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New Approaches

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Morning glory and mother goddess at Tepantitla, Teotihuacan: iconography and analogy in pre-Columbian art

1. Ecstatic-visionary shamanism and hallucinogens

From Fr. Ramon Pané on Columbus' second voyage of discovery in the Caribbean (1493-6), to the father of Mesoamerican ethnography, Fr. Bernadino de Sahagún, and his contemporaries and successors in colonial Mexico, the early European chroniclers of Indian beliefs and customs were fascinated and puzzled at least as much as they were outraged by the widespread ritual use of botanical hallucinogens and intoxicants by native peoples of the Americas. Ethnobotanist Richard Evans Schultes (1972: 3-54), foremost authority on New World hallucinogens, estimates that the Indians of North and South America discovered and utilized the potent chemical properties of between eighty and one hundred different hallucinogenic plant species to trigger what they experienced as ecstatic confrontation with the supernatural. In central Mexico alone, the clergy tried in vain over several centuries to uproot a wide variety of religious and divinatory ritual practices that involved the use of such potent botanical hallucinogens – all considered sacred – as tobacco; the peyote cactus; morning glory seeds or *ololiuhqui*; *datura*; psychotropic mint; and several species of divine mushrooms known to the Aztecs by such revealing names as *teonanacatl*, 'flesh of the gods'. All these, and more, are still employed today.

Inevitably, the question arises how much older than the sixteenth century such practices might be – indeed, how much older even than the earliest 'mushroom stones' from highland Guatemala, which have been dated *c.* 1000 B.C. and which are now generally believed to have been connected with a Preclassic cult of hallucinogenic mushrooms.

In a recent paper on hallucinogens and their possible role in the shamanistic origins of religion, Weston La Barre (1972: 261-78) went

so far as to propose Palaeolithic and Mesolithic roots for the prominent role psychotropic substances have long played in the religious beliefs and rituals of the aboriginal New World.

In essence, La Barre based his argument on the fact, well documented by ethnologists from Boas on, that the base religion of American Indians from Alaska to Patagonia was, like that of palaeo-Siberian hunters and reindeer herders – indeed, of hunting peoples, ancient and modern, everywhere – ecstatic-visionary shamanism. In this respect, he writes (1972: 270): 'Aboriginal religion in the whole New World represents a kind of mesolithic fossil, little changed except in high cultures founded on agriculture, and the religion even in these cultures still shows shamanic origins.'

One area in which these ancient shamanistic survivals manifest themselves especially forcefully is in the ritual use of hallucinogenic intoxicants. Palaeo-Siberian shamans until very recently employed a psychotropic mushroom, *Amanita muscaria*, or fly agaric; American Indians, whose big-game ancestors drifted across the Bering land bridge from Siberia into Alaska in the Late Pleistocene, were to discover a great variety of plant species with which to bring about the kinds of ecstatic trances their Siberian cousins experienced with the fly agaric. La Barre attributes this phenomenon to the fundamental nature of ecstatic-visionary shamanism, which is, 'so to speak, culturally programmed for an interest in hallucinogens and other psychoactive drugs' (1972: 272). The suggestion that right from the beginning palaeo-Indian shamans might have consciously explored their new environment for hallucinogenic plants, rather than discovering them accidentally in the course of the food quest, is an intriguing one that finds some support in the ethnographic present.

From his argument, it would follow that the pervasive narcotic complex which so astonished the early European explorers (but whose true significance and extent most anthropologists have only just begun to appreciate), may already have been part and parcel of the ideological baggage carried into the New World from northern Asia by palaeo-Mongoloid big-game hunters toward the end of the Pleistocene, when, as most prehistorians agree, the peopling of the Americas on any considerable scale had its beginnings.

Unfortunately, delicate organic materials are preserved only under the most favourable circumstances, and, in the absence of securely dated and chemically tested early archaeological evidence, La Barre's hypothesis was unproven, however logical and attractive. True, Junius Bird's excavations at Huaca Prieta had turned up a whalebone snuffing tablet and associated birdbone snuffing tube, suggesting that in coastal Peru hallucinogenic snuff was used at least three millennia earlier than the first Spanish accounts of this practice among the Taino Indians of Hispaniola in the late fifteenth century. Since the mescaline-containing San Pedro (*Trichocereus pachanoi*) cactus figures prominently on ritual vases of the Cupisnique or Chavin style,

and on painted textiles of the same period, we may assume that the twentieth century use of this hallucinogenic species in Peruvian folk therapy (Sharon 1972: 114-35) has a history of at least three thousand years. The early mushroom effigy sculptures from southern Mesoamerica, mentioned above, suggest an equal antiquity for the modern Mexican mushroom cult. West Mexican mushroom effigies are somewhat more recent, dating between 1600 and 2000 years ago. Peyote is depicted on West Mexican funerary ceramics of the first century A.D. or thereabouts, while snuffing pipes from Guerrero, Oaxaca, Colima, and Nayarit attest to a widespread Mesoamerican snuffing complex that endured, at a minimum, from c.1200-1100 B.C. into the first centuries after Christ (Furst 1972*a*: 61-8). No snuffing was reported from Mexico by the early chroniclers.

These are all respectable ages. But since they are associated with a more or less sedentary agricultural life (or, in the case of Huaca Priesta, a coastal fishing culture with the beginnings of cultivation), rather than nomadic or semi-nomadic hunting and gathering, a Pleistocene origin for the hallucinogenic phenomenon among Palaeo-Indians had to remain largely conjectural, however persuasive the circumstantial evidence marshalled by Schultes, La Barre, and others concerned with this important culture-historical problem.

In fact, however, for some time there has been reasonably good evidence, from sites in northern Mexico and Texas, suggesting an ecstatic cult of considerably greater antiquity than anything found elsewhere in Mesoamerica in sedentary, pottery-making and food-producing village contexts. This evidence, in the form of caches of the red bean-like seeds of the *Sophora secundiflora* shrub, came from rock shelter sites of the Western Archaic, or Desert Culture, which archaeologists like W.W. Taylor (1956; 1966) have recognized as a widespread and extraordinarily conservative cultural continuum, extending over much of arid north-central Mexico and Texas, and enduring, with its basic way of life and many of its artifacts virtually unchanged, for some ten thousand years. The nature of this remarkably long-lived cultural phenomenon, and its various sub-phases, has been discussed in some detail by Taylor (1966: 59-94), based on his own excavations in well-preserved stratigraphic cave sites in arid Coahuila, especially at Frightful Cave in the Cuatro Cienegas basin of the Sierra Madre Occidental.

Trade in hallucinogenic *Sophora secundiflora* seeds among the Indians of Texas was mentioned by Cabeza de Vaca in 1539 (Schultes, 1972: 31-2). In historic times – indeed, until the latter half of the last century – the powerfully psychotropic red 'bean' was the focus of a widespread complex of ecstatic-visionary shamanistic cults or medicine societies, especially among the numerous tribes of the southern Plains. These hallucinogenic cults were known among Whites by various names, among them Red Bean or Red Medicine Society, Red Bean Cult, Deer Dance, Wichita Dance, or Mescal Bean

Cult (Troike 1962: 946-63). The last-named was, of course, wholly in error, since mescal is a distilled liquor made from the agave cactus and not from a leguminous shrub like *Sophora secundiflora.*

Quantities of these narcotic seeds were found in a dozen or so Desert Culture sites in Texas and Coahuila, Mexico. In rock shelter sites on the Lower Pecos River in Texas, the narcotic seeds are associated with a remarkable complex of pictographs of which the earliest, belonging to the Pecos River style, are estimated to date to the earliest Desert Culture in this region, prior to 6000 B.C.

In his recent monograph on Pecos River art, Newcomb (1967: 65-80) favours a shamanistic interpretation of many of the paintings and relates their content to hallucinogenic and divinatory red bean rites, as these are known from historic times. Remarkably, the iconography of the painted prehistoric anthropomorphic figures is very similar to that of participants in historic red bean cults, so much so that, as Newcomb (1967: 75) writes:

> If members of mescal bean societies had been portrayed on rock surfaces they would undoubtedly look amazingly like the anthropomorphic beings depicted in the Pecos River style pictographs. Animals, particularly deer, are important to both, and the animal pelts, bird feathers, rattles, and other paraphernalia used in the modern cult have close counterparts in the lower Pecos pictographs. Even the purpose of rodent jaws, included with mescal beans and other objects in a basket in a lower Pecos River archaeological site, is suggested by the usage of garfish jaws in the modern cult.[1]

The earliest radiocarbon dates from Frightful Cave (where *Sophora secundiflora* beans occur throughout all of the cultural deposits, from the earliest to the most recent) published by Taylor ranged from 7585 to 7345 B.C. However, these computations, made some years ago, when radiocarbon dating had not yet attained its present state of sophistication, carried a plus or minus factor of from 400 to 550 years. Hence these dates could be read as either older or younger by as much as half a millennium.

Recently, the cultural materials from Frightful Cave and related sites excavated by Taylor have been restudied at the Smithsonian Institution by James M. Adovasio and his colleagues and a new series of some fifty C14 dates computed by the Smithsonian's Radiation Biology Laboratory, under Robert Stuckenrath. As might be expected, these dates carried a far smaller margin of error.[2] According to the new computations, *Sophora secundiflora* seeds occur at 7265 ± 85 B.C. in the lowest deposits, and at A.D. 750 ± 50 in the uppermost, as well as in all of the intermediate levels. It should be noted that the seeds are found in what appear to be ceremonial contexts.

Comparable ages were reported for Desert Culture sites in the Amistad Reservoir area of Trans-Pecos Texas. At Fate Bell Shelter, for example, the psychoactive seeds of *Sophora secundiflora* and of another plant, *Ungnadia speciosa*, were found in all levels spanning the well-dated Trans-Pecos archaeological Periods II through VI (7000 B.C. to A.D. 1000). Similarly, Eagle Cave, which has also been well-dated, yielded the two species in association in occupation levels dating from 7000 B.C. to the eleventh century A.D.

There is thus no doubt of a well-developed shamanistic, ecstatic-visionary complex involving *Sophora secundiflora*, and perhaps other psychotropic species, in the period immediately following the decline and extinction of Late Pleistocene big game.

Of even greater interest are new radiocarbon dates for Bonfire Shelter. According to Adovasio, this well-dated and important archaeological site has yielded *Sophora secundiflora* remains from its lowest occupational stratum, Bone Bed II, now dated at 8440 to 8120 B.C., well into the Late Pleistocene big game hunting era. Indeed, the narcotic seeds were found with Folsom and Plainview points and the bones of extinct *Bison antiquus*. They also occur in all of the subsequent levels, up to A.D. 1040, when the site had its final occupation.

It is therefore reasonable to assume that the historic red bean cult of northern Mexico and the Southern Plains of the United States has a time depth reaching back beyond the Archaic precisely into the Mesolithic-Palaeolithic horizon postulated by La Barre. While migrations of small hunting bands from Asia into Alaska almost certainly began as early as 20-30,000 years ago, if not earlier, they probably did not cease at least until about 10-12,000 years ago, when the rising seas finally submerged the Asian-American overland connection (the ancestors of the modern Eskimos, whose culture continued to be wholly Mesolithic until modern times, arrived later, probably between 4000 and 2000 B.C.). Thus, at a time when new groups were still crossing the Bering land bridge, palaeo-Indian hunters of bison, mammoth and other Pleistocene big game had already discovered and were utilizing the psychoactive properties of various New World plants, a phenomenon which lends credence to La Barre's suggestion that such knowledge and skills were directly derived from the traditions and practices of ecstatic-visionary Eurasian shamanism.

Likewise, the survival of these ecstatic practices, not only into early food cultivation but also into the urbanized, highly complex manifestations of Postclassic Mesoamerican civilization, supports La Barre's characterization of much of pre-Christian American Indian religion as a kind of Mesolithic-Palaeolithic fossil, in which the basic precepts of the ecstatic shamanism of earlier hunting cultures continued to play a major role. Needless to say, this is not meant as a

value judgment; on the contrary, the 'archaic' forms survived because they had proved themselves to be eminently satisfying and adaptive, and because, in contrast to the Old World, with its often bloody religious upheavals and reformations, they were not generally subjected to violent repression and radical transformation but, as a rule, to far gentler, 'natural' or evolutionary modifications.[3]

From the writings of Sahagún and other sixteenth-century chroniclers, it is clear that the sacred hallucinogens played an important part not only in divinatory or curing practices on the 'folk level' of religion and ceremonial, but also in the far more complex beliefs and rituals of the priestly hierarchies that served the demanding gods of Aztec Tenochtitlan and its allies and tributaries. The priesthood, of course, was eliminated with the Conquest, so that by the time of Hernando Ruíz de Alarcón or Jacinto de la Serna, to mention two seventeenth-century churchmen most concerned with native beliefs and customs, especially those involving hallucinogens, as these had survived the first hundred years of acculturation and repression, the cults of the divine hallucinogens were almost wholly in the care of Indian village shamans, diviners, and curers. These are still the guardians of the ancient traditions, however modified or syncretic. We may assume a parallel development in the Maya area, for which, unfortunately, we lack detailed documentation on the use of psychoactive plants comparable to the rich data compiled for central Mexico by the early chroniclers. But, as the noted Maya scholar J. Eric S. Thompson (1970: 185) pointed out, notwithstanding the silence of the colonial sources on this topic, 'it is hard to believe that the lowland Maya had nothing of that sort in view of the widespread use of toxic aids in other parts of Middle America', and also in consideration of the many ancient representations of mushrooms in the Maya highlands, and some in the lowlands as well. (Since the publication of Thompson's recent book on Maya religions and history, what appears to be a cult of hallucinogenic mushrooms has come to light in the Maya lowlands among the Lacandon Maya in the Usumacinta region (Merle Greene Robertson, personal communication).)

By extension, the rich store of information that Sahagún, Fr. Diego de Durán, and their fellow sixteenth-century chroniclers compiled on the complex religion of Aztec Tenochtitlan helps us to understand something of the beliefs of its civilized predecessors, especially Teotihuacan, from whom it took, directly or indirectly, much of its ultimate inspiration. The folk cults of rural Mexico, as described by Ruíz de Alarcón, above all constitute a primary source for rural Indian religion as it persisted beyond the trauma of the Conquest. Almost certainly, however, these seventeenth-century folk beliefs reflect a good deal of the common ideology not only of the preceding pre-Conquest era in central Mesoamerica but also of far earlier times. It seems to me that we are justified in making this

assumption in light of the fact that much of what Ruíz de Alarcón wrote in 1629 is almost equally applicable today, especially where it concerns the role of the divine hallucinogens. Such a high degree of ideological conservatism, in a time when native religion was subjected to its greatest stresses and its most powerful pressures for radical change, allows us to suppose at least as little fundamental modification as we move backward in time from the early colonial period and the Conquest into the Postclassic and Classic.

In any event, the following pages will, hopefully, demonstrate the great potential value of the legacy of Ruíz de Alarcón and, among his predecessors, especially Durán, for the analysis and understanding of certain well-defined areas of pre-Columbian art and iconography.

2. *The Tepantitla mural*

In an earlier paper (1970) I tentatively proposed a reinterpretation of the great 'tree' above the frontal deity in the so-called Tlalocan, or Paradise of Tlaloc, mural at Tepantitla, Teotihuacan, as a metaphysical conception of the morning glory vine, *Rivea corymbosa.* In Aztec times, the potent hallucinogenic seeds of this plant, whose active principles have been identified as lysergic acid derivatives, were worshipped as the divine *ololiuhqui.* Like peyote, the sacred mushrooms, and other traditional hallucinogens to which god-like qualities were attributed, *ololiuhqui* survived the Conquest, and to this day is widely employed in curing and divinatory ritual to induce ecstatic intoxication, or 'altered states of consciousness'. Mestizos and Indians know it under such names as *ololuc, badoh, semilla de la Virgen, semilla de la Santa Maria*, etc.

At the time I also suggested that notwithstanding the Tlaloc-like nose bar or mouth mask with its characteristic row of fang-like teeth, the Tepantitla deity was not in fact Tlaloc, nor even male, as it is identified in most of the Mesoamerican literature, but rather an earth and fertility goddess, who might be called Mother of Water. This was not actually a wholly new idea, since Kubler (1962: 37) had already referred to her briefly as a water goddess,[4] without, however, attempting to identify her further or linking her with any of the well-known earth and fertility goddesses of the late Postclassic period. Kubler, as we know, rejects the concept of continuity between Teotihuacan and the Aztecs, and with it also the validity of calling the gods of Teotihuacan by Aztec names.

On the contrary, I felt then, as I do now, that conceptually, iconographically, and by ethnohistoric and ethnographic analogy, the Tepantitla goddess can be identified with one or more of her Puebla-Mixteca-Aztec counterparts, and also with the Huichol earth and fertility goddesses, especially the Mothers (or All-Mother) of Water. In the absence from the complex Huichol pantheon of a

Figure 1 Detail from the reconstruction painting by Agustin Villagra of the socalled 'Tlalocan' mural at Tepantitla, Teotihuacan, showing the central deity flanked by attendant priestesses (or priests in female clothing), with the 'tree' – actually a twining flower vine – rising from the great *quetzal* headdress of the goddess. Museo Nacional de Antropología, Mexico City.

Tlaloc-like male rain deity, these Mothers are goddesses both of terrestrial water (springs, waterfalls, streams, rivers, lakes, water holes, etc.) and of rain. This is because rain is seen as the child of the earth, in that it has its ultimate origin not in the celestial regions but in the terrestrial water, from which the Mothers make it rise in the form of clouds at the beginning of the rainy season. This fundamental Huichol conceptualization of the earth as the mother of rain may be significant to our understanding of the nature of Tlaloc, and of his curious synthesis with the Earth Goddess at Teotihuacan and subsequently in Aztec art.

Notwithstanding the fact that the frontal deity is not the Aztec god of rain, there is obviously a close conceptual and iconographic relationship between the earth mother and Tlaloc, whose full name is Tlalocatecuhtli, Lord of Tlalocan. Etymologically the name is unrelated to rain; Thelma Sullivan (personal communication) instead connects it with *tlalli*, earth, and derivations of this word that have to do with the earth and its natural or supernatural manifestations.[5]

Figure 2 Detail from the 'Tlalocan' mural. Along with other evidence discussed in the text, the characteristically morning-glory-like structure of the flowers in profile suggests identification of the 'tree' as *Rivea corymbosa*, whose hallucinogenic seeds, worshipped as divine in Aztec times, are still widely employed in Mexico to induce ecstatic vision states in ritual curing and divination.

A conceptual and iconographic (and perhaps etymological) relationship between Tlaloc and the Earth Goddess is unmistakable especially in the latter's animal aspect – the monstrous toad Tlaltecuhtli, meaning Lord, Owner, or Master of the Earth. In Aztec art these two conceptions – Tlaltecuhtli and Tlalocatecuhtli – are sometimes synthetized into a single being, with the body of the monstrous toad with jaguar claws and the characteristic goggle-eyed face of Tlaloc. If Tlaloc is male, however, Tlaltecuhtli seems to leave no doubt of her essential femininity, in that she is invariably depicted in the characteristic squatting, or *hocker*, position in which Indian women traditionally give birth. If there were any question of the meaning of Tlaltecuhtli's *hocker* or childbirth position as symbol of regeneration and rebirth, it is dispelled by the well-known painting of the goddess Tlazolteotl in the act of giving birth in the pages of the Codex Borbonicus. Tlazolteotl is another aspect of the old Earth Mother Toci, Our Grandmother, who is also worshipped variously as Tonantzin, Our Mother; Teteoinan, Mother of the Gods; and Coatlicue, Lady of the Serpent Skirt, and whose animal aspect is the earth toad as genetrix of all life, who alternately devours and regenerates the Sun and light and whose womb receives the bones and souls of the dead. In a creation tradition the monstrous toad is closely connected with the origin not only of the land but of terrestrial water and of the useful plants that sustain man. All this

Figure 3 Cast of the underside of the Colossal Coatlicue in the Museo Nacional de Antropología, with relief of Tlaltecuhtli, the deified Earth in her form as a monstrous squatting toad in the *hocker*, or birth-giving position, but with the goggle-eyed face of the male earth and rain god Tlaloc. Similar reliefs, with or without the head of Tlaloc, are found on the underside of other Aztec monuments, including sacrificial vessels, idols of the Mother of the Gods, and even of Quetzalcoatl.

bears significantly on the iconography of the Tepantitla deity, as on the problem of continuity or discontinuity between the Aztecs and their central Mexican predecessors.

At the time of my earlier paper I did not have the benefit of a scholarly and insightful art historical analysis of the Tepantitla fresco complex which Esther Pasztory (1971) was then preparing, and which she has since presented as her doctoral thesis. Nor had I had the chance to discuss the murals with Doris Heyden of the Museo Nacional de Antropología, who has long been concerned with the application of ethnohistory to central Mexican iconography.

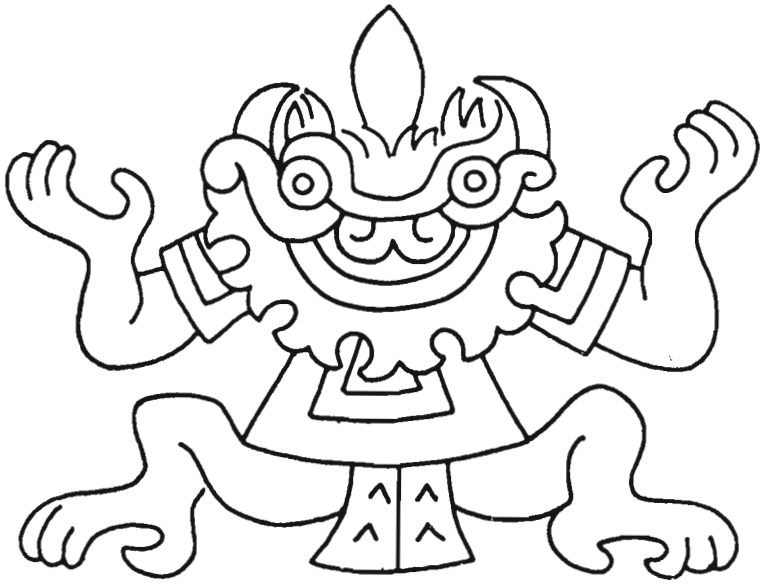

Figure 4 The earth as Tlaltecuhtli, redrawn from the Codex Borbonicus. Note flint knife emerging from her fanged jaws, as symbol of light and Sun, which she alternately devours and regurgitates. Tlaltecuntli's squatting, or *hocker*, position, is that assumed by Indian women when giving birth and so presumably symbolizes the dualistic life-death role of the Earth Mother as genetrix as well as destroyer. Tlazolteotl, Goddess of Sustenance, herself another aspect of the basic Earth Mother Goddess of the Aztecs, is depicted in the same position as she gives birth to the young Maize God Centeotl.

Hence my initial identification of the frontal deity was somewhat impressionistic, lacking the meticulous analytical and detailed approach Pasztory was to bring to the problem.

Essentially, my identification was based on a comparison of the two profile attendant figures with that of the frontal deity, herself only a half-figure, or bust, as Huichol deities often are in ceremonial art. Of the frontal deity, only the upper part – face, quetzal bird headdress, shoulders, and arms – are wholly visible, the rest of the abbreviated figure being hidden under the bifurcating stream that gushes from beneath the Tlaloc-like mask, and by other water and vegetation symbols.

The profile figures wear headdresses, jade jewelry and some other accoutrements identical to those of the frontal deity, but unlike her face, which appears to be masked, their faces are human. We may assume them to be priests or priestesses impersonating the deity. Their attire, however, is feminine, distinguished especially by the *quechquemitl*, the triangular, poncho-like upper garment which in Aztec times was worn exclusively by women of noble status and which also served to identify certain earth goddesses in the codices (Doris Heyden, personal communication). It follows that the deity

being impersonated had also to be essentially female, notwithstanding certain male characteristics, such as the Tlaloc-like mouth and the fire band eyes, which are associated with the male fire deity.

Over the past two years, Pasztory, Heyden, Arthur Miller (whose own monograph on the murals of Teotihuacan appeared in 1973), and I have had occasion to discuss the complex Tepantitla iconography in some detail. The present paper has benefited greatly from these conversations, and I would like to take this opportunity to thank these colleagues for freely sharing their many helpful and stimulating ideas.

We are generally agreed that the frontal deity is indeed female and that she seems to represent the earth mother in a youthful and bountiful aspect. Pasztory believes that she comes closest in character to Xochiquetzal (Precious, or Quetzal, Flower), the young Earth Mother and creator goddess of fertility and vegetation in the pantheon of the Aztecs. As fountainhead of terrestrial water, which pours from the area of her nose and mouth, she seemed to me to embody primarily the characteristics of Chalchiuhtlicue, Lady of the Jade Skirt, goddess of water that flows over and under the earth, mother of springs, streams, lakes and water holes, and, according to some traditions, wife, or sister, of Tlaloc. Heyden understands her more fundamentally as the all-encompassing Earth Mother Goddess as genetrix of all life. This more generalized interpretation is perhaps the most useful one. It carries a most important inference – that perhaps the principal, or at least fundamental, deity of Teotihuacan was the universal Mother Goddess.

In a sense, of course, we are all talking about the same thing, inasmuch as Xochiquetzal and Chalchiuhtlicue are not wholly distinct and separate deities but, along with a number of other earth and fertility goddesses, closely related aspects of the same basic creative female principle, personified in the Earth as *Urmutter*. By this I do not mean to deny them the well-defined personalities which they obviously possess and which are reflected in their distinctive accoutrements and the rituals specifically dedicated to them. Nevertheless, in essence they are the youthful and fertile aspects of the old goddess of the earth and of life, the Mother of all – as are Cihuacoatl, Snake Woman, goddess of female fertility and parturition and divine patronness of those who died in childbirth;[6] Xilonen, an earth goddess apparently of Huaxtecan origin; Ixcuina, goddess of filthy things (especially sexual transgressions) to whom one confessed; Iztaccihuatl, Sleeping Woman; Chicomecoatl, Seven Serpent, whom the chroniclers called the Goddess of Sustenance, and others. Notwithstanding their distinctive names, attributes, functions, and ceremonies, to dichotomize too rigidly between them would be to misunderstand the fundamental nature of Mesoamerican religion, where few such sharp distinctions prevail.

Much the same phenomenon can still be observed today among

the Huichol of western Mexico. The multiplicity of deities in the Huichol pantheon, that so bewilders the ethnographer when he first encounters this most traditional of remaining Indian cultures in Mexico, becomes more comprehensible as soon as he realizes that the numerous goddesses of the earth, rain, terrestrial water, flowers, fertility, childbirth, maize, etc., are essentially only different, youthful and fecund, aspects of the old Earth Mother Goddess Nakawe. Lumholtz (1900: 13) recognized this long ago, when he noted that such earth goddesses as Tatei (Our Mother) 'Utuanaka and Tatei Yurianaka were not separate and distinct but different attributes of their own mother, whom he called Grandmother Growth. 'Utuanaka is the Earth Mother of maize and sustenance, Yurianaka the Earth Mother who has been prepared by rain and moisture for the planting season. Zingg (1938) rejected the identification of these earth goddesses with the old Creator Goddess, insisting that the different youthful earth mothers were in fact entirely separate rather than only different aspects of the old goddess. My own research fully supports the insight of Lumholtz as essentially correct.

Another major point on which Heyden, Pasztory, Miller and I are agreed is that the 'tree' rising behind and above the frontal deity (or, perhaps, growing directly out of her image?) is not just a symbol of vegetation and fertility, but embodies several layers of meaning, which go beyond natural history and ethnobotany.

Thirdly, we feel that there is a sufficient degree of ideological continuity not only between all the different local and temporal manifestations of Mesoamerican civilization, to justify attempts at interpretation by ethnographic and ethnohistoric analogy, especially, but by no means exclusively, to Aztec cosmology and ritual, as these have come down to us from the early Colonial sources and from some of the prehispanic codices.

Where some of us diverge (at least as of this writing), is in the more specific botanical identification of the flowers on the ends of the twining branches of the 'tree' as those of *Rivea corymbosa.*[7]

Pasztory (147-9) believes this determination to be too specific. She prefers to interpret the stylized, funnel-shaped blossoms, whose form is very common in the art of Teotihuaćan, as symbols for flowers in general, especially inasmuch as the same conventionalized flower in profile is also used on plants that are unequivocally creeping or climbing vines[8] without the clearly supernatural or mythic attributes of the Tepantitla 'tree'.

Pasztory agrees, however, that while the central plant at Tepantitla has never in the past been called anything but a tree, it does in fact more closely resemble a twisting vine, perhaps one that is filled with water or sap; its form, she writes, suggests a cross between spouting streams of water and plant. On the whole, she views the plant as embodying the widespread concept of a Cosmic Tree at the centre of the world, symbolizing with its associated images the interrelationship of all nature and life.

I have no fundamental quarrel with such an interpretation, especially since it does not really conflict with a more specific botanical identification as *Rivea corymbosa*. As we know from ethnography and ethnohistory, the sacred hallucinogens provided the means by which man could transcend the limitations of the human condition and achieve direct confrontation and intercourse with the supernatural in ecstatic trances. 'Pillar-of-the-World', 'Mainstay-of-the-Sky', is how the Rig-Veda of ancient India addresses the divine Soma, identified by R. Gordon Wasson (1968) as the hallucinogenic *Amanita muscaria*, or fly agaric, mushroom. The neophyte shamans of the Carib Indians of South America climbed to the sky along hallucinogenic vines on their celestial trance journeys.

I have heard Huichol shamans refer to the tobacco plant as the 'special tree of shamans', and to the little peyote cactus, *Lophophora williamsii*, whose crown barely projects above ground, as 'tree of our life'. Vine, tree, bush, fungus, or cactus, they are conceived as magical stairways to the Upper- and Underworld, and so tend to merge with the *axis mundi* and Cosmic Tree that connects heaven and earth at the centre of the world.[9]

Be that as it may, notwithstanding the degree to which the natural features of the Tepantitla plant are overlaid with metaphysical symbolism, the botanical determination is supported by the following:

1. Total configuration as a twining plant with twisted flowering branches, rather than as a typical tree with central trunk and lateral limbs (of which there are examples in the same mural).
2. Funnel-shape of the flowers in profile; characteristically meta-chlamydeous (united), rather than separate and overlapping, petals, and typically morning-glory-like relationship of calyx to corolla.
3. Seed pods and/or unopened buds which, in contrast to the synthesis of botanical and metaphysical characters that marks the plant as a whole, appear surprisingly faithful to the natural model.
4. The morning glory's preference for wet places, such as the banks of streams, rivers, drainage ditches or canals, and the coincidence of its flowering season in central Mexico with the onset of the rains in early summer, all of which might have served as validation for the metaphysical and pictorial association of *Rivea corymbosa* (or the other hallucinogenic morning glory species, *Ipomoea violacea*) with a Mother Goddess of Water.

In light of the above, I venture that, were it not for the greatly exaggerated diameter of the interlacing, double-outlined branches, which give an x-ray-like impression of transparent, hollow tubes, filled with liquid, and containing spiders, butterflies, deposits of

insect or spider eggs (?), and, here and there, small quatrefoil rosettes, the supposed 'tree' might long ago have been identified as a morning glory, even in the absence of any knowledge of the profound role the morning glory played in prehistoric and in historic times.

This is not to say that the flowers in profile are wholly naturalistic – only that they may be recognized botanically with a high degree of probability. Aside from general stylization in accordance with Teotihuacan tradition, the flowers are fraught with symbolism: for example, the rim of the corolla is set with a row of three eyes, which are repeated also on the streamers that fall, water-like, from quatrefoil disks in front of each blossom. Much has been written of this eye motif in the art of Teotihuacan; unfortunately, its meaning continues to elude us.

There is another curious iconographic association in the Tepantitla mural that should be considered in this context. Wasson (personal communication) has long believed that sacred mushrooms of the species *Psilocybe* are represented on the edges of the 'streams' of seeds falling from the hands of the two attendant priests. These edges are set with alternating plant symbols of which one appears to be a seed or seed pod and the other resembles a slender-stemmed mushroom with the cap seen from below. Whether or not these are in fact mushrooms, the seeds within the streams, and below the cave mouth symbol at the base of the central deity, can be identified botanically as the narcotic *Rhynchosia pyramidalis*, known in Oaxaca as *piule*.[10] *Piule* is taken with the sacred mushrooms on the slopes of Popocatepetl. It is interesting that the term *piule* is also sometimes applied to the hallucinogenic morning glories (Schultes 1972: 51).

The quatrefoil, or cruciform, rosettes are very curious and require consideration. First, we find a similar juxtaposition of profile and *en face* flowers in the centre of the figure, above what appears to be a symbol for cave, or the entrance to the underworld. Funnel-shaped morning-glory-like flowers alternating with frontal, cruciform rosettes can also be seen on some painted vessels. The presence of both forms on the same plant would suggest (as does Pasztory) that they are indeed meant to represent the same flower, seen from different angles, despite their unmistakably dissimilar configurations.

While this may well be the case, there is an alternative, or perhaps only supplementary, explanation. It may be that while the profile view identifies the specific flower, its conventionalization into a cruciform or quatrefoil – which is botanically comparatively rare – stands for something more – perhaps a mythic or cosmological attribute in some way related to the four sacred world directions and the vital centre.

It could hardly be considered coincidental that the same quatrefoil motif occurs at Teotihuacan also in other iconographic contexts,

where it is obviously not part of a flowering plant – for example, on *incensarios*, of the headdresses of figurines, and very prominently on the facade of the Temple of the Plumed Conch Shells, where large cruciform rosettes are juxtaposed with conch shell trumpets decorated with quetzal feathers.

It was Seler (1915: vol. 5, 462-9) who long ago interpreted the quatrefoil flower at Teotihuacan as symbol of the Sun God, by analogy to the very similar Maya *kin* sign, glyph for Sun or day, and sign of the Sun God, who is also the god of number 4. Seler noted that some of the mould-made Teotihuacan figurines identified by him as idols of the Sun God on the basis of the quatrefoil symbol also share with the Maya Sun God the characteristic filing of the incisor teeth to a T-shape.

Assuming, then, that the botanical identification of the 'tree' as the *Rivea corymbosa*, source of the divine *ololiuhqui*, is correct, the above would suggest solar attributes for the morning glory, or at least some sort of symbolic association with the Sun. Considering the heliotropic, or phototropic, behaviour of the morning glory, such a connection would be hardly surprising. While there is almost certainly a deeper meaning that escapes us, the morning glory might well have been regarded as herald or companion of the diurnal Sun God, in that its blossoms typically open with the first rays in the morning and close again at dusk. (Notwithstanding the apparent 'logic' of the above, it may be that the quatrefoil 'flower' in Teotihuacan art – especially those associated with the large conch shell trumpets on the facade of the Templo de los Carcoles Emplumadas – has additional or even different meanings. It could, for example, symbolize a kind of quatripartite or four-directional underworld as place of ultimate origins and home of the great Earth Mother Goddess. This concept of an underworld with four quarters persists to this day among some of the Pueblo Indians of the southwest.)

3. The divine ololiuhqui

Ololiuhqui is a powerful hallucinogen, containing, as Albert Hofmann, the discoverer of LSD-25, was to determine in 1960, d-lysergic acid amide (ergine) and d-isolysergic amide. These, writes Hofmann (1963: 352),

> are closely related to d-lysergic acid diethylamide (LSD) . . . which we had produced synthetically and investigated many years previously whilst working on LSD. From the phytochemical point of view this finding was unexpected and of particular interest because lysergic acid alkaloids, which had hitherto only been found in the lower fungi of the genus *Claviceps*, were now for the first time

found to be present in higher plants, in the plant family of *Convolvulaceae.*[11]

According to Francisco Hernández (1651), the learned and observant physician to the King of Spain who spent some eight years in sixteenth-century Mexico studying the medicinal lore of the Aztecs,

> when the priests wanted to communicate with their gods, and to receive messages from them, they ate this plant (*ololiuhqui*) to induce a delirium. A thousand visions and satanic hallucinations appeared to them.

Actually, as the Spanish clergy quickly recognized, *ololiuhqui*, like other sacred psychotomimetic plants, was more than just the agent of communication with the supernatural. It was itself supernatural, indeed a god. It would almost have had to be to account for its powerful presence in the Tepantitla mural.

In fact, even in the Colonial era, in the face of the most ruthless persecution by the ecclesiastical authorities, *ololiuhqui* retained its divine character as a deity, revered in secret domestic oratories and shrines, addressed with prayers, petitions, and incense, and presented with sacrificial offerings and bouquets of flowers. *Ololiuhqui* could also manifest himself in human shape to those who drank the hallucinogenic infusion. Accounts of the worship of *ololiuhqui* and other hallucinogens as divinities are too specific and occur too often in the colonial literature to be dismissed as mere ethnocentric misconstruction of indigenous beliefs.[12]

Far and away the best source on the subject of *ololiuhqui*, as on seventeenth-century survivals of Indian beliefs and practices in general, is the treatise on the 'idolatries and superstitions' of the Indians of Morelos and Guerrero authored by Ruíz de Alarcón (1629). This work was the result of a wide-ranging investigation of native religious beliefs and rites, as these had survived the first century of Spanish rule. It was commissioned by the Church to serve as a manual of instruction for the clergy in the recognition and extirpation of 'idolatrous and superstitious' behaviour. The manuscript covers a wide range of indigenous customs, especially with respect to curing, divination and magic, much of it deeply rooted in pre-Hispanic religion and ritual.

Its greatest value lies in its numerous original Nahuatl texts of magical incantations and invocations, employed by native shamans, curers and diviners in a variety of contexts, from therapy to agriculture, hunting and fishing, and artisanry. These were evidently dictated to the author, who spoke Nahuatl fluently, by professional shamans, many of them women, detained and interrogated by him in his role of investigator for the Holy Office (Inquisition). Some of these magical incantations exhibit Christian influence, but the

majority show little or no acculturation. Apparently at least some of these chants were 'acquired' by their owners in ecstatic trances induced by *ololiuhqui*. Acquisition of chants and other magical formulae in ecstatic trance or dream states is of course a well-known phenomenon in shamanism.

Several chapters are devoted to what their author calls 'the superstition of the *ololiuhqui*', to which, he complains, the Indians continued to attribute divinity in the face of his most vehement denunciation and severest punishment. Worse, the same 'superstition' was wont to infect 'base persons' among the Colonials, including, he writes, Negroes, Mulattoes and even Spaniards. For this reason, he said, he would refrain from identifying the precise botanical source of *ololiuhqui*, other than that it was a vine that grew especially profusely along the banks of the rivers and streams in his native Guerrero and neighbouring Morelos (as it still does).

There are repeated complaints that no matter how diligently one tried to discover and suppress the old customs, the Indians seemed always to find new ways to thwart one's best efforts, hiding the consecrated *ololiuhqui* baskets and pottery bowls in secret places, lest contamination by alien hands so anger the deity that he might punish the Indians for allowing such sacrilege. And the Indians, he says, seemed always to be far more concerned with the good will of *ololiuhqui* than the displeasure and penalties of the clergy. Since this important work has not previously appeared in English,[13] the following account of one of his investigations, involving a woman whom a relative had denounced as an idolater following a family quarrel, is cited *in extenso*:

> So that it can be warned with what care one should handle these affairs, I refer to another case: In the town of Cuetaxxochitla, an Indian woman had a little basket that had this *ololiuhqui* superstition, and she had I know not what kind of dissension with those of her household, and shortly afterward I arrived in that town, which being of my *beneficio*, would enable the Indian woman to overcome her fears.
>
> When I arrived I got news of the basket, which was given me by one of her relatives; so that I wouldn't miss my chance I sent him to check the house again, and he asked if he could do it alone since he was from the same house, and he would see if the basket and the *ololiuhqui* and all the other things which he had denounced were still there. With this, he went to the house and returned to me saying that the basket was not in the same place as before, nor anywhere in the oratory.
>
> Therefore, with all diligence, I had the Indian woman, owner of the basket, brought before me, and placed some guards in the house of a sister of hers in the town. And then I interrogated the criminals so carefully and with such detailed and careful descrip-

tions of the basket that she couldn't deny it, but she said that she didn't have inside (it) that which we were looking for, nor any other thing of interest, and that the basket had not been removed from her house. I then sent for it, and they found it where she said it was, but now emptied of its treasure, because, to her way of thinking, all the *ololiuhqui* had been taken out, and a cloth (bag) of those which they offer (in sacrifice), which the denouncer had set aside; so that there was a very little *ololiuhqui* in the basket. Seeing the quantity of *ololiuhqui* and the cloth that was missing, I had the sister of the criminal detained, and although I confronted her with the truth, and a well-informed description, as good as the owner could testify herself, I spent the whole day in questions and answers to find out what she had taken out of the basket, because in the brief amount of time that it had taken me to call the sister and to send guards to her house, she had time to remove all the *ololiuhqui* from the basket and return it to her sister's oratory, and to divide the *ololiuhqui* up into many parts, which added to the superstition of the cloth and the basket.

When she was asked why she had denied it so perversely she answered, as they always do, 'Oninomauhtiaya', which means, out of fear I did not dare. It is important to indicate that this is not the same fear which they have for the ministers of justice for the punishment that they deserve, rather (it is) the fear that they have for this same *ololiuhqui*, or the deity they believe that resides in it, and in this respect they have their reverence so confused that it is necessary to have the help of God to remove it; so that the fear and terror that impedes their confession, is not one which will annoy that false deity that they think they have in the *ololiuhqui*, so as not to fall under his ire and indignation. And thus they say, 'Aconechtlahuelis', 'may I not arouse your ire or anger against me'.

The investigation completed, the good friar arrived in Atenango, seat of his benefice in what is now the state of Guerrero (he himself was born in Taxco). Here,

> knowing the blindness of these unfortunate souls, to remove from them such a heavy burden and such a strong impediment to their salvation,

he began at once to preach vigorously against *ololiuhqui*, ordering the vines that grew along the river banks to be cleared away, and casting prodigious quantities of the confiscated seed into the fire in the presence of its owners. With this, he writes, 'Our Lord was served'.

Immediately afterwards he fell ill, which he attributed to the unfamiliar climate of the hotlands, but which his Indian parishioners

promptly credited to the displeasure of the *ololiuhqui*, 'for not having revered it, it being earlier angered by what I had done to it: this is how blind these people are'. He recovered, and to prove them wrong, chose a solemn feast day to assemble the entire *beneficio* for another, more impressive burning of confiscated *ololiuhqui*. He ordered a huge bonfire built,

> and into it, with all of them watching, I had almost the totality of the said seed which I had collected burned, and I ordered burned and cleared again the kind of bushes where they are found.

Alas, the old ways persisted:

> Such is the diligence of the devil that it works against us, for by his cunning we find each day new damage in this work, and thus it is good if the ministers of each jurisdiction are diligent in investigating, extirpating and punishing these consequences of the old idolatry and cult of the devil . . .

While Ruíz de Alarcón credits the devil with encouraging idolatry, it is not unlikely that he himself unwittingly helped reinforce the old belief in the divine nature of the *ololiuhqui* and the power of the ancient gods. Far from destroyer, fire in Indian Mexico was divine purifier and transformer, god of the sacred centre – as indeed it remains to this day among the Huichol. Hence the burning of the divine seed is likely to have had profoundly different meanings for the Indians and for the Spaniards. Burnt offerings to the gods are a common feature of Huichol ritual. On ceremonial occasions nothing is eaten, drunk or smoked that is not first shared with the fire, deified as Tatewari, Our Grandfather, First Shaman and tutelary deity of Huichol shamans, who put the universe in order in primordial times at the behest of his progenitress, the old Earth Goddess. If the Nahuatl-speakers of Guerrero and Morelos were anything like the Huichol in their reverence for fire – and the mystical references to fire in the magical incantations suggest that they were – the casting of *ololiuhqui* into the flames was more probably regarded as a proper, if somewhat wasteful, offering to the gods than as ignominious destruction – especially when the occasion was a solemn religious holiday.

Like other Colonial clergy of his day, Ruíz de Alarcón seems to have had a sneaking suspicion that the 'superstition of the *ololiuhqui*' and other hallucinogenic plants had some basis in fact, and that the Indians who employed it to foretell the future, find strayed animals, spouses, property, etc., and, above all, to ascertain the causes and proper cures of fevers and sicknesses, really were able to do so – at least on occasion. If so, however, then it had to be the work of the Devil, acting through the *ololiuhqui*, and not some property of the

plant itself. To some degree the Indians thought along the same lines – except that to them the power of the *ololiuhqui* was a native god rather than the Christian Devil.

While most of the best Colonial data for the use of hallucinogens pertain to central Mexico, even without the Tepantitla evidence we would not assume the Aztecs to have been the first to discover the potent hallucinogenic principles of *Rivea corymbosa*, or the first to attribute divinity to the plant. In fact, only very long tradition can account for its pervasive mystical and ritual role at contact time, or its wholly successful resistance against the most determined efforts by the clergy to eradicate it as divine vehicle of ecstatic confrontation with the supernatural. As noted above, there is ample evidence that apart from *Sophora secundiflora*, which appears to have been restricted mainly to the arid north, the major hallucinogens of the sixteenth century had a very long history and a wide distribution in Mesoamerica. Some, like peyote, were ritually employed hundreds of miles from their native habitat, as they still are. This suggests long-distance trade in psychotropic substances in prehistoric times, and/or arduous religious pilgrimages on the order of the peyote quest of the contemporary Huichol Indians (Furst 1972: 136-84). (To obtain peyote, which is central to their ideology and to many of their ceremonies, small groups of Huichol, under the leadership of full-fledged or aspiring shamans, make annual treks from their present homeland in the Sierra Madre mountains of western Mexico to the scrub desert of San Luis Potosi, in north-central Mexico, to which the divine hallucinogenic cactus is native – published statements that peyote occurs naturally in Western Mexico are in error.)

As for *ololiuhqui* itself, the iconography of the seventy-metre-long Early Classic (*c.* A.D. 2-300) mural of the *bebedores* (drinkers) recently unearthed at Cholula, Puebla, suggests that the alcoholic beverage, whose intoxicating, and even transforming, effects are graphically depicted in the paintings, may have been fortified with morning glory seeds. The ritual practice of adding *ololiuhqui* or another hallucinogen to fermented or distilled liquours still survives in present-day Mexico.

Everything considered, it is reasonable to assume that *ololiuhqui* was well-known to the people of Teotihuacan, along with other sacred hallucinogens in cultic use within its considerable sphere of influence, and even beyond. Indeed, in light of the profusion with which morning glories grow in the valley of Cuernavaca and elsewhere in the state of Morelos and adjacent Guerrero, one cannot help but speculate on the role *ololiuhqui* might have played in trade relations between these more tropical regions and the Valley of Mexico in Teotihuacan times – as well as later.

In any event, only about seven centuries separate Tepantitla, which dates to the seventh or eighth century A.D., from the Aztecs – a healthy interval, to be sure, but, considering the cumu-

lative evidence for continuity in Mesoamerican culture history, probably characterized less by any fundamental dislocation or transformation than by different levels of elaboration of basic common themes. Whatever their ultimate origins as 'rude barbarians' from the north, the Aztecs were the inheritors of the Mixteca-Puebla tradition. And this tradition, in turn, owes much to Teotihuacan.

Without doubt, many of the gods of Teotihuacan and its contemporaries reappear in the Aztec pantheon, having first passed through the filter of Teotihuacan's major and minor successors in the central basin. This sort of continuity should apply even more to the 'folk' level of belief and ritual, where the various cults, such as those of the divine hallucinogens, survived long after the organized priesthood, which once shared in these cults and presumably greatly elaborated them, had ceased to exist. And, as we saw, the cults themselves also had their origins long before there were priests – in the family and band shamanism of hunting and gathering cultures more than ten thousand years ago.

4. *The 'Mother of Water' and ololiuhqui*

Elsewhere in these pages I raised the possibility that the divine morning glory 'tree' of Tepantitla might be read as an organic part of the mother goddess, growing directly from her own body. There is, in fact, some ethnohistoric and folkloric evidence to support such an interpretation of a close, indeed consanguineal, kinship between the divine Mother and the divine *ololiuhqui.*

A hint of this relationship may be contained in the various hispanicized names for the sacred seed – *semilla de la Virgen, semilla de la Pastora, semilla de la Santa Maria, semilla de la Madre Santissima*, etc. – which reflect the characteristic syncretism of Mexican folk religion, in which the pre-Hispanic Earth or Mother Goddess has become merged with the Virgin Mary. These names suggest that regardless of the sexual identification of the divinity inherent in *ololiuhqui* as male (according to Ruíz de Alarcón), the seed, and the plant from which it comes, are considered to be the child of the Virgin as Mother Goddess. It might be noted in this connection that in contemporary folk ritual there is a close association between *ololiuhqui* and other traditional hallucinogens (among them not only mushrooms but also another morning glory, the purplish-blue *Ipomoea violacea*) and a kind of suprasexual female principle, symbolized by the requirement that these substances should always be prepared by a *doncella*, or untouched maiden. This aspect of the ritual use of hallucinogens in modern Mexico has been well documented for Oaxaca by Wasson (1963, 1966).

The identification of the morning glory with the Mother Goddess is reflected also in a curious sweeping ritual in honour of the deified

morning glory plant and its divine hallucinogenic seeds which, as described by Ruíz de Alarcón, calls to mind a similar sweeping ritual in honour of Toci, Grandmother, the Aztec Mother of the Gods and Heart of the Earth, sometimes simply called Woman (Durán, 1971: 229-37). Toci's ceremony was called *Ochpaniztli*, Feast of Sweeping or Sweeping of the Paths, celebrated in the middle of the month of the same name (September in the European calendar). Significantly, the Feast of Sweeping for Toci was conducted, with elaborate impersonations of the goddess and sacrifices in her honour, immediately following, and indeed concurrently with, that for Chicomecoatl, Seven Serpent, Goddess of Sustenance, who, as Durán explicitly notes, was identical with Chalchiuhtlicue, Divine Mistress of terrestrial water, vegetation and fertility – that is, Toci herself in a youthful guise.

As initial act of this important ceremony for the Earth Mother and Mother of the Gods, Durán (1971: 448) tells us,

> everyone had to sweep his possessions, his house, and all its corners, leaving nothing without diligent sweeping and cleaning.

Likewise, the shrine of Toci had to be swept clean and adorned by her priests and attendants. Fittingly, a broom was one of the principal insigniae of the goddess, as were unspun and spun cotton, spindles, weaving implements and cloth woven of maguey fibres – accoutrements that link her not only to the Huichol Earth Mother Goddess Nakawe but also to Spider Grandmother, Earth Goddess of the Pueblo Indians of the southwest and patroness of weavers.

Ritual sweeping in honour of the 'Mothers', goddesses of the earth, fertility and sustenance, is still an important part of Huichol ceremonial. And, of course, no one who has ever visited Mexico could fail to be impressed with the diligence with which women sweep around their houses and in the streets, not only on feast days but in the early hours of each day – a secularized survival of the sweeping ritual for the pre-Hispanic Earth Mother.

(In this connection it is also of interest that the potsherd altars on which the Quiche-Maya of Momostenango, in highland Guatemala, make their offerings to the earth deity are called *mesabal*, Place of the Sweeping (Robert M. Carmack, personal communication), surely denoting a prehistoric connection with the ceremony of *Ochpaniztli.*)

According to Chapter 29 of Ruíz de Alarcón's *Tratado*, the *ololiuhqui* deity was likewise honoured with ritual sweeping, not only in and around the oratories in which the sacred containers with their stores of hallucinogenic seeds were kept, but also the dwellings and even the places in the countryside where the morning glory grew. There were also special 'conjurations' addressed to the *ololiuhqui* which made reference to the sweeping rite. For example:

> Isabel Luisa of the Mazatec nation, among others, used this remedy and she applied it diluted as a drink, and the conjuration that she accompanied it with is in the form of an entreaty, or prayer, to the *ololiuhqui*, and it goes like this: 'Come hither, cold spirit, for you must remove this heat, and you must console your servant, who will serve you perhaps one, perhaps two days, and who will *sweep clean the place where you are worshipped*' (my italics).
>
> This conjuration in its entirety is so accepted by the Indians that almost all of them hold that the *ololiuhqui* is a divine thing, in consequence of which . . . this conjuration accounts for the custom of veneration of it by the Indians, which is to have it on their altars and in the best containers or baskets that they have, and there to offer it incense and bouquets of flowers, to sweep and water the house very carefully, and for this reason the conjuration says: '. . . who will sweep (for) you or serve you one or two days more.' And with the same veneration they drink the said seed, shutting themselves in those places like one who was in the *Sancta Sanctorum*, with many other superstitions, and the veneration with which these barbarous people revere the seed is so excessive that part of their devotions including washing and sweeping (even) those places where the bushes are found which produce them, which are some heavy vines, even though they are in the wildernesses and thickets.

One may question whether the shared sweeping ritual in and of itself necessarily reflects a direct relationship between morning glory and the Mother Goddess. However, there is other evidence in the early colonial sources that also suggests such connections.

An intricate symbolic network relating the morning glory, water, fecundity, maize and the Mother Goddess is suggested by Aguirre Beltrán (1963: 130-37) in his discussion of the effects of religious acculturation on the prehispanic *ololiuhqui* complex in early post-Hispanic times. He draws attention to the several names by which the sacred morning glory was known in Aztec times and in the Colonial era; one of these was *coatl xoxouhqui*, Green Snake. Another, mentioned by Hernández, was [*ololiuhqui*]*coaxihuitl*, which can be translated as '[ololiuhqui]herb of the serpent'. These terms, which may have been inspired by the plant's twining and creeping qualities, remind one of the snake motif in the Tepantitla mural. In addition, we should note that the names of several Aztec goddesses contain the term *coatl*, serpent, and that there was a close identification of snakes with the Mother Goddess. This is still the case among the Huichol.

Yet another name, according to Ruíz de Alarcón, was *cuezpalli*, which he also renders as *cuexpalzi* and *cuetzpalli*. The correct spelling, as Aguirre Beltrán points out, is *cuetzpaltzin* or *cuetzpallin*,

the day sign Sacred Lizard, fourteenth day in the 20-day month of the Aztec calendar. *Cuetzpaltzin* stood for abundance of water, fecundity, and pleasure without pain. It also had sexual connotations: in early manuscripts in which the day signs refer to the parts of the human body, the Sacred Lizard is the symbol sometimes of the penis, sometimes of the uterus.

Aguirre Beltrán connects the water-fecundity-abundance symbolism of the *cuetzpaltzin* to the belief, 'still extant in our times, that the ponds where the lizard lives never dry up, even during the severest drought'.[14] In ancient Mexico, he notes, plentiful water and prosperity in general were equivalent concepts, which in turn explains why on the mystical level *cuetzpaltzin* and maize, the sacred and basic food and symbol of well-being, should have become synonymous, to the extent that *cuetzpaltzin* was also another name for Centeotl Itztlacoliuhqui, the god of ripe maize and son of the Earth Goddess in her aspect as Tlazolteotl. Centeotl's fiesta, like the ceremonies for his mother, the Earth Goddess, in her different aspects, was celebrated in the month Ochpaniztli.

These associations, writes Aguirre Beltrán, demonstrate the intimate connection in Indian thought between the supernatural herb (morning glory), the divine food with which the gods formed men (maize), and the animal (lizard) which binds them together on the mystical plane into a kind of sacred triad – rather in the manner in which deer, maize and peyote form a divine triad in Huichol symbolism.

As to a synthesis between the divine morning glory and the Mother Goddess – in her pre-Hispanic aspects or in her post-Hispanic form as the Virgin – we have the testimony, cited by Aguirre Beltrán (1963: 133), of Father Alonso Ponce, who reported in the 1580s that *El Ololiuhqui* was merged by the Indians with *Nuestro Senor*, i.e. Jesus Christ, with the angels, and most significantly, with *Maria Santissima*, that is, the Virgin Mary.

Since *ololiuhqui* was considered to be male, such a synthesis with the Christian Virgin would be especially noteworthy. On the other hand, Aguirre Beltrán writes, Father Ponce might have misunderstood his informants, to the degree that it was not the male *ololiuhqui* that was merged with the Virgin but rather its counterpart, with which it was frequently combined in the narcotic potions. This plant, not otherwise botanically identified, was known as *atl ynan*, Mother of Water. According to de la Serna, writing in the mid-1700s, *atl ynan* was thought to be 'the sister of *ololiuhqui*'. Intimately related to the male morning glory, this female plant might well have come to be syncretized with the Virgin Mary, who thereby assumed a Christo-pagan identity as 'Mother of Water' or 'Lady of the Waters' – names by which she is still called in some parts of rural central Mexico.

On the other hand, in the light of the sexually dualistic character

that emerges from the iconography of the Earth Mother in both Aztec and earlier ceremonial art, a more direct post-Hispanic synthesis between the male *ololiuhqui* and the Mother Goddess is hardly inconceivable, especially inasmuch as the very concept of a Virgin Mother is itself an expression of sexual ambiguity.

To carry this a step further, one wonders to what degree these seventeenth century folk traditions, especially that of the female *atl ynan*, Mother of Water, and her brother, the divine *ololiuhqui*, might actually reflect much older traditions – beliefs that long ago might have inspired the iconography of Tepantitla.

Clearly, none of the above conflicts with Pasztory's conclusion that the real significance of the plant at Tepantitla 'has to be sought in mythology and not in natural history' (1971: 149). On the contrary, natural history – or, more precisely, ethnobotany – provides additional means by which to look into the complex mythological world embodied in such iconographic associations as that of flowering vine and Mother Goddess in the Tepantitla mural.

NOTES

1 For ritual scarification of initiates into the ecstatic-visionary shamanistic medicine societies. According to Newcomb (1961: 311-312), neophyte shamans were given a beverage containing the hallucinogenic seeds, which was so potent that the initiates lost consciousness for as much as twenty-four hours. When aroused they 'related the dream experiences they had had – the journeys their souls had taken. Their experiences were cast in songs'. The description fits any number of shamanic initiations in North and South America.

2 I am greatly indebted to Dr J.M. Adovasio, recently of the Smithsonian Institution and presently at the University of Pittsburgh, for permission to cite these as yet unpublished radiocarbon dates. A summary of sites in Trans-Pecos Texas that have yielded a variety of psychotropic plant remains, with a discussion of chronology, is being prepared for early publication by J.M. Adovasio and G.F. Fry.

3 It can be argued that even the religions of the Old World carry recognizable vestiges of shamanistic antecedents. This applies especially, but by no means exclusively, to folk beliefs and practices.

4 Since the above was written, I have been informed by Doris Heyden that Eulalia Guzmán many years ago identified the same deity as female and that she also identified her as the goddess of terrestrial water, Chalchiuhtlicue.

5 One is reminded of Vogt's description of the shamanistic rituals for the *Yahval Balamil*, Lord of the Earth, in Zinacantan, Chiapas (Vogt, 1969: 456-461). According to one of his informants, the ceremonies and offerings for the Earth God are intended to persuade him to 'order the clouds to come out of the earth, clouds to rain on our corn, so our corn should not die . . . and if we did not pray thus, he would strike us dead with his snake of lightning . . . We do not see the Lord of the Earth, but he is there under the earth . . .' (459). The similarity to Tlaloc with his lightning snake is unmistakable, as is the parallel to the Huichol belief that clouds and rain are ultimately a function of the earth, not the sky.

6 In Mexican folklore and song this goddess evolved into *La Llorona*, the 'Weeping Woman', who is said to carry a cradle or the body of a dead child in her arms and to weep at night at crossroads, where travellers encounter her (Caso 1958: 54).

7 I am indebted to Dr Richard Evans Schultes, Director, Botanical Museum of Harvard University, for pointing out those features of the Tepantitla mural and other floral motifs at Teotihuacan that suggest *Rivea corymbosa*, rather than some other flowering plant or flowers generically.

8 This is also one of the reasons why we concluded that the profiled flower motif at Teotihuacan might have been derived from the morning glory. Pasztory (148) was also struck by the fact that most flower designs at Teotihuacan bore a strong resemblance to one

another, and asked, 'Are we to assume that most Teotihuacan flower representations derive from or refer to the *ololiuhqui* narcotic and its cult?' Not necessarily, of course, but it does suggest a profound role for the morning glory in the beliefs and ritual practices of Teotihuacan as well as respectable antiquity for the widespread celebration of the *ololiuhqui* cult as we know it from Aztec and Colonial times, not to mention the present.

9 Wasson recently made the interesting suggestion that the very idea of the Tree of Life and Magical Herb may ultimately derive from the mycorrhizal relationship between the hallucinogenic fly agaric mushroom and the towering Siberian birch and certain conifers, whose trunk the shaman climbs in his trance 'to go on his travels to the land of departed spirits' (Wasson, 1972: 210-213). He points out that the birch especially is the shaman's tree *par excellence*, object of a widespread Eurasian cult. The reason may be that the birch is the preferred host for the mushroom which played an important role in ecstatic shamanism, perhaps as far back as the Mesolithic and Palaeolithic.

10 Wasson (personal communication) points out that the red and black seeds shown in the Tepantitla mural have the hylum in the red area, which is characteristic of *Rhyncosa pyramidalis*, or *piule*. Were the hylum in the black field the species would be *Abrus precatorius*, which is highly toxic and potentially damaging to the liver.

11 Hofmann notes further that the isolation of lysergic acid derivatives in two morning glories, *Rivea corymbosa* and *Ipomoea violacea*, closed a long research series 'like a magic circle'. It was his synthesis of LSD-25 that led to subsequent investigations of the hallucinogenic mushrooms and the isolation, in his laboratory in Switzerland, of their active compounds, psilocybin and psilocin. These studies, in turn, resulted in collaboration with the French mycologist Roger Heim and the American ethnomycologist R. Gordon Wasson. It was the latter who in 1959 sent Hofmann the first samples of morning glory seeds for laboratory testing. These tests proved so promising that additional quantities of seeds were sought. Wasson enlisted the aid of the late Mexican ethnologist Roberto Weitlaner and his daughter, Irmgard Weitlaner-Johnson, in obtaining 12 kg. of *Rivea corymbosa* seeds and another 14 kg. of *Ipomoea violacea*, from which Hofmann isolated lysergic acid derivatives. The Weitlaners' interest in the ritual use of hallucinogens in Mesoamerica goes back to the nineteen-thirties, when they first observed the divinatory use of *teonanacatl* – the 'God's flesh' of the Aztecs – on a field trip in the mountains of Oaxaca. Wasson, with his late wife, Valentina P. Wasson, is credited with the rediscovery and, in collaboration with Professor Heim, the serious ethnographic and ethnomycological investigation of these survivals of the pre-Hispanic cult of divine mushrooms. Richard Evans Schultes also played a key role in the history of *ololiuhqui* research, in that it was he and B.P. Reko who in 1939 collected the first unquestionable voucher specimen of the seeds of *Rivea corymbosa* from a Zapotec *curandera* in Oaxaca, who grew the plant in her courtyard and who used its seeds in her divinatory curing rites. Until then a claim by the botanist William Safford (1917) that the early sources were all wrong, and that *ololiuhqui* pertained to Datura rather than a morning glory, was widely accepted, at least outside Mexico. The key paper on the correct botanical identification of *ololiuhqui* was that of Schultes (1941). After that it remained only for *ololiuhqui* to be experimentally tested for hallucinogenic effects (e.g. Osmond, 1955) and its active principles to be identified in the laboratory (Schultes, 1972).

12 The sacred hallucinogenic mushrooms and other hallucinogenic plants are to this day personified as divine beings. To the Huichol peyote is the divine deer or supernatural master of the deer species, who merges with some of their most important deities. Personification of the divine power believed to reside in the sacred mushrooms also explains the representation of animals and human figures or faces on the stipes of many archaeological mushroom stones, some dating to 1000 B.C.

13 A translation of the complete text is in preparation.

14 According to Aguirre Beltrán (1963: 133), it was its connection with water that gave *ololiuhqui* its mystical 'cold' condition, alluded to in the conjuration or incantation addressed to the divine seeds by the Mazatec *curandera* and diviner Maria Luisa. The condition of 'cold' with which it was imbued by the Indians made it efficacious as a cure for fevers. In contrast, the Spaniards, who employed the Hellenistic system of classification into four states, endowed *ololiuhqui* with a 'hot' quality: Hernandez, for example, called it 'a hot plant of the fourth (i.e. highest) order'.

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