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ARCHAEOLOGICAL EVIDENCE FOR SNUFFING IN PREHISPANIC MEXICO

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The various hallucinogenic or psychoactive plants the extensive religious and divinatory use of which by Mexican Indians both fascinated and appalled the Spanish colonial clergy of the sixteenth and seventeenth centuries were smoked, chewed, sucked, brewed or macerated into beverages and otherwise ingested in liquid, solid or incinerated form. Tobacco, most commonly smoked, was also ground into a fine green powder that was not taken internally but was rather applied externally to the patient's body in shamanistic curing practices.

All these customary uses of "mind-altering" substances are well described for both prehispanic and post-Conquest Mexico by such writers as Sahagún, Durán, Hernández and, somewhat later, Jacinto de la Serna and Ruíz de Alarcón. In contrast, there is no mention whatever of hallucinogenic snuffs, taken through tubes or through "nose pipes", a common practice in the West Indies and in Central and South America. Since these and other chroniclers of indigenous practices and beliefs were usually careful observers, and since the Church was engaged in a vigorous—albeit ultimately unsuccessful—campaign to discover and suppress the indigenous use of intoxicants of all forms, we must assume that, trade and

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other contacts with Caribbean and Central American snuff-using cultures notwithstanding, the Indians of Late Post-Classic Mexico seem not to have assimilated these practices into their own extensive complex of ritual intoxicants.

Nevertheless, there is a growing corpus of data, in the form of archaeological art, to suggest that snuffing was once known and practiced in several parts of Mesoamerica as early as 1500-1200 B.C. and at least as late as the first centuries A.D. Before we examine some of the evidence, we need briefly to consider the problem of potential indigenous Mexican sources for hallucinogenic snuffs.

Thanks to prodigious research in the field, the laboratory and the historical sources, especially by such investigators as Richard Evans Schultes, S. Henry Wassén, Siri von Reis Altschul, and Bo Holmstedt, the various kinds of South American snuffs are botanically and chemically rather well understood. For Mexico, however, the botanical data are inadequate, and chemical information is wholly or largely lacking. Nevertheless, there are indications of the direction that future research might fruitfully take.

First, one cannot rule out one or more species of *Nicotiana*. These native tobaccos have a much greater nicotine content than do the hybrid species from which cigarette or pipe tobaccos are made. Wilbert (1972: 55-78) recently documented the use of tobacco as the sole psychotomimetic employed by the shamans of the Warao Indians of Venezuela, who smoke themselves into ecstatic trance states that are phenomenologically indistinguishable from those elsewhere triggered with such botanical hallucinogens as *ayahuasca*, the sacred mushrooms, morning-glory seeds, or *Anadenanthera* and *Virola* snuffs. Several species of *Nicotiana* are in fact employed

for psychotomimetic snuff in South America, either alone or in combination with other psychoactive plants. The shamans of some indigenous cultures—e.g., the Tacana of Bolivia—use pulverized tobacco as a magical repellent against hostile demons (Hissink and Hahn, 1961). Furthermore, it is not impossible that the use of tobacco powder as a magical external medicine by Mexican *curanderos* had its ultimate origin in an earlier use of powdered tobacco as snuff.

Secondly, there appears to be no reason why some of the better known Mesoamerican plant hallucinogens should not be as psychotomimetically effective when taken as snuff through the nasal membranes as when assimilated through the stomach. By way of illustration, I am informed by Dr. Schultes that, in South America, the bark of *Banisteriopsis Caapi*, which is usually macerated or brewed into the potent hallucinogenic beverage known by such names as *yajé*, *ayahuasca*, etc., is reputedly sometimes pulverized and inhaled as snuff. Even *Ilex Guayusa*, a caffeine-rich holly widely utilized as a stimulating tea, along with its sister species, e.g. *maté*, *Ilex paraguariensis*), has served as snuff, at least in prehispanic highland Bolivia, where *Ilex* snuff and snuffing paraphernalia were recently discovered in a Tihuanacoid shaman's grave, dated ca. A.D. 500. The shaman's kit also included clysters, suggesting that the same plant might even have been employed for stimulating enemas (Schultes, 1972b).

Whether or not peyote (*Lophophora Williamsii*), *ololiuhqui* (*Rivea corymbosa*) or other hallucinogens native to Mesoamerica were ever used in the form of snuff, there exist extensive Mexican populations of shrubs and trees of the Leguminosae that should be investigated for possible psychoactive properties. Included are two Mexican species of *Piptadenia*, a genus closely related to the

psychoactive genus *Anadenanthera* of South America, which may well possess the same or similar psychotomimetic constituents. Two of these Mexican species are *Piptadenia flava*, found also in Central America and Colombia, and *Piptadenia constricta*. Both are found along the Pacific coast, from Sinaloa and Jalisco in the north to Guerrero in the south. To my knowledge, neither have been tested for hallucinogenic alkaloids. There are in addition more than sixty species each of the allied genera *Mimosa* and *Acacia* in Mexico, and some of these may, like certain South American species, contain psychoactive principles. This might be found to apply especially to those species credited with sacred, magical, or "dangerous" qualities by local Indians or rural meztizos and should be chemically studied from the point of view of possible hallucinogenic alkaloids.

Finally, there appear two other possible candidates as potential sources of hallucinogenic snuff in southeastern Mexico, both with significant South American ties. These are species of *Psychotria* and *Justicia*. The former is a well known additive in hallucinogenic potions prepared basically from the *Banisteriopsis Caapi* vine in Ecuador, Colombia, Peru and Brazil, while the latter is added to *Virola* snuff or is said even to be employed alone as a source of psychotomimetic snuff (Schultes, 1972a: 45-46, 52). These possibilities emerge from a comment by Wassén (1972: 37-38) on a suggestion of mine (1968: 160-164) that snuffing might have been practiced by the Gulf Coast Olmec. In support of this comment, Wassén cites the following excerpt from a letter to him by Schultes, dated February, 1969:

We are finding so many plants with tryptamines—the active principle of many of the snuffs of South America—that it is very possible that in the Mexican Gulf Coast area the Indians could have found a plant which, prepared in the form of a snuff, could intoxicate as does the snuff of the Waikas. One of these is *Psy-*

chotria, a species of which in South America has now been found to have N,N-dimethyltryptamine.

Psychotria occurs up as far as Vera Cruz and it is possible that other species have this principle. Furthermore, Holmstedt believes that he has found this same chemical in our species of *Justicia* which is added to *Virola* snuff by the Waikas. Other species of *Justicia* occur as far north as Vera Cruz and may possibly also have this chemical constituent.

While the botanical sources for hallucinogenic snuff in Mesoamerica must, for the present, remain conjectural, the evidence for snuffing in archaeological art is, as we shall see, beyond question. Moreover, on the earliest level of the proposed Mesoamerican snuffing complex—that is, the Early to Middle Formative—the evidence points persuasively southward, at least to Central America, if not actually to northwestern South America.

We owe much of our knowledge of Central and South American snuffing paraphernalia—prehistoric as well as recent—to Wassén's several studies, and I would here like to acknowledge my own debt to our Swedish colleague in this area of research. It was a paper by Wassén, published in 1967, that first set me on the track of a possible snuffing complex in Mexico. Specifically, my attention was drawn to the so called Brazilian *litos*, small effigy stone carvings, usually bird-like, with carved, shallow, oval or circular depressions that made them appear like receptacles. A number of these were found in the last century in the shell middens of Santa Catarina, Brazil. Wassén thought it likely that these bird-effigy *litos* might have served as tablets for hallucinogenic snuff, rather like the archaeological wooden snuff tablets found in the Chilean and Peruvian desert, or more recent snuff tablets from Amazonia.

Subsequently, I raised the question of the use of hallucinogens by the Olmec, suggesting that the well known jade artifacts called "spoons", might, like the Brazilian

litos, have served as snuff tablets (Furst, 1968: 162). At least some of the Olmec "spoons" seemed to represent long-tailed birds in flight, seen in profile. In any event, like some South American snuff tablets, certain Olmec jade spoons are decorated with bird-jaguar motifs, a common symbolic theme in South American ritual intoxication.

At the time, this was still highly speculative. No direct evidence existed to show that the Olmec had used snuff or other hallucinogens; for that matter, there was no proof that the ritual use of psychoactive substances in Mesoamerica was any older than the oldest of the so-called mushroom stones, i.e., from the end of the Middle to the Late Formative. All that could be said was that it would be surprising if the Olmec had used no hallucinogens, considering what was already known of the antiquity and wide distribution of the hallucinogenic phenomenon in the New World. To mention only snuffing: the earliest known archaeological snuffing implements are a whalebone tablet and associated birdbone snuffing tube which Junius Bird of the American Museum of Natural History excavated at Huaca Prieta, Peru. These are dated at ca. 1500-1700 B.C. The evidence was thus conclusive for a time depth of some 3,500 years for the use of hallucinogenic snuffs in South America.

The first evidence that snuffing was in fact known at one time also in Mesoamerica came to my attention in the form of a hollow, redware effigy figurine from Colima, representing a seated man with a horn on his head and a small, gourd-shaped nose pipe held to one nostril (Plate I). Subsequently, I was to come across a second, considerably larger, Colima effigy (Plate II), of burnished brown clay, sculpturally far more sophisticated, again depicting a man in the act of snuffing from a gourd-

PLATE I



Small, hollow terracotta effigy of seated man, holding a gourd-shaped snuffing pipe to his nose. Colima, shaft-and-chamber tomb phase, ca. 100 B.C.-A.D. 200. Anon. private collection. H. $7\frac{1}{2}$ ".

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PLATE II



Effigy figurine of burnished brown clay depicted in the act of inhaling snuff from a bottle gourd-shaped nose pipe. Colima, shaft-and-chamber tomb phase, ca. 100 B.C.-A.D. 200. Kurt Stavenhagen Collection, Mexico City. H. 11".

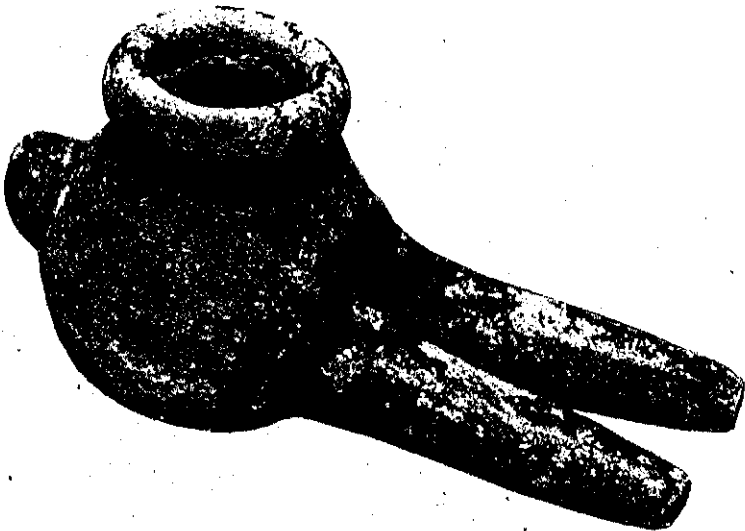
shaped nose pipe. Both of these figurines belong to the larger West Mexican shaft-and-chamber tomb art complex and can, therefore, be dated between 100 B.C. and A.D. 100-200.

In addition to the effigies, we were able to identify, in several collections, a number of pottery snuffers or nose pipes from West Mexico that closely resemble the well known Costa Rican snuffing pipes illustrated by Wassén in several publications. Especially interesting is a red-slipped snuffer with bifurcated stems, one for each nostril, from the Ixtlán del Río area of southern Nayarit (Plate III). The Ixtlán snuffer is actually a conventionalized bird effigy, with nubs at the side of the bowl to indicate wings, and a projection at the front for the head or beak. Such abbreviated bird symbolism is common on Costa Rican pottery snuffers as well. That this is hardly fortuitous was recognized by Wassén: birds and bird spirits are widely connected with the ecstatic trance experience and with shamanism.

For a time, these West Mexican specimens seemed to be all that there was. Snuffing, therefore, appeared to be an isolated phenomenon in time and space, associated with the shaft-and-chamber tomb cultures of the West Coast. Their funerary art indicates that these same cultures also employed the peyote cactus and, possibly, mushrooms. The close similarity of the West Coast pottery snuffers to those of Central America, and their restricted distribution close to the Pacific coast, suggested a somewhat short-lived trait, introduced possibly from a southerly source, that eventually failed to take hold alongside established cults involving such well known indigenous Mexican hallucinogens as peyote and the sacred mushrooms.

However, West Coast snuffing was not to remain the isolated and short-lived phenomenon that it appeared at

PLATE III

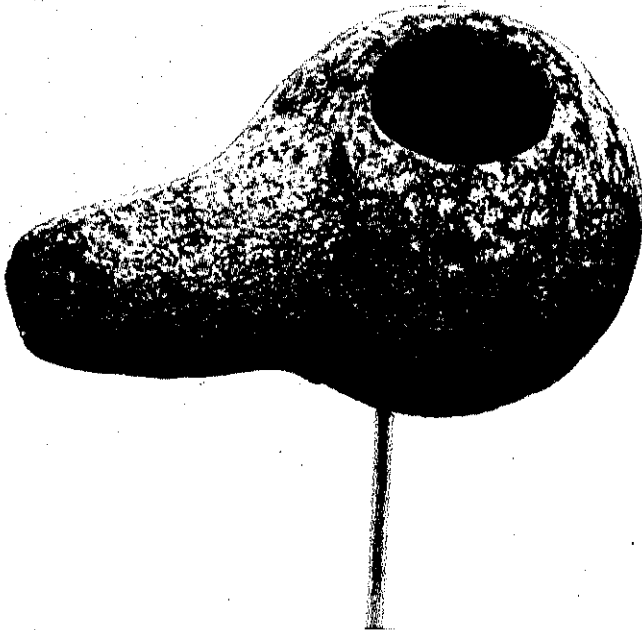


Bifurcated bird effigy snuffer from Ixtlán del Rio, Nayarit, shaft-and-chamber tomb phase, ca. 100 B.C.-A.D. 200-300. Coll. Mr. and Mrs. William Kaplan, New York. L. $2\frac{1}{2}$ ".

first. New evidence has come to light in the form of effigy and undecorated snuffing pipes from the Early to Middle Formative, from Xochipala, Guerrero. The dating of Xochipala is still somewhat uncertain: there have been suggestions that it represents the very "origin" of Olmec art, predating the San Lorenzo Phase in Veracruz (Gay 1972). However, the reported and confirmed associations of the extraordinarily sophisticated and sometimes astonishingly naturalistic figurines from Xochipala with typically Olmec incised bowls and other Olmec artifacts characteristic of the Late Early to Early Middle Formative, including "spoons" and beads of blue-green translucent jade, suggests dates equivalent to San Lorenzo and contemporaneous sites in Morelos and elsewhere in Central Mexico—i.e., between 1300 and 1000 B.C. On the other hand, a recent series of thermoluminescence tests tend to support an earlier date at least for the beginning of realistic Xochipala art, possibly as early as 1500–1600 B.C. (Robert Stroessner, pers. comm.).

The uncontrolled looting of Xochipala, with its remarkable assemblage of some of the finest Formative ceramic figurines to be found anywhere in the New World, is a scientific tragedy of major proportions. We can only guess at the evidence that has forever been lost; nevertheless, it has been possible to study and verify the authenticity of a number of Xochipala pieces now in private hands or museum collections (interestingly enough, although the accidental discovery of the Xochipala site by local farmers dates from the mid-nineteen sixties, a typical Xochipala figurine has been in the extensive pre-Columbian collection of the Peabody Museum of Harvard University for more than seventy years). Among recently discovered Xochipala artifacts are several unmistakable snuffing instruments or "nose pipes", dating far earlier than those of the West Coast

PLATE IV



Terracotta bowl snuffer, Xochipala, Guerrero, Early Formative, ca. 1500-1200 B.C. Anon. private collection. L. $2\frac{1}{2}$ ".

shaft-and-chamber tomb phase and approaching in antiquity the earliest South American paraphernalia found on the Peruvian coast.

The first of these to be examined and identified as a nose pipe was a small, round, undecorated bowl with a horizontal perforated stem (Plate IV). If one compares this pottery snuffer with examples from Central America, it is clear that, except for its characteristic local paste and the lime encrustation typical of ceramics from the Xochipala burials, the little Mexican snuffing pipe is virtually identical to similar instruments from Guanacaste or Linea Vieja, Costa Rica (Wassén, 1965: 25). As in the case of the Nayarit snuffer, it is difficult not to postulate a genetic connection between them, although the known Central American pottery snuffers, and also that from Nayarit, are appreciably later than this Early Formative pipe.

A second Xochipala nose pipe which I was able to study in detail is much more complex (Plate V). It is an effigy pipe, measuring $4\frac{3}{4}$ " in length, representing a human figure on its back, with knees drawn up—a position somewhat resembling the post-Classic "Chacmool" stone sculptures. On the basis of the wrap-around loin-cloth, the figure can be identified as male. In a recent museum catalogue, the piece was erroneously described as an effigy bowl in the form of a kneeling person (Gay 1972). But that would place the nosepiece at the top and the bowl opening facing vertically toward the front, which seems hardly likely. Once the piece is recognized for what it is—a nose pipe used for snuffing—the location and inclination of the nosepiece alone dictate a supine position for the figurine, as does the opening of the bowl itself. Indeed, in handling the piece, its real purpose suggests itself almost spontaneously.

While it is certainly the finest example known to me,

PLATE V



Effigy snuffer representing a man lying on his back. The burnished nosepiece emerges hornlike from the top of his head. From Xochipala, Early Formative, ca. 1500-1200 B.C. Anon. private collection. L. 4 $\frac{3}{4}$ ".

this effigy pipe is by no means unique in form. Several similar nose pipes have come to light, including one (Plate VI) of a man with animal characteristics lying on his stomach, with the bowl in the back and a horn-like nosepiece on top of the head. Here again the sex of the effigy is male; indeed, there are indications of a phallus on the underside.

On the basis of the evidence, then, we can postulate a snuffing complex of appreciable duration and antiquity along the west coast of Mexico, with the earliest evidence dating to 1500-1200 B. C., and the latest approximately to the beginning of the Christian era.

A recent re-examination of early pottery artifacts from Oaxaca as well as from Central Mexico shows, however, that divine inebriation with psychotropic snuff was not limited to the Guerrero Formative or the shaft-and-chamber tomb phase of coastal northwestern Mesoamerica. I have only just begun checking through collections and the literature on Monte Alban ceramics, but already it appears that the evidence for snuffing from the Late Formative at least into the Early Classic is substantial. Thus far, we have been able to identify more than a dozen spouted "miniature effigy vessels", including a group in the Museo Frissell de Arte Zapoteca in Mitla, Oaxaca, as probable nose pipes, dating from Monte Alban I and II. Some of these appear very similar in construction, if not in style and paste, to those from Xochipala. In addition, I have located at least one probable Early to Middle Formative animal effigy nose pipe, in the form of a turtle, from Tlatilco, in the collections of the Museum of Ethnology in Vienna, Austria. This relates stylistically to black effigy ceramics of Olmec derivation or origin from Tlatilco and Las Bocas, Puebla.

One interesting little polished black snuffing pipe, possibly transitional from Monte Alban I to II (i. e. ca.

PLATE VI



Effigy bowl snuffer in the form of a person with human head and animal-like body, from Xochipala, Guerrero, Early Formative, 1500-1200 B.C. As in Plate V, the nosepiece is on top of the head. Anon. private collection. L. 4".

200 B.C.), appears to symbolize transformation, in this instance from human into a duck-like bird with rounded body and flipper-like feet (Plate VII). The frontal half is human, with hands held palms together to the chin; the rest of the body is that of a duck. A conical perforated horn on the head forms the nosepiece, as in some of the effigy pipes from Xochipala.

Space limitations preclude detailed discussion of duck symbolism, but it should be noted that chimereal or anthropomorphic ducks are not uncommon in prehispanic art, especially on the west coast. Ducks are present also in the art of Tlatilco and other Early to Middle Formative sites. A study of Pueblo duck mythology and beliefs about the duck as supernatural among the Cora and Huichol of West Mexico may throw some light on the problem; a Duck Person is a prominent figure in Huichol origin myths, as it is also among the Zuni and other Southwestern Indians; ducks seem to be messengers of the gods or else a form that the gods assume when they travel. Also, ducks are associated with shamanism, perhaps because, as wide-ranging water birds, they appear to inhabit several planes at once.

Of even greater interest is a Monte Alban effigy snuffing pipe of grey clay, representing a deer resting on its stomach, with legs drawn up and head turned to the right (Plate VIII). Cloven hooves leave no doubt about the zoological identification. What makes this piece especially fascinating is that it holds an unmistakable peyote cactus in its mouth (I am greatly indebted to Miss Julie Jones of the Museum of Primitive Art, who recognized the significance of the deer-peyote association here in relation to the Huichol conceptualization of peyote as deer, and vice versa, and who, on that account, drew my attention to the artifact).

While anthropomorphic pipes from Oaxaca and Xochi-

PLATE VII

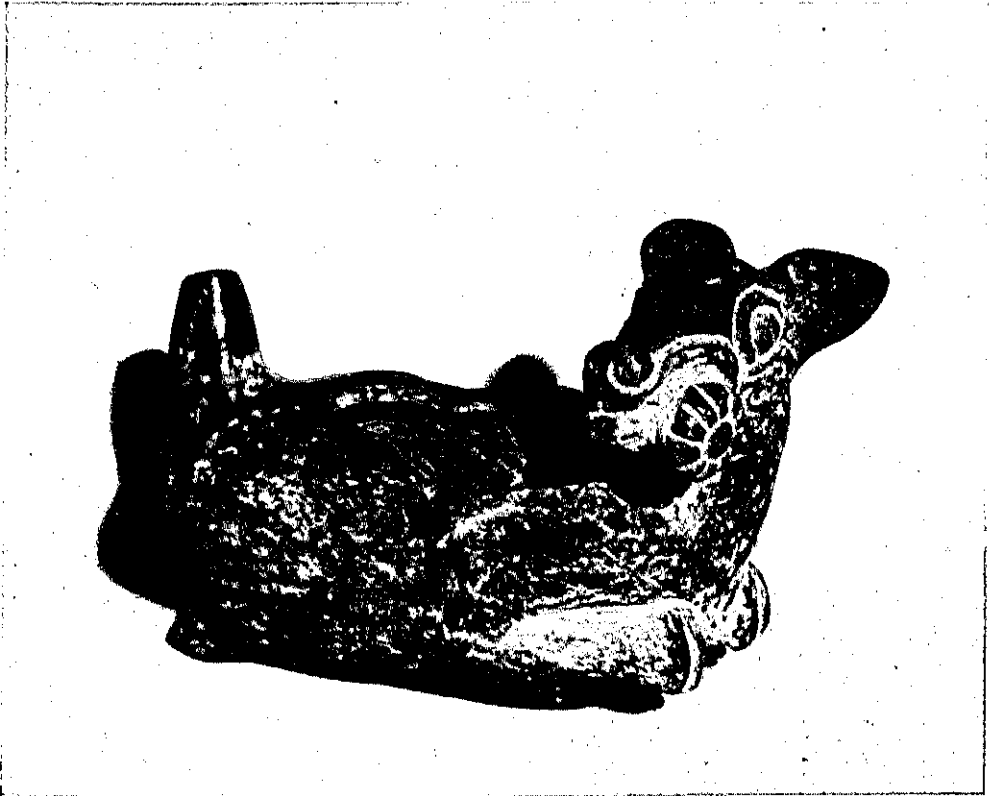


Black-slipped, burnished terracotta effigy snuffer in the form of a duck-bodied man, from Monte Alban, Oaxaca, Late Formative, Monte Alban IA-II (?), ca. 300-100 B.C. L. $3\frac{1}{2}$ ". Anon. private collection. A number of similar snuffers combining head and animal characteristics, with the nose piece either in the tail or forming a horn on the head, are in the Museo del Arte Zapoteca, Mitla, Oaxaca.

pala have the nosepiece in the form of a horn on the head, it is the tail that forms the nosepiece in the deer effigy snuffer from Oaxaca. Such choices on the part of the prehistoric pipe makers cannot be considered to be arbitrary. If one may venture some guesses, the horn atop the head as nosepiece may relate to the well known and widespread concept of horns—both single and double—as a symbol and even a source of shamanic or supernatural power (Furst 1965). Single horns on the forehead are a characteristic especially of a certain class of Colima figurines, but they also occur elsewhere in Mesoamerica (e. g. at Tlatilco, Tlapacoya, Chalcatzingo, Xochipala, Monte Alban, etc.) and even in Peru, especially in Nazca art. As for the nosepiece of the deer effigy pipe, this might have to do with the concept of the deertail as magical power object in some North American shamanic practices and beliefs. Among the Huichol, for example, the deertail is an important element in the shaman's equipment, as it is in Papago shamanism. Likewise, it is hardly insignificant that the name of one of the principal Huichol supernaturals is *Tamátsi Máwa Kwawí*, Elder Brother Deer Tail.

The association of deer, divine inebriant and shaman which we perceive archaeologically in the Monte Alban snuffing pipe and ethnographically in Huichol and Cora religion, is itself an important culture-historical problem that remains to be seriously explored. Andean art dating to the fifth or sixth century A. D. suggests that there was something very like these Mesoamerican associations also in Peru. A common theme on Moche IV painted ceramics is a ritual deer hunt, in which the hunter is clearly not meant to be an ordinary man but a god, culture hero, or great shaman (Plate IX). Moche painters consistently depict the deer in association with a shrub or tree which, though to some degree conventionalized,

PLATE VIII



Effigy snuffing pipe of burnished grey clay in the form of a deer holding a peyote cactus in his mouth, from Monte Alban, Oaxaca, Late Formative, Monte Albán I-II, ca. 800-100 B.C. The erect tail of the animal forms the nosepiece. Anon. private collection. L. $4\frac{1}{2}$ ".

is identifiable botanically as *Anadenanthera colubrina*, with the long, bean-like seed pods characteristic of the hallucinogenically rich family Leguminosae. The seeds of this tree, called *vilca* or *willka* in the Andes, are made into a potent psychotomimetic snuff; they are also ingested in a beverage and, in some highland Quechua villages, play an important role in the making of *llampu*, a sacred substance used in cattle increase ceremonies and other rituals the origins of which lie far back in Andean prehistory (Billie Jean Isbell, personal communication).

In any event, the deer is often a semi-divine celestial animal for American Indians, connected with Sun, Fire, sky beings, and shamans. Among the Warao of the Orinoco Delta, its flesh is still strictly taboo for shamans, suggesting at least a former sacred relationship (Johannes Wilbert, personal communication). Among the Huichol, it is the shaman's spirit helper and companion: a pair of feathered ceremonial arrows that he wears on his head in certain ritual contexts symbolize deer antlers; the oblong basket of shamanic power objects (*talwátsi*) is identified with the divine Deer Person, *Káuyumarie*; certain deities are deer and vice versa; the deer is mount, guardian and guide on the shaman's celestial quests and flights, especially on the peyote hunt; the "Principal Deer", Elder Brother *Wawatsári*, is peyote, and vice versa, etc.

Such concepts remind one at once of the role of the deer in Paleo-Asiatic or Siberian shamanism. In Siberia, too, the deer is the celestial mount that carries the shaman to the Upperworld and its spirit rulers. In parts of Siberia, moreover, there is direct association between deer—in this case the reindeer—and the divine inebriant used by shamans to attain the ecstatic trance states in which they embark on their supernatural journeys—the *Amanita muscaria*, or fly agaric mushroom, for which

PLATE IX



Supernatural deer hunting scene on a Mochica IV terracotta vessel, northern Peru, ca. A.D. 500. Drawn from the original by Alan Sawyer. Here, as in similar Mochica deer hunting scenes, the animal is shown in association with a tree or shrub almost certainly to be identified by its characteristic seed pods as *Anadenanthera colubrina*, whose seeds were, and still are, ground into a potent psychotomimetic snuff, widely known as *vilca* or *willka*. In some Andean communities *vilca* seeds are also used in an intoxicating ceremonial drink; elsewhere, as in Chile, the pods may be burned and the smoke inhaled to achieve ritual intoxication.

the reindeer is said to have an inordinate predilection (Wasson 1972:204) and which some scholars regard as the Paleolithic or Mesolithic prototype for the Mesoamerican mushroom cults.

It is difficult to escape the conclusion that the esteem, not to say veneration, with which some American Indians regarded the deer represents a survival from an ancient, archaic, shamanistic substratum—a substratum that forms the underlying basis of American Indian ideology, including that of Mesoamerican civilization, and the ultimate roots of which lie in the religion of Eurasian Paleolithic and Mesolithic hunting and gathering culture. The curious association of deer as celestial mount on the shaman's ecstatic journeys and the sacred hallucinogens that are employed as aids in such mystical quests in parts of northern Asia as well as in America might well be a part of this very ancient belief system.

In this connection, a new series of radiocarbon dates from rock shelter sites in Trans-Pecos Texas and northern Mexico is of special significance. These dates, for which I am indebted to J. M. Adovisio of the University of Pittsburgh¹, confirm a time depth of over ten thousand years for the use of the potent hallucinogenic red seeds of the *Sophora secundiflora* shrub by Desert Culture hunters and food collectors as well as historic tribes in the same area. More than that, one important and well studied Texas site, known as Bonfire Shelter, yielded *Sophora secundiflora* from the lowest occupational stratum—Bone Bed II, with a C¹⁴ age of 8440 to 8120 B. C., in direct association with Folsom and Plainview projectile points and the bones of extinct bison. The same

¹ A short paper on the topic by J. M. Adovisio and G. F. Fry was presented at the 71st Annual Meeting of the American Anthropological Association, Toronto, Canada, November 1972. A fuller treatment by the authors is in preparation.

seeds also occurred in the topmost occupational level, dated A.D. 420 to 1040, and in all of the intervening cultural deposits. A related rock shelter site in northern Mexico, Frightful Cave, similarly yielded *Sophora secundiflora* beans from its lowest level, dated at 7500 B.C., through all subsequent cultural deposits. Interestingly enough, here, as in many other Desert Culture rock shelter sites, *Sophora secundiflora* was invariably associated with *Ungnadia speciosa*, in contexts strongly suggesting, according to Adovisio, ritual use.

It was Weston La Barre who suggested on several occasions (e.g. 1972:270-278) that the origins of the American Indian hallucinogenic complex had to be sought ultimately in ecstatic, vision-seeking Paleasiatic shamanism, the fundamental religion of the pre-agricultural Paleolithic and Mesolithic hunting peoples of Siberia who presumably constituted the ancestral pool from which flowed the Late Pleistocene migrations into North America. La Barre's contention, which came to be increasingly shared by some of his colleagues in the study of aboriginal American religion and the botany and anthropology of hallucinogens, thus appears to be confirmed: the historic shamanistic "red bean" cult of the Southern Plains is at least as old as the big-game hunting phase of the terminal Pleistocene and thus appears to reach back toward a time when the peopling of North America across the Bering land bridge might still have been in progress. If knowledge of ritual or divine inebriation with plant hallucinogens was part and parcel of the intellectual baggage of these early migrants, it implies at least equal antiquity, if not a much greater one, for such practices in Eurasia.

Just when or where in prehistoric antiquity the technology and chemistry of snuffing might have arisen is unknown. The concentration of these variants on the

common theme of divine inebriation especially in the Amazon suggest that area as its ultimate source. If it did indeed diffuse from the tropical lowlands, its age would have to be at least three and a half thousand years, since, as mentioned above, the earliest known snuffing implements date to the mid-second millenium B.C.

The fact that in addition to its numerous other psychotomimetics prehispanic Mesoamerica can now be shown to have shared in a wider pan-American complex involving the use of snuff opens up a host of new possibilities for culture-historical and ethnobotanical research. Obviously, multidisciplinary study of what now appears to have been a Mesoamerican snuffing complex of substantial distribution and duration is important in and of itself. At the same time, it might provide answers to questions of external relationships, especially with South America, at roughly that crucial moment in time when Neolithic-type farming communities became transformed, by some as yet little understood processes, into the first great Mesoamerican civilization—that of the Olmec.

REFERENCES

- Adovisio, J.M. and G.F. Fry. 1972. "Prehistoric Psychotropic Drug Use in Northeastern Mexico and Trans-Pecos Texas." Paper prepared for the 71st Annual Meeting of the American Anthropological Association, Toronto, Canada, 1972.
- Furst, Peter T. 1965. "West Mexican Tomb Sculpture as Evidence for Shamanism in Prehispanic Mesoamerica." *Anthropologica* 15: 29-60. Caracas.
- . 1968. "The Olmec Were-Jaguar Motif in the Light of Ethnographic Reality." In: *Dumbarton Oaks Conference on the Olmec*, Elizabeth P. Benson, ed., pp. 143-178. Washington, D.C.: Dumbarton Oaks Research Library and Collection. Trustees for Harvard University.
- . 1972. "Ritual Use of Hallucinogens in Mesoamerica: New Evidence for Snuffing from the Preclassic and Early Classic." In: *Religion en Mesoamerica*, XII Mesa Redonda, Sociedad Mexicana de Antropologia, pp. 61-68.
- Gay, Carlo T.E. 1972. *Xochipala: The Beginning of Olmec Art*. The Art Museum, Princeton.
- Hissink, Karin, and Albert Hahn. 1961. *Die Tacana: Ergebnisse der Frobenius-Expedition nach Bolivien, 1952 bis 1954*. Stuttgart: W. Kohlhammer.
- La Barre, Weston. 1972. "Hallucinogens and the Shamanic Origins of Religion." In: *Flesh of the Gods: The Ritual Use of Hallucinogens*, Peter T. Furst, ed., pp. 261-278. New York: Praeger Publishers, Inc.
- Reis Altschul, Siri von. 1972. *The Genus Anadenanthera in Amerindian Cultures*. Cambridge: Botanical Museum of Harvard University.
- Schultes, Richard Evans. 1972a. "On Overview of Hallucinogens in the Western Hemisphere." In: *Flesh of the Gods: The Ritual Use of Hallucinogens*, Peter T. Furst, ed., pp. 3-54. New York: Praeger Publishers, Inc.
- . 1972b. "Ilex Guayusa from 500 A.D. to the Present." *Etnologisk Studier*, No. 32, pp. 115-138. Stockholm.

Wassén, S. Henry. 1965. "The use of some specific kinds of South American snuff and related paraphernalia." *Etnologisker Studier*, No. 28, Stockholm.

———. 1967. "Anthropological Survey of the Use of South American Snuffs." In: *Ethnopharmacologic Search for Psychoactive Drugs*, Daniel H. Efron, ed., pp. 233-289. Washington, D.C.: U.S. Public Health Service Publication No. 1645.

———. 1972. "The Anthropological Outlook for Amerindian Medicinal Plants." In: *Plants in the Development of Modern Medicine*, Tony Swain, ed., pp. 2-65. Cambridge, Harvard University Press.

Wasson, R. Gordon. 1972. "What was the Soma of the Aryans?" In: *Flesh of the Gods: The Ritual Use of Hallucinogens*, Peter T. Furst, ed., pp. 201-218. New York: Praeger Publishers, Inc.