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ABSTRACT

Organizations are self-organizing living systems and therefore capable of doing for themselves much of what managers have always tried to do for them. The role of the leader in organizations should be one of helping the organization develop a clear sense of its own identity, since that is the reference point around which self-organizing takes place. When not mired in the traditional control/structure role, the leader is free to be the eyes and ears for the organization. One of the key responsibilities of managing is learning how to access and use sources of intelligence throughout the organization and its operating environment. Parallels are drawn to the skills of an indigenous tracker in the forest. Developing awareness of the environment lies in the ability to draw in one's "bubble of impact" to where it is smaller than one's "bubble of awareness." One also needs to understand the baseline symphony of the environment so as to read the concentric circles of activity caused by others. A key to perceiving activity is paying attention to the "tree dwellers"--those who see more from a broader perspective. The third key role of a leader is to develop the means for sharing information, not through a rigid command and control structure, but by using the flexible nonlinear organic structure that already exists in every organization. Creating a strong sense of identity, learning to be aware of organizational systems and operating environments, and developing relationships for information exchange are essential skills for leaders. (TD)

Organizational Awareness: Using Natural Systems To Understand Organizations

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ABSTRACT

In this session we explore the parallels between natural and organizational systems, focusing on specific skills of leadership needed to respond to our constantly changing environment. We meld the scientific concepts of self-organizing systems with ancient skills of awareness and survival that render those concepts useful in our organizational and business life. We will practice outdoor awareness skills and adapt them so you can measure and control your impact on your environment, recognize and react to opportunities ahead of others, and learn to think like competitors, customers, employees, and stakeholders in your organization. In the presentation, we will draw upon information from a number of sources, including the wilderness teachings of renowned outdoor expert Tom Brown, Jr., the organizational teachings of Dr. Margaret Wheatley, and the teachings of creativity expert Ned Herrmann.

Imagine that the year is 1878 somewhere in the southwest United States. From a bird's eye view, we see a lone Apache scout as he moves through the woods. His head is erect scanning the horizon. He keeps his eyes up because he feels the ground with his moccasin-clad feet. Occasionally he pauses to look for tracks on the ground. He moves slowly and stealthily. His eyes detect a movement on his left, and he quickly focuses on the movement and determines it to be a squirrel. The squirrel has noticed him and is assessing the threat before sounding an alarm. The scout changes his vector slightly to be less threatening to the

squirrel and continues to scan the horizon. His face monitors the breeze and he realizes that it is blowing gently from the northwest. This means he can continue in the direction he is going without much concern about his scent giving him away. The lack of humidity he feels on the breeze indicates no sudden changes in the weather anytime soon. His sense of smell is attuned to the forest. He sniffs the wind checking for the smell of fire smoke of his enemy and the musty odor of the grizzly bear he knows is in the area. He knows of the bear because he saw fresh tracks a few yards back and determined them to have been made earlier that morning. As he walks on, he checks the terrain and decides the bear was on its way to a berry patch to feed, and as long as he steers away from the berry patch, he is in no immediate danger. The bear is a male, and judging by the size and depth of the prints, a mature one at that. As the scout moves through the forest, he disturbs almost nothing. The birds continue their normal singsong. The squirrels go about gathering their acorns. This scout knows his environment and is relatively safe from surprise. He knows the location of his enemy, even though several miles away. He knows the location of any predators that may be a threat. He fully senses everything going on in the forest.

By approaching our business environment as this scout approached his, we can gain the ability to see and anticipate change that our competitors will miss. To do this, we must first understand how the scout was able to develop that level of attunement to his environment and then find ways to apply those same principles to our own organizations.

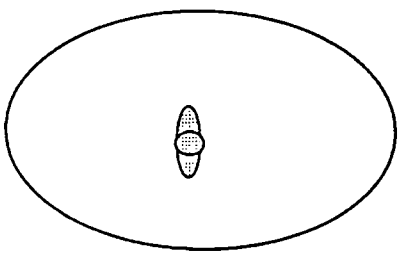
Dr. Margaret Wheatley, author of *A Simpler Way* and expert in Self-organizing Systems, believes that organizations are living systems. Because living systems self-organize, much of what we have always tried to do for organizations they are capable of doing for themselves. This approach dramatically alters the role of the leader in organizations today. In the past, the managers have

sought control, to impose structure, to "make things happen." The concept of the organic organization alters that role. Today the role of the leader is to help the organization develop a very clear sense of its own identity, since that is the reference point around which this self-organizing takes place. Since he/she is not mired in the traditional control/structure role, the leader is then free to be the eyes and ears for that organization. One of the key responsibilities of managing is learning how to access and utilize sources of intelligence throughout the organization and its operating environment.

In a recent interview in the *San Jose Mercury News*, Adobe Chairman John Warnock stated that his role as leader is to be in touch with everything that is going on in the environment, the latest technical innovations and trends, and to make sure that Adobe is aware of and aligned with movements and changes in industry and society. So how do we do that?

How do we see our environment in such a way as to be able to predict changes in the industry or operating environment? Let's take a look back in time again. Imagine instead of that Apache scout, it is you walking through the forest. What is different? One of the key differences is the presence of predators. North America was then populated with a number of man-eating predators, including grizzly and black bear, mountain lions, and wolves. If you were walking through this forest, what might your demeanor be? Would you stride arrogantly through as if you were invincible? Not likely. You would probably be moving as quietly as you were capable of, paying intense attention to the environment around you. You would be motivated to hear every sound, catalog every scent, note every motion, and feel for subtle changes that forebode trouble. In short, you would be as aware as you were capable of being. However, our lifestyle today has made us a poor survival risk in such an environment. Here is why: Because we spend too much time walking on pavement, our feet are not sensitive to the forest floor. We walk

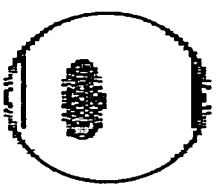
rather noisily through the woods, alerting the birds and squirrels. Because of years of staring at computer screens and television sets, our eyes are less capable of detecting motion in the periphery, and due to the fact that we are looking where we place our feet, we miss the movement of animals darting under cover as we approach. Our sense of smell cannot detect anything but the coarsest odors. We hear only the sounds of animals scurrying away and the calls of the birds, which we are unable to interpret. We could be easily surprised by an attacking bear or a sudden change in the weather.



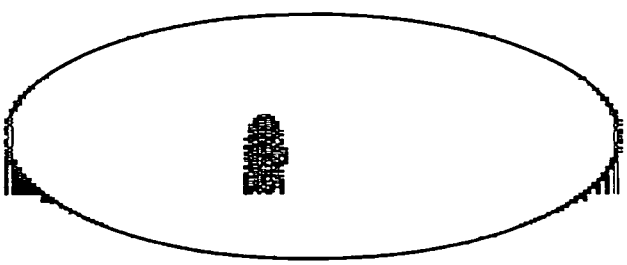
As we walk though the woods, we are sending out around us a concentric ring of disturbance. How much of a disturbance we create (how loud we are) determines the size of that ring. We call that area the bubble of disturbance.

Simply put, any creature within that circle will be aware of the presence of that person. Of course, the size of that bubble is determined by the amount of noise and speed of movement of the creature creating it. The noisier we are, and the faster we are walking, the greater the level of disturbance and the fewer animals we will see.

As we move through the woods, we also have around us our bubble of awareness. This refers to the space radiating out from around our body that we are aware of.

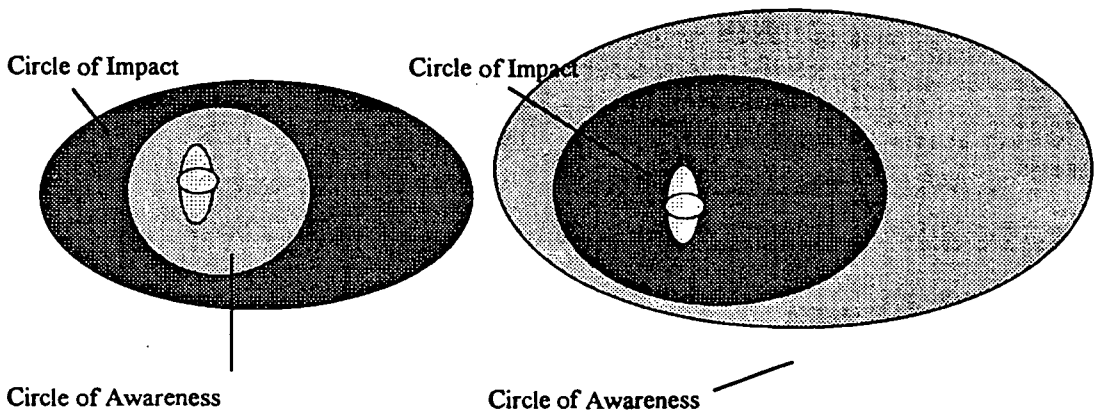


Typical bubble of awareness



Enlarged bubble of awareness

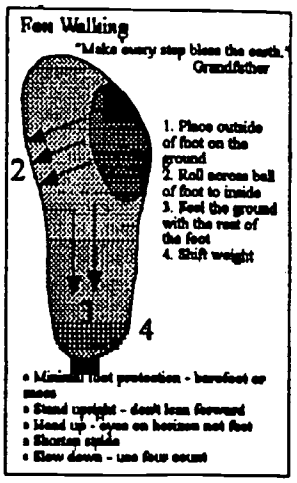
The bubble of awareness varies tremendously depending on how high our level of awareness is. If we are highly aware, we might have a bubble that extends out twenty yards. If we are as aware as a typical hiker, our awareness usually extends about six feet.



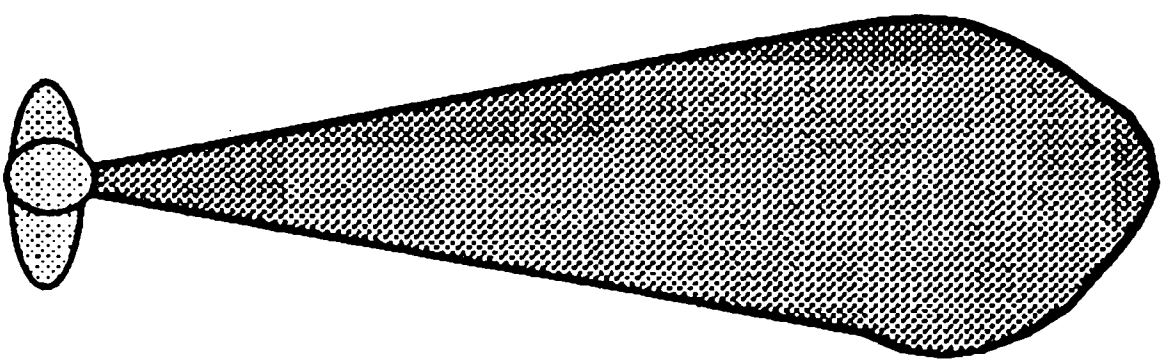
The key to seeing animals in nature is to have a larger circle of awareness than circle of disturbance. In other words, we see them before they see us. Developing awareness of our environment lies in our ability to draw in our bubble of impact and extend our bubble of awareness. It is in the area between the impact zone and awareness zone that actual awareness occurs. The concept of extending awareness and withdrawing impact is key to awareness in all applications, both in and out of the woods. In theory, awareness only occurs in that area where the awareness circle is larger than the impact circle. First, let's focus on decreasing the size of our zone of impact or disturbance.

A typical hunter-gatherer learned to conform his movement to the terrain. He walked to fit the ground he was covering. This method of walking we call foxwalking. To walk quietly in the forest, we simply must go back to the walk of the hunter-gatherer. The hunter-gatherer walked slowly, with his head up, scanning the horizon. He had a shorter stride. He kept his weight back and felt the ground with his forward foot, sensing the terrain and adjusting appropriately. If

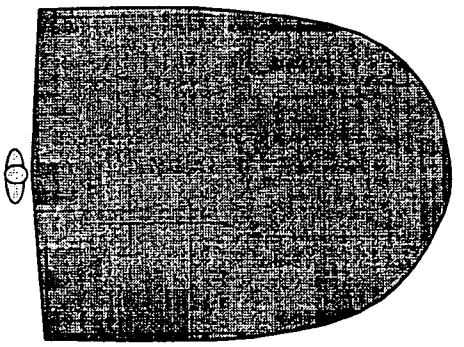
he felt a twig or leaf through his thin-soled moccasins that might betray his presence, he moved his foot to a safer location. Once the foot was safely placed, he shifted his weight forward to complete his quiet stride. In essence, his feet became eyes — seeing where to walk, freeing his real eyes to scan for danger or prey. This fox-walking created barely a ripple of disturbance, and allowed the hunter to move like a whisper through his environment.



The other side of this equation has to do with increasing the bubble of awareness out beyond the bubble of impact. This is a matter of consciousness and practice. Our society has become one dominated by sight and sound. Our other senses have in many ways become atrophied. Sight is our predominant sense. Our modern society requires that we focus our eyes, usually closely. We spend a great deal of time reading, looking at a computer monitor, or watching TV. By comparison to the native we described earlier, these are passive activities. The do not require much from our eyes. As result, we have lost much of our ability to use our eyes to scan the environment.



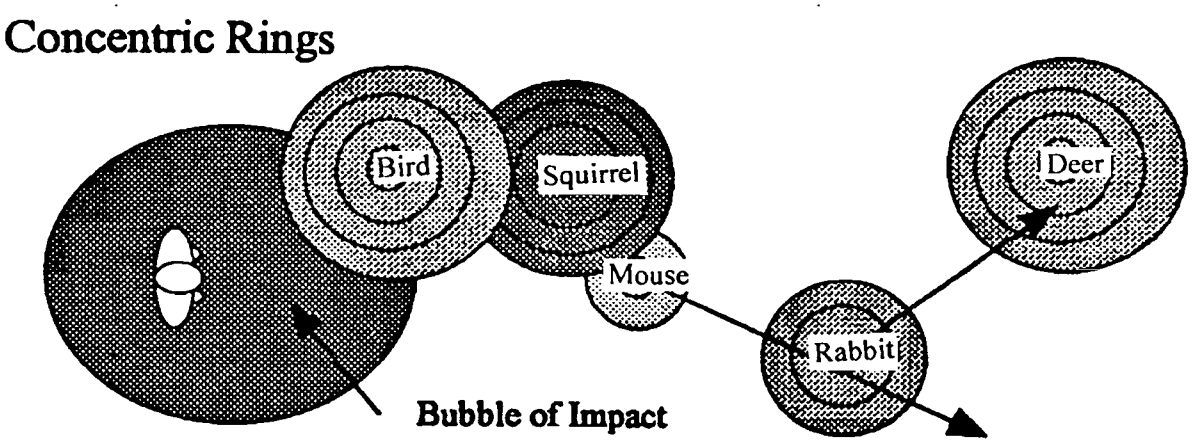
The native we discussed earlier had developed the habit of walking with his eyes in wide-angle vision. This enabled him to see the entire area in front of him and to detect motion in the periphery. He had developed a high level of sensitivity to movement in his periphery. As the scout walked, he would be able to detect movement, quickly focus on that movement, determine its value or risk, and go back to wide-angle vision.



He also extended his hearing out into the environment, focusing on sounds and disturbances, identifying them, and going back to monitoring. He used his sense of smell to detect and identify all kinds of scents. He used his sense of touch to feel the breeze, note the direction and humidity, and catalog that with his past experience to draw an idea of the weather for the next 24 hours. He could also determine his position relative to any game he might have been tracking. By using all of our senses as we walk through the woods, especially wide-angle vision, we too can extend our bubble of awareness.

Another method used by native North Americans to further extend their awareness was learning to read concentric rings. In systems theory, nothing moves without affecting something else. The same is true in the forest. For example, let's say a fox is moving through the woods. As the fox moves along looking for dinner, a bluebird overhead in the tree senses motion in his periphery, looks carefully and recognizes the fox moving slowly below, and sounds an alarm. To the other birds in the area, that alarm indicates a fox. They spread the alarm outward in the direction the fox is traveling. The squirrel 20 yards down, also in the tree, hears the alarm, and repeats one of his own, alerting all the squirrels in the area. The mice, feeding on grass seeds at the base of the tree, hear the alarm

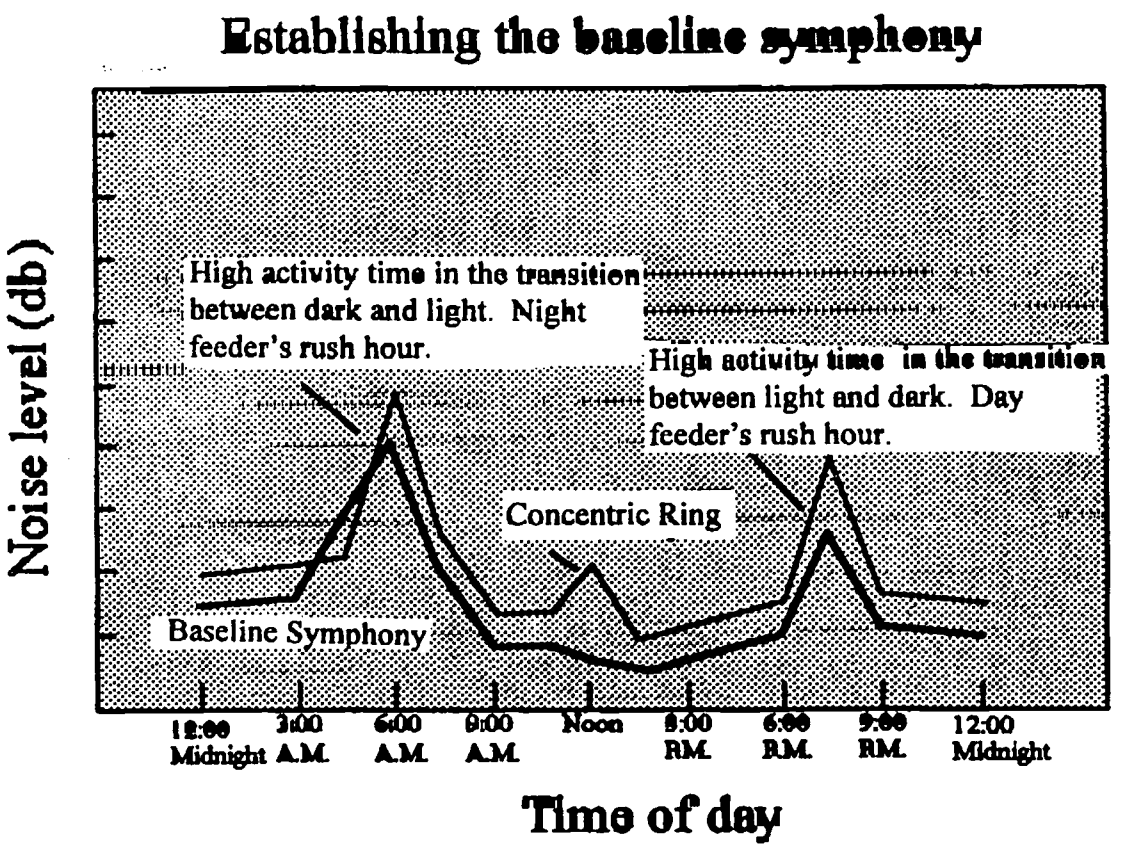
of the squirrel and recognizing it as a predator alarm, scurry for cover. The rabbit recognizes the sign of a predator in the scurrying of the mice (in the woods, only the hunter and the prey ever move fast), so the rabbit decides to play it safe and return to his warren. As he runs past the deer, the deer senses that something must be going on, and stands and turns her ears toward the sound of the approaching fox to determine the threat. By now, the presence of that fox is known well in advance of its arrival.



The Apache scout could read these rings of disturbance far out into the landscape and could tell what was happening at any given time. In fact, so adept was he that he could often detect the presence of the white soldiers miles in advance. This ability to read the forest was not easily won. It required hard work and dedication to develop such a high degree of sensitivity. It required that he utilize all of the skills listed above, as well as the development of one more key skill — creating an understanding of the baseline symphony.

The baseline symphony is what the woods sound like at rest, when nothing much is going on. It is the regular, background noise level of the forest. It must be established in the mind of the scout at any time of day or night so as to provide a baseline for comparison. For example, if you know that the baseline

symphony of the forest is a certain level at a certain time of day, then any variation from that baseline must be a concentric ring. To learn this baseline symphony, the scout had to spend many hours at all times of day sitting and listening, using all of his senses, and establishing the patterns.



For example, the time just before dawn is actually the busiest in the forest as the day feeders are coming out to feed and the night feeders are returning to their day beds. Dusk is also a very busy time of day as the night feeders come out and the day feeders retire. Therefore, the baseline level of activity for that time of day will be significantly different than at noon when things tend to be much quieter. As you can imagine, developing the baseline symphony takes a lot of time and attention, but the benefits are tremendous. It allowed the scout to read the forest like a book, to know who was moving where and what they were doing.

So now the big question: What does this have to do with organizations? I believe the answer is everything. As Dr. Wheatley mentioned earlier, learning to access intelligence throughout the organization and its operating environment is a key role for the leader.

Learning how to read concentric rings is one means of applying awareness to your organization. Determining the baseline symphony within your organization can supply you with a wealth of information about what is really happening. What occurs on a regular basis? What is the rhythm? What is the normal "noise" level? Once that is established, any variation from it is a concentric ring.

Richard Knowles managed Dupont's Belle chemical plant in West Virginia. Over time, he developed a very clear understanding of the baseline symphony for that plant. In fact, he got so good at it, that when he drove into the parking lot in the morning, he could see what kind of productivity the previous shift had enjoyed. He simply looked at the litter that had accumulated along the railroad tracks. It seems that when there were several shutdowns the night before, the employees were much more likely to spend time outside waiting, evidenced by the larger amount of cups, wrappers, and cigarette butts on the ground, which accumulated in the low area of the tracks. By looking at the amount of litter, he could predict how many line shutdowns had occurred during that shift.

Reading concentric rings in your overall organizational environment can help you sense change in your market or industry ahead of others. However, it requires deliberate attention. If you recall from our earlier experience, one of the keys to perceiving forest activity is paying attention to the tree dwellers — the birds and squirrels. Why? Because from their perspective, they see more from a broader perspective. So who are the tree dwellers in your organization? Who can

see the context and landscape from above? A little clue here — it may not be senior management.

One of the tools used in organizational redesign is the Environmental Scan. In the Environmental Scan, we look at and gather as much data as possible on the customer, the competition, influencers and regulators, other best-in-class companies, and the stakeholders. Organization Planning and Design principal Paul Gustavson believes that environmental scan is a great place to apply this concept. Learning to gather the most useful information in these key areas requires that we identify the tree dwellers in each area — those who can see what is happening on the forest floor. For example, one organization fully expected that the market researchers in the marketing department had access to the most current information about the customer. However, as we looked for the tree dwellers, we discovered that the service technicians actually had the most timely and accurate information about the changing needs of the customer.

However, just gathering information is not enough. Dr. William Snyder, an expert in knowledge management and community building, states that in most cases, the information needed to make sound decisions exists in those organizations. It is simply not in the right hands to be of any value. In the example above, the service technicians knew what the customers' real needs were, but until that information got into the hands of the engineers who could do something with it, it meant nothing. The aware leader, like the scout of old, must recognize that information is only of value when shared, and when it is accessible throughout the organization. If the first key role of the leader is to create an identity, and the second key role is to be the eyes and ears of the organization, then the third key role of the leader is to develop the means for sharing information. In Wheatley's organic organizations, that process is not accomplished with the rigid command and control structure we see in the traditional organization chart, but

rather through a rich network of relationships that already exists in every organization, acknowledged or not: a more flexible, non-linear organic organization.

Teaching leaders about living systems and helping them to experience their impact on those systems are powerful methods of heightening the perceptions and awareness within organizations. The process of creating a strong sense of identity, learning to be aware of organizational systems and operating environments, and developing relationships (means and methods) for information exchange are essential skills for leaders. Like the scout of old, it will keep them keenly aware of what is happening around them and will help them sense change coming ahead of everyone else.

(Editor's note: This article was submitted without references. Please contact the authors for more information.)

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