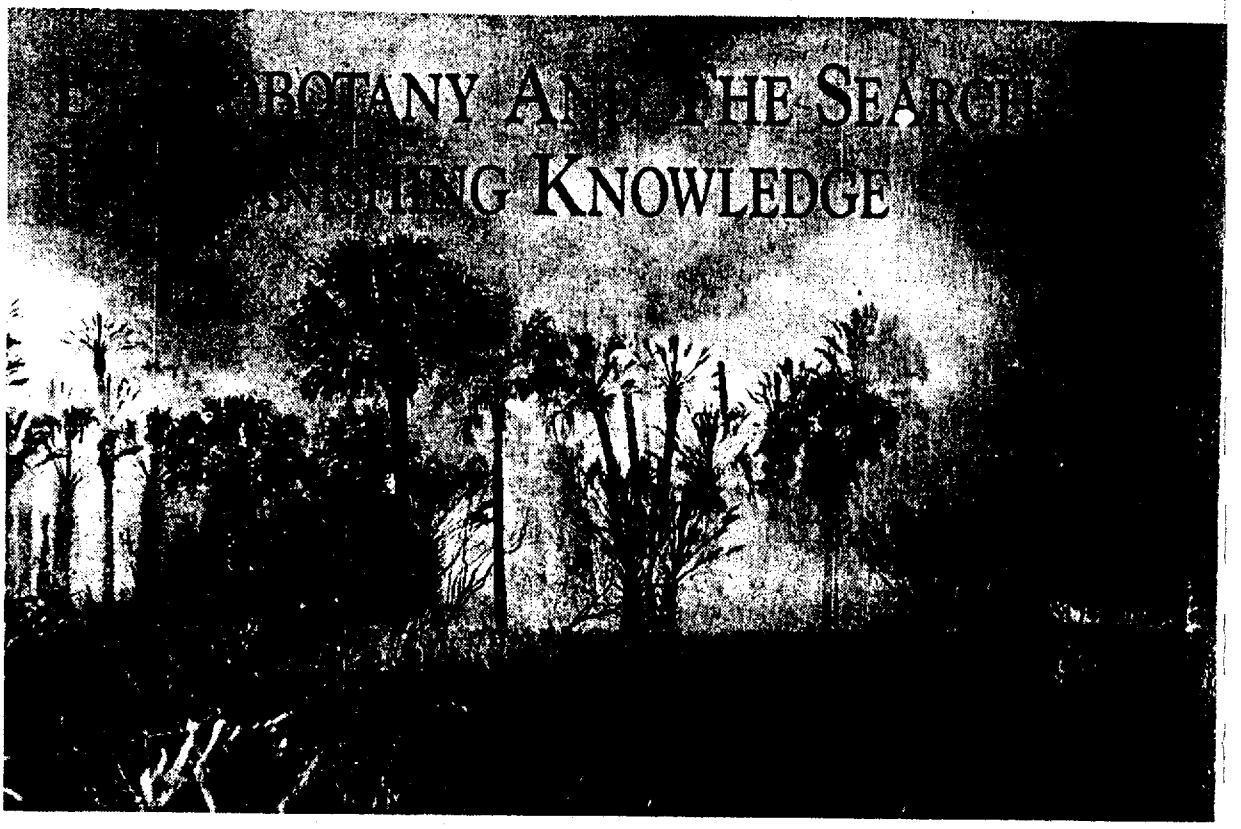

BY HOWARD RHEINGOLD

BEFORE MEDICAL RESEARCHERS PAID attention to an old folk tradition and extracted quinine from the bark of cinchona trees, many people died needlessly from malaria. Perhaps similar words will be said about cancer someday . . . unless that cancer cure is never discovered because the tropical tree that produced it became extinct yesterday or the last shaman who knew where to find it died this morning. Does a plant-derived treatment for AIDS or Alzheimer's disease exist today, unknown to modern science, in a previously remote forest slated for bulldozing tomorrow? Whenever I think about it, I smell a vast, ancient library burning.

The mid-morning jungle, green on green, full of light and birds, is a peculiar place to think about burning libraries. But a catastrophic loss of knowledge, dwarfing the conflagration at the library of Alexandria, is taking place in the jungles and old-growth forests. Plant medicines for the body, mind, and soul are becoming extinct at an alarming rate as their host environments are exploited or destroyed. And the people who know how to use the healing plants, the heirs to empirically based, highly pragmatic traditions thousands of years old, are dying too, without leaving successors; those who would have been the apprentices to the remaining elders, the potential heirs of the orally transmitted body of knowledge, are themselves dying or Westernizing even faster than their ancestral habitat is disappearing.

An ethnobotanical preserve specializes in plants that are the least studied by Western scientists (and are scantily represented in the botanical gardens), but the most valued by the tribal cultures who use them. An ethnobotanical preserve isn't easy to build because ethnobotany exists at the uncomfortable convergence of immense destructive forces and cultural taboos: the genocide of indigenous people that is still taking place; the accelerating destruction of the environments that

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Known to WER *readers as journalist, raconteur, and chronicler of the high-tech revolution, Howard Rheingold shows his greener side with an essay on the importance of ancient food and plant teachers, the relationship between psychedelic shamanism and pharmaceutical research, and the tragic results of ethnocentricity and cultural taboos in Western science's approach to ethnobotanical research. Howard's stance as self-declared "extraterrestrial anthropologist" has led him from peering over the edge of meaning in his book,* They Have a Word For It *[WER #57, p. 3], to reportage from the fiery battlefronts of human behavior, scientific weirdness, and modern art in* Journeys to the Far Side of The Mind. *When he showed up at my ethnobotanical preserve, he confessed that "a plant sent me to talk to you." I had read his books by that time. In that context, his story didn't sound half as crazy as if it had come from anyone else. Together, strolling through a leafy sanctuary filled with rare Amazonian plant teachers, we cooked up the idea for this issue.*
—Terence McKenna

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Green Inheritance

A catastrophic loss of knowledge, dwarfing the conflagration at the library of Alexandria, is taking place in the jungles and old-growth forests.

contain the majority of Earth's estimated 250,000 plant species; scientific ignorance of traditional plant-based medicine systems, often based on ethnocentric bias; the abandonment of the search for plant medicines by the U.S. pharmaceutical industry; the taboo against scientific research into plant hallucinogens.

The taboo against studying the psychological effects of plant hallucinogens is particularly crippling to those who would preserve and seek to understand traditional knowledge about beneficial plants. First, the people who know the most about traditional botanical medicine, the shamans, claim that their knowledge is derived directly from the plants as well as from their human teachers. And anyone who seeks to understand the dimensions of the shamans' healing system without understanding the place of psychoactive plants is going to miss a vital factor. Although the usefulness of plants as teachers expands beyond psychedelics to the whole range of medicinal and economic plants, it is counterproductive to ignore the living center of the shamanic plant traditions.

Botanical Dimensions was created by Kat and Terence McKenna "to collect, protect, propagate and understand plants of ethnomedical significance and their lore, throughout the world." The heart of the enterprise is a botanical garden on 19 acres of meadow and forest at 2,200 feet on the island of Hawaii, created and nurtured over the past ten years by Terence and Kat, their assistants, volunteers, and network of collectors. The McKennas and a small number of colleagues are striving to save plant species (and something more fragile than plant species) from extinction.

The knowledge held by the last of the shamans is a precious resource. In the past, research based on folk traditions led to pharmaceuticals that saved millions of lives. Gathering such knowledge in the first place must have been a painstaking and hazardous process for early generations of experimental shamans, requiring remarkable bravery as well as ironclad devotion to the experimental method in order to sift through the hundreds of thousands of plants, many of them fatally toxic, to find the ones with specifically useful effects. Which is what generation upon generation of shamans did, from the Himalayas to the Andes.

Chavin art from the Peruvian highlands, circa 1300 B.C., depicts the ritual use of the shamanic San Pedro cactus (*Trichocereus pachanoi*) that is still used as physical and spiritual medicine today.[1] Perhaps a healing tradition over 3,000 years old that is still in use should not be too lightly dismissed. The Ayahuasca cult of Amazonia is of unknown antiquity. Mayan and Aztec art clearly exalt the properties of psilocybin mushrooms. Explicit petroglyphs in North Africa reveal the existence of psychedelic mushroom cults more than 12,000 years ago. The existence of the dwindling remnants of the living mushroom cult of the Mexican Sierra Mazateca were discovered in the 1950s; prior to Gordon Wasson's discovery of Maria Sabina in Hautla de Jimenez, the antiquity and extent of sacred plant cults was unknown to scientists and scholars of the industrialized world. Western medicine is a few centuries old, and until recently dismissed the mind-body healing aspects of botanical psychedelic shamanism with words like "witch doctor." Nevertheless, there is ample evidence that herbal shamanism was an experimental form of psychosomatic medicine, a form of science as well as a religious subculture.

The invisible but precious aspect of these traditions is the body of knowledge acquired by each shaman through a lifetime of learning from plant and human teachers. The pioneering ethnobotanauts who survived their research in do-it-yourself pharmaceutical analysis passed along the best of their knowledge to their apprentices. A plant-using shaman is far more than a witch doctor who gets wigged out on drugs; he or she is a healer, experimentalist, and psychopomp. The shaman's knowledge was a kind of cultural library for the tribal group. Each shaman learned, applied, and passed along knowledge of botany and bonesetting, hunting lore and agronomy, pharmacy and storytelling, spiritual and social wisdom vital to the welfare of the tribe, knowledge related not only to healing but to warfare, to relocating the village or settling family disputes, to any of the critically important decisions that maintain the life of the culture in relationship to their natural environment. The plant teachers were used for guidance and decision-making and to remain in balance with the natural world. ►

Howard Rheingold

The slender plant next to Terence McKenna will grow into a staggeringly potent tree. Columbus' expedition encountered hallucinogenic athletes, the Taino of Hispaniola, who used a snuff compounded from the seeds of *Anadenanthera peregrina* to communicate with the spirit world. More recent studies revealed that the cult, of undetermined but significant antiquity, had spread from Venezuela to the Caribbean, and was known as *cohoba* or *yopo* as far away as Brazil and Argentina. Dimethyltryptamine (DMT), 1.2-dimethyl-6-methoxyterahydro-β-carboline, and several other extremely powerful psychedelic chemicals make this botanical brew far stronger than the hallucinogens known to Western enthusiasts. The legitimate researchers and abusers of LSD and other synthetic hallucinogens, heirs of Albert Hoffman's bicycle ride, undoubtedly would look like kiddies playing with toy sailboats from the perspective of the psychic sailors of the yopo cult, who steered their fragile craft through mindstorms inconceivable to contemporary urban acidheads, to retrieve something precious and vital.

In the past, when Western medical researchers did pay attention to this knowledge, the payoff was spectacular. As this article is being written, one of the most promising experimental AIDS drugs, known as "GLQ223," is derived from the root of a Chinese plant in the cucumber family. Yet, despite the well-known success of other "folk medicines" such as digitoxin and digoxin (heart failure), ergotamine (migraine), salicin (inflammation and pain), morphine (pain) vincaleukoblastine and leurocristine (Hodgkin's disease and childhood leukemia), and more than 100 other antibiotics, antitumor agents, immune-system stimulants, tranquilizers, sedatives, contraceptives, anaesthetics, laxatives, and pain relievers, the United States has no commercial or government effort to discover and develop new drugs from higher plants.[2]

One of the reasons for this dearth of commercial interest in the U.S. is the regulatory structure that makes it preferable for pharmaceutical companies to pursue "rational drug design strategies" in search of new, synthetic (and more easily patentable) drugs; another reason is that drug firms failed in their early attempts at discovering new medicines from plants because of a lack of interdisciplinary cooperation and the lack of inexpensive, portable, accurate bioassay technologies.[3] All of these obstacles can be surmounted, particularly if the current wave of interest in natural foods and plant medicines raises the economic stakes for the American drug market. And other countries, notably Germany and China, are already engaged in vigorous ethnobotanical R & D. But while the scientific bureaucracies clear up their political differences, and the vendors and regulators stumble toward a policy that might encourage research and preservation, the body of knowledge and the associated biomass are disappearing.

Plants have never captured the public imagination the way whales or baby seals do — the plant division of the National Wildlife Federation was created only in recent years, in response to the urgent appeals of ethnobotanist Mark Plotkin. Trees are the sexiest plants, and while the loss of the great forests continues, it no longer continues unprotested or uncontested. Some organizations are trying to preserve some priceless remainder of the environment in which known useful plants and tens of thousands of undiscovered others still live; other organizations are trying to preserve indigenous peoples and their cultures. But the specific pursuit of ethnobotanical knowledge is a grueling task, and at the heart of it is a subject that happens to be taboo in our culture at this time — direct confrontation with spiritual and medical knowledge through the ingestion of consciousness-expanding plants.

As Terence McKenna pointed out, machete in hand, while we walked along the jungle path surrounding

the preserve: "No one is preserving this information. Or precious few of us, anyway. It's professionally dangerous to have anything to do with this information."

He was pointing at a brown liana, as thick as my arm in places, coiling its way up tree trunks, limbs, and around itself in heliocentric pilgrimage to the jungle canopy. The "dangerous information" McKenna was mourning encompasses a lot of territory. The vine itself, *Banistereopsis caapi*, is a key ingredient in the sacramental infusion used by an old medical, religious, psychiatric, and social system — the ayahuasca cult. The little that is known about the psychosocial system that has grown up around the plant over thousands of years is intriguing; legends and anecdotal reports hint at direct perception of knowledge regarding diet, medicine, spiritual growth and personal conduct — the plant itself as the teacher/healer/psychopomp.[4] Other persistent rumors concern "shared states of mind" and self-diagnostic capabilities.[5] In the ayahuasca cults, the medicine, the plant, and the teacher are all the same entity.

McKenna also was referring to the incalculably larger collective loss of knowledge regarding thousands of medicinal, economic, and spiritual plants that is taking place. The knowledge that is slipping away from us concerns the foundations of human well-being — health, sanity, imagination, social harmony. And plant-based medicine is not simply a New Age nostrum (although the best place for an American to obtain herbal remedies is the nearest upscale natural-foods boutique). According to the World Health Organization, approximately 70 percent of the world's population rely on the use of plant extracts within the context of "traditional medicine" as their primary source of health care. At the same time, American consumers paid more than $8 billion in 1985 for prescriptions whose active constituents were extracted from plants.[6]

In the early 1970s, with no concerted effort by any pharmaceutical company, government, or international body, Terence McKenna was recruited directly by the plants themselves to export, preserve, and propagate them. A University of California graduate with an interdisciplinary degree in conservation of natural resources, he set out in the first of several South American expeditions in search of rare ethnobotanical

A Fruitless Way of Knowledge

How not to do ethnobotanical research

One of the people they sent to my house was an American botanist collecting for an American pharmaceutical firm. I thought he had a strange way of working, but he assured me that it was the only proper one. "You're wrong to expect anything of value from Indians," he told me. "My advice to you, as a friend who has been in tropical botany for years, a friend who knows, is 'give it up!'" You'll get nowhere fooling around with Indians. How can they know anything about medicine? They're illiterate!

"The big companies are out to make money. Do you think they'd hire some ignorant savage as a consultant? No, they hire me, and at a damn good price, too."

He agreed emphatically that the jungle was full of undiscovered medicinals of tremendous value. "But you've got to keep this ethnic stuff out of it; that's nothing but superstition. Me, I'm a scientist and I work scientifically."

His method was to wander through the woods gathering everything he saw that belonged to any plant family that included some species which had physiological activity. If field tests showed one to have any alkaloids or other interesting compounds, it was gathered in quantity and shipped to the laboratories in the States. And there, the pharmacologists would make analyses of the components and then try to find out what they might be good for.

"Don't you get a certain number of false positives on the field tests?" I asked, having learned that the alkaloid test, for one, is not always reliable.

"Oh sure, now and then. But they can catch that in the States and toss out the batch." It seemed to me a curiously roundabout and extravagant way to work. I was not surprised to hear, a few years later, that little of value had been found and the project had been abandoned. It must have cost plenty, though, while it lasted. I doubted that it had enhanced the value of jungle medicine in the minds of the pharmaceutical industry's chiefs. Oh dear!

—Nicole Maxwell,
Witchdoctor's Apprentice, 1975.

Where the Gods Reig

A Kofan medicine man rasping the bark of a yoco stem to extract a caffeine drink. In the Colombian Amazon.

Terence McKenna

The leaves in the author's hand belong to a healthy specimen of one of the least understood and most endangered plant entheogens. There are no more than a couple dozen old family plots of *Salvia divinorum* left in Mexico's Sierra Mazateca. Known to the Aztecs as *Pipiltzintzintli* and contemporary Mazatecas as *Ojas de la Pastora* ("leaves of the shepherdess"), it does not grow wild, and Mazatec legend has it that the plant was brought there by a special traveler, long ago. The chemical constituents are so fragile that it eluded analysis for decades. Within the past few years, divinorines have been isolated, complex diterpenoids that are unrelated to all other known psychedelic chemicals, but which are structurally related to forskolin, found in *Coleus forskolii* — the only known stimulator of a key intracellular messenger in nerve cells.

Returning to Plants for Healing Medicines

Estimates of the number of higher plants that have been described on the face of the Earth vary greatly — from about 250,000 to 750,000. How many of these have been studied as a source of new drugs? This is an impossible question to answer for the following reason. The National Cancer Institute in the United States has tested 35,000 species of higher plants for anticancer activity. Many of these have shown reproducible anticancer effects, and the active principles have been extracted from most of these and their structures determined. However, none of these new drugs have yet been found to be safe and effective enough to be used routinely in humans. The question then arises, could any of these 35,000 species of plants contain drugs effective for other disease states, such as arthritis, high blood pressure, acquired immune deficiency syndrome (AIDS), or heart trouble? Of course they could, but they must be subjected to other appropriate tests to determine these effects. In reality, there are only a handful of plants that have been exhaustively studied for their potential value as a source of drugs, i.e., tested for several effects instead of just only one. Thus, it is safe to presume that the entire flora of the world has not been systematically studied to determine if its constituent species contain potentially useful drugs. This is a sad commentary when one considers that interest in plants as a source of drugs started at the beginning of the nineteenth century and that technology and science have grown dramatically since that time.

The 119 plant-derived drugs in use throughout the world today are obtained from less than 90 species of plants (Farnsworth et al. 1985). How many more can be reasonably predicted to occur in the more than 250,000 species of plants on Earth? . . .

Recently we analyzed information on the 119 known useful plant-derived drugs to determine how many were discovered because of medicinal folkloric information on the plants from which they were isolated. In other words, what correlation, if any, exists between the current medical use of the 119 drugs and the alleged medical uses of the plants from which they were derived? Seventy-four percent of the 119 chemical compounds used as drugs have the same or related use as the plants from which they were derived. This does not mean that 74 percent of all medical claims for plants are valid, but it surely points out that there is a significance to medicinal folklore that was not previously documented.

Thus, in my opinion, future programs of drug development from higher plants should include a careful evaluation of historical as well as current claims of the effectiveness of plants as drugs from alien cultures. Such information is rapidly disappearing as our own culture and ideas permeate the less developed countries of the world where there remains a heavy dependence on plants as sources of drugs. . . .

Higher plants have been described as chemical factories that are capable of synthesizing unlimited numbers of highly complex and unusual chemical substances whose structures could escape the imagination of synthetic chemists forever. Considering that many of these unique gene sources may be lost forever through extinction and that plants have a great potential for producing new drugs of great benefit to mankind, some action should be taken to reverse the current apathy in the United States with respect to this potential.

—N.R. Farnsworth, 1988

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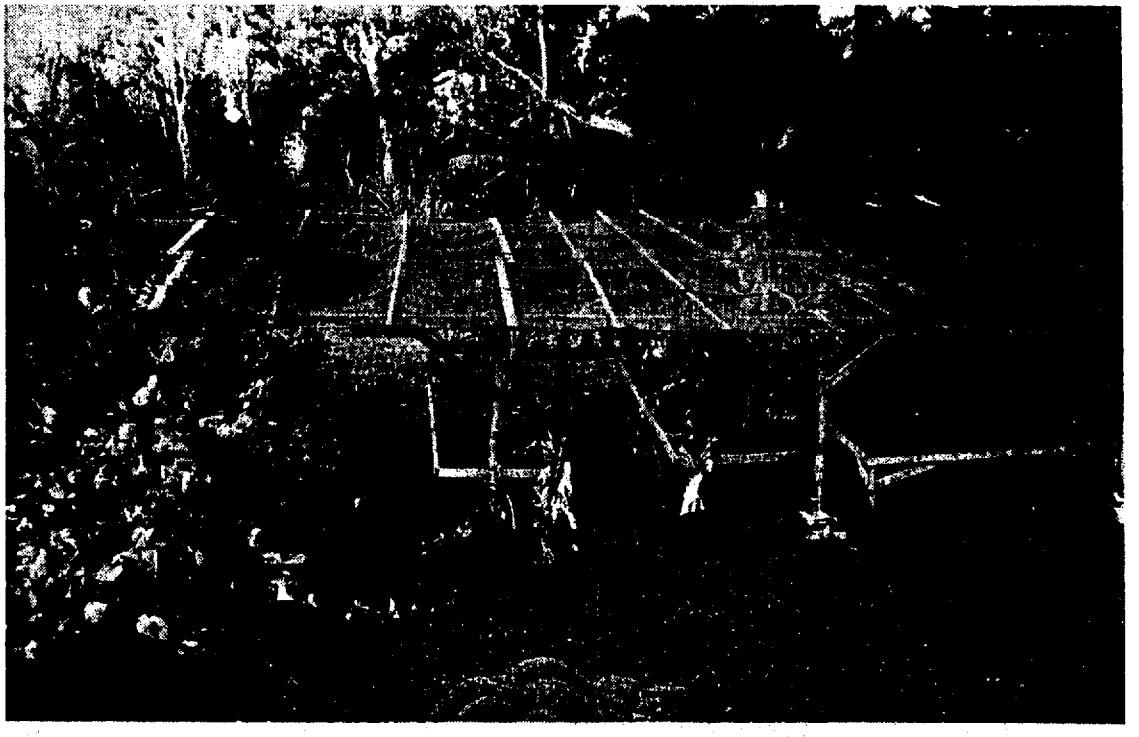
specimens. An expedition to a remote tributary of the Putomayo river in the Colombian Amazon led to his first experiences with the mushroom *Stropharia cubensis*, which he and his brother Dennis succeeded in cultivating after several years of effort. In 1976 he married another enthusiastic amateur ethnobotanist, Kathleen Harrison, and by 1977 they had found the land in Hawaii — three hours by machete from the nearest road — and started moving their specimens there.

Kat was in Thailand at the time I visited, in search of the fabled *kratom* (story p. 32). Terence and his charming young son Finn took me for morning walks along the trail that encircled their property, pointing out specimens of the more than 60 imported species that were growing there at the time. Shortly after I returned to the mainland, 50 new species arrived from South America, and through an arrangement Kat had made with a botanical garden in Bangkok, new Asian specimens began to arrive. The transplantation process is laborious, because the soil layer is very thin. For each specimen, a hole has to be dug in the rocky lava soil, and soil amendments have to be hauled in and mixed, before the plant can be placed in the ground. Terence explained the process of obtaining a plant, while we walked through the heart of Botanical Dimensions.

"When you bring out plants, you bring out dozens of plants at a time, consisting of many species and many specimens of each species," he began. "You need a phytosanitary certificate, which you obtain from the U.S. Department of Agriculture. But you need a different collection of papers before you get to that point. The process begins when you read about a plant of interest in some ethnobotanical paper, or hear a rumor of a plant. Before you mount an expedition, you need letters of support from a botanist at one or more universities, attesting to your status as a skilled, if amateur, ethnobotanist. If you know what you are doing, this should be possible to do; keep in mind that ethnobotany is one science where many of the major contributions have been made by well-informed amateurs."

As McKenna explained it, the advance paperwork is just the first step in a bureaucratic labyrinth: "After obtaining seeds, cuttings, or (preferably), root stock of the sought-after plants, we arrive in the capital city of Country X, preparing to return home. After insuring that proper botanical identification is provided to smooth the export and import process, our first call is on the botany department of the national university, where we give half of our specimens to the chairman of the department. He, in turn, writes us a friendly cover letter which we take over to their plant export people, who then, after delays, agree that we can depart



Howard Rheingold

The shadehouse is where imported plants end up after an odyssey via backpacks, canoes, bureaucracies, aircraft, and four-wheel-drive vehicles that may take up to a year from the time the plant is located and collected to the moment it is put in the shadehouse, nurtured with vitamins, and prepared for planting in the botanical garden. Botanical Dimensions has over 200 species, some of which are the basis of psychoactive brews, the others consisting of suspected immune-stimulants, contraceptives, economic plants, and other endangered plants used in traditional medicine. Although the majority of plants are from South America, others are beginning to arrive from Africa and Asia.

Shamans in the Service of Plants

In this manner, then [according to the beliefs of Desana shamanism], the human mind is continuously engaged in the task of fulfilling the demands of the left hemisphere. The degree to which this can be accomplished depends upon the individual's awareness of cosmic energies and upon the person's willingness to obey the moral order promulgated by shamans. The individual brain is permanently exposed to stimulations coming from the outside world, and the person must learn to interpret the many messages that are received by the brain. In addition to nature's messages, the brain is being stimulated by shamanic manipulation on many, if not all, occasions when a ritual is being performed. Indeed, shamans claim to be specialists in brain/mind relationships. The entire range of environmental sensorial stimulations, of drug use, altered states of consciousness, relaxation, and meditation constitutes a focal area of interest to the Indians, not only to shamans but to most adults who already have acquired a large body of knowledge of neurological processes by observing the effects of psychotropic drugs, together with their personal reactions to a variety of environmental stimulations.

Plants of the Gods

Maria Sabina, a famous Mexican shaman, discourses while in a plant-aided trance.

A normal natural environment, such as a forest, a riverbank, or a cultivated field, transmits certain signals, called "energies" (bogari), of which the recipient may hardly be conscious unless his awareness has been heightened, for example, by food restrictions before going to hunt. But in an enriched social environment these energies are intensified and orchestrated by monitoring devices. This control can consist of a single person, such as a shaman who speaks, recites, or sings; or it can consist of a group of coordinated dancers and singers accompanied by instrumental music; in any case, effective control will consist of the framework of traditional rules which guide the ritual. In practically all these situations the participants consume narcotic drugs, so that direct biochemical processes come to influence behavior. The chemical components of many of the plants from which these drugs are prepared are fairly well known, but the fact remains that the Indians use many admixtures and combinations, and of these and their effects very little is known. Precise dosage constitutes a vast body of shamanic learning of which, unfortunately, our knowledge is still very scanty.

Although the general nature and content of hallucinations induced by these substances have been described by several authors, these descriptions do not do full justice to the Indians' categories of perception, which are likely to cover a much wider range of states of consciousness, as well as many different intensities of imagery. I have mentioned that all intense drug experiences of the Desana develop in an enriched environment; after an initial period of deprivation consisting of sexual abstinence, dieting, insomnia, and controlled breathing, the participants are exposed to vocal and instrumental music, to the sight of bright colors, to different odors, and to scheduled lighting changes accompanied by certain prescribed motor activities. The aim of these stimulations is to induce very specific states of consciousness which correspond to, socially and individually, adaptive behavioral norms, as formulated by the left cerebral hemisphere, the spokesman of which is the shaman. By using physicochemical mechanisms and thus altering the level of sensory awareness, shamans try to activate certain potentials in one or the other hemisphere, and to trigger specific behavioral responses.

The Desana have some twenty musical instruments, mostly wind and percussion, a selection of which is played on ritual occasions. Each instrument is associated with a certain ritual, a certain time of day, a certain age-group, and a certain animal. Furthermore, the sounds of each instrument are classified by color, smell and temperature and are said to produce specific types of vibrations which, by affecting a particular part of the brain, transmit to the audience a specific, culturally coded message. For example, a particular large flute is played only by adult men; its long-drawn sounds are said to have a male odor, a very strong yellow color, and a very high temperature; the melody is said to be of a merry kind and is associated with the image of a multitude of fish running upriver to the spawning beds. The vibrations produced by the sounds are said to trigger a message which refers to child-rearing, especially to breast-feeding during the first year of life. Another example is this: a small whistle is blown by adolescent boys early in the morning when they bathe in the river before dawn. The odor of the tune is said to be male, the color is red, and the temperature is hot; the tune evokes youthful happiness and the taste of a fleshy fruit of a certain tree. The vibrations carry an erotic message to a particular girl.

And there exist other mechanisms. Shamans as curers and, in a sense, as confessors will give to their patients a hallucinogenic drug and then will ask them to describe their visions. On other occasions, people who are, or were, under the influence of a drug will consult a shaman about their experiences. All this means that shamans eventually acquire a profound knowledge of the nature of altered states of consciousness and of human projective mechanisms.

—G. Reichel-Dolmatoff, "Brain and Mind in Desana Shamanism," *Journal of Latin American Lore* 7:1, pp. 73-98, 1981.

Where the Gods Reign

Banisteriopsis caapi, a liana that tends to grow in charming double helices, is one of the primary ingredients of an entheogenic potion known across a very wide territory as *ayahuasca, yage, natema, caapi, Santo Daime.* Those who know it call it "spirit vine" or "the ladder to the milky way." Its native habitat is dying out fast, and although the heirs to the pure indigenous tradition are also becoming extinct, a syncretic religion based on the brew has spread through urban mestizo populations, so the demand is growing at the same time the habitat is declining. The specimens at Botanical Dimensions were provided in 1972 by the late Timothy Plowman, promising ethnobotanist and star pupil of Harvard's Grand Old Man of the Amazon, Richard Evans Schultes. The McKennas kept the specimen alive in an aquarium in Berkeley until 1975, when it was transplanted to Hawaii. One of the key ingredients was known as *telepathine* when it was first isolated, because of persistent rumors of shared, visible, mental states, sculpted by magical songs known as *icaros.*

with all this stuff. And then they stamp it, issue reams of paper about it, and we fly out. We then arrive at Los Angeles or Miami with this carton of living plants; we leave the ordinary customs processes and go directly to the Department of Agriculture people, who gas all the plants, wash away any soil that may be clinging to their roots, and give them back to us, somewhat the worse for wear. Then we rewrap them, repackage them, and air express them to their destination, where they are immediately fed vitamins, put into potting soil, and babied along. Perhaps half the original specimens survive this process, which can take up to a year. Then we get to find out if they can actually adapt to the new environment, a process that can take several years, and if they thrive we propagate them."

Although a network of botanists, anthropologists, chemists, psychotherapists, and psychologists are trying (discreetly) to learn something about the use of these plants and the nature of their active ingredients, the taboos against overt psychedelic research make it difficult to organize the kind of broad interdisciplinary effort needed to approach this body of knowledge and medicinal substances.

Botanical Dimensions reminds me of the monasteries of the Dark Ages in Europe, in which monks carefully copied manuscripts they didn't understand, century after century, keeping the information together until the Renaissance lifted the taboos on classical wisdom. "We're just trying to keep the plants alive through the current dark age, until a future society, more enlightened than the present one, takes an unbiased look at their potential," Terence said, back at the shadehouse, after our first walk through the property. The great green library is burning. But at least some determined amateurs are trying to save a remnant of the old knowledge before it all goes up in smoke or smothers in concrete. □

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