

The Genesis of a Mushroom/ Venus Religion in Mesoamerica

Carl de Borhegyi
with Suzanne de Borhegyi-Forrest, PhD

Carl de Borhegyi is the author of the Internet research site *Breaking the Mushroom Code: Mushroom Religion Before Columbus* at www.mushroomstone.com. Carl is a self-taught art historian. He was first introduced to Mesoamerican art and archaeology as a child by his archaeologist parents, Stephan and Suzanne de Borhegyi. The effect of these early experiences were everlasting. Although Carl opted for a major in physical education at the University of Wisconsin, he read extensively in Mesoamerican archaeology, took classes at Hamline University, and, as a board member of the Maya Society of Minnesota, worked on programs and attended workshops by visiting scholars. His introduction to the online research site FAMSI (*Foundation for the Advancement of Mesoamerican Studies, Inc*) led him to the vast Justin Kerr database of photographs of Mesoamerican codices, ceramic figurines, wall and cave paintings, and Maya vase paintings. He began his studies of Maya ceremonial iconography in 1989.

Suzanne de Borhegyi-Forrest graduated from Ohio State University with a degree in Biological Sciences and began graduate studies in physical anthropology at the University of Arizona in 1948. There she

met and later married Stephan de Borhegyi, a postdoctoral student of archaeology. Suzanne worked closely with Steve, assisting in all phases of his research as well as editing his publications. After her husband's death in 1969 she completed a Master's degree in History at the University of Wisconsin-Milwaukee, and in 1974 she assumed the directorship of the Albuquerque Museum of Art and History. In 1981 she began doctoral studies at the University of Wyoming, and she received her PhD in 1987. Her dissertation, published in 1989 by the University of New Mexico Press, is entitled *The Preservation of the Village: New Mexico's Hispanics and the New Deal*. She has worked as an independent scholar and authored books and articles on Maya archaeology, Southwestern U.S. history, and museums.

Introduction

More than a half century ago, the late Mesoamerican archaeologist Stephan F. de Borhegyi (better known by contemporaries as Borhegyi) published the first of several articles in which he proposed the existence of a Mesoamerican mushroom cult in the Guatemalan highlands as early as 1000 BCE. This cult, which was associated from its beginnings with ritual human decapitation, a trophy head cult, warfare, and the Mesoamerican ballgame, appears to have had its origins along the Pacific coastal piedmont.

He developed this proposition after finding a significant number of small, mushroom-shaped sculptures in the collections of the Guatemala National Museum and in numerous private collections in and around Guatemala City. While the majority of these small stone sculptures were of indeterminate provenance, a sufficient number had been found during the course of archaeological investigations as to permit him to determine approximate dates and to catalog them stylistically. These small sculptures had long been labeled "mushroom stones" (Figure 1).

The late ethnomycologist, R. Gordon Wasson, published Borhegyi's first article on the subject in his monumental work *Mushrooms, Russia, and History* (Wasson and Wasson 1957). From

the time of their initial meeting in Guatemala in 1952 until Borhegyi's untimely accidental death in 1969, the two scientists worked in close cooperation and shared a voluminous correspondence. As the result of their collaborative efforts, as well as Wasson's extensive research into mushroom symbolism in Siberia and Southeast Asia, Wasson postulated the existence of a belief system, shared by both continents, that was so ancient that its most basic elements may have been carried to the New World with the first human settlers. The origin of this Pan American belief system, he believed, was early man's discovery of the mind-altering effects of various hallucinatory substances found in nature, among them the *Amanita muscaria* mushroom. Wasson described the experience as *entheogenic*, or "god generating."

Borhegyi's proposal of an ancient mushroom cult met with limited, highly skeptical acceptance at best, among his archaeological colleagues. Few in the Mesoamerican archaeological community seriously considered the possibility that the mushroom sculptures had an esoteric religious significance. The renowned authority of the time, Maya archaeologist J. Eric S. Thompson, scoffed at the proposition, arguing that they were more likely used as stools, though he conceded that they would not have been very comfortable! (Thompson to Borhegyi, March 26, 1953, MPM Archives) In the years that followed Borhegyi's death, the existence of entheogenic mushroom ceremonialism in ancient Mesoamerica, and specifically among the Maya, was denied or essentially dismissed as inconsequential.

I believe there are several reasons for this lamentable gap in our understanding of indigenous New World magico-religious origins. One has to be the universal human trait of selectively "seeing" primarily what is of interest to us, and what we are already disposed to believe. Another is the well-known Western bias against any mind-altering substance other than alcohol, combined with a great distaste for the widespread experimentation with psychedelic substances in the 1960s and 1970s that followed Wasson's rediscovery of mushroom ceremonialism among the Mazatec Indians of southern

Mexico. Fortunately for future researchers, cultural anthropologist Peter Furst, and a few mycologists, Guzmán, Lowy, and Schultes and Hoffman, continued to research and publish books and articles on the significance of hallucinogenic mushrooms in the development of Mesoamerican art and culture.

It was not as if Borhegyi's study was not well grounded in substantial, verifiable evidence. Besides citing his own and others' archaeological studies, Borhegyi referred frequently to writings by the chroniclers who witnessed and recorded what they saw of native mushroom ceremonies during the early years of the Spanish Conquest. Their firsthand reports tell us that the Aztecs ate mushrooms or drank a mushroom beverage in order to induce hallucinatory trances and dreams. During these dreams, they reportedly saw colored visions of jaguars, birds, snakes, and little gnomelike creatures. In 1651, the physician to the King of Spain, Dr. Francisco Hernandez, wrote a guide for missionaries in the Spanish colonies, *Historia de las Plantas de Nueva España*, in which he stated that the Indians worshipped three kinds of narcotic mushrooms. After describing a lethal species of mushroom, he wrote that another species of mushroom when eaten caused madness and uncontrolled laughter. Other mushrooms, he continued, "without inducing laughter, bring before the eyes all kinds of things, such as wars and the likeness of demons" (Wasson 1962: 36; see also Furst 1990: 9).

Franciscan friar Bernardino de Sahagun was the first to record the use of mushrooms in his *Historia General de las Cosas de Nueva España*. This multivolume compilation of priceless Mexica ethnographic information, known as the Florentine Codex, was written between 1547 and 1582. In it Sahagun wrote that the Indians gathered mushrooms in grassy fields and pastures and used them in religious ceremonies because they believed them to be the flesh of their gods (Teonanacatl). Mushroom intoxication, he wrote, gave their sorcerers the power to seemingly change themselves into animals, as well as to have powerful visions during which they heard voices they believed to be from God. It was through sacred mushroom rituals that their priests summoned the deities of creation to manifest themselves in

the Underworld, where, they believed, life regenerated from death. In another passage he wrote that:

Toltecs were, above all thinkers for they originated the year count, the day count; they established the way in which the night, the day, would work; which sign was good, favorable; and which was evil, the day sign of wild beasts. All their discoveries formed the book for interpreting dreams.... Through sacred mushroom rituals priests summoned the deities of creation to manifest themselves in the underworld where life regenerates from death.

Sahagun also described the use of mushrooms at the coronation of the Aztec high priest Montezuma II:

For four days there was feasting and celebration and then on the fourth day came the coronation of Montezuma II, followed by human sacrifices in numbers.... At the very first, mushrooms had been served. They ate them at the time when the shell trumpets were blown. They ate no more food; they only drank chocolate during the night, and they ate the mushrooms with honey (Sahagun 1950).

Another Spanish chronicler, Fray Toribio de Benevente, better known as Motolinía, recorded:

They had another way of drunkenness, that made them more cruel and it was with some fungi or small mushrooms, which exist in this land as in Castilla; but those of this land are of such a kind that eaten raw and being bitter they ... eat with them with a little bees honey; and a while later they would see a thousand visions, especially serpents, and as they would be out of their senses, it would seem to them that their legs and bodies were full of worms eating them alive, and thus half rabid, they would sally forth from the house, wanting someone to kill them; and with this bestial drunkenness and travail that they were feeling, it happened sometimes that they hanged themselves, and also against others they were crueler. These mushrooms, they called

in their language *teonanacatl*, which means “flesh of God” or the devil, whom they worshiped (Wasson 1962).

The Spanish clergy and Conquistadores were understandably horrified at what they interpreted as a devil-inspired misinterpretation of the Holy Eucharist. In the years that followed the Spanish Conquest, all aspects of native ceremonial life were banned, temples and idols were destroyed, and hundreds of the colorfully illustrated books, known as codices, were burned. Despite these official sanctions, however, some conscientious historians continued to describe what they had observed, albeit with a heavy dose of sixteenth-century cultural and religious bias. One of the more renowned Spanish chroniclers, Fray Diego Duran, wrote that his writings would likely go unpublished because many of his contemporaries feared that they would revive ancient customs and rites among the Indians. He added that: “They [the Indians] were quite good at secretly preserving their customs.” Duran was correct about the fate of his work. His *Histories of New Spain* (1537–1588) was hidden away in the Madrid Library, where it was rescued from obscurity only in the nineteenth century. Duran records that wild mushrooms were consumed during feasts and ceremonies involving sacrifice, the word for which, *nextlaoaliztli* in the Nahuatl language of the Aztecs, meant either “payment,” or the act of payment (for gifts received from the gods). Young children were taught that death by the obsidian knife was a most honorable way to die, as honorable as dying in battle or for a mother and child to die in childbirth. Those who were sacrificed by the obsidian knife were assured a place in Omeyocan, the paradise of the sun, the afterlife (Duran 1971).

While most accounts of mushroom use in the early Spanish chronicles concern the Aztecs, also known as the Mexica, there is evidence that Maya mushroom ceremonial use, associated with a mushroom stone cult, lasted well into the Colonial Era. In 1554, mushroom images were described as symbols of dynastic power in the Maya Quiche document “Title of Totonicapán” (Recinos 1953):

The lords used these symbols of rule, which came from where the sun rises, to pierce and cut up their bodies for the blood sacrifice. There were nine mushroom stones for the Ajpop and the Ajpop Q'amja, and in each case four, three, two, and one staffs with the Quetzal's feathers and green feathers, together with garlands, the Chalchihuites precious stones, with the sagging lower jaw and the bundle of fire for the Temezcal steam bath.

Another Colonial period document, "The Annals of the Cakchiquels" (Recinos 1953: 82–83), records:

At that time, too, they began to worship the devil. Each seven days, each 13 days, they offered him sacrifices, placing before him fresh resin, green branches, and fresh bark of the trees, and burning before him a small cat, image of the night. They took him also the mushrooms, which grow at the foot of the trees, and they drew blood from their ears.

In 1998, I began my own investigations into the subject. Curious to know just what had derailed the promising line of inquiry my father had opened, I began looking for mushroom imagery in Mesoamerican art. My task was greatly facilitated by new photographic technology, the computer, and the Internet, all of which are modern-day miracles unavailable to earlier researchers. The online research site FAMSI (*Foundation for the Advancement of Mesoamerican Studies, Inc*) provided a link to Justin Kerr's remarkable compilation and database of roll-out photographs of Maya vase paintings, murals, and codices, and Mesoamerican stone and ceramic sculptures. These photographs contained a treasure trove of visual information. It was this site, above all, that made possible a detailed study of Mesoamerican artistic imagery. This study, together with a raft of new insights into Mesoamerican iconography and Maya hieroglyphic writing by other scholars, has enabled me to expand this subject far beyond my father's pioneering efforts.

While I have presented here only a few of the many images I found relating to ancient Mesoamerican magico-religious mushroom

worship, many more examples can be viewed and studied on Kerr's database, accessible through his website or through FAMSI. The encoded mushroom imagery contained therein occurs with such frequency and in such indisputably religious context, that I believe there can no longer be any doubt as to the importance of mushrooms and other hallucinogens in the development of Mesoamerican indigenous religious customs and belief.

Hidden in Plain Sight: Images of Mushroom Cereemonialism in Mesoamerican Art

When we look at the mushroom stones we must always remember that in pre-Conquest times most art, if not all, was religious, as it once was in Europe. And we must remember that the hold on the inner life of the Mesoamerican peoples of entheogeny [meaning "god within"], notably the entheogenic mushrooms, was all-powerful, as it is to this day in remote corners of highland Mexico. Those who have not explored the role of the entheogens in the cultural past of Mesoamerica easily overlook that role or assume that it was of minor importance, solely because for us it is of no importance (Wasson, 1980:189).

The earliest examples of mushroom imagery in Mesoamerica appear in Olmec art and coincide with the beginnings of the first complex civilizations in the New World. The Olmecs have long been associated with a powerful unitary religion that we call "Olmec." This religion, which spread with great rapidity following Olmec trade routes throughout much of Mesoamerica, shared elements of its belief system with the Andean area of South America, from which it may have derived, or to which it later spread.

Coe suggested some time ago that hallucinatory substances may have figured into the earliest religious rituals based on the discovery of numerous toad bones in Olmec burials at the Formative site of San Lorenzo in Chiapas, Mexico (Coe 1994: 69, Furst 1990: 28). The presumption was that the Olmecs may have been using toad

toxin, a well-known hallucinogen. However, the Olmecs also revered hallucinogenic mushrooms. Some of the earliest mushroom stones, which date to Olmec times, bear toad images carved on their base. These have been found throughout Chiapas, Mexico, the Guatemala highlands, and along the Pacific slope as far south as El Salvador (Borhegyi 1957, 1961, 1963, 1965a, 1965b). The late scholar and art historian Tatiana Proskouriakoff demonstrated that in Mayan glyphs the toad is the divine symbol of rebirth (Coe 1993: 196). Numerous images of mushrooms also appear in association with Olmec figurines; both in the Olmec heartland at the site of San Lorenzo in Veracruz, and at other Olmec-influenced sites such as Tlatilco and Tlapacoya in the Mexico highlands near modern-day Mexico City (Figures 2a, 2b, 18).

Some of the most obvious examples of mushroom veneration, and the association of mushrooms with shamanic rituals, come to us through the ancient, realistic, and very appealingly humanistic art of Western Mexico shown in Figures 3, 4, 5, 6. Figurines such as these, alone or in miniature village scenes, though well-known and sought after by collectors, were long dismissed as simply secular and “anecdotal” folk art. Only recently have scholars such as Furst (1998), Guzman (2003, 2009), and Schultes (1979) called attention to the sacred, symbolic, supernatural, and shamanic component to these ancient mortuary ceramics.

One of the reasons that mushrooms have for so long escaped identification by the anthropological community as sacred symbols is surely the fact that, for the most part, the images of mushrooms were simply not “seen” at all. Figure 7 is an example of the clever way in which the ancient artist obscured sacred mushrooms from the eyes of the uninitiated by “hiding them in plain sight.” In this case this carved stone image of a bearded Quetzalcoatl has long been described as “weeping.” The tears were explained by a Toltec legend in which a semi-historical Toltec king known as Quetzalcoatl Ce Acatl Topiltzin wept when he was expelled from his beloved city of Tollan (Tula). A second look at this image will reveal mushrooms encoded into the eyes. While the significance of the encoded mushrooms is

not well understood, they clearly link this deity with mushroom worship.

The painted images in Mesoamerican art, and especially those on Maya cylindrical funerary vases, are especially complex and confusing to the uninitiated. In some cases the mushroom symbolism is quite obvious once you begin to "see" it. In other cases mushrooms are so cleverly encoded that they easily escape detection until pointed out. A good example is the mushroom encoded into the headdress of the scribe depicted in Figure 8.

Scholars agree that most of the images depict gods and rituals from Mesoamerican legends. We know this was a rich oral and written tradition from the tantalizingly tiny portion that has been preserved in the few pre-Hispanic codices that escaped the Spanish cultural holocaust. We have learned a bit more from the historical and religious texts recorded during the immediate post-Conquest period. However, the task of relating these legends to the rich profusion of carved and painted imagery has been very complicated. Not only did the imagery evolve over a span of four millennia, it was produced and interpreted by many different but related Mesoamerican subcultures.

These beliefs, recorded over time in different native languages, spawned a great variety of gods bearing different names in different culture areas, but with numerous identifiable similarities. Efforts by archaeologists and art historians to sort out and catalog the many overlapping names and identities have been frustrated by the fact that ordered and demarcated categories run counter to the fluidity that characterizes Native American belief systems. A multiplicity of identities is a basic feature of the Mesoamerican supernatural realm.

The great god Quetzalcoatl, among the most ancient of the Mesoamerican gods, is a good example of the synthesizing that occurred over the centuries. Best known by his Nahuatl name meaning "Quetzal-serpent," he combines the green plumage of the Quetzal bird and the scales of a serpent, while often displaying jaguar fangs as well. Early notions of Quetzalcoatl date as far back as the Preclassic Olmec culture (refer to Monument 19 at La Venta).

Depicted in his earliest form, he is a serpent ("coatl" in the Nahuatl language) covered with the brilliant green plumage of the Quetzal bird—to this day the national bird of Guatemala.

Images of a bearded god king associated with images of the Feathered Serpent go back to the beginnings of religious imagery in Mesoamerica. Two early Olmec paintings of a bearded, fanged deity with feline, serpentine, and bird-like features have been found in caves in the southern Mexico state of Guerrero. A revered Olmec shrine deep within Juxtlahuaca cave in Guerrero, Mexico, depicts a bearded figure in a yellow and red striped tunic. He extends his right hand to a dwarf or monkey. According to Coe (2002: 89) he holds a trident, but it could possibly be an *Amanita* mushroom. In Mesoamerican mythology monkeys represent the survivors (humans turned to monkeys) of the previous world age and are related to Quetzalcoatl, who was their ruler. If, on the other hand, the small black figure represents a dwarf, it is significant inasmuch as, in Mesoamerican mythology, dwarfs represent the mythical guide to the Underworld. Two other paintings in the cave depict a red Feathered Serpent with green plumes, and a red Underworld jaguar.

When depicted in human form Quetzalcoatl is a bearded man with a cone-shaped hat, who often wears a conch-shell breastplate, known as the "wind-jewel." In late pre-Conquest times he is identified with a semi-historical ruler of Tollan (Tula) known as Ce Acatl Topiltzin Quetzalcoatl. The Maya knew this god as Kukulcan.

We find Quetzalcoatl linked with the Mexican rain god Tlaloc, and his Maya counterpart, Chac, through rain, lightning, and water. He is linked with the Mexican wind god, Ehecatl, and with the Vision Serpent, and its Maya equivalent, the Manikin Scepter god, K'awil, through lightning, ceremonial blood offerings, and concepts of birth and rebirth. And he is linked with Venus, the dualistic Morning Star and Evening Star, through concepts of death and resurrection of the Sun God. Despite the complexity of these images, I believe the common denominator that unites them all is the centrality of the hallucinogenic mushroom experience, and the path that it offered for maintaining the daily resurrection of the Sun (and thus

metaphorically of humankind) through mediation by the planet Venus. For the purposes of this paper, I have taken the liberty of identifying all of the various manifestations, or avatars, of this great culture-hero known best by his Toltec/Aztec name of Quetzalcoatl.

The Mushroom/Venus Connection

The mushroom-Venus religion, as I see it, was spawned by early man's reverence for the sun and rain as the source of all life, combined with the fear that the world and all mankind would perish should this cosmological order not be maintained through appropriate shamanic rituals. It is more than likely that the discovery of the mind-altering effects of various hallucinogens such as *Amanita muscaria* and psilocybin mushroom led to both the power of the shamans and to the rituals through which they assured the survival of the world. Judging from the visual imagery, mushrooms so closely associated with death and rebirth. They are also so closely associated with sacrifice and ritual decapitation that their ingestion may have been considered essential to the ritual itself, whether in real life or symbolically in the Underworld. In this sense, it is important to note that mushroom images often occur in association with period endings in the Maya calendar.

To the Maya, Venus ranked second in importance only to the Sun, with which it was closely associated. As the Evening Star, Venus appeared to follow the Sun into the Underworld when it disappeared at night. Then, as the Morning Star, it seemed to herald its rebirth. This dualistic aspect of Venus is why the planet was venerated as a God of both Life and Death, and therefore resurrection. As recorded in the colonial period document known as *The Title of the Lords of Totonicapán*, the Quiche gave thanks to the sun and moon and stars, but particularly to the Morning star, "the star that proclaims the day, the day-bringer" (Recinos 1953, 1974: 184).

Venus, instantly recognizable as the brightest star in the sky, was also noticeable for its periodic comings and goings as either a Morning Star or an Evening Star. The early shamans who charted its

mysterious movements came to realize that, when viewed from the same spot on Earth from Morning Star to Morning Star, it completed a cycle every 584 days. Remarkably, five of these synodic Venus cycles equaled eight solar years precisely to the day. Special calendar priests plotted the stations of Venus over periods of 52- and 104-year cycles, and measured lunar phases, eclipses, solstices, equinoxes, and other celestial movements. They, like many other ancient peoples, regarded these movements as a divinely inspired avenue for understanding man's relation to time, space, and immortality, and used them to regulate their lives. Hundreds of years later this ancient astronomical wisdom was recorded in the remarkable Venus Almanac preserved in the Dresden Codex, one of only four remaining Maya codices.

A very early representation of the sacredness of the mushroom and its relationship to Venus worship is the petroglyph in Figure 9. This petroglyph was found carved into a rock surface at the early Classic period site (200–750 CE) of La Sabana near Acapulco, Guerrero, Mexico (Manzanilla and Talavera 2008). It appears to bear a number of calendric symbols, including a solar disc in front of the monkey's abdomen and a possible Long Count date of 3.3.4.3.2 above the monkey's left shoulder (Manzanilla and Talavera: 58–66). In Mesoamerican iconography, the monkey is a sacred symbol associated with learning, wisdom, intelligence, and tradition. Therefore, the petroglyph is not only associated with mushroom and Venus worship, it is linked as well with the god Quetzalcoatl, the culture hero who brought these qualities as gifts to mankind. Moreover, in his guise as the Wind God, Ehecatonatiuh, Quetzalcoatl presided over the second sun until it was destroyed by great winds. The survivors of that era were turned into monkeys and Quetzalcoatl became their ruler (Miller and Taube 1993: 118). Archaeoastronomer Susan Milbrath reports (1999: 257) that an analysis of the Dresden Codex identifies the Monkey as possibly related to Venus as the Morning Star.

The monkey leaping from the mushroom may represent the first of the Nine Lords of the Night, known as G1 of the Bolon Ti Ku. The monkey, as the first of these lords, is associated with the act

of creation. Quetzalcoatl, as G9, the last god, presided over the ritual of time's completion. The Nine Lords of the Night were responsible for guiding the Sun, identified as the Underworld jaguar, into the Underworld to be sacrificed by decapitation and reborn as a baby jaguar. The word *K'uh* in Classic Mayan glyphs was assigned to the monkey god, and in glyphs his monkey-like profile was used to describe "holy" or "sacred," a word referring to "divinity" or "god" (Coe 2001: 109).

The Mushroom/Quetzalcoatl-Tlaloc Connection

According to their ancient mythologies, the Nahua, the Mixtec, and the Maya, all cultures which developed from the same Olmec roots, shared the belief that the mushroom ritual established direct communication between Earth and Heaven (sky) and united man with god. Numerous Nahua, Mixtec, and Maya legends establish the belief that the very essence in the world of the great god and Aztec/Toltec culture hero, Quetzalcoatl, was to establish this communication. Quetzalcoatl, who legends and codices reveal was believed to have brought mushrooms to mankind (refer Figure 23), also taught that mankind must make sacrifices and transcend this world in order to achieve immortality. To demonstrate the need for self-sacrifice, one version has him immolate himself in a divine fire. As told in the *Popol Vuh*, the sacred book of the ancient Quiche Maya, the sun-god of the Maya, Kinich Ajaw, and his Aztec equivalent, Huitzilopochtli, would suffer death in the Underworld if not nourished with the blood of human hearts.

There is also much evidence in Mesoamerican mythology that links the many avatars of Quetzalcoatl, Jaguar-Bird-Serpent, to the duality of the planet Venus. The Spanish chronicler Motolinía describes a star he calls Lucifer. He writes: "[T]he Indians adored this star more than any other save the sun, and performed more ritual sacrifices for it than for any other creature, celestial or terrestrial.... The final reason why their calendar was based on this star, which they greatly revered and honored with sacrifices, was because these misguided people

believed that when one of their principal gods, called Topiltzin or Quetzalcoatl, died and left this world, he was metamorphosed into that radiant star" (La Faye 1987). That star was the planet Venus.

In Aztec mythology, Quetzalcoatl's twin brother, Xolotl, representing the Evening Star, guides the Sun on its nightly journey into and through the Underworld. Resurrected in the morning by the Morning Star, Quetzalcoatl's avatar, the harpy eagle, carries the newly reborn Sun back into the heavens. Among the Quiche Maya, Venus in its form as the Morning Star was called *iqok'ij*, meaning the "sunbringer" or "carrier of the sun or day" (Tedlock 1993: 236).

Caves have always figured prominently in Mesoamerican mythology because of their significance as portals to the Underworld. Because mushrooms are often found growing in damp caves there is evidence of a close association of mushrooms and caves from earliest times. Archaeologists Brent Woodfil and Jon Spenard found ceramic mushroom-shaped pots in the Candelaria cave system in the San Francisco Hills near the lowland Maya site of Cancuén, Petén, Guatemala (Spenard 2006). According to Spenard, the cave was named Ocox, meaning "mushroom" in Q'eqchi Mayan, because of the large quantity of mushrooms growing from the floor of the rock shelter (personal communication 2011).

Mushrooms are also linked with Quetzalcoatl's alter ego, Tlaloc, through rain and lightning. The late ethnomycologist Bernard Lowy found convincing evidence of a linkage between the *Amanita muscaria* mushroom and lightning in the languages and folklore of the modern-day Maya of southern Mexico and Guatemala (1974: 188–191).

In Figure 10, the artist has encoded a mushroom into the forehead of K'awil at the base of his projecting trademark axe/smoking tube. According to Freidel, "the axe through the forehead signaled ... a state of transformation embodied by the power of lightning" (1993: 194, 199). The Maya believed that mushrooms sprouted where lightning had touched the ground, so the one-leg may possibly refer to the mushroom's stem or stipe, as well as to a bolt of lightning. For this reason both K'awil and his one-legged Mexican counterpart

Tezcatlipoca likely represent the divine mushroom. Here, at last, may be the reason the ancient Maya carved stones to resemble mushrooms. They may have carved the mushroom stones in order to worship K'awil as a one-legged god of divine transformation. These effigies were then venerated with the blood of humans and animals.

Although images of the *Amanita muscaria* mushroom predominate in Preclassic period art, the psilocybin mushroom seems to have become widely used in the later Postclassic period. The Toltec / Maya vessel in Figure 11 depicts a diving god. The Harpy Eagle headdress links this deity to Quetzalcoatl as the Morning Star and the god of Underworld resurrection. I would argue strongly that the objects in the hands of the diving Quetzalcoatl (Kukulcan in Yucatec Mayan), are the severed caps of psilocybin mushrooms and not, as other scholars have suggested, balls of incense. The removal of the head of the mushroom or mushroom cap is a symbolic reference to ritual decapitation in the Underworld. The legend that Quetzalcoatl opposed human sacrifice may well be a post-Conquest interpretation propagated by Spanish missionaries. In actuality he was the god of self-sacrifice and, according to Aztec legends, immolated himself as a sacrificial example to mankind. Wasson writes that the stems of sacred mushrooms were removed and the mushroom caps consumed ritually in pairs prior to self-sacrifice. Interestingly, the stem of the psilocybin mushroom turns blue when the mushroom is picked or bruised, an observation that may explain the use of blue as the color of sacrifice. That characteristic blue color is, in fact, the best and safest way to identify a *psilocybin* mushroom (Guzman 2009: 261).

The Mushroom and the Were-Jaguar

Olmec cultural remains are easily recognized through the powerful art style featuring adult and baby "were-jaguars," a style so pervasive that archaeologist Matthew Stirling in 1955 named the Olmec the "people of the jaguar." He speculated that the Olmecs believed that at some time in their mythical past a jaguar had copulated with, and impregnated, a human female.

Much of the mushroom imagery I discovered was associated with an artistic concept I refer to as jaguar transformation. Aztec legends relate that the Sun, as a jaguar, descends each night into the Underworld to battle the forces of death in order to be resurrected and returned to the sky by the Morning Star in its form as the Harpy Eagle. Under the influence of the hallucinogen, the "be-mushroomed" emulates, metaphorically, the nightly death of the Sun God and his transformation into the Underworld Jaguar. Individuals shown as undergoing this transformation in the Underworld are depicted with such jaguar features as spots, fangs, claws, a tail, and/or the snarling mouth commonly found in Olmec art. This esoteric association of mushrooms and jaguar transformation was earlier noted by Furst (1976: 78, 80).

I believe the mask in Figure 12 symbolizes the soul's journey into the Underworld, where it will undergo ritual decapitation, jaguar transformation, and spiritual resurrection. Mexican art historian Miguel Covarrubias demonstrated that later images of Quetzalcoatl, feathered serpents, and rain gods like the Mexican god Tlaloc and the Maya god Chac were all derived from the Olmec were-jaguar associated with sacrifice and the Underworld (Miller and Taube 1993).

The Mushroom and the Ritual of Sacrifice

There are numerous historical reports as well as visual images that link mushroom consumption to the ritual of sacrifice. These include bloodletting, penis perforation, and even the improbable act of self-decapitation. Scenes of Underworld jaguar transformation not only contain mushroom imagery, but are often preceded by scenes of decapitation. With so much visual evidence suggesting that hallucinogenic mushrooms were consumed prior to ritual decapitation, it seems reasonable to propose that they were considered essential to the ritual itself, whether in real life or symbolically.

Wasson believed that the origin of ritual decapitation lay in the mushroom ritual itself. In a letter to Borhegyi he writes:

The cap of the mushroom in Mije [or Mixe] is called kobahk, the same word for head. In Kiche and Kakchiquel it is doubtless the same, and kolom ocox is not "mushroom heads," but mushroom caps, or in scientific terminology, the pileus of the mushroom. The Mije in their mushroom cult always sever the stem or stipe [in Mije *tek* is "leg"] from the cap, and the cap alone is eaten. Great insistence is laid on this separation of cap from stem. This is in accordance with the offering of "mushroom head" in the Annals [of the Cakchiquels] and the Popol Vuh (June 7, 1954, MPM archives).

Figure 13, Maya vase K6608, depicts three Underworld jaguars. The Underworld jaguars all wear mushroom-shaped earplugs, and wear sacrificial scarves symbolic of Underworld decapitation. The scarves metaphorically bear the colors and spots of the *Amanita muscaria* mushroom.

Interestingly, the individuals about to, or in the process of, undergoing the sacrificial knife, are frequently shown as unbound, and either assume postures of submission or are depicted as active participants.

Like many other Late Classic-period carved and painted vessels, the Maya vase K1490 (Figure 14) depicts the ritual of self-decapitation. The third individual from the right has no head. He holds in his left hand the obsidian knife with which he has decapitated himself. In his right hand he holds the cloth in which he will wrap the head. The fourth individual from the right is shown holding the severed head by the hair with his right hand, and a knife in his left hand. In this scene, which is rife with mushroom imagery, the Lord of the Underworld is depicted as a white skeleton known as Skeletal God A. He holds the severed head in one hand and a serpent-bird staff in the other. His fleshless body represents death and decay, but also the transformation at death from which life is regenerated.

Not all decapitation sacrifice was done willingly, however. In a similar manner as above, Maya vase painting K638 (Figure 15) depicts a prisoner stripped of his clothing, his arms bound behind his back, being led by priests into the Underworld to undergo the

ritual of Underworld decapitation. The prisoner is followed by a priest holding an axe. He is dressed in the guise of the Underworld jaguar. That the prisoner is an offering to a Venus God is indicated by Venus glyphs in the cartouche at the lower right. The artist encodes the four cardinal directions and its sacred center in the mushroom-inspired shields. The priest leading the way into the Underworld wears a robe decorated with symbolic mushrooms. The portion of his headdress painted red forms a scroll, which I have identified as a symbol of the religion.

The priest on the far right wears a red tunic with white spots symbolic of the *Amanita muscaria* mushroom. The priest directly behind the prisoner wears an *Amanita*-inspired hat with the same colors. The artist infers they all journey into the Underworld under the influence of *Amanita* mushrooms, including the prisoner, who will be ritually decapitated by a priest dressed as the Underworld Jaguar. Dictionaries of Maya highland languages compiled after the Spanish Conquest mention several intoxicating mushroom varieties whose names clearly indicate their ritual use. One type was called *xibalbaj okox*, "Underworld mushroom," in reference to the belief that the magic mushroom transported one to a supernatural realm known as the Underworld (Sharer 1994: 542).

Two pages from Codices that escaped the Spanish cultural holocaust depict mushrooms. The first, Figure 16a, from the Codex Tro-Cortesianus, clearly depicts mushroom glyphs. The second, Figure 16b, from the Madrid Codex, shows a scene related to mushrooms and ritual sacrifice. This codex, the longest of the Maya books, making up some fifty-six pages painted on both sides, dates from sometime in the fourteenth or fifteenth-century. It is now in the American Museum in Madrid.

The top panel of Figure 16b shows four individuals cutting themselves for ritual bloodletting and possibly self-decapitation. The panel below it depicts a ruler on a throne confronted by a black Death god, ruler of the Underworld. Lowy (1980) has definitively identified the object he holds in his right hand, though oversized, as an *Amanita* mushroom. The god holds a flint knife in the other

hand. In the bottom panel three gods, one of them the long-nosed Maya god Chac, hold an axe in one hand and a severed head in the other. The scene, I believe, represents the Underworld Sun God prior to self-sacrifice. Since Quetzalcoatl sacrificed his own life at Teotihuacan in order to create humanity, I believe that the shamans (priests) taught that the ruler's divine resurrection after death came through their own acts of self-sacrifice in the Underworld.

Another common form of sacrifice was bloodletting. Mushroom-induced bloodletting rituals were likely performed in caves, which were revered as portals to the Underworld. In the latter ritual, blood was drawn from the penis and sprinkled upon the remains (cremated ashes or exhumed bones and most likely skulls) of deceased ancestors. The resurrection ritual was likely timed astronomically to the period of inferior conjunction, when the planet Venus appears to sink below the horizon and disappear into the "Underworld" for eight days. It then rises as the Morning Star, thereby appearing to resurrect the sun.

The Mushroom/Ballgame/Warfare Connection

The Mesoamerican ballgame was closely associated with ritual decapitation. The sacred book of the Quiche Maya, a colonial-period document known as the *Popol Vuh* (Tedlock 1985), records that the Lords of the Underworld (*Xibalba*) challenged the Hero Twins to a ball game. The Hero Twins, Hunahpu and Xbalanque, were ball-playing culture heroes who, after losing a ballgame with the Lords of the Underworld were decapitated and then resurrected into the sky as the sun and the moon (Thompson 1967: 27–28). In Mexican mythology the twins are Quetzalcoatl and his Underworld brother named Xolotl. Both represent the patron gods of the ballgame, and both deities represent the dualistic aspects of the planet Venus, as a Morning Star and Evening Star.

Sacred mushrooms such as the *Amanita muscaria* and psilocybin were likely consumed before the ritual ballgame. The effect would have been to greatly enhance the player's perception of strength and

bravery and give him an illusion of invincibility. Numerous ballplayer figurines have been found at Xochipala and at such other Preclassic sites as Tlatilco and Tlapacoya in the Valley of Mexico. Not all of them were male, however, as illustrated by Figure 17.

In Mesoamerica even wars were linked to mushrooms and sacrifice. The planet Venus is perhaps best known in Mesoamerican studies through its connection with the special kind of warfare called Venus-Tlaloc warfare, or "Star Wars." Beginning in about 378 CE, these wars were timed to occur during aspects of the Venus astronomical cycle and were conducted primarily to capture prisoners from neighboring tribes for ceremonial sacrifice. Hostilities were timed to begin upon the ascent of Venus into the morning sky (Schele and Freidel 1990: 130–31, 194). Hallucinogenic mushrooms appear to be linked to "Tlaloc warfare" or "Venus star-wars" as illustrated by Figure 18. The gold Aztec figurine depicts a warrior wearing a mushroom-inspired nose plug. Note that the warrior holds a shield depicting the "quincunx," a Mesoamerican Venus symbol identifying the four cardinal directions of the universe and its cosmic center, the sacred portal into the spirit world.

It is likely that warriors consumed mushrooms before going into battle because, as for ballplayers, it induced a feeling of invincibility and gave them super strength. Spanish chronicler Fray Sahagun, who was the first to report mushroom rituals among the Aztecs, also suggested that the Chichimecs and Toltecs consumed the hallucinogen peyote before battle for the same reason (Furst 1972: 12).

We know from the Spanish chronicles quoted earlier in this article that mushrooms were eaten with honey. They were also likely crushed or powdered and consumed in a liquid mixed with honey, or by means of an enema device. A mushroom infusion administered by means of an enema would have a much quicker and more powerful effect on the body than one ingested orally.

The ritual use of intoxicating enemas for spiritual transformation has been described in the earliest Spanish accounts of native customs. This ritual use of enemas, although poorly understood, is commonly represented in Maya vase paintings.

Mushroom consumption by means of such a device would avoid problems with nausea and vomiting and quickly bring the individual receiving it to the altered state of consciousness required for self-sacrifice. In Figure 19, the priest holds a small vase containing the mushroom mixture, which he has poured from a larger jar marked with a twisted X-icon symbolizing the portal to the Underworld. This X-icon, like the sacred ball court in the Underworld, identifies the holy place of rebirth and deified resurrection. Through this portal, identified with the planet Venus, a divine bird, symbolized by eagles or vultures as avatars of the Morning Star, carries the deified dead to the heavens.

Figure 20, Scene 1, shows a priest or shaman preparing an enema for the sacred mushroom ceremony. Scene 2 depicts a large plate-size *Amanita* mushroom in the lap of the priest. Scene 3 depicts the priest holding the enema device. In Scene 4, on the far right, the enema device is filled with the mushroom infusion ready to be injected.

Mushrooms in the Mesoamerican Economy

The rich volcanic soils of the Guatemala Highlands and its Pacific slope are a natural habitat for a number of species of hallucinogenic mushrooms, including both the *Psilocybin* and *Amanita muscaria*. According to mycologist Guzmán, the *psilocybin* mushroom is easy to propagate. I propose that they may have been cultivated in the many large bottle-shaped pits that have been excavated in the environs of Kaminaljuyu. The fact that this species of mushroom is easily propagated suggests that it was probably grown in quantity for purposes of trade, an activity suggested by Figure 21. Judging from this Maya vase painting, merchants may have carried large bags of mushrooms on their backs (Guzmán 2010). If so, this highly prized commodity would have provided an important and very lucrative source of wealth for the rulers of the period.

A thousand years of history is recorded in the Mixtec Codices, and page 24 of the *Codex Vindobonensis*, shown in Figure 22, appears to sum up, according to Mixtec mythology, the entire history and significance of the Mushroom/Venus/Quetzalcoat/Tlaloc religion. In

it Quetzalcoatl, as the Wind God Ehecatl (9-Wind), who is cited as the great founder of all the royal dynasties, is the pervasive character. The Codex Vindobonensis, also known as the Codex Vienna, was produced in the Postclassic period for the priesthood and ruling elite. Page 24 of this codex relates how and why the god Quetzalcoatl, in his guise as the wind god Ehecatl, brought mushrooms to mankind.

Snouted and fanged anthropomorphic individuals with dangling eyeballs are a feature commonly associated with the god Quetzalcoatl in his form of Ehecatl the Wind God (Borhegyi 1980: 17). In the second row from the top, the last figure on the right wearing a bird mask has been identified as the Wind God, *Ehecatl*, an avatar of Quetzalcoatl. As long ago as 1929, German archaeologist Walter Lehmann noted that many of the figures depicted in this Codex held objects resembling mushrooms in their hands. Mexican archaeologist Alfonso Caso later confirmed this identification (Wasson 1980: 214). Here Quetzalcoatl, as the Ehecatl, is shown in the act of bestowing divine mushrooms to mankind. The figure receiving mushrooms from the Wind God Quetzalcoatl has been identified as *Pilsintecuhtli*, a manifestation of the Aztec god Xochipilli, a child god who was the prince or lord of psychedelic flowers (Aguilar 1996: 80). Note that this individual not only has mushrooms in his hand, but also is shown with fangs, denoting Underworld jaguar transformation.

According to Aztec legend, *Ehecatl-Quetzalcoatl* created mankind from the bones he stole from the Underworld Death God, whose severed head Quetzalcoatl holds in his hand. Note the tears of gratitude on the individual sitting immediately opposite Quetzalcoatl. This individual, and those who sit behind Quetzalcoatl on the left, also hold sacred mushrooms and all appear to have fangs. Fangs suggest that, under the magical influence of the mushroom, they have been transformed in the Underworld into the Underworld jaguar.

In the middle of the page on the left side, Quetzalcoatl gestures to the god Tlaloc, directly in front of him, to open the portal to the Underworld. Furst, who describes this iconography, describes this scene as depicting the divine establishment of the ritual consumption of sacred mushrooms. He identifies the triangular or V-shaped cleft

in the basin of water on the left, which may be a sacred ball court, as a cosmic passage. Through it, deities, people, animals, and plants pass from one cosmic plane to another (1981: 151). Here an individual plunges head-first through the opening.

On the bottom left, two figures stand beside another V-shape portal of Underworld resurrection. The figure on the left pointing to the sky also has fangs. He appears to be a human transformed at death into the Underworld Sun God, or mythical "were-jaguar." This gesture probably signifies resurrection from the Underworld. The Janus-faced deity in front of him holds what appear to be sacred psilocybin mushrooms similar in shape to the ones illustrated in Figure 11. This Janus-faced deity is, in all likelihood, the dualistic planet Venus, representing both the Morning Star and the Evening Star. Note that this deity is painted black (signifying the Underworld) and wears a double-beaked harpy eagle headdress (signifying the sun's resurrection). The five plumes in the harpy eagle's headdress refer to the five synodic cycles of Venus. The three mushrooms in his hand refer to the Mesoamerican trinity—the three hearthstones of creation, the sun, the morning star, and the evening star.

Soma in the Americas?

Reopening Old Roads of Archaeological Inquiry

No discussion of the beginnings of mushroom/Venus worship in the New World would be complete without at least a brief mention of possible Old World origins. The prevailing anthropological view of ancient New World history is that its first human inhabitants came from Asia, but having arrived and spread throughout the length and breadth of the two continents, they developed their own complex cultures totally independent of outside influence or inspiration. Beginning with Franz Boas, American anthropologists adopted an essentially isolationist point of view. The peoples of the New World, they argued, were fully capable of developing civilizations as sophisticated as any found in the Old World. Suggestions to the

contrary were dismissed as, at best, lacking in hard archaeological evidence, and at worst, fanciful, racist, or demeaning. As a result, Americanists, in general, ruled out all considerations of possible trans-oceanic contact as lacking in legitimacy.

This view was strongly challenged by a number of anthropologists around the middle of the twentieth-century. Among them were Robert Heine-Geldern, an Austrian pioneer in the field of Southeast Asian studies, and Mesoamerican archaeologist Gordon Ekholm. While Heine-Geldern was fascinated by, and wrote about, the significant parallels he found in the symbolic arts of Southern Asia and Middle America, Ekholm made an investigation of possible Old World/ New World connections a major focus of his career. Ekholm proposed multiple transpacific contacts between the New World beginning as early as 3000 BCE, and both he and Heine-Geldern speculated that the Chinese, during the Chou and Han dynasties, undertook planned voyages to and from the western hemisphere as early as 700 BCE.

At the time, an abundance of convincing evidence appeared in print, supplied by Ekholm and other anthropologists as well as by scholars from different disciplines (Riley et al 1971). In addition to providing examples of probable animal, plant, and technological exchange between the continents, they argued that most American prehistorians, being landlubbers, underestimated the ability of ancient seamen to build craft capable of navigating the oceans. These well-reasoned and documented arguments notwithstanding, acceptance by American anthropologists of the possibility of significant trans-oceanic contacts between the Americas prior to 1492 CE was not forthcoming. Even with the recent awareness that early humans used boats to explore their world as early as 50,000 years ago, when they reached the shores of Australia, this denial has remained as intractably lodged in the minds of New World archaeologists as the possibility of a New World mushroom-based religion.

It is therefore particularly interesting that my study of mushroom symbolism in art has led me to a number of striking parallels between the visual imagery of Mesoamerica and that of Southeast Asia. Some of these parallels surely derive from common roots in a Paleolithic

shamanic mushroom cult brought to the New World by the first comers from Asia, as suggested by Wasson, but others appear far too sophisticated and complex for such an explanation. While this is a subject that will be further explored in a later publication, I will close by presenting a few intriguing similarities that bear further investigation.

Figures 23 a and b—two female figurines with encoded mushroom imagery in their headdresses from Harappa in the Indus Valley of southwest Asia—are a case in point. Dated to the first and second millennium BCE, these figurines have been identified as Mother or Earth goddesses. The use of mushroom imagery in connection with the head in areas as far distant as Southeast Asia and Central Mexico (compare with Figure 2b) is both striking and intriguing. While one can argue that the simultaneous appearance of mushroom imagery in the early cultures of the Indus Valley and the Olmec culture of Mesoamerica could be the result of parallel outgrowths of the same Paleolithic shamanistic cult proposed by Wasson, there are other more complex similarities that suggest possible transpacific contacts between the two areas. One of these is the method of extraction of the hallucinogenic drink used in both areas. This evidence supports Wasson's identification of the revered plant, called soma in Indo-Aryan folklore, and known in Zoroastrian and later Persian mythology as haoma, as the *Amanita muscaria* mushroom. The earliest of the hallucinogenic mushrooms to be recorded visually in the art of Mesoamerica, the *Amanita* is also the first of various hallucinogens to have been deified in the history of human culture (Furst 1972: 201).

According to the sacred book of Hindu hymns known as the Rig Veda, a mysterious plant called soma was the source of an intoxicating drink known by the same name. While the actual identity of this sacred plant has been lost through time, both its description and the details of its preparation seem to point to the *Amanita muscaria* mushroom. The flesh of the plant was crushed, using "soma stones," and the juices were filtered through wool into large jars. In a like manner, mushroom stones, when they have been found *in situ* in

the course of archaeological excavation, are often accompanied by stone-grinding tools known as *manos* and *metates* (see Figure 1). Accounts of mushroom ceremonies still in practice among the Zapotec Indians of Mexico confirm the use of these tools in the preparation of hallucinogenic mushrooms for human consumption. One must conclude that these *manos* and *metates* were used for the same purpose as the sacred stones described in the Rig Veda that were used to prepare soma.

The earliest records of the use of soma in Asia are in connection with a nomadic people living in northwestern Siberia. Possibly as early as the Paleolithic, their shamans developed an ecstatic cult based on the consumption of a hallucinogenic plant. Around 1600 BCE, when these people known today as Aryans moved down into what is known today as Afghanistan and the Indus Valley, they brought with them their religious cult and its hallucinogenic drink, along with the observance and celebration of certain celestial laws that they believed were essential to keeping the world in balance. This balance was maintained through acts of ritual sacrifice. By this time these people called themselves Aryans, and at some point in their history the simple shamanism of their Siberian homeland was expanded into a rich and complex religious tradition based on the worship and ecstatic experience achieved by consuming the plant known in Proto Indian-Iranian as "sauma." It is this religious tradition that is later recorded in the hymns in the Rig Veda.

The earliest evidence of a mushroom-based religious cult in the New World appears to date to approximately the same time period, around 1500 BCE, and the beginnings in Mesoamerica of Olmec culture. This sophisticated culture, with its distinctive art style and mythology, pyramids, and megalithic stone sculpture adorned with the images of gods and rulers, appeared quite suddenly in full blossom, first along the Pacific coast of Guatemala and Mexico, and shortly thereafter in what is now the state of Veracruz, Mexico. We know very little about the religious beliefs of the Olmecs and their contemporary neighbors, other than that they apparently revered the hallucinogenic *Amanita muscaria* mushroom, which

they portrayed in small stone sculptures known as Mushroom Stones and also depicted in association with pottery figurines. It is likely that they also practiced ritual decapitation in connection with an esoteric cult of the human head associated with trophy heads, and with the Mesoamerican ballgame. As the first complex religion in Mesoamerica, the Olmec set the tone for future religious developments throughout much of the New World.

Both in the Old World and the New, human sacrifice and the ritual of decapitation was believed necessary to save mankind from calamity and the cosmos from collapse. Since the greatest gift one could offer the gods was one's own life, the purpose of human sacrifice was to preserve life rather than to destroy it. I believe strongly that this concept of life from death via decapitation was mushroom-inspired. Both Indian and Mesoamerican religious traditions believed in a three-tiered cosmos with celestial gods traveling back and forth from the Heavens to the Underworld, and both saw a triadic unity in their gods (Hindu triad, and Palenque triad) that was related to such cosmic forces as wind, rain, lightning, and fire. The early Vedics, Hindus, Buddhists, and Persian Zoroastrians, like the Mesoamericans, also believed in four great eras or world periods that ended in cataclysm prior to the present, fifth, and final world.

These are but a few of many parallels between the religious beliefs of the two areas. Rather than belabor the subject at this time, I will close with the hope that historians will be open-minded to the concept that the oceans, thousands of years ago, were highways, not barriers. It is equally important to acknowledge the capability of ancient peoples to explore their environment and disperse their intellectual baggage to its far corners.

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