we suggested managers think inductively, considering unnoticed patterns in information and the alternative possibilities they imply. To further open up possibilities for change, managers should temporarily discredit their beliefs in their retained understandings. Instead, they should explore whether the patterns their inductive thought processes have uncovered may be a more appropriate basis for future interpretative frames.

All of these steps serve to break the usual equivocality-reducing processes that occur in organizational information processing. They open up the possibility for managers to consider whether it makes sense to continue relying on retained understandings. Managers then gain options to choose from. They are no longer unequivocally wed to the past environment they have previously enacted. They can choose to remain so, however. In addition, if they choose, they can make a change and, in the process, self-consciously select a basis for a new enacted environment.

Thus it appears that the way we treat the present is very different to the way Porac and Rosa (1996) treat it. For us, it is important to engage in both crediting and discrediting processes to check needless escalation of commitments to a failing course of future actions. Hindsight can be 20/20 so far as our abilities to identify past core competencies are concerned. It remains a question as to whether and how long such competencies remain relevant, however. An active discrediting process in the present enables us to consider how and to what extent our past competencies need to be modified to retain their current relevance. In this sense, we start to gain some foresight. In contrast, for Porac and Rosa, the present plays no other role than to reinforce the paths already taken. Their notion of foresight for the future is based on no sight in the present.

CUTTING TO THE CHASE

We suggest managers ought to have the option to widen their minds (Dunbar et al., 1996). In contrast, Porac and Rosa (1996) suggest that managers ought to abandon this option and, instead, function only with narrow minds. We'll let our readers decide.

NOTE

1. We acknowledge the influence a chapter with a similar title in Gould's book (1986) has had on our thinking and the discussion contained in this section.

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