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The Psychonaut and the Shaman

William Shakespeare winked at me. I moved closer. He growled like a bulldog. His face changed into the face of an Indian. The Indian winked at me. Then he was Shakespeare again. Then the Indian. The figures kept flashing back and forth across a black stage, couplets dancing on my intoxicated brain.

The stage exploded with a burst of golden light. A gigantic scaffolding of fluorescent girders stood in its place. The girders twisted themselves into a long spiralling tunnel filled with polygons and other geometric shapes. The mouth of the tunnel turned toward me as it writhed and pulsated, a Euclidian snake pregnant with light and form. Suddenly it disgorged a storm of images: stars, pinwheels, snowflakes, mosaics, and fans. The fans rotated, then changed into records spinning on a turntable. The records changed into a tire that became a Ferris wheel with twinkling colored lights on the spokes. The lights melted into a rainbow. The rainbow fell across a blue sky. Below there were pyramids, sphinxes, even an improbable city skyline. Moses rode by on a bicycle, waved, then exited stage left. He was followed

by a pack of ninety-nine little Moseses on tricycles trimmed with twinkling lights.

In a few moments the tunnel belched again. And again. Eventually the forms and pictures faded. In a final eruption, a mountain sprung up from the stage and Porky Pig burst forth from the top stuttering "That's all, folks!" A black curtain fell. It was a curtain with dozens of eyes staring at me!

I gasped and sat up on the lab mattress, straining to see more of the curtain. After all, this was the precise hallucination I wanted to capture. I scrutinized the dark room. But all that was left was a vague afterimage. As it faded away, I was overcome with a profound sense of loss. The description of the apparition in *Macbeth* came to mind: "Show his eyes, and grieve his heart; Come like shadows, so depart."

While I hadn't taken the witches' brew with eye of newt and toe of frog, the heavy dose of marijuana I had smoked was sufficient to cause these visions. I was following the same experimental protocol I used with my research subjects. These subjects, called psychonauts, were experienced drug users who had logged many hours describing their hallucinations. They were trained to make precise psychophysical judgments about the forms, colors, and movements. For example, they learned to classify forms by breaking them down into simple structures such as tunnels or spirals. They could identify the exact spectral wavelength of light. And familiar people, places, and things were labeled with a convenient verbal shorthand. Furthermore, in order to keep up with the rapidly changing images, they were trained to detect and describe an image even if it lasted for only a fraction of a second.

The reports enabled me to make a map of the world of drug-induced hallucinations, a world divided into simple and complex forms. The simple forms consist of tunnels, lattices, and other geometric shapes. These forms arise from unseen structures within the visual system that become illuminated by the action of the drugs. For example, dancing spots are created when red blood cells float through retinal capillaries, casting a shadow on the underlying rods and cones. Other forms are produced when the drugs cause neurons to discharge in the retina and visual cortex. This creates a series of bright lights known as phosphenes. Phosphenes can take the shape of spots, concentric cir-

cles, spirals, tunnels, grids, even checkerboard patterns. Still other forms are generated from the visual cortex of the brain where excitation of organized groups of cells produces repeating polygons, mosaics, and symmetrical arrays.

The complex forms are constructed from images stored in memory, "the warder of the brain" as Shakespeare put it. Sometimes these remembered images are projected against the simple geometric arrays, thus appearing in unique combinations and arrangements. Although many complex images are recognizable, many are not. Complex images can be more than pictorial representations of items stored in the brain. Like dreams, images of hallucinations are often elaborated and embellished into fantastic scenes. They can become highly creative and imaginative variations of retrieved memory images, so transformed as to appear unrecognizable.

All hallucinations encountered by the psychonauts were variations on these two basic themes. The geometric forms might be combined in unique ways, but the constructions were always composed of common elements. Scenes from one's memory might contain highly personal pictures, such as a particular Ferris wheel or face, yet these would behave with fixed actions and patterns. While I might have been the only one in the world to see Moses and his little clones ride cycles across the stage, the animated sequence was not unlike the novel combinations and duplications of images reported by all the psychonauts. The drama of their hallucinations may have had different actors and props, but everyone was reading from the same basic script.

How, then, could we—the psychonauts and myself—see the *exact* same scene of a curtain with dozens of eyes? In any given intoxication, there were hundreds of thousands of images. The chances must have been infinitesimally small that we would experience the identical hallucination. Yet every psychonaut described the same image: a black gauzy curtain with a large human eye in the center surrounded by a symmetrical arrangement of smaller eyes. The eyes were alive, leering. I asked the psychonauts to count them. Each time the count came back the same: thirty, plus or minus one or two.

Terry was the first to see the curtain. Under the influence of a hallucinogenic dose of marijuana, he reported intensely illuminated and brilliantly colored geometrics. After a time they

took on the appearance of richly patterned carpets or mosaics. These soon gave way to recognizable scenes: a chipmunk here, a dandelion there, all playfully displayed. They appeared like a slide show flashing about two feet in front of his eyes, but solid and three-dimensional, almost vivacious. Terry laughed, "I'm very high. My imagery is fantastic. . . . I'm really getting involved in it."

The tunnel belched and heaved its images, then inhaled and sucked Terry into its very center of light. He was now entering the stage Aldous Huxley called the "Other World"—that remote region of the mind inhabited by the raw materials of our perceptions. Terry flew through an aurora borealis, under mandalas, over buildings, mountains, and giant lollipops. He saw many images repeating and multiplying, a feast of identical lollipops marching in columns across the black tablecloth of his visual field. "Oh my God," exclaimed Terry, "there's a bunch of eyeballs watching me!" The image was quickly replaced by others. Several minutes later, as the effects of the drug peaked in Terry's brain, the imagery intensified.

"There's a realistic tunnel becoming an alley. The alley is turning into a street. One I've never seen before. At the end of the street, it's very dark. There's something there." Terry's voice sounded frightened, distant. "If I try I might be able to make it go away," he whimpered.

"Let it flow," I whispered through the lab intercom. "Trust your nervous system."

"Oh! Those eyeballs again . . . maybe . . . maybe . . . thirty of them. There's a large one glaring at me from the center surrounded by smaller ones. They almost form a spiral . . ."

There was a long pause. "Report," I demanded. I would say this whenever more than one minute of silence elapsed. Terry resumed his commentary on a rush of new images.

I didn't think about the eyeballs again until several weeks later when Anne, the first female psychonaut, smoked one of our government marijuana cigarettes and reported the same image. Anne saw the eyeballs, all thirty of them, on a black field. When Jim, a graduate student in literature, saw the image, he named it the Demon, after the vision described in Edgar Allan Poe's "The Pit and the Pendulum":

Demon eyes, of a wild and ghastly vivacity, glared upon me in a thousand directions where none had been visible before, and gleamed with the lurid lustre of a fire that I could not force my imagination to regard as unreal.

Everyone was disturbed by the vision. Terry saw it on almost every trip, even with other drugs such as psilocybin, a hallucinogen found in "magic mushrooms." Anne saw it once while walking across the UCLA campus after an all-night session in the lab. Jim went under the influence of LSD and tried to open the curtain. He was seized with profound nausea and vomiting and couldn't remember anything about the experience.

Terry, Anne, and Jim were all members of the first psychonaut team I had trained. I was testing the procedures with them before beginning a series of formal studies with a new group of subjects. When the eyeballs kept reappearing, I decided to postpone the training of the second team until I could understand the basis for this unbidden image.

I considered several explanations. Perhaps the image was an artifact of a prior cultural experience. After all, the psychonauts were all white, middle class, North American college students who had lived through many common experiences with drugs during the 1960s. Maybe it came from something they had read or heard or seen before. Perhaps the curtain with eyes appeared on a record album, poster, or in a movie. I rejected this notion when Rajiv, an exchange student from a remote village in India, and Hiroshi, a visiting physician from Japan, volunteered for a pilot study and saw the curtain with thirty *Caucasian* eyes. Now I was puzzled.

Puzzlement turned to terror when Nick, who had been smoking marijuana all his life in England and never had a hallucination, saw the Demon during his very first marijuana trip in my lab. I allowed my paranoia to run wild. Did my drug experiments somehow unleash this nightmarish hallucination? Was the image now floating in the ether around my lab where it could be picked up by any subject in an altered state? Could the lab be haunted? In the movie *Close Encounters* an alien intelligence zaps people with the mental image of a rock formation known as Devil's Tower. Could a fiendish force be zapping my subjects with these evil eyes?

There is a belief held by some parapsychologists that marijuana and other psychedelic drugs open the doors of perception to forms of ESP such as telepathy. According to this view, people under the influence are more receptive to the projected thoughts and mental images of others. Investigators report that after ingesting mescaline, for example, research subjects are able to "see" a particular picture or painting being "transmitted" by a person who is staring at it in another room. In order to enhance the emotional strength of such transmissions, the "senders" often look at photos of Nazi concentration camp victims and other gruesome pictures while simultaneously listening to sorrowful music. I was stunned to discover that these experiments in emotional telepathy were actually taking place in a laboratory adjacent to mine at UCLA's Neuropsychiatric Institute (NPI)!

Dr. Thelma Moss, parapsychologist, former actress, author of a book on LSD, and friend of Uri Geller, occupied the lab next to mine. Inside her lab was a soundproof and lightproof isolation chamber where her subjects—the transmitters—watched emotion-laden slides and listened to musical accompaniments through headphones. The transmitter tried to send the images to a receiver subject located in another room down the hall. Midway between transmitter and receiver was my lab with an identical isolation chamber wherein the psychonauts were tripping out on drugs. They were in a direct line with the so-called telepathic transmissions! I was so angry and frustrated about having to stop my experiments that I was ready to believe that Dr. Moss's lab was responsible for the Demon.

I ran next door to confront Thelma. Her research assistant, a greasy little man who claimed to be a psychic, didn't know who I was or why I was there. I made him guess. He couldn't. I quickly explained my interest in the telepathy experiments and asked to see the slides used as visual targets. He directed me to boxes filled with hundreds of slides.

I spent days poring over the slides, examining each one in a hand-held viewer. The assistant kept me amused with a recitation of his psychic abilities. I tried not to giggle when he told me that photographs of his fingers did not come out unless he was in a trance and that every watch he had ever owned gained ten minutes each day. He claimed that his mere presence could kill a houseplant at five yards, the only claim I was willing to

accept at face value. But he was correct when he said there were no Demons in the slides. I didn't find a single eyeball in the bunch, let alone anything resembling a curtain with thirty eyes. I had wasted the better part of a week and now felt very foolish.

The brief interlude in Dr. Moss's lab gave me another idea. Many parapsychologists hypothesize that people with true mystic visions can tap into parts of the brain that psychoanalyst Carl Jung called the collective unconscious. Therein rest archetypes, primordial mental images that seem to be innate and universal. One such Jungian archetype is the mandala, an image reported by every psychonaut. "As psychological phenomena," Jung wrote, "[mandalas] appear spontaneously in dreams, in certain states of conflict, and in cases of schizophrenia." His followers added states of intoxication to this list.

Typically, mandalas are circular patterns that contain symmetrical squares, crosses, stars, or other geometric shapes. The view through a child's kaleidoscope provides a classic example of a symmetrical mandala pattern. Mandalas may also contain symmetrical arrangements of complex figures such as deities, people, or animals. Some arrangements may take on a spiral shape. Jungian analysts believe that specific mandalas represent the archetypal motifs of birth and death, heaven and hell, good and evil. They are an inherent part of our history, our mythology, our soul.

While I was inclined to believe that mandalas were simple geometric forms, derived from structures in the visual system and then filled in with memory images, I was at a loss to explain the specific Demon mandala with thirty eyes. Could the Demon be an archetypal image? If so, it should have appeared before. I decided to go on an eye hunt.

I started with Jung's collection of mandalas painted by his patients. Several showed a single eye consisting of a simple circle or oval with a dot in the center. None contained the eyeballs, lids, or lashes that characterized the Demon. After searching through these drawings, I directed my staff to gather further examples of eyes in art and architecture. I was still hopeful I might find the original source of the psychonauts' hallucination. "Bring me eyes," I roared in mock madness.

The eyes began multiplying on my desk. A painting by the Swiss artist Peter Birkhauser depicted four terrifying eyes look-

ing through a dark, gauzy background. I counted fourteen vacant eyes in a nightmarish lithograph by British artist John Spencer. There were similar eyes with lids and lashes on ancient Egyptian and Etruscan amulets used as representations of the evil eye. While elements of the psychonauts' vision could be found in all of these artworks, none displayed the fixed symmetrical arrangement of the Demon's thirty eyes. Since symmetrical patterns appear as constant features of drug-induced hallucinations, perhaps the Demon was an archetypal mental image available only to those in an altered state of consciousness. If it was an ancient symbol, long-buried in the unconscious, and now unearthed by my team of psychonauts, perhaps members of other hallucinogen-using cultures saw it.

My suspicions were strengthened when the poet Allen Ginsberg visited my office after a speaking engagement on campus. He saw the pile of eyes of my desk and told me that he had once seen something similar in Peru after taking *yaje*, a hallucinogen used by Tukano Indians in the Amazon. Ginsberg reported seeing a "Great Being," a mysterious black hole with a large eye in the center. This grand master of verbal imagery was at a loss to describe the Being. Instead, he sketched the vision. The picture showed a large eye surrounded by a perfectly symmetrical arrangement of smaller eyes! While there were only twenty eyes in the drawing, together with numerous snakes and other creatures, my psychonauts agreed this was very close to their image of the Demon.

Are eyes seen by others who use hallucinogens? I asked the late R. Gordon Wasson, a researcher who is best remembered for his work on hallucinogenic mushrooms. Wasson, the first outsider to participate in a Mexican mushroom ritual, was intrigued by my story of the curtain with thirty eyes. During his own intoxication he saw a vision of himself as "a disembodied eye." While he could not explain the psychonauts' specific hallucination of thirty disembodied eyes, it was obvious to Wasson that such visions came from within. "Somewhere within us," he explained, "there must lie a repository where these visions sleep until they are called forth." But whether such hallucinations as the Demon are transmutations of things read and seen and imagined, so changed as to be unrecognizable, or visions stirred from greater unknown depths, Wasson could not guess. He encour-

aged me to take my questions to the most experienced seers he knew—the shamans of Mexico.

I took my next vacation in Mexico. When I failed to locate a shaman, I spent the remaining days searching through libraries and museums for more eyes. They were there, all right, but, for some inexplicable reason, I could not see them. In the National Museum of Anthropology in Mexico City I apparently walked right by several murals with motifs of disembodied eyes. On a sight-seeing excursion to the ruins of Teotihuacan I brushed against magnificent sixth-century columns but never knew that carved into the columns, and watching me, were rows of disembodied eyes inlaid with obsidian pupils. Was I caught in some B-grade horror movie, literally brushing shoulders with the Demon and not knowing it? It would take a second trip to Mexico and a one-hundred-year-old shaman in order for me "to see."

I joined an expedition organized by Oscar Janiger, a research psychiatrist who was studying the effects of hallucinogens on human chromosomes. There was a fear in the early 1970s (now disproved) that long-term use of hallucinogenic drugs might damage people by causing genetic defects. The team would take blood samples from a group of Huichol Indians in Mexico. If anyone was likely to show chromosomal damage and have a record of genetic abnormalities it would be the Huichols, who had been using peyote since Aztec times. Peyote contains the hallucinogen mescaline, which has stronger and more toxic effects than even LSD.

The Huichols devoted their lives to exploring peyote visions in the isolation of the Sierra Madre Occidental. In such an environment they were untouched by the cultural images and specific experiences of the psychonauts. If they saw the Demon under the influence of peyote, it *had* to be an archetypal image. I wanted to sample their imagery as much as Janiger wanted their blood.

Our team arrived in Tepic, a small town that was the jumping-off point for all expeditions to the Sierras. I spent some time browsing in local shops where Huichol artists traded their yarn paintings for pesos. Yarn paintings are flat pieces of wood covered with beeswax and inlaid with striking designs made with colored yarn. The paintings, which illustrated peyote visions, depicted the same polygons, tunnels, and geometric shapes

reported by the psychonauts, further evidence of the universal nature of these hallucinations as dictated by the brain. The complex imagery in the paintings consisted of mountains, clouds, deer, snakes, scorpions, and other familiar objects taken from the Indians' environment.

I asked a shopkeeper about eyes, using the Huichol word *tsikuri*. He showed me a cross of bamboo splints interwoven with colored yarn in the form of a diamond. The central part of the diamond was white and the surrounding sections were blue and red. "It's a God's eye," he announced. "The Huichols offer them to the gods so that they will hear their prayers. God's eyes are symbols of the power of seeing and understanding unknown things." I purchased a small one and put it in my pocket.

The following day the team flew into the forbidding Sierras. Our map had a chilling footnote: "Vertical errors in excess of 2000 feet have been reported by users. Relief information should be used with caution." The pilot barely managed to land the two-engine Beechcraft on a tiny mesa outside the village of San Juan Peyotan. After we unloaded the gear, I stood on the hot surface of the mesa and started filming. As the camera panned across barren rocks and yellow stalks of grass shimmering in the midday heat, the wreckage of a small plane came into view. Squatting in the shade of its only remaining wing was our Huichol guide. The telephoto lens zoomed in on his youthful face. He didn't move, not even to blink in the gusts of raw wind that blew across the mesa. There was nothing, absolutely nothing else even remotely alive to see. Suddenly, a roaring cloud of dust covered my view, and I turned the camera around to catch our plane taking off. It was scheduled to return in several weeks. I touched the God's eye in my pocket.

We hiked to a more remote village, which was the geographic center for a group of Huichol farmers living in ranchos scattered around the mountains. It was dusk when we arrived, and the village appeared to be cast in shades of gray. A small dog, with bulging eyes and ribs, barked a few times at our approach and then returned to eating stones. Here and there a vampire bat flapped through the air. Somewhere a donkey brayed with an eerie cry. A few Huichol males helped with the gear, then escorted us to our hut. They watched as we unpacked. Women and children were nowhere to be seen, but I was certain

that they, too, were observing us. I collapsed on top of my sleeping bag, too exhausted to care if the Demon was also watching.

At daybreak, everything was still gray. The gray spilled out of shadows from the surrounding mountains and from the smoke of cooking fires. It swept over stone fences and around thatched huts. It lived in the swirling dust and in the somberness of the Indians' movements. As Janiger's people set up a field clinic for the examinations and blood collections, I wandered through this bleak scene.

The only touch of color was in the men's clothing: white muslin pants and shirts trimmed with embroidered geometric designs. The embroidery was done with a variation of the cross-stitch, a technique that enhanced the details of the patterns and their saturated colors. There were many colors here but blue and red seemed dominant. The designs were repeated on their woven cloth belts and shoulder bags. Since most of these designs were copied from peyote visions, it was not surprising to find symmetrical mandalalike forms, including lattices, tunnels, and polygons.

My interviews with the Indians revealed that there was much more to their peyote visions than these simple designs. I asked about recognizable images; the answers, filtered through separate Huichol and Spanish translators, came back as chopped words: the moon, the stars, the sun, rainbows, eagles, deer, cattle, snakes. I asked about eyes. The only eyes they ever saw were the ones on the animals. How many? Two, they would answer, then giggle at the stupidity of my question. I struggled to make sure my question had been translated correctly. I pointed to my own eyes. Did you ever see more than two in a peyote vision? Many eyes all over? I gestured to my eyes and to other spots on my face. You have only two eyes, the Indians answered politely. It was obvious they were holding back their laughter. Did you ever see eyes without animal or human bodies? The Indians burst out laughing. I was totally frustrated and pulled out a U.S. dollar bill. I pointed to the great seal on the back. "*Tsikuri*," I yelled as I pointed to the disembodied eye set in a triangle surrounded by the sun's ray. I pulled out several other dollars and passed them around. The Indians kept laughing as they walked away with my money.

I decided to climb down to the river, some two hundred and

fifty feet below the village, and cool off. After a refreshing swim, I hiked along the riverbank to a sacred cave. Huichols have a great many sacred caves where they leave idols and other offerings to various gods. If the caves also contain a spring or pool, the water is used for religious purposes. But nothing else is to be removed from the caves. I found such a cave within a few miles of the village. I knew I was not supposed to enter, let alone disturb any of the artifacts, but I felt I had paid the price of admission.

The cave was a small one and I had to crawl on my stomach to get in. I had seen a rattlesnake sunbathing on the river rocks below the cave. Did snakes nest here? I suppressed the thought and pushed ahead. Once inside the cave, I turned on my flashlight and surveyed the contents. There were several God's eyes, numerous prayer arrows with hawk feathers tied to them, and a stack of candles covered with animal blood. I noticed several dark, round disks resting on the candles. The disks had been cut from the tops of gourds. I directed the beam of my flashlight at one of them. A thousand eyes lit up!

The "eyes" were actually tiny white glass beads. The beads had been pressed into beeswax, which covered the disk. These disks, called *nearikas*, were left as prayer offerings. Despite my desire to see the beads as eyes, no particular design was being portrayed. Rather, the beads were intended to make the disk more attractive to the gods. Leaving a *nearika* as a gift is said to symbolize a pact between a particular person and a specific deity. I took the miniature God's eye from my pocket and placed it next to the *nearikas* on the stack of candles. As I left the cave I scraped against the rocks, tore my jeans, bumped my head, and scratched my glasses. I cursed back at the darkness.

Several nights later there was a peyote ceremony in the village. It started early in the day with the grinding of dry peyote cactus into a fine beige powder. The powder was mixed with a sweet corn beer and slices of fresh green peyote to make a thick gruel. Everyone was expected to drink the gruel that night, but only those whom the gods deemed worthy would be given the gift of peyote visions.

The shaman, or *marakame*, would lead the ceremony. He arrived in the village that afternoon after walking for several days from his isolated rancho in the mountains. I was told he was over one hundred years old, and the lines on his face seemed

to say the same. From the mud-caked sandals on his feet to the torn gray blanket draped over his shoulders, the shaman was without color. He didn't even have the traditional embroidered designs on his clothes. But his black eyes had the sparkle one acquires after seeing all the peyote visions there are to see.

Generally, *marakames* are reluctant to discuss their visions with outsiders. But this shaman had never seen a tape recorder before and I used it to my advantage. He was fascinated by the machine. Each time he said something, I immediately played it back to him. He loved it! I would ask a question; he would answer, then sit in stoic resolve until I played his response. It took forever, but I got my interview. He said that when he closed his eyes he saw many colors and patterns like those on the embroidery or yarn paintings. If he opened his eyes he could see these designs projected against the night sky and all that he looked at. The visions started off in black and white, then turned blue, then red as the experience peaked. This progression seemed to account for the two dominant colors used in Huichol embroidery.

He saw sequences of complex images that animated important "stories." The stories were familiar to all *marakames*: the birth of the world, the sacred peyote hunt, among others. He echoed the belief that these peyote visions were gifts from the gods, but he was honest enough to admit that he never saw a particular element that was totally new. All the complex images were recognizable to him, although they may have been put together in unusual ways. Sometimes they were downright bizarre, as when he saw an ox on a mountain change into a god. But he had heard about this particular god before and immediately knew who it was. And every self-respecting Huichol knew what an ox looked like, even one painted with geometric patterns.

I was just about to ask him about the Demon when he walked to the edge of the ceremonial grounds. He lit a hand-rolled cigarette and started the chants and songs that began the festivities. Musicians started playing homemade violins and guitars. People danced up and down on a log, stamping their sandals to attract the attention of the gods. I turned on my camera and tape recorder. After a few hours the shaman sat down in front of the campfire. I positioned myself next to him as other Huichols joined in a circle around the fire. I would remain there

for the next twelve hours. I was hesitant to distract him and decided to put away my tape recorder and movie camera, although I had permission to use them. Instead, I would rely on a Minox spy camera without a flash. Hopefully, the light from the campfire would be sufficient to catch the events.

The shaman took a few swigs from a bottle of a potent liquor made from the agave plant, then passed it to me. I matched him swig for swig. Then he picked up the bowl of peyote gruel and took a long drink. I counted the gulps and took the same amount. This continued throughout the night.

The night sky was clear. Every constellation was visible. Our campfire was small, but viewed through my dilated pupils it seemed bright enough to cloak the mountains around the mesa with fiery auras. We were sitting in a cathedral of light. The gods could not miss us.

Waves of nausea caused me to close my eyes. The nausea passed and I opened my eyes. The sky was much closer to the earth. Then the stars came down. They darted about the mesa, leaving tracer patterns in the air. I reached up to grab one but missed, creating a rainbow of afterimages in the wake of my moving hand. I closed my eyes again.

More patterns. Yarn paintings, embroidered clothing, woven bags, and trinkets paraded across my eyelids. Hours of this stuff went by, pulsating so hard and so brilliantly that it turned into a pounding headache. *I don't want this tourist junk.* I opened my eyes and looked at the shaman. He was speckled with color and patterns. He was also very drunk. When he put his arm around me and started singing, I decided to pop the Demon question.

"Has anyone ever had a peyote dream of eyes, many eyes floating in the air?" I asked. The shaman listened quietly to the translation, then shook his head. He didn't speak. He didn't laugh. He just gave this gesture signifying an absolute, final no. *What am I doing here?*

Another wave of nausea and I turned around and vomited. A lizard crept out of the vomit, followed by thousands of army ants wearing party hats. *Stop it! I want answers, not cartoons!*

The shaman stared through me. "*Mara'akame,*" I pleaded, "my friends all see the same hallucination of *treinta tsikuri.*" I purposely used the Spanish and Huichol for emphasis. "Why?"

He took a small mirror from his shoulder bag and held it

in his hand in front of the fire. He stared at the mirror. "There are no hallucinations with peyote. There are only truths." Then the great *mara'akame* got up to vomit. It seemed to go on forever. And so did my visions of Huichol patterns and paintings that had been the focus of my attention for so many days. I saw other recent memories including images of the airplane, the trek to the village, the sacred cave, and the slaughtering of the bull we had had for supper.

After twelve hours I was actually bored with my hallucinations. The shaman was catatonic, a sitting statue with open eyes. The few Huichols still remaining around the fire had the same blank staring expression, faces frozen in the dreams of a timeless ritual. I left the circle and returned to the hut. There I stretched out on the floor, turned on my tape recorder, and tried to describe the images that still flashed in front of my open eyes.

In this position, separated from the festivities, and with a lapel microphone clipped to my shirt, I felt I was back in the comfort of the lab. I started reporting: "Rotating kaleidoscopes . . . kaleidoscopes moving horizontally . . . weeds, lots of yellow weeds multiplying, embellished with colors . . ." I was really enjoying being a psychonaut again. "There's a beautiful campfire, very beautiful . . . red lattices . . . reddish mountains . . ."

The air shuddered with a sharp "Ping!" The world went silent. I looked up at the roof of the hut and there, floating near the bamboo rafters, was the *mara'akame!* At least it looked like the *mara'akame.* But his clothes were covered with the most elaborate embroidery, the colors fluorescing like a Day-Glo poster. And there, where his sandals used to be, was a new pair of hiking boots. He was smiling but his eyes, his two black eyes, had become a mass of eyes swimming over his face.

Another "Ping!" My skin prickled with electricity. A seizure lifted my body off the floor. I saw the *mara'akame* again. His entire face was a black hole and in its place was the Demon! There it was: the black curtain, the large eye, and the thirty smaller ones! I didn't move or say a word for fear that it would disappear. It didn't. The near-toxic dose of mescaline I had ingested by drinking peyote all night kept the Demon alive for many seconds, long enough "to see." The eyes looked like pictures that had been cut out of magazines and pasted together in a collage conceived by a deranged artist. In the lower right-hand

corner I saw the letters *ES* followed by a series of numbers. The Demon faded away before I could read them.

But I had seen enough. The letters and numbers were part of a code I put on the borders of the slides used in the psychonaut training course. The subjects never saw the code numbers, but I used them for identifying the contents of each slide. These slides were projected on a piece of black cardboard (the black curtain) tacked to the laboratory wall. The training slides were all black-and-white drawings of simple geometric forms such as tunnels or lattices.

The *ES* series was very different. It consisted of dramatically colored "psychedelic" scenes created by artists for light shows, Hollywood films, and other commercial productions. I had obtained a collection of these slides from Edmund Scientific, a mail-order supply house in New Jersey. But I had not used the *ES* series in training. I was saving them to show the psychonauts after the experiments were completed so that they might be able to select images that were similar to their own hallucinations. Somehow, one of the *ES* slides must have slipped into the batch of training slides and imbedded itself in the psychonauts' memories. I was certain that when I returned to the lab I would find it.

The Demon was nothing more than the surprise of a disturbing image spontaneously retrieved from memory. Rather than feeling disappointed that a "real" Demon did not exist, I was surprised and humbled to discover that internal images can be powerful enough to be mistaken for external ones. Disturbing images have a way of burrowing their way into our memories, even after a single exposure. In Luis Buñuel's 1928 surrealist film *Un Chien Andalou*, a man slowly and carefully sharpens a straight razor. As he works, he looks at the moon just as a sliver of cloud is about to cross it. He then slices the eye of a young girl. At the moment of cutting the eyeball, the film shows a cloud slicing across the moon's circle. Immediately, we see the razor finishing its work and the interior of the eye pouring out. It is the eye, not the moon we remember. This nightmarish image appears only briefly in the movie, yet it still disturbs and shocks people who saw the film more than a generation ago. These images can be evoked by simply remembering, or they may erupt in spite of conscious efforts to avoid them. Such eruptions are common in hallucinations, especially in those induced by drugs. They form a type of involuntary

remembrance, complete with many of the feelings and emotions that were present when the image was first recorded.

My own peyote hallucinations illustrated this process. Not only was the long forgotten Demon slide evoked by the visionary drug, but recent memories of Huichol artwork kept dominating my imagery despite my deliberate attempts to dispel them. The mescaline generated spreading waves of cortical excitement throughout my brain, randomly activating old and new memories.

The morning after, I awoke soaked in sweat. My clothes were soiled with vomit and pieces of peyote. I hurried down to the river for a bath. The *marakame* was standing naked in the shallows. He looked very ordinary.

"*Que pitu hay nu?*" I asked. Even without my translator I knew the words. It was the same question I had asked every Huichol about their peyote visions: What did you dream?

He laughed and gestured wildly with his entire body. His fingers traced the outlines of rectangular boxes. He leaned into the imaginary boxes, then opened and closed his mouth rapidly. He cupped his ears, then pointed every which way. *Tape recorders! He saw a bunch of little tape recorders multiplying all over the place!* I laughed with him.

"*Que pitu hay nu?*" asked the naked man.

How do you tell a shaman that you traveled to a forgotten corner of the earth in search of your personal Demon, only to find it was a cheap picture available by mail-order? How do you tell this holy man who believes he has the power to see the gods that there are no more gods or Demons than there are images of those things in the brain? How do you tell a poor naked farmer who has only his peyote dreams that the world of our dreams is all inside our minds?

"There are no hallucinations. There are only truths," I said in a mixture of broken Huichol and Spanish. But he understood. After all, it was something he had said only yesterday.

Weeks later I was back in my lab. I found the Demon. It was a slide, all right. It had accidentally fallen into a slide tray of training slides. Never again! I removed the slide, made a print, and mailed it to a friend in Mexico to give to the shaman. "Tell the *marakame*," I wrote, "that it's a picture of my dream." I enclosed a picture I had taken with my Minox of the shaman gulping down the peyote. It was a bad picture: the shaman's face was entirely black.

RONALD
K. SIEGEL,
PH. D.

FIRE IN THE
BRAIN

CLINICAL TALES OF HALLUCINATION



A DUTTON BOOK