ture the business world and to share rapidly diminishing resources without the high social costs of aggressive competition. It is also the optimal means and chance of assuring world peace and a worldwide community of interacting cooperative nations composed of mentally healthy citizens: a high and difficult goal indeed, but an entirely necessary one.

Endnotes

[1] Anthropologist Woodburn (1982) divided the people still viewed as foragers (hunter-gatherers) into two categories: those who lived (at the time they were studied) by an "immediate-return" system, and others who followed some "delayed-return" system. Only six, small, geographically distant groups remained as immediate-return foragers. The least complex of systems involves people hunting and gathering and consuming the foods obtained the same day or casually over the next few days. Thus they receive an immediate return for their labor. All other groups lived by a "delayed-return" system, involving ownership of some private property (pit traps, fish weirs, and such), yielding a delayed return for labor (*Man* 17, 431–435). This system implied binding commitments and inequalities between people; accordingly I argue that these groups should not be categorized as foragers, as they are in transition to some more structured system which is incompatible with the essential egalitarianism of true foragers. For this reason, when I write of foragers, I refer only to the six foraging peoples who follow the immediate-return system.

[2] To an anthropologist, the traditional function position is that societies should be viewed as systems with structures within which all major social patterns are interrelated and operate to maintain the integration of the social system. The concept of functionalism has been little used in recent years, because it is difficult to apply to large, complex societies in which conflict and change appear to be normal conditions, and because the functionalist approach provides scientific rationalization for maintenance of the status quo. Maintenance of the status quo is not always, or by definition, a bad thing. Functionalist concepts are useful tools for analyzing little or only slowly changing systems, such as that of foragers. When a social system is based wholly on behaviors, interactions, and relationships, these phenomena are both functional and structural elements of the system.

[3] In writing of the mutual dependence system of foragers, Ehin does not make it entirely clear that this model was developed by me. I trust I may be forgiven for making this point clearer. The reader is reminded that this model was developed in terms of the social organization of both *undisturbed* chimpanzees and *undisturbed* (immediate-return) foragers. Had I intended it to apply only to human foragers, reciprocity would have been included as a structural and functional principle. Chimpanzees, however, do not practice organized reciprocity.

References

Hurst, David K. (1984), "Of Boxes, Bubbles, and Effective Management," *Harvard Business Review*, 62, 3 (May–June), 78–88.

Kent, Susan (1993), "Sharing in an Egalitarian Kalahari Community," *Man*, 28, 3, 479–514.

Mackal, P. K. (1979), *Psychological Theories of Aggression*, Amsterdam, The Netherlands: North-Holland Publishing.

Service, E. R. (1966), *The Hunters*, Englewood Cliffs, NJ: Prentice Hall, 22–23.

Shils, E. (1965), "Charisma, Order and Status," *American Sociological Review*, 30, 199–213.

Wrangham, R. W. (1982), "Mutualism, Kinship and Social Evolution," in King's College Sociobiology Group (Ed.), *Current Problems in Sociobiology*, Cambridge, UK: Cambridge University Press, 269–289.

A Response to "The Quest for Empowering Organizations"

David K. Hurst
232 *Colchester Drive, Oakville, Ontario, Canada* L6J 5S5

Opening Comments

The social dynamics of hunter/gatherer societies are of interest to modern managers for several reasons: The hunter/gatherer organizational structure was one of the most successful social adaptations ever developed, and mankind probably lived successfully in this way for millions of years. In a forthcoming book (Hurst 1995), I argue that it was the original learning organization, the cradle of the creative process we call "learning." The hunting/foraging way of life was characterized by an absence of technology, and as a result one can see with great clarity the basic social dynamics that hold an informal organization together.

The hunting/foraging organization exhibits many of the features that managers are currently trying to introduce into our modern organizational structures: absence of hierarchy, open communication, mutual trust, and individual empowerment. If managers want to reinvent or renew existing agonic systems (performance organizations), the introduction of hedonic dynamics is essential. Toynbee (1947) has suggested that similar processes are needed to renew civilizations as a whole.

Thus I agree completely with Charles Ehin's suggestion that we need to study these societies more closely and that managers can use them as a guide to build organizations which empower people. The question is "how?" It is surely not just a question of managers of good will "implementing" such organizations.

The Importance of Context

One of the most interesting features of a hunter/forager band is that it appears to be self-organizing within the appropriate context. The desirable behaviors of individuals are sustained provided several conditions are present in the environment. These conditions seem to resemble those found in what some ecologists have called "r-selection" environments (MacArthur and Wilson 1967): these are environments with a great deal of volatility and unpredictability, but whose carrying capacity is far higher than that of the existing population. There is little competition, and the environment selects for small-scale organizations with high natural growth rates.

Hunters/foragers would appear to be r-strategists (whether one talks of r-strategists or r-selection environments depends upon one's view of the direction of cause and effect):

> Pure r-strategists...are organizations that move quickly to exploit resources as they first become available. Their structure makes them relatively inexpensive to set up; that is, they concentrate on activities that require low levels of capital investment and simple structures. They are called r-strategists because they trade on speed of expansion. Their success depends heavily on first-mover advantages, which makes them high-risk and high payoff organizations which gain maximally from temporarily rich environments. Such organizations persist only where the pattern of resource availability is highly uncertain and resources are dispersed over time and space. Where critical resources are available with any certainty, exploitive strategies will usually fail when faced with organizations emphasizing competitive efficiency. Thus industries that are unchanging should not have r-strategists (Brittain and Freeman 1980, pp. 311–312).

The last three sentences of this quote give us several clues as to why hunter/forager dynamics are found so rarely in large, modern organizations. They are usually operating in so-called "K-selection" environments where competitive efficiency demands specialization; larger scale, complex operations; and hierarchical structures (hierarchical in a systems sense (Simon 1969)):

> K-strategists, on the other hand, are organizations that are structured to compete successfully in densely settled environments.... [They] generally expand more slowly into new resource spaces than r-strategists because the structures generating competitive efficiency frequently preclude the rapid adjustments necessary to capture first-mover advantages. Competition on the basis of efficiency generally involves higher levels of investment in plant and equipment and more elaborate organizational structures (Brittain and Freeman 1980, pp. 311–312).

These comments do not appear to apply to a few, rare organizations such as W. L. Gore and Associates, which Ehin cites. The focus of these organizations on advanced technology and their policy of abandoning products before they become commodities (i.e., enter K-selection environments) allows them to remain perennial "hunters," with social dynamics to match (for a description of their lattice organization, see Shipper and Manz (1992)). Similar cultures are found in other high-tech enterprises, but this strategy is open to relatively few organizations and even then may not be viable within them indefinitely. The evidence is that all growing business organizations experience increasing difficulty in maintaining these dynamics as they age and as the markets for their products mature (Hurst 1995). The recent, radical changes at Compaq Computer—from an r-strategist's focus on features and technology to a K-strategist's emphasis on price and manufacturing efficiency—illustrate how suddenly this can happen, even in high-tech environments (*Business Week*, November 2, 1992, pp. 146–151). Thus, managers of most established organizations wishing to empower their people (i.e., introduce hunting/foraging social dynamics) are faced with a conundrum: they need such dynamics to create a learning organization, but the competitive, performance-oriented environment and their large scale organization may preclude the hedonic dynamics from emerging. As a result, the managers are constrained: that is, they are unable to behave as instrumentally rational actors (Pfeffer 1982) in the introduction of the organizational dynamics required for renewal.

The Question Isn't "Why?" but "How?"

Although managers may be constrained, they are not powerless. Some managers succeed in breaking con-

straints by creating crises for the entire system. The role of Jack Welch in shaking GE out of its lethargy is a well-known example (Tichy and Sherman 1993). In a recent article (Zimmerman and Hurst 1993), Brenda Zimmerman and I have suggested that this process is analogous to the action required to renew complex ecosystems such as forests; they have to be burned. We cited the interesting example of the shrub community known in the American Southwest as *chapparal,* which is fire-dependent for its growth and survival. We suggested that perhaps managers can be rational (i.e., appeal to a logic) at a metalevel, which recognizes the presence of contexts that constrain action but, nevertheless, allows them to act on those contexts to break the constraints. (For a popular treatment of this see "Times Are Good? Create a Crisis," *Fortune,* June 28, 1993, pp. 123–128.)

While external events are often necessary to precipitate a crisis in an organization (Hurst 1995), some organizations may have succeeded in institutionalizing processes which "burn the forest" in a systemic way. 3M, for example, has long insisted that 25% or more of sales from each of its 42 divisions come from products developed within the past five years (see "Masters of Innovation: How 3M Keeps Its New Products Coming," *Business Week,* April 10, 1989, pp. 58–63). This prevents managers from "harvesting" mature products without giving thought to the future.

At 3M managers work hard to keep its units small and reduce territoriality by insisting that the technology which individual units develop belongs to the corporation as a whole. Parallel career ladders for scientists and managers mitigate the effects of hierarchy. This allows 3M to recognize success in areas other than administration. Similarly, the Bushman hunter/foragers of the Kalahari award the responsibility for the distribution of meat from the hunt to the maker of the arrow that killed the animal, not the to hunter who shot it (Yellen 1990). This removes anxiety over the division of the surplus meat and prevents hunters from achieving high status and hierarchical power by virtue of their hunting prowess. At 3M such techniques, in combination with their unique culture, seem to have kept the hunter/forager dynamics alive in the company.

Breaking the Scale

One of the most important contextual factors in both the creation and maintenance of hedonic dynamics in an organization is scale. The critical factor seems to be the degree to which size (which affects both the num-

bers and physical dispersion of people) hampers face-to-face communication, or dialogue as it has come to be called. (See the entire issue of *Organizational Dynamics,* Autumn 1993.)

It is well known that when human organizations (and individuals) are faced with true novelty—situations where one does not know the questions, let alone the answers—communication with the broadest bandwidth is essential to the reduction of equivocality (Daft and Lengel 1986). One of the most important differences between hedonic and agonic organizations is that they use different media for communication, largely due to their different scales. Although some observers have suggested that electronic communications can help recreate a more intimate "social reality" in large organizations, the evidence so far is that such technology cannot of itself break the hierarchical context. Indeed, as a tool in the hands of conventional managers, it can be made to serve the demands of hierarchy even more effectively (Nohria and Eccles 1992).

A different approach to the problem of scale is suggested by the concept of fractal structures in human organizations (Zimmerman and Hurst 1993). These are structures where patterns are similar across several scales. A good example of this is the hologram, where every fragment, no matter how small, contains within it a representation of the whole image. Fractal structures (Mandelbrot 1983) are characteristic of many natural objects and systems which exhibit self-similarity of form (and hence process) across multiple scales. Human organizations with fractal characteristics would show similar dynamics across a wide range of scale: individuals, dyads, teams etc. Hunter/forager organizations are fractal in the sense that flexibility exists at every level:

• individuals are self-directed and multi-skilled.

• the dyadic relationship between pairs of individuals is one of mutual dependence.

• groups are open and unrestrictive; people can come and go from them with minimal restrictions.

• territories are open and undefended, so that neighbouring groups can range over them.

• the social vision is of an egalitarian society which legitimates the dynamics at every level of the fractal organization.

It is this flexibility and openness that account for the sensitivity of the hunter/forager bands to the external environment and for their ability to act as communities of practice (Seely Brown and Duguid 1991) to promote learning.

Brenda Zimmerman and I have proposed that firms which either face complex, dynamic environments or wish to renew themselves can create a fractal structure

by pushing processes of inquiry "down" into the formal organization, weaving temporary "horizontal" task forces across the vertical hierarchy. This process allows the organization to "zoom" in on finer and finer details of its operations, while involving people closer and closer to the front line in small-scale replications of processes that occur higher in the structure. These horizontal task forces are learning organizations which should exhibit hedonic dynamics and, in that process, act as communities of practice. They have to be seen as temporary organizations, however, either changing the vertically organized routines of the organization or dissolving.

Thus, this perspective suggests that, in modern organizations, hunting/foraging dynamics will always be integral to the change process. As such, they will always be ephemeral phenomena (Lanzara 1983), appearing in response to the turbulence of crises and opportunities, but disappearing as soon as the environment becomes stable. Their ephemeral nature ensures that they will be incapable of being institutionalized in a permanent structure.

Thus, the association between performance and learning in mature organizations will always be a figure-ground relationship. The hedonic learning processes and hunter/forager dynamics provide the ground: the fluid, nurturing context out of which the value-adding performance routines must emerge. And, once they have served their purpose and their time, they must return to this matrix to be renewed. As Charles Ehin suggests, to develop more egalitarian and effective organizations we do not have to go forward to some Brave New Age. We have only to remember what we have always known.

References

Brittain, J. W. and J. H. Freeman (1980), "Organizational Proliferation and Density Dependent Selection," in J. R. Kimberly, R. H. Miles and Associates, *The Organizational Life Cycle*, San Francisco, CA: Jossey-Bass.

Chance, M. R. A. (Ed.) (1988), *Social Fabrics of the Mind*, Hillsdale, NJ: Lawrence Erlbaum Associates.

Daft, R. L. and R. H. Lengel (1986), "Organizing Information Requirements, Media Richness and Structural Design," *Management Science*, 32, 5, 554–571.

Emery, F. E. and E. L. Trist, "The Causal Texture of Organizational Environments," *Human Relations*, 20, 199–237.

Hurst, D. K. (1991), "Cautionary Tales From the Kalahari: How Hunters Became Herders," *Academy of Management Executives*, 3, 74–86.

_____ (1995), *Crisis & Renewal: Meeting the Challenge of Organizational Change*, Boston, MA: Harvard Business School Press.

Lanzara, G. F. (1983), "Ephemeral Organizations in Extreme Environments: Emergence, Strategy, Extinction," *Journal of Management Studies*, 20, 1, 71–95.

Lee, R. B. and DeVore, I. (Eds.) (1968), *Man the Hunter*, New York: Aldine.

MacArthur, R. H. and E. O. Wilson (1967), *The Theory of Island Biogeography*, Princeton, NJ: Princeton University Press.

Mandelbrot, B. (1983), *The Fractal Geometry of Nature*, San Francisco, CA: W. H. Freeman.

Nohria, N. and R. G. Eccles (1992), *Networks and Organizations*, Boston, MA: Harvard Business School Press.

Pfeffer, J. (1982), *Organizations and Organization Theory*, Marshfield, MA: Pitman Publishing Inc.

Power, M. (1991), *The Egalitarians—Human and Chimpanzee*, Cambridge, UK: Cambridge University Press.

Seely Brown, J. and P. Duguid (1991), "Organizational Learning and Communities-of-Practice: Toward a Unified View of Working, Learning, and Innovation," *Organization Science*, 2, 1, February.

Shipper, F. and C. C. Manz (1992), "An Alternative Road to Empowerment," *Organizational Dynamics*, Winter, 48–61.

Simon, H. A. (1969), *The Sciences of the Artificial*, Cambridge, MA: The M.I.T. Press.

Tichy, N. M. and S. Sherman (1993), *Control Your Destiny or Someone Else Will*, New York: Currency Doubleday.

Toynbee, A. J. (1947), *A Study of History*, Abridgement of Volumes I-VI by D. C. Somervell, New York: Oxford University Press.

Zimmerman, B. J. and D. K. Hurst (1993), "Breaking the Boundaries: the Fractal Organization," *Journal of Management Inquiry*, 2, 4, December, 334–355.