

was given, because it is an unsound practice to base the identification of any plant solely by resorting to homonymous usage of common names so frequently encountered in the botanical literature of tropical America (cf. Mead 1970:180-190)

In Logan, Michael H., and Edward E. Hunt (eds.), *Health and the Human Condition*. Duxbury. 1978.

Michael J Harner

The sound of rushing water

He had drunk, and now he softly sang. Gradually, faint lines and forms began to appear in the darkness, and the shrill music of the *tsentsak*, the spirit helpers, arose around him. The power of the drink fed them. He called, and they came. First, *pangi*, the anaconda, coiled about his head, transmuted into a crown of gold. Then *wampang*, the giant butterfly, hovered above his shoulder and sang to him with its wings. Snakes, spiders, birds, and bats danced in the air above him. On his arms appeared a thousand eyes as his demon helpers emerged to search the night for enemies.

The sound of rushing water filled his ears, and listening to its roar, he knew he possessed the power of *tsungi*, the first shaman. Now he could see. Now he could find the truth. He stared at the stomach of the sick man. Slowly, it became transparent like a shallow mountain stream, and he saw within it, coiling and uncoiling, *makanchi*, the poisonous serpent, who had been sent by the enemy shaman. The real cause of the illness had been found.

The Jivaro Indians of the Ecuadorian Amazon believe that witchcraft is the cause of the vast majority of illnesses and non-violent deaths. The normal waking life, for the Jivaro, is simply "a lie," or illusion, while the true forces that determine daily events are supernatural and can only be seen and manipulated with the aid of hallucinogenic drugs. A reality view of this kind creates a particularly strong demand for specialists who can cross over into the supernatural world at will to deal with the forces that influence and even determine the events of the waking life.

These specialists, called "shamans" by anthropologists, are recognized by the Jivaro as being of two types: bewitching shamans or curing shamans. Both kinds take a hallucinogenic drink, whose Jivaro name is *natema*, in order to enter the supernatural world. This brew, commonly called *yagé*, or *yajé*, in Colombia, *ayahuasca* (Inca "vine of the dead") in Ecuador and Peru, and *caapi* in Brazil, is prepared from segments of a species of the vine *Banisteriopsis*, a genus belonging to the Malpighiaceae. The Jivaro boil it with the leaves of a similar vine, which proba-

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bly is also a species of *Banisteriopsis*, to produce a tea that contains the powerful hallucinogenic alkaloids harmaline, harmine, d-tetrahydroharmine, and quite possibly dimethyltryptamine (DMT). These compounds have chemical structures and effects similar, but not identical, to LSD, mescaline of the peyote cactus, and psilocybin of the psychotropic Mexican mushroom.

When I first undertook research among the Jivaro in 1956-57, I did not fully appreciate the psychological impact of the *Banisteriopsis* drink upon the native view of reality, but in 1961 I had occasion to drink the hallucinogen in the course of field work with another Upper Amazon Basin tribe. For several hours after drinking the brew, I found myself, although awake, in a world literally beyond my wildest dreams. I met bird-headed people, as well as dragon-like creatures who explained that they were the true gods of this world. I enlisted the services of other spirit helpers in attempting to fly through the far reaches of the Galaxy. Transported into a trance where the supernatural seemed natural, I realized that anthropologists, including myself, had profoundly underestimated the importance of the drug in affecting native ideology. Therefore, in 1964 I returned to the Jivaro to give particular attention to the drug's use by the Jivaro shaman.

The use of the hallucinogenic *natema* drink among the Jivaro makes it possible for almost anyone to achieve the trance state essential for the practice of shamanism. Given the presence of the drug and the felt need to contact the "real," or supernatural, world, it is not surprising that approximately one out of every four Jivaro men is a shaman. Any adult, male or female, who desires to become such a practitioner, simply presents a gift to an already practicing shaman, who administers the *Banisteriopsis* drink and gives some of his own supernatural power—in the form of spirit helpers, or *tsentsak*—to the apprentice. These spirit helpers, or "darts," are the main supernatural forces believed to cause illness and death in daily life. To the non-shaman they are normally invisible, and even shamans can perceive them only under the influence of *natema*.

Shamans send these spirit helpers into the victims' bodies to make them ill or to kill them. At other times, they may suck spirits sent by enemy shamans from the bodies of tribesmen suffering from witchcraft-induced illness. The spirit helpers also form shields that protect their shaman masters from attacks. The following account presents the ideology of Jivaro witchcraft from the point of view of the Indians themselves.

To give the novice some *tsentsak*, the practicing shaman regurgitates what appears to be—to those who have taken *natema*—a brilliant substance in which the spirit helpers are contained. He cuts part of it off with a machete and gives it to the novice to swallow. The recipient experiences pain upon taking it into his stomach and stays on his bed for ten days, repeatedly drinking *natema*. The Jivaro believe they can keep magical darts in their stomachs indefinitely and regurgitate them at will. The shaman donating the *tsentsak* periodically blows and rubs all over the body of the novice, apparently to increase the power of the transfer.

The novice must remain inactive and not engage in sexual intercourse for at least three months. If he fails in self-discipline, as some do, he will not become a

successful shaman At the end of the first month, a *tsentsak* emerges from his mouth With this magical dart at his disposal, the new shaman experiences a tremendous desire to bewitch If he casts his *tsentsak* to fulfill this desire, he will become a bewitching shaman If, on the other hand, the novice can control his impulse and reswallow this first *tsentsak*, he will become a curing shaman

If the shaman who gave the *tsentsak* to the new man was primarily a bewitcher, rather than a curer, the novice likewise will tend to become a bewitcher This is because a bewitcher's magical darts have such a desire to kill that their new owner will be strongly inclined to adopt their attitude One informant said that the urge to kill felt by bewitching shamans came to them with a strength and frequency similar to that of hunger

Only if the novice shaman is able to abstain from sexual intercourse for five months, will he have the power to kill a man (if he is a bewitcher) or cure a victim (if he is a curer). A full year's abstinence is considered necessary to become a really effective bewitcher or curer

During the period of sexual abstinence, the new shaman collects all kinds of insects, plants, and other objects, which he now has the power to convert into *tsentsak* Almost any object, including living insects and worms, can become a *tsentsak* if it is small enough to be swallowed by a shaman Different types of *tsentsak* are used to cause different kinds and degrees of illness. The greater the variety of these objects that a shaman has in his body, the greater is his ability

According to Jivaro concepts, each *tsentsak* has a natural and supernatural aspect The magical dart's natural aspect is that of an ordinary material object as seen without drinking the drug *natema* But the supernatural and "true" aspect of the *tsentsak* is revealed to the shaman by taking *natema* When he does this, the magical darts appear in new forms as demons and with new names. In their supernatural aspects, the *tsentsak* are not simply objects but spirit helpers in various forms, such as giant butterflies, jaguars, or monkeys, who actively assist the shaman in his tasks

Bewitching is carried out against a specific, known individual and thus is almost always done to neighbors or, at the most, fellow tribesmen. Normally, as is the case with intratribal assassination, bewitching is done to avenge a particular offense committed against one's family or friends Both bewitching and individual assassination contrast with the large-scale headhunting raids for which the Jivaro have become famous, and which were conducted against entire neighborhoods of enemy tribes

To bewitch, the shaman takes *natema* and secretly approaches the house of his victim. Just out of sight in the forest, he drinks green tobacco juice, enabling him to regurgitate a *tsentsak*, which he throws at his victim as he comes out of his house If the *tsentsak* is strong enough and is thrown with sufficient force, it will pass all the way through the victim's body causing death within a period of a few days to several weeks More often, however, the magical dart simply lodges in the victim's body If the shaman, in his hiding place, fails to see the intended victim, he may instead bewitch any member of the intended victim's family who appears,

usually a wife or child When the shaman's mission is accomplished, he returns secretly to his own home.

One of the distinguishing characteristics of the bewitching process among the Jivaro is that, as far as I could learn, the victim is given no specific indication that someone is bewitching him The bewitcher does not want his victim to be aware that he is being supernaturally attacked, lest he take protective measures by immediately procuring the services of a curing shaman Nonetheless, shamans and laymen alike with whom I talked noted that illness invariably follows the bewitchment, although the degree of the illness can vary considerably

A special kind of spirit helper, called a *pasuk*, can aid the bewitching shaman by remaining near the victim in the guise of an insect or animal of the forest after the bewitcher has left This spirit helper has his own objects to shoot into the victim should a curing shaman succeed in sucking out the *tsentsak* sent earlier by the bewitcher who is the owner of the *pasuk*

In addition, the bewitcher can enlist the aid of a *wakani* ("soul," or "spirit") bird Shamans have the power to call these birds and use them as spirit helpers in bewitching victims The shaman blows on the *wakani* birds and then sends them to the house of the victim to fly around and around the man, frightening him. This is believed to cause fever and insanity, with death resulting shortly thereafter

After he returns home from bewitching, the shaman may send a *wakani* bird to perch near the house of the victim Then if a curing shaman sucks out the intruding object, the bewitching shaman sends the *wakani* bird more *tsentsak* to throw from its beak into the victim By continually resupplying the *wakani* bird with new *tsentsak*, the sorcerer makes it impossible for the curer to rid his patient permanently of the magical darts

While the *wakani* birds are supernatural servants available to anyone who wishes to use them, the *pasuk*, chief among the spirit helpers, serves only a single shaman Likewise a shaman possesses only one *pasuk* The *pasuk*, being specialized for the service of bewitching, has a protective shield to guard it from counter-attack by the curing shaman The curing shaman, under the influence of *natema*, sees the *pasuk* of the bewitcher in human form and size, but "covered with iron except for its eyes" The curing shaman can kill this *pasuk* only by shooting a *tsentsak* into its eyes, the sole vulnerable area in the *pasuk*'s armor. To the person who has not taken the hallucinogenic drink, the *pasuk* usually appears to be simply a tarantula

Shamans also may kill or injure a person by using magical darts, *anamuk*, to create supernatural animals that attack a victim. If a shaman has a small, pointed armadillo bone *tsentsak*, he can shoot this into a river while the victim is crossing it on a balsa raft or in a canoe Under the water, this bone manifests itself in its supernatural aspect as an anaconda, which rises up and overturns the craft, causing the victim to drown The shaman can similarly use a tooth from a killed snake as a *tsentsak*, creating a poisonous serpent to bite his victim In more or less the same manner, shamans can create jaguars and pumas to kill their victims

About five years after receiving his *tsentsak*, a bewitching shaman undergoes a

test to see if he still retains enough *tsentsak* power to continue to kill successfully. This test involves bewitching a tree. The shaman, under the influence of *natema*, attempts to throw a *tsentsak* through the tree at the point where its two main branches join. If his strength and aim are adequate, the tree appears to split the moment the *tsentsak* is sent into it. The splitting, however, is invisible to an observer who is not under the influence of the hallucinogen. If the shaman fails, he knows that he is incapable of killing a human victim. This means that, as soon as possible, he must go to a strong shaman and purchase a new supply of *tsentsak*. Until he has the goods with which to pay for this new supply, he is in constant danger, in his proved weakened condition, of being seriously bewitched by other shamans. Therefore, each day, he drinks large quantities of *natema*, tobacco juice, and the extract of yet another drug, *piripiri*. He also rests on his bed at home to conserve his strength, but tries to conceal his weakened condition from his enemies. When he purchases a new supply of *tsentsak*, he can safely cut down on his consumption of these other substances.

The degree of illness produced in a witchcraft victim is a function of both the force with which the *tsentsak* is shot into the body, and also of the character of the magical dart itself. If a *tsentsak* is shot all the way through the body of a victim, then "there is nothing for a curing shaman to suck out," and the patient dies. If the magical dart lodges within the body, however, it is theoretically possible to cure the victim by sucking. But in actual practice, the sucking is not always considered successful.

The work of the curing shaman is complementary to that of a bewitcher. When a curing shaman is called in to treat a patient, his first task is to see if the illness is due to witchcraft. The usual diagnosis and treatment begin with the curing shaman drinking *natema*, tobacco juice, and *piripiri* in the late afternoon and early evening. These drugs permit him to see into the body of the patient as though it were glass. If the illness is due to sorcery, the curing shaman will see the intruding object within the patient's body clearly enough to determine whether or not he can cure the sickness.

A shaman sucks magical darts from a patient's body only at night, and in a dark area of the house, for it is only in the dark that he can perceive the drug-induced visions that are the supernatural reality. With the setting of the sun, he alerts his *tsentsak* by whistling the tune of the curing song; after about a quarter of an hour, he starts singing. When he is ready to suck, the shaman regurgitates two *tsentsak* into the sides of his throat and mouth. These must be identical to the one he has seen in the patient's body. He holds one of these in the front of the mouth and the other in the rear. They are expected to catch the supernatural aspect of the magical dart that the shaman sucks out of the patient's body. The *tsentsak* nearest the shaman's lips is supposed to incorporate the sucked-out *tsentsak* essence within itself. If, however, this supernatural essence should get past it, the second magical dart in the mouth blocks the throat so that the intruder cannot enter the interior of the shaman's body. If the curer's two *tsentsak* were to fail to catch the supernatural essence of the *tsentsak*, it would pass down into the shaman's stomach and

kill him. Trapped thus within the mouth, this essence is shortly caught by, and incorporated into, the material substance of one of the curing shaman's *tsentsak*. He then "vomits" out this object and displays it to the patient and his family saying, "Now I have sucked it out. Here it is."

The non-shamans think that the material object itself is what has been sucked out, and the shaman does not disillusion them. At the same time, he is not lying, because he knows that the only important thing about a *tsentsak* is its supernatural aspect, or essence, which he sincerely believes he has removed from the patient's body. To explain to the layman that he already had these objects in his mouth would serve no fruitful purpose and would prevent him from displaying such an object as proof that he had effected the cure. Without incontrovertible evidence, he would not be able to convince the patient and his family that he had effected the cure and must be paid.

The ability of the shaman to suck depends largely upon the quantity and strength of his own *tsentsak*, of which he may have hundreds. His magical darts assume their supernatural aspect as spirit helpers when he is under the influence of *natema*, and he sees them as a variety of zoomorphic forms hovering over him, perching on his shoulders, and sticking out of his skin. He sees them helping to suck the patient's body. He must drink tobacco juice every few hours to "keep them fed" so that they will not leave him.

The curing shaman must also deal with any *pasuk* that may be in the patient's vicinity for the purpose of casting more darts. He drinks additional amounts of *natema* in order to see them and engages in *tsentsak* duels with them if they are present. While the *pasuk* is enclosed in iron armor, the shaman himself has his own armor composed of his many *tsentsak*. As long as he is under the influence of *natema*, these magical darts cover his body as a protective shield, and are on the lookout for any enemy *tsentsak* headed toward their master. When these *tsentsak* see such a missile coming, they immediately close up together at the point where the enemy dart is attempting to penetrate, and thereby repel it.

If the curer finds *tsentsak* entering the body of his patient after he has killed *pasuk*, he suspects the presence of a *wakani* bird. The shaman drinks *maikua* (*Datura* sp.), an hallucinogen even more powerful than *natema*, as well as tobacco juice, and silently sneaks into the forest to hunt and kill the bird with *tsentsak*. When he succeeds, the curer returns to the patient's home, blows all over the house to get rid of the "atmosphere" created by the numerous *tsentsak* sent by the bird, and completes his sucking of the patient. Even after all the *tsentsak* are extracted, the shaman may remain another night at the house to suck out any "dirtiness" (*pahuri*) still inside. In the cures which I have witnessed, this sucking is a most noisy process, accompanied by deep, but dry, vomiting.

After sucking out a *tsentsak*, the shaman puts it into a little container. He does not swallow it because it is not his own magical dart and would therefore kill him. Later, he throws the *tsentsak* into the air, and it flies back to the shaman who sent it originally into the patient. *Tsentsak* also fly back to a shaman at the death of a former apprentice who had originally received them from him. Besides

receiving "old" magical darts unexpectedly in this manner, the shaman may have *tsentsak* thrown at him by a bewitcher. Accordingly, shamans constantly drink tobacco juice at all hours of the day and night. Although the tobacco juice is not truly hallucinogenic, it produces a narcotized state, which is believed necessary to keep one's *tsentsak* ready to repel any other magical darts. A shaman does not even dare go for a walk without taking along the green tobacco leaves with which he prepares the juice that keeps his spirit helpers alert. Less frequently, but regularly, he must drink *natema* for the same purpose and to keep in touch with the supernatural reality.

While curing under the influence of *natema*, the curing shaman "sees" the shaman who bewitched his patient. Generally, he can recognize the person, unless it is a shaman who lives far away or in another tribe. The patient's family knows this, and demands to be told the identity of the bewitcher, particularly if the sick person dies. At one curing session I attended, the shaman could not identify the person he had seen in his vision. The brother of the dead man then accused the shaman himself of being responsible. Under such pressure, there is a strong tendency for the curing shaman to attribute each case to a particular bewitcher.

Shamans gradually become weak and must purchase *tsentsak* again and again. Curers tend to become weak in power, especially after curing a patient bewitched by a shaman who has recently received a new supply of magical darts. Thus, the most powerful shamans are those who can repeatedly purchase new supplies of *tsentsak* from other shamans.

Shamans can take back *tsentsak* from others to whom they have previously given them. To accomplish this, the shaman drinks *natema*, and, using his *tsentsak*, creates a "bridge" in the form of a rainbow between himself and the other shaman. Then he shoots a *tsentsak* along this rainbow. This strikes the ground beside the other shaman with an explosion and flash likened to a lightning bolt. The purpose of this is to surprise the other shaman so that he temporarily forgets to maintain his guard over his magical darts, thus permitting the other shaman to suck them back along the rainbow. A shaman who has had his *tsentsak* taken away in this manner will discover that "nothing happens" when he drinks *natema*. The sudden loss of his *tsentsak* will tend to make him ill, but ordinarily the illness is not fatal unless a bewitcher shoots a magical dart into him while he is in this weakened condition. If he has not become disillusioned by his experience, he can again purchase *tsentsak* from some other shaman and resume his calling. Fortunately for anthropology some of these men have chosen to give up shamanism and therefore can be persuaded to reveal their knowledge, no longer having a vested interest in the profession. This divulgence, however, does not serve as a significant threat to practitioners, for words alone can never adequately convey the realities of shamanism. These can only be approached with the aid of *natema*, the chemical door to the invisible world of the Jívaro shaman.

Richard B. Lee

Trance cure of the !Kung Bushmen

"Bushman medicine is put into the body through the backbone. It boils in my belly and boils up to my head like beer. When the women start singing and I start dancing, at first I feel quite all right. Then in the middle, the medicine begins to rise from my stomach. After that I see all the people like very small birds, the whole place will be spinning around and that is why we run around. The trees will be circling also. You feel your blood become very hot just like blood boiling on a fire and then you start healing. When I am like this [telling the story] I am just a person. The thing comes up after a dance, then when I lay hands on a sick person, the medicine in me will go into him and cure him."

The speaker, whose words I have translated, is a Bushman. The !Kung Bushmen, a non-Bantu, click-speaking (the exclamation point stands for a click sound) people of the Kalahari Desert in Botswana, are one of the last peoples of the world to maintain a hunting and gathering way of life—until 10,000 years ago, the universal mode of human organization. According to the Bushman belief, each tribe and race in the world has a distinctive kind of medicine. The Bantu medicine consists of witchcraft and sorcery. The European medicine is contained in pills and in hypodermic syringes. The Bushman medicine, or *n/um*, is a physical substance that lies in the pit of the stomach of the *n/um kausi*, or "medicine owner." Medicine was given by God to Bushmen in the beginning, but men can transfer medicine from one body to another, this, in fact, is the main reason why Bushman trance dancers cure by laying on of hands on patients or subjects and by rubbing sweat. Normally medicine lies dormant. It is necessary to dance in order to heat it up. In their view, dancing makes the body hot. When the medicine reaches the boiling point, the vapors rise up through the spinal column, and when the vapors reach the brain, the dancer enters trance.

The dance ordinarily begins in the evening when a handful of women light a central fire and begin to sing. The dancing circle has a tight, symbolic organization. In the center is the fire, representing medicine, which must be kept burning throughout the all-night dances. Surrounding the fire and within the circumference of the circle, the women sit shoulder to shoulder facing inward. The women are primarily singers, dancing only occasionally. The men dance in an outer, circular rut, stamping around and around hour after hour, now clockwise, now counterclockwise. Beyond these two tight circles of singers and dancers sit the spectators—the children and those dancers who have paused and are temporarily resting.

The songs are sung without words, in the form of yodeling accompanied by