PEGASUS COMMUNICATIONS

THE SYSTEMS THINKER™

BUILDING SHARED UNDERSTANDING

VOLUME 11

NUMBER 8

OCTOBER

2000

Celebrating 10 Years!

NURTURING SYSTEMIC WISDOM THROUGH KNOWLEDGE ECOLOGY

BY GEORGE PÓR, IN COLLABORATION WITH JANICE MOLLOY

"Any framework of knowledge that doesn't include wisdom requires us to operate blind. . . ."

—Verna Allee in *Knowledge Evolution: Building Organizational Intelligence* (Butterworth-Heinemann, 1997)

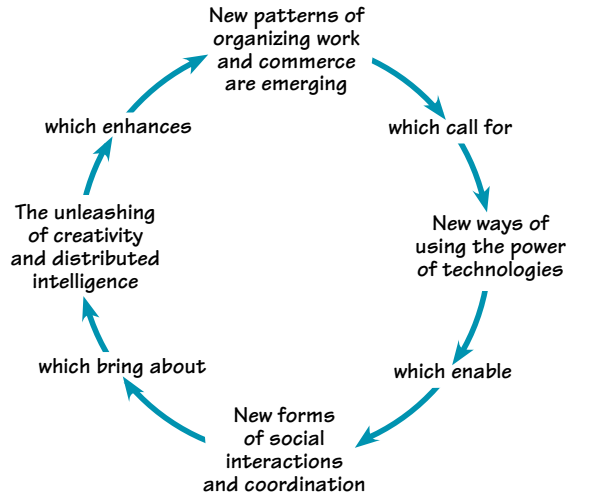
As companies struggle to meet the growing need for quick responses to strategic opportunities and dangers, a profound evolutionary process has been unfolding over the past several decades—one that promises to dramatically upgrade organizations' cognitive abilities. In the 1970s, spurred by new machine capabilities to support the coordination of more complex business processes, "information management" took the place of "data processing" as the discipline of choice for increasing productivity and organizational performance. The new system didn't destroy the old; it transcended and incorporated its predecessor's strengths.

In the mid 1980s, "knowledge management" superceded "information management," again building on the best aspects of the existing practice while representing an exponential leap forward. By recognizing the need to capture, store, and make accessible people's operational knowledge, proponents of knowledge management tapped into a hidden source of competitive advantage.

Today, the field of "knowledge ecology" has emerged as a natural outgrowth of knowledge management. Whereas the target of knowledge management is to accumulate and leverage *knowledge*, knowledge ecology's goal is to develop and mobilize *collective intelligence* and ultimately *organizational wisdom*. By acknowledging the social nature of learning and the key role that technology can play in bringing people together, knowledge ecology bridges the gap between the static data repositories of knowledge management and the dynamic, adaptive behavior of natural systems (see "The Virtuous Cycle of Knowledge Ecology"). To understand this new approach to "knowing what we know," we first must understand the relationship among knowledge, intelligence, and wisdom.

Continued on next page ➢

THE VIRTUOUS CYCLE OF KNOWLEDGE ECOLOGY



In order to succeed in the 21st-century economy, we must design new ways to organize work. By leveraging the power of advanced technologies to support innovative forms of social interaction, we can unleash our organizations' collective intelligence to create even more effective means of working together.

INSIDE

➢ Continued from previous page

The Knowledge, Intelligence, Wisdom Value Chain

Knowledge. *Knowledge* is the capacity to act. As Peter Drucker has said, "Knowledge is information that changes something or somebody—either by becoming grounds for actions, or by making an individual (or an institution) capable of different or more effective action." Books, databases, lists of "best practices," help desks, and so on are important in that they contribute to and influence our knowledge. However, these mainstays of traditional knowledge management implementation themselves do not have the capacity to act. They are repositories of information, not of knowledge.

Researchers from across the spectrum agree that learning is a social activity. We create, share, and utilize knowledge through our interactions with others. In this way, knowledge emerges through productive conversations—both face-to-face and through various media—and networks of relationships. These resources cannot be managed, only inspired by work systems that reward collaboration, learning, and innovation.

Intelligence. Designing knowledge-creation structures and practices requires a certain level of intelligence. Intelligence refers to our effective use of knowledge and our capacity to respond to specific opportunities and challenges as they emerge. In biological systems, an organism's innate intelligence enables it to adapt to changing circumstances. The same is true of social systems. The main function of a workplace's collective intelligence is to sustain the "social organism" by augmenting its ability to rapidly respond to conditions of accelerating complexity and chaos.

An organization develops collective intelligence the same way bodies do—through a nervous system. The nervous system in a social organism is the ongoing series of conversations and contacts that enable it to coordinate its actions and learn from its experience. It is embedded not in computers and hardware, but in the interactions among people that bring the organization into existence day after day and help it evolve. Collective intelligence continually emerges from the energy and information that move through this infrastructure.

In both biological and social systems, the quality of the nervous system affects the quality of the intelligence that flows through it. Organizations have better chances to grow healthy and robust nervous systems—with requisite flexibility—if their members are connected and motivated to realize their full creative potential in support of the joint enterprise. If participants have easy and convenient ways to share what they know, the accelerated flow of knowledge lets the organization act with cat-like reflexes in the face of rapid changes in its environment.

To thrive, an organization must have both the wisdom to ask the right questions at the right time, and the infrastructure for tapping into its own collective intelligence for responses.

The stage of evolution of a given nervous system—both in biological and social organisms—defines how effectively it can perform the following four functions.

- **Communication:** Facilitating the exchange and flow of information among the organizations' subsystems and with its external environment.
- **Coordination:** Effectively coordinating the actions of the subsystems and of the whole.
- **Memory/Knowledge Management:** Storing, organizing, and recalling information as needed.
- **Learning:** Guiding and supporting the development of new competencies and effective behaviors.

Each of these activities is vital to the performance and evolution of the organism, be it biological or social. The biological ones have seamlessly integrated these functions in their repertoire of capabilities. Millions of years of trial-and-error have paid off!

Social organisms such as corporations don't have the luxury to wait that long. If they are to survive and meet the challenges triggered by the current waves of epochal transition, they quickly need to enhance their nervous systems. Only then can they respond to their volatile strategic options with increased agility.

But having an adequate intelligence infrastructure isn't enough to maintain a community at the leading edge over the long-term. The sustainability of social organisms also requires the exercise of systemic, collective wisdom.

Wisdom. *Wisdom* refers to our effective use of intelligence, as evidenced by our capacity to alleviate suffering and increase joy in human and organizational systems. As Verna Allee noted in *Knowledge Evolution,* "Wisdom is . . . a highly creative and connective way of processing knowledge that distills out essential principles and truths. Wisdom tells us what to pay attention to. Wisdom is the truth seeker and pattern finder that penetrates to the core of what really matters." Systemic wisdom can help with intuiting the long view, understanding systems in the context of their larger whole, and anticipating future crises.

To thrive, an organization must have both the wisdom to ask the right questions at the right time, and the infrastructure for tapping into its own collective intelligence for responses. Organizational wisdom thus plays a key role in dealing with two essential aspects of the new marketplace: the "attention economy" and the "experience economy." The concept of the "attention economy" derives from the fact that we're living in an age in which we are continually inundated by information. The competition for people's attention has reached a fevered pitch. Time and attention are scarce resources; learning to use them wisely has become a valuable personal competence.

In the current conditions of galloping "complexity multiplied by urgency" (as described by Douglas Engelbart, the pioneer of augmenting

human intellect with computers), only wisdom can effectively guide our decisions on how to invest our attention, both individual and organizational. Wisdom helps us find a balance between focusing on current tasks and on long-term priorities by offering the power of perspective. It provides us with the ability to take a step back, view the larger picture, and determine what is really important and what is really at stake.

We can also view today's working world through the lens of the "experience economy." Customers are looking for more than products/services; they want to have a memorable experience of buying and using those commodities for achieving their aspirations. B. Joseph Pine II and James H. Gilmore, authors of *The Experience Economy* (Harvard Business School Publishing, 1999), describe this phenomenon: "No matter how acute an experience, one's memory of it fades over time. Transformations, on the other hand, guide the individual [and the organization] towards realizing some aspiration and then help to sustain that change over time. There is no earthly value more concrete, more palpable, or more worthwhile than achieving an aspiration. Nothing is more important, more abiding, or more wealth-creating than the wisdom required to transform customers. And nothing will command as high a price."

Where does the wisdom to create this kind of transforming experience reside in an enterprise? How can we notice it and cultivate it? We used to think of wisdom as a hard-earned quality of elderly, white-haired men and women. The emerging field of knowledge ecology opens the possibility of nurturing wisdom as a distributed quality of human communities.

What Is Knowledge Ecology?

What is "knowledge ecology" (KE) and how can it help us to boost organizational knowledge, intelligence, and wisdom? KE is a field of theory and practice that focuses on discovering better social, organizational, behavioral, and technical conditions for knowledge creation and utilization. It is an interdisciplinary discipline that draws on the best of current thought and action, including knowledge management; communities of practice; businesses as complex, adaptive systems; organizational learning; and the hypertext organization. By integrating these and other ideas, KE seeks to help organizations achieve unprecedented breakthroughs in performance while nurturing and enhancing people's capacity to reach their highest aspirations.

KE operates on the principle that the best models we have for designing systems that create, sustain, and foster organizational learning and development are natural "learning organizations," like a rainforest or the human brain. KE's primary area of study and domain of action are the design and support of self-organizing knowledge "ecosystems," in which information, ideas, insights, and inspiration cross-fertilize and feed one another, free from the constraints of geography and schedule.

According to the 10th edition of Merriam-Webster's Collegiate Dictionary, an ecosystem is "the complex of a community of organisms and its environment functioning as an ecological unit in nature." The simplest form of a knowledge ecosystem consists of

- a network of conversations—face-to-face or virtual—contributing to and informed by
- rich knowledge repositories.

Knowledge ecosystems, just like biological ones, are self-sustaining, self-regulating, and self-organizing. They have permeable boundaries through which they can interact with other ecosystems. In a natural ecosystem, the higher the diversity of species, the more robust the community and the more fit for longevity. The same applies to organizational ecosystems.

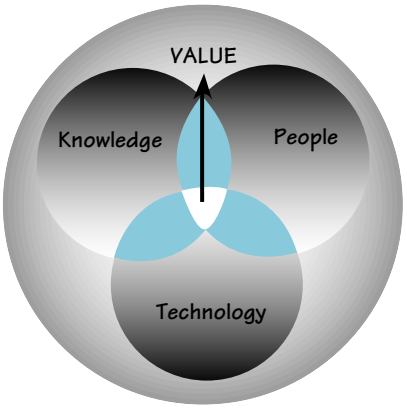
To visualize a knowledge ecosystem, picture the waves of ideas, requests, and offers that move through your awareness each day as bundles of color-coded lights that link you with your coworkers, customers, and coaches. Play with the colors, if you wish. Then imagine an animated flowchart with small circles representing all the employees in your organization. Arrows of different sizes and colors link the circles to indicate the length and form of each contact—phone calls, memos, reports, meetings—in a single day. Finally, think of this network of contacts as a web of distributed intelligence, comprised of all the members of the enterprise and all the ways in which they create value for other members, the enterprise as a whole, and its stakeholders.

For any organization to have all of its members share what they know with other stakeholders in a limited timeframe, it must "electrify" its network of conversations; that is, link its people networks and computer networks. This kind of "electrified" nervous system can then serve as the infrastructure necessary for a community to self-organize and improve its collective intelligence effectively and consistently.

Practitioners of KE maintain that in knowledge ecosystems, people networks create knowledge networks supported by technology networks (see "The Triple Network"). By "people network," we mean the members of the organization, their communities of practice, and their company's

Continued on next page ➢

THE TRIPLE NETWORK



A knowledge ecosystem comprises (a) a people network of productive conversations designed to create (b) a knowledge network of ideas, information, and inspiration, supported by (c) a technology network of knowledge bases, communication links, and so on. The triple network generates business and social value through the action of its members, augmented by the intelligence of the whole ecosystem.

➢ Continued from previous page

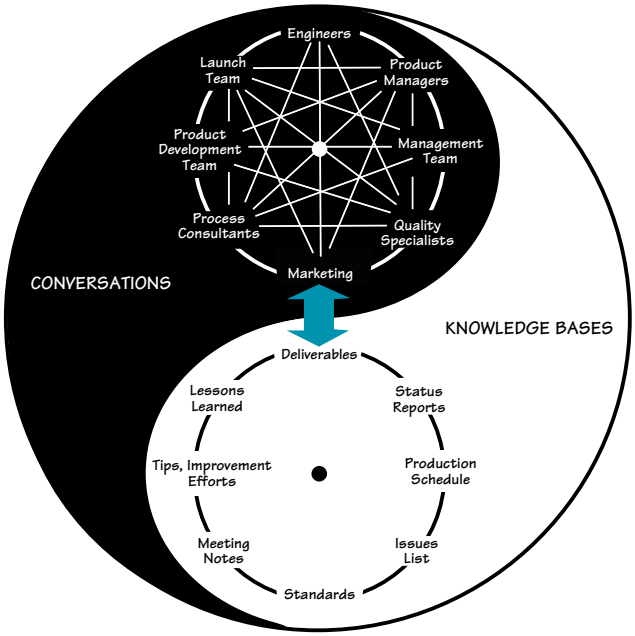
customers and other stakeholders, as well as the ways in which they organize their collaboration. By "knowledge network," we mean the web-like connections between productive ideas that people in organizations generate in the normal course of work. Unprecedented synergies and creative breakthroughs occur when enabling technologies offer new ways of forming meaningful connections. "Technology network" in this context includes all of the technological means that support communication and collaboration for knowledge creation, sharing, and utilization, ranging from e-mail to video- and webconferencing to virtual worlds.

Knowledge communities coevolve with their shared body of knowledge, and with the protocols and tools for upgrading that knowledge. Organizations pass an evolutionary test when they learn to adapt to and drive innovations in technologies, markets, and organizational design by increasing individual and collective intelligence. The smarter we become as individuals in managing our personal learning processes, the more we can enhance our organization's collective intelligence. The smarter we become as learning communities, the deeper will be the pool of the collective intelligence that each of us can tap into, thus enhancing our individual intelligence. The two interconnected spirals drive each other ever higher. Companies like Hewlett-Packard and Lucent have found that the "triple network" of people, knowledge, and technology is vital to this process.

The Practice of KE

At the heart of knowledge ecology is the art and science of gleaning meaning and value from productive conversations. This practice represents an art in that it involves the sensitive, spontaneous realm of human relations. It is a science in that it relies on the best of today's new technologies for bringing people and their ideas together across time and space. KE offers a framework for enhancing an organization's capacity to learn faster by linking these two seemingly disparate facets of organizational effectiveness (see "The Duality of Conversations and Knowledge Bases").

THE DUALITY OF CONVERSATIONS AND KNOWLEDGE BASES



This yin/yang diagram represents the duality of relatively static knowledge bases and networks of dynamic conversations. Successful organizations must nurture both systems as well as the links that connect them.

How does an organization begin to incorporate KE into its daily activities? Perhaps the first step is to ensure that the corporate culture recognizes the synergy between personal growth and expression and organizational productivity. Management must encourage listening, dialogue, participation, openness, inquiry, reflection, sharing, collaboration, and learning as expressed through mission statements, reward systems, and actions. Every member of the community—whether an organization as a whole, department, community of practice, or team—must feel included in the process and have the means to contribute as an equal participant.

Restricting any member's contribution to and use of the ecosystem reduces its vitality and capacity to support emergent action. Fortunately, technology offers myriad options for enabling community members in different locations to conduct effective, efficient, and enjoyable knowledge-sharing, collaboration, and coordination of action. "Virtual space" technologies—such as conference calls and videoconferencing, which allow "same-time/different-space" meetings—fill the need when speed of action is important and the community needs to process and evaluate simultaneous input from multiple sources.

When conflicting schedules prevent concurrent participation or when continuous access to the community's shared intellect is crucial, the "virtual time" technologies of e-mail, electronic bulletin boards, and computer conferencing support "different-time/different-space" meetings. In this case, the host computer receives and holds everyone's input, allowing community members to access the documents at any time of their choice and convenience—"anytime/anywhere" communication.

The seamless integration of real-time conversations held in a meeting room and those held in the virtual realm is another crucial need. Teams that meet both in-person and on the electronic network need to discover and agree on the best mix of these and other media—telephone, fax, e-mail, videotape, and so on—for com-

pleting each of the major tasks that they need to collaborate on.

A computerized system for managing the community's knowledge assets and memory must provide easy access to shared documents and lessons learned from the past. A well-designed system is not merely a repository of files and archives; it also includes the rationale and assumptions upon which actions were based so they can be examined and improved for more effective future action. The system should also indicate where specific organizational memories are located and should be indexed in a logical and easy-to-use manner.

A system has yet to be created that provides all the features that good gardeners of corporate knowledge ecologies would want to have. However, there are many knowledge systems vendors with helpful products. The challenge is to anticipate the set of features that you'll need in six months or a year. Collaborative scenario-planning, "future conference," and other processes for anticipating and co-inventing the future can help you design systems to meet upcoming needs.

KE's Value Proposition

Dysfunctional knowledge ecologies cost organizations much more then well-functioning ones. When information is placed in a database where it is seldom accessed because the details have been separated from the context in which they occurred, companies lose time, money, and valuable insights. When employees hoard working knowledge—either intentionally or because the organization doesn't have an infrastructure for individuals to share what they know—it results in lost productivity by triggering the "reinventing the wheel" syndrome. "The same result is produced by hoarding failures. As long as a culture makes people hide their 'mistakes,' it pushes others to fall into similar erroneous experiments" (as my colleague Holly Blue Hawkins put it). In each case, the organization's collective intelligence is squandered and stunted, leaving the company more vulnerable to the whims of the marketplace.

KE is a perspective that responds to the need to nurture systemic wisdom with emerging interdisciplinary insights into the organization and operation of living systems. Corporate knowledge ecosystems are complex adaptive systems. Their power exists in the flexible and evolving relationships among the elements of the system, which interact in complex and often surprising ways. KE provides a framework, tools, and practices for crafting and sustaining evolving webs of relationship in which we can embed and preserve the knowledge that emerges from social activity. In today's knowledge-driven economy, the highest payoff investment that any business can make is in improving its practices, tools, and methods for creating and sharing new knowledge (see "Improving Organizational Performance").

Think about your organization. Does it have a collective intelligence, or is it merely a collection of individual intelligences? Organizations that succeed in these times of accelerating change will be social organisms with the collective intelligence to guide them through turbulence and transformation—and the wisdom to take the long view and let it inform the strategic choices of the present. The companies that succeed in achieving repeatable wins in fast-shifting market conditions will be those that have learned to increase value to all stakeholders by leveraging the power of people, knowledge, and technology. These wisdom-driven businesses will easily provide the highest quality products, the highest quality work experience for their members, and an energizing context for societal evolution in the new economy.

George Pór is a pioneer of Knowledge Ecology and the founder of Community Intelligence Labs, a network of change agents dedicated to eliciting transformation by mobilizing the intelligence and wisdom of the whole organization. George is also the convener of the Attention Leadership Circle, an intercorporate research alliance focused on developing better practices and environments for augmenting attention resources of organizations, their leaders, and free agents. Meet him at http://www.co-i-l.com/coil/who/george.html.

NEXT STEPS

- Learn to generate, facilitate, and connect a network of productive conversations in virtual and physical environments. Hire or invest in the education of professional community architects, information designers, and knowledge gardeners.
- Focus on transforming fear and dominance in all work relationships into trust and partnering. Help people to recognize mutual value propositions in all business dealings.
- Review your business models and strategies through the lenses of the "attention economy" and the "experience economy," and update them frequently in response to fast-changing conditions.
- Redesign your social, knowledge, and business architectures to optimize them for diversity and connectivity. Configure them so that they can reap the most benefit from the extra leverage and momentum that emergent technologies can offer.

IMPROVING ORGANIZATIONAL PERFORMANCE

The ways in which KE practices and processes can improve organizational performance include:

- By accelerating the flow of knowledge, they lead to shorter cycle time and time to market.
- By streamlining knowledge-sharing, they increase the "attention bandwidth" necessary to provide early notice of strategic opportunities and dangers.
- By supporting communities of practice as stewards of the company's core competencies, they reduce the cost of coordinating work and business processes.
- By hosting or sponsoring virtual communities of customers, they lead to increased customer intimacy.
- By providing design principles for knowledge fairs, symposia, cafés, and other large-scale learning events, they accelerate the spread of innovative practices throughout the enterprise.