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NIGHTWALKING

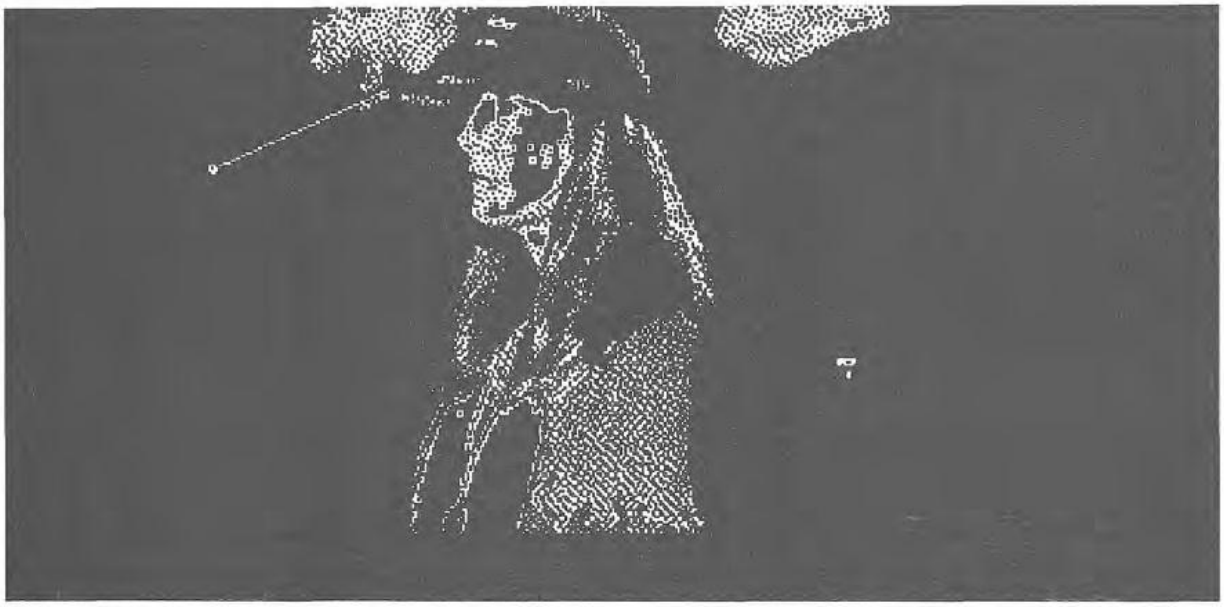
Exploring the Dark with Peripheral Vision

This is a lonely place, but as we walk through it on the darkest night it's like a spirit world. The darkness is filled with speckles of bioluminescence and ghosts left in deep arroyos by the shadows of starlight. We can't see the ground at our feet — the rocks, the sticks, the cactus, the prairie dog holes — because we're gazing at a tiny phosphorescent dot set a foot in front of our noses. Although we're not conscious of seeing these obstacles, our minds do see them, see them clearly and deliver sure instructions to the feet as we glide with perfect safety over rough terrain. It is like walking on faith, supported by a serene confidence, every one of our senses alert. The mind is left free to explore the night spread across the widescreen field of vision. What we are doing is Nightwalking.

by
Nelson Zink
and
Stephen Parks

IT ALL BEGAN ONE AFTERNOON A COUPLE OF YEARS AGO. We were talking about people who have the ability to see farther or more deeply or more clearly than the rest of us, those exceptional individuals who can easily master complexity and ambiguity and arrive at startling insights.

We began to speculate on the possibility that these people weren't just smarter or more creative than the average person but perhaps literally saw the world in a different manner. As we looked for direct connections between the literal and figurative meanings of words like sight and vision, it slowly became apparent that we were onto something. We reviewed the physiology of sight and discovered that neural structures exist within the eye and brain, which facilitate a way of seeing that is radically dissimilar from the one we're accustomed to using. We confirmed that there is, indeed, a neurological basis for a distinct "second" type of sight, and that this way of seeing is available to all of us all the time. (Usually we are so absorbed with our focused vision that we're unaware of its power.) Peripheral vision.



Could peripheral vision possibly be related to Vision, to Insight, to all those capitalized powers of perception? Searching for references that might shed light on second sight, we found that while many individuals weren't particularly aware of how they accomplished their achievements, the reports contained eery similarities. We found a succession of texts from the Taoists of early China through the books of Carlos Castaneda that spoke of a certain kind of all-seeing gaze. It was often difficult to determine whether the authors were speaking literally or metaphorically, but it was perfectly clear in the case of Miyamoto Musashi, the legendary swordsman of fifteenth-century Japan, who had the clearest and most insightful description of the powers of peripheral vision we found.

In *The Book of Five Rings,* Musashi refers to the two types of sight which he calls *Ken* and *Kan*. *Ken* registers the movements of surface phenomena; it's the observation of superficial appearance. *Kan* is the profound examination of the essence of things, seeing through or into. For Musashi, *Ken* is seeing with the eyes, *Kan* is seeing with the mind. The differentiation is akin to that of style versus substance.

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Musashi gives instructions for developing Kan sight: "It is important to observe both sides without moving the eyes. It is no good trying to learn this kind of thing in great haste. Always be watchful in this manner and under no circumstances alter your point of concentration."

While Musashi certainly didn't understand the physiology of sight, he was acutely aware of the difference between cone and rod vision. We reviewed the science of vision and read that the retina of the human eye is composed of three distinct areas: the fovea, macula and peripheral region. Each area performs a distinctive visual function and contributes to the sense we call sight. Because these different functions operate simultaneously and blend into each other, they aren't normally differentiated. The fovea is a small circular pit in the center of the retina packed with an unbelievable concentration (160,000 cells per square millimeter, an area about the size of the head of a pin) of color-sensitive receptor cells called cones, each with its own nerve fiber. The fovea enables the average person to see most sharply within a circle less than an eighth of an inch in diameter at a distance of twelve inches from the eye.

As we walked we began to notice that other senses such as hearing, balance and touch naturally expanded and became more acute, as if we'd gradually become conscious of the peripheral regions of these senses too.

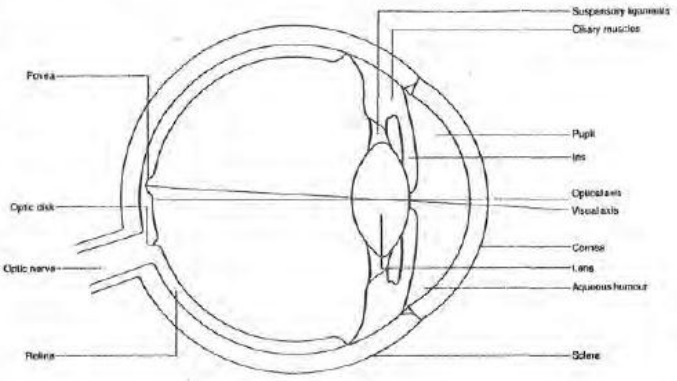
Surrounding the fovea is the macula, an oval body of color-sensitive cells. Macular vision is quite clear, but not as clear and sharp as foveal vision, because the cones aren't as closely packed as they are in the fovea. We use the macula for reading or watching television, among other things.

Moving away from the central portion of the retina, the character and quality of vision changes radically. The capacity to see color diminishes as the color-sensitive cones become more scattered. Fine vision associated with closely packed cones, each with its own neuron, shifts to a coarser vision in which two hundred or more of a different type of receptor cell — the rods — are each connected to a single neuron. The effect of the connections between rods is to amplify the perception of motion and light while reducing the capacity for distinguishing detail.

For our purposes, we began to think of the retina as divided into two areas: the fovea and macula, both with high concentrations of cones, and the periphery, where rods predominate — in short, cone and rod vision, responsible respectively for focused and peripheral vision. A quick way of understanding the extent of these two regions of sight is to extend your fists directly in front, side by side. Your fists cover the approximate area normally seen by cones; the rest of your visual field is largely rod mediated. Thus it's apparent that only a small percentage of our total visual field is clearly focused. Attending only to this region results in what is commonly called tunnel vision — figuratively and literally, as we've come to believe.

It became evident to us that many of the special perceptions we sought came from the ability to observe the world and ourselves from a "different point of view," in a broader, unfettered context. In time the obvious struck us, that the experience of insight, rapid learning, invention, creativity, intuition, and perhaps even personal change have a direct connection with second sight, a sight dependent almost completely on the brain's capacity for processing peripheral vision.

We decided to try to develop a technique which would effectively stimulate this special way of seeing. After some trial and error we originated an exercise and designed a simple piece of equipment which seemed to enhance our access to second sight. On the bill of a baseball cap we mounted a



Visual Perception

The Embudo Center

The ability to cover rough terrain in the dark is only one of the benefits of Nightwalking. Relaxation, control of pain and fatigue, expanded senses of hearing, balance, and touch, as well as enhanced appreciation of patterns in nature, are other consistent results.

metal rod welded to a binder clip, extending about a foot in front of our eyes. On the tip of each rod we glued a small bead of plastic resin about the size of a baby green pea. This created a fixed point on which to focus. We reasoned that with our focused vision on the bead, any physical activity would necessitate the use of peripheral vision. We chose hiking.

We drove out into the countryside near our homes in northern New Mexico, found a place where we wouldn't be interrupted, donned our caps and set out. In the beginning, disoriented and functionally blind, we made our way cautiously along an old jeep trail. Soon we noticed that our feet seemed to know what to do. We stepped over and around obstacles on the ground without consciously being able to see them. It became apparent that our non-conscious minds could see the ground directly in front of us perfectly well.

Within an hour our field of vision began to clear, and we both became engrossed with the phenomenon of seeing double. Walking behind, one could watch two identical people moving up ahead, walking side by side, each making identical movements. A sort of Zen paradox arose as to which was the real one. We later understood that the solution to this and other "reality" paradoxes was an important part of learning to use and trust second sight.

As we walked we began to notice that other senses such as hearing, balance and touch naturally expanded and became more acute, as if we'd gradually become conscious of the peripheral regions of these senses too. Concurrently, the perception of "weight" shifted lower in our bodies, to the hips and on down to our feet.

After a couple of hours of walking along the road we began to experience a deep sense of relaxation. We noticed our hands had warmed considerably, an indication that stimulation of the parasympathetic nervous system was somehow related to the experience of second sight.

Each time we have walked (probably a hundred times by now), a sense of deep calm has been experienced. It took a while to understand what was going on, but our theory is this: Walking while relying only on second sight requires that the conscious mind trust the non-conscious, and this inter-mind trust is the essence of relaxation itself.

On the next few outings we picked steeper grades and rougher terrain. We found we could easily control fatigue and pain by using an application of will — focusing attention on the tired body part, for instance, and moving the discomfort off to the edges of awareness, virtually the same process as moving our attention about in the great field of peripheral vision without moving our eyes.

In our reading we had been reminded that in darkness, peripheral (rod) vision is far superior to focused (cone) vision. Night vision relies almost entirely on rods, which because of their neural connections and physical makeup are very sensitive to light. Rods need about thirty minutes of dark or dim red light to activate fully, and then, it is claimed, they have the capacity to detect a single photon — the equivalent, in clear air, of detecting the flame of a candle that is ten miles away. In the dark, cones are for the most part visually useless, and so we figured that walking in the dark would force us to become even more dependent on peripheral vision. It was time to up the ante.

We modified the headgear by painting the beads with luminescent paint and increased our daily

intake of Vitamin A (necessary for the formation of visual purple, a substance which enables the eyes to adjust from bright light to darkness) to 50,000 IU for a week to make sure we weren't deficient.

We picked an area where we hadn't walked before and started out around sunset. For the first hour of walking we noticed all the familiar inner shifts and sensations. And then something strange happened: we entered the night. We really don't have a better description. When it became apparent that we could see perfectly well, the night became alive. Rabbits hopped by, nighthawks and bats flew past to check us out. Our steps got lighter, walking was approaching the status of flight. We felt like we'd fully entered the experience of second sight.

Not only were we learning to travel freely in the dark; it was becoming apparent that this capability connected us more directly to the non-conscious. Far from being a storehouse of fear, we found it an incredible protector, dedicated to our safety and happiness.

Other senses expanded even more than we'd experienced before. Balance became much more sensitive. Later we developed a very slow-walking kind of Tai Chi just to enjoy this exquisite sense of balance. Our skin started to feel peculiar, more "solid" perhaps, and we found we could walk comfortably in quite chilly air without any clothes. Probably due to our increased ability to concentrate and the air qualities of night, hearing and smell were vastly improved. As we became proficient at seeing in the dark, we found that we could run down arroyos and climb steep banks in the dead of night, all the while focusing on the luminescent beads. With the calm of Nightwalking, we discovered that anxiety and fear of the dark, so common in our culture, are effectively eliminated. Fear, anxiety and even physical pain are seemingly associated with focused vision, while peripheral processes engender relaxation and delight, a state we have half-seriously dubbed Sense-Surround.

A friend heard what we were doing and tipped us off to Alexandra David-Neel, who for some years studied and toured in Tibet. In *Magic and Mystery in Tibet*, she describes her encounter with and investigation of *Lung-gom-pas*, Tibetan spiritual walkers of extraordinary ability. According to David-Neel, "The walker must neither speak, nor look from side to side. He must keep his eyes fixed on a single object and never allow his attention to be attracted by anything else. When the trance state has been reached, though normal consciousness is for the greater part suppressed, it remains sufficiently alive to keep the walker aware of the obstacles in his way and mindful of his direction and goal." We felt in good company.

Nightwalking became one of the most consistently relaxing and exhilarating experiences either of us had ever had. The reports, ancient and modern, turned out to be true — employing second sight did facilitate a distinct change in perception and sense of wellbeing. Not only were we learning to travel freely in the dark; it was becoming apparent that this capability connected us more directly to the non-conscious. Far from being a storehouse of fear, we found it an incredible protector, dedicated to our safety and happiness.

Just to make sure we weren't doing something that might cause undue eye strain, we thought it might be wise to take an optometrist on a Nightwalk. We contacted a respected Santa Fe practitioner who initially sounded skeptical but agreed to join us. Not only did he give us a clean bill of health, but by the end of his first walk he was speculating about the possible value of Nightwalking in treating myopia.

We began wondering whether Nightwalking would prove as exciting and useful for others as it did for us. So we planned a training which was divided into four sessions of about three hours each, covering various terrains and their attendant challenges.

The first group of a dozen trainees assembled shortly after sundown in the dry stream bed of the Rio de la Truchas, on Bureau of Land Management land between Santa Fe and Taos. Hats and rods were passed out along with simple instructions: Watch the rod tip and keep it up near the horizon, walk slowly and start to notice the scenery to the sides as you pass by. With a sense of mystery and excitement this first group set out, walking single-file into the twilight.

Musashi had given instructions for a particular kind of stance to practice while using second sight. We had fiddled with it early on but found that the stance came naturally while engaging in second sight. We wondered if people would automatically adopt this

stance as they became more proficient at Nightwalking. They did, and we found we could tell if a particular person was using second sight just by watching their walk.

After three hours of practice, almost everyone could experience a full visual field, walk over mixed terrain, and experience that characteristic sense of calm and exhilaration. During the second session, most could move their attention around within the visual field without moving their eyes, and were becoming comfortable in the dark. One middle-aged real estate salesman was struck by how patterns in nature were captured by peripheral vision — the geometry of prickly pear cactus, for example. A young woman reported that she had suddenly realized she'd never *really* relaxed before.

By the third session everyone could run over the rocks and gravel in dry stream beds in the dark using only second sight. By the fourth session members of the group could take the lead and find their way unerringly on the darkest of dark nights. After twelve hours of practice, virtually everyone in the group could enter second sight at will, which had taken us about a year to figure out and master.

After the training we queried participants about the lasting effects of the experience. Most of them reported shifts in their worldly perception and daily lives. Several commented on their increased ability to quiet "brain chatter." Virtually all walkers said their awareness of the world around them was broadened, and they were less "stuck" in their heads. As someone in a later group aptly pointed out: "This is really about convergence. It's about taking a whole bunch of things that are semi-clear and converging them into a single crystalline vision." ■

The Embudo Center

TIPS ON NIGHTWALKING

For people living outdoors, peripheral vision is critical for staying alive. It may be time to rediscover it. Here are a few tips. Fix yourself a modified cap and adjust it so the rod tip is directly in line with your nose at eye level. Focus on the tip as you walk around your house. Then try walking around the yard. Avoid places where there may be traffic or drop-offs. In the beginning your vision will seem blurred. Pay attention to the total field of vision, far to the sides and up and down. Slowly you'll be able to perceive a fairly clear field of vision with only the center (cone vision) blurred, doubled in fact. As your field of vision begins to clear take it as an indication that you're switching over to second sight.

Later you can begin to examine elements in your field of vision by simply moving your attention to them. Notice that we say attention, not eyes. Your eyes should remain constantly on the tip of the rod. This is really what second sight is about, using just peripheral vision and the mind to gather and process visual information. The first part will take about three hours, the second about the same length of time. By keeping your eyes focused on the rod tip while walking, you will eventually break two strong visual habits — relying only on cone vision and moving the eyes to new points of interest. Find a place to walk in the dark which is out of the range of artificial lights. Pick a night with little or no moon; take a friend.

Because of the rods' extreme sensitivity to light, you may see unusual light phenomena. Some of this is imaginary, caused by "overcharging" of unused optic nerves, the rest results from natural or bioluminescence. Over time Nightwalking sensitizes the eye and brain, so some of what you see may surprise you. We've become aware of light-emitting bacteria in rotting logs and along the veins of certain plants. Fireflies seem like strobe lights. Glow worms are blinding. A quarter moon rising on a clear night can bring tears to your eyes with its brightness.

We'd love to hear of your experience.