Human-Peyote Interaction in South Texas

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South Texas has long been an important region for Native Americans who use peyote, *Lophophora williamsii* (Lem.) Coulter, in sacramental form. Since before the turn of the century, Native American peyotists collected and used the cactus, which grows primarily throughout a region extending from northeastern Mexico to south Texas. When North American peyotism was formalized through the Native American Church early this century, demand for the cactus increased dramatically, a trend continuing to this day (Stewart 1987). Mounting harvesting pressures upon the south Texas peyote population now threaten the long-term viability of the peyote gardens, as the peyote fields are known, and their sacramental availability to Native American Church members.

Needless to say, the resulting strains between plant needs and human needs have been cause for concern among Native Americans. The peyote gardens of south Texas constitute the chief source of peyote for the Native American Church, and any scarcity of Texas peyote will heavily affect the church. Depletion of wild peyote also threatens the livelihood of local people who cut, dry, and sell the peyote to Indians or middlemen. These people are known as *peyoteros* and comprise an important chapter in the development of peyotism in the United States (Morgan 1976, 1983a, 1983b). They, too, have a vested interest in preserving the peyote population, even as market demand for the plant increases. *Peyoteros*, like Native American Church members, find themselves in the difficult position of needing to extract a natural resource whose renewability now lies in question.

In this paper I will sketch some of the difficult relationships existing between human peyote users and the south Texas peyote population. A corollary interest of this paper will be the sustainability of peyote harvesting in south Texas. With these aims I will review how the plant has fared in terms of harvesting pressures from the Native American Church and in the wake of local land practices. These topics will be preceded by an inspection of the peyote plant and a brief exploration of its historical use.

Peyote in Historical and Regional Context

Lophophora williamsii (Lem.) Coulter is a low-growing, spineless cactus containing over thirty different biodynamically active alkaloids, although it is most closely associated with mescaline, its primary psychoactive principle (Furst 1990:111). The higher concentration of mescaline in the best-known peyote variety distinguishes it from the southern species, *Lophophora diffusa*, growing in the state of Querétaro, Mexico (Benson 1982:240). Each peyote plant has a perennial, carrot-shaped root. During harvesting, only the crown of the plant is cut, permitting the regrowth of a single or even multiple crowns. The cactus propagates primarily by budding and seed and prefers arid and rocky soils.

Peyote is native and endemic to North America, present in the high plateau of northern Mexico, between the Sierra Madre Oriental and Sierra Madre Occidental, reaching its effective southern limit in the state of San Luis Potosí, although it has been reported from as far south as Jalisco and Hidalgo (Morgan 1983a:73; Schultes 1938:699). The northern limits of peyote growth reach deep into the south Texas borderlands, encompassing the counties of Webb, Zapata, Jim Hogg, and Starr. South Texas is semiarid to subhumid subtropical country, making it the northern optimum climate for peyote (Morgan 1983a:76). Although the cactus was earlier in this century reported in the Big Bend and Trans-Pecos areas of the state, its presence in these areas remains much more limited than in the four mentioned counties.

Despite its regional restrictiveness, or, more likely, because of it, peyote appears to have made its way far beyond the borders of its natural habitat from a very early period. Archaeological evidence from the Cuatro Ciénegas Basin of Coahuila suggests that peyote was in use this far north by at least as early as the 9th century A.D. (Adovasio and Fry 1976: 95). Stewart (1987:30) postulates that peyote was used by populations inhabiting the north Chichimec zone from as early as 10,000 years B.P. As populations moved about, knowledge of the plant moved with them, such that "(by) the time of the Spanish Conquest, (peyote) was well known and valued several hundreds of miles beyond its native habitat" (Stewart 1987:30). As a testament to this, in New Spain many Inquisition hearings took place south of Mexico City for the possession of peyote, a controlled substance (Stewart 1987: 22). By the early 18th century, the use of peyote by aboriginal groups of northeastern Mexico and Texas was becoming well-documented, prompting La Barre (1964:35, 110) to consider

this region the likely center of cult diffusion. Caddos were also reported to be using peyote at this time (1716), as was thereafter reported of the Tamaulipecan Indians (ca. 1760) (Stewart 1987:28).

Stewart (1987) argues, however, that the Coahuiltecan-speaking Carrizos were the probable originators of the peyote ceremony, a view shared by Opler (1938:271). The former considers Carrizos the originators of the ceremony because they were among the original inhabitants of the Rio Grande peyote growth area, and were reported to be using peyote in vigils as early as 1649 (Stewart 1987:49). By the late 18th century, Lipan Apaches grew more identified with the peyote growth area of northern Coahuila; it was at this time that they may have received knowledge of peyote from the Carrizos. The Mescalero Apaches had by the beginning of the 19th century long occupied or raided into peyote lands and had been in contact with known peyote users such as the Lipan Apaches in the north and with the Huichols and Tarahumaras of Mexico. By this time, 1816, Karankawa Indians grouped at Refugio Mission near Corpus Christi had themselves become involved in the peyote cult, journeying to Laredo to collect the sacrament (Stewart 1987:47).

Toward the end of the 19th century, ca. 1870, the above groups, now joined by the Tonkawas, had begun diffusing the peyotist religion to groups in Indian Territory, particularly to the Kiowas and Comanches (Gill 1982:167). Kiowas and Comanches, in turn, became active disseminators of the Plains peyote ceremony (La Barre 1964:43). Peyotism developed further over the next several years, although the religion was still not widespread by the time of the 1890 Ghost Dance (Slotkin 1975:96). However, because the Ghost Dance had fostered increased contact between groups throughout the Plains, the stage had been set for greater dissemination of the peyote cult.

An important agent of diffusion that emerged at this time was the traveling peyote leader. These leaders went about from tribe to tribe spreading ritual knowledge and their own brand of performance. Prominent among these was Quanah Parker, a Comanche chief and war leader. Parker, the son of a white woman abducted as a child by Comanches, engaged U.S. troops and encroaching settlers on the north Texas plains until he was subdued in 1875 (Hagan 1993:13-15). Thereafter, he took up farming and ranching on allotted land in Indian Territory (Gill 1982:170). In his role as a tribal representative, and aided in part by his dual ancestry, Parker developed many relationships with influential whites, including Teddy Roosevelt (Jackson and Jackson 1963:124-130). His charisma, meanwhile, extended also to the religious sphere. Although his involvement with peyote probably began years earlier, Parker's leadership in the cult dates to 1884, when he became very ill. When he recovered from his illness, he attributed his cure to peyote and set about proselytizing the religion. Although Parker initially concealed peyotist activities from non-Indian officials of the Kiowa and Comanche Agency, he eventually defended peyote-centered worship (Hagan 1993: 53, 57). Over time, moreover, he accommodated Anglo culture within the religious movement, creating a space for the later hallmark Christian elements of North American peyotism.

Similarly, John Wilson, who was part Caddo, Delaware, and one quarter French, established contacts with many Indian groups in the latter half of the 19th century. Wilson was introduced to peyote at a Comanche dance in 1880, after which time he adopted the cult himself and set about spreading the peyote way (Collins 1991:375; Stewart 1987:88). He drew much of his personal direction from visions. The visions instructed him in the religion's necessary ceremonial procedures and paraphernalia, central to which was the construction of a particular kind of moon-shaped altar, the "Big Moon" (Petrullo 1934:82-83; Speck 1933: 543). Wilson's version of the earthen "Moon" denoted the fire pit as the "grave of Christ" (Speck 1933: 548). Wilson incorporated many other Christian elements as he elaborated the native religion, although Christian and aboriginal features varied widely throughout variants of the religion (Collins 1991:375).

Wilson's promotion of the peyote vision as a central element of the religion stands in contrast to what Schultes (1938: 703-704) claims was a peyotist diffusion predicated on the efficacy of peyote as a medicine. Schultes (1938:712) points to the spread of *L. williamsii* in the United States outside of the Plains to areas with cultural groups who placed little importance on visions in adult life. In support of his view, Schultes (1938:706) argues that, "most early peyote leaders were converted through a cure" and that peyote origin myths often emphasize the medicinal appeal of peyote. It must be remembered, however, that the word and concept, "medicine," among Native Americans can connote a supernatural entity or quality (La Barre 1960:52, 54). Given this, one would be remiss not to attribute to peyote a highly religious, perhaps even vision-centered, quality as the basis for its "medicinal" importance.

Whereas the peyote cult did not spread throughout North America with the same degree of fervor as the Ghost Dance, those who participated in it did so to the point that, by the first decade of the 20th century, they began encountering greater social and legal hostility. Peyotists then accelerated their incorporation into organized churches in an effort to invoke constitutional protection of their practices. In Oklahoma in 1918, the first formal incorporation under the name "Native American Church" occurred. For the remainder of the 20th century members of this church would place heavy demands on the peyote fields.

Peyote Harvesting Pressures Since 1900

By the time the Native American Church was founded, peyote harvesting in south Texas had, for over forty years, been the domain of a group of people called *peyoteros*. These persons were, by and large, Texas Mexicans who would gather peyote either to sell directly to visiting Indians or, more often, to distributors based in Laredo. Peyote abounded in the plains and hills where the *peyoteros* lived, and they had only to walk a short distance out of their ranches and villages to find it.

Peyoteros of the Tamaulipan brushlands, as the northern part of the Texas peyote growth zone is known, undertook the collection and drying of peyote as a step toward viable commercialization of the plant (Morgan and Stewart 1984: 271). Drying the harvested peyote results in an ideal item for trade, the dried buttons being very light and compressible into small containers for shipment. In addition, dry peyote can be stored for indefinite periods of time, for the alkaloids it contains are nonvolatile and temporally stable (Morgan and Stewart:271). This transportability helps explain how the peyote religion managed to spread far beyond the region of peyote itself. In the mid 18th century and earlier, distribution of the cactus throughout Texas and northern Mexico most likely hinged upon the collectors' ability to preserve the plant through desiccation. Its hardiness when dried allowed for effective long distance foot or mule trading. At the appearance of the *peyoteros*, however, still another favorable factor for peyote distribution emerged: the railroad.

In 1881, the Texas-Mexican railroad between Laredo and Corpus Christi was completed. This line crossed the peyote fields within a few miles of the village of Los Ojuelos, Webb County, a community with numerous peyote-gathering families and individuals who could now ship gathered and dried peyote to Laredo middlemen. That same year, rail connections were completed to Indian Territory from Laredo, so high-quantity, low-cost peyote shipping commenced from communities like Los Ojuelos and Torrecillas to Laredo and then on north (Morgan and Stewart 1984:276). A limited number of peyotists from Indian Territory visited the peyote gardens by rail, most opting to have the dry peyote shipped to them. In the 1920s, Indians were arriving by car in South Texas, visiting *peyoteros* with whom they had maintained contact. They gathered or simply purchased peyote, sometimes staying on to carry out vigils.

The relationship between *peyoteros* and Indians continued for years, even when the state enacted the Texas Dangerous Drug Act of 1967, which prohibited the possession of peyote by anyone, including Indians. In 1969, however, the law was amended to allow Indians to obtain and use peyote, but a provision of state supervision was added. Dealers had to obtain a license, keep sales records, and sell only to individuals who were at least one-quarter Indian (Morgan and Stewart 1984:291). In addition to meeting the blood quantum requirement, the buyers had to be bona fide members of the Native American Church. Local chapters of the Native American Church were required to file a current membership list with the Texas State Board of Pharmacy.

In the 1970s the Texas Department of Public Safety, Criminal Law Enforcement Division, Narcotics Service, was placed in charge of regulating peyote trade. Up until this time, peyote had been getting collected and sold by the sack, with the result that many whole plants had been getting up-rooted and bagged. This harvesting practice, of course, endangered the renewability potential of peyote. When regulations were enacted in 1977 requiring *peyoteros* to record peyote sales by the number of plants sold, and prohibiting sales by the sack, the uprooting of whole plants became less frequent since the emphasis shifted from amassing sheer peyote biomass to gathering specific quantities of plant crowns (Morgan 1983a: 84). However, after peyote sales by the number of plants was mandated, more cuttings of smaller and immature plants took place, posing further problems for the long-term viability of the plant.

But the dangers of impeded peyote reproduction had been in place since much earlier in the century. Early in the period of *peyotero* work *peyoteros* determined how to harvest the cactus such that it would not only maintain its growth, but also increase the size of its crowns. Less-experienced, or clandestine cutters, however, paid little attention to peyote renewability. After the 1921 south Texas oil boom, especially, many oil workers in the chaparral took to part time peyote cutting, damaging the regeneration potential of plants by applying improper cutting techniques (Morgan and Stewart 1984:280).

Probably because of over-harvesting and the growing scarcity of the plant in Webb County, by the mid 20th century peyote collection shifted south, to Starr County. Commercial harvesting in the upper Rio Grande Valley had begun in the 1930s, but with some critical differences from northern county harvesting. In the north, *peyoteros* had generally free access to large ranchlands and were able to collect and dry peyote for later sale. In the south, however, individual ranchers controlled most of the harvesting. These ranchers had smaller tracts of land, an artifact of Spanish colonial partitioning, and would admit collectors onto their land and charge them for the quantities of peyote collected. This resulted in more sales of green, or fresh, peyote and less control over harvesting techniques since more inexperienced cutters became involved.

It appears that the mass availability of peyote from the late middle through the later 20th century bolstered still more demand for the plant, congruent with the growth of the Native American Church. However, the demand was leading

to a rapid depletion of the plant in Texas and to a troublesome situation for *peyoteros*. With the 1960s, droves of peyote-seeking Indians arrived in south Texas and set about collecting and purchasing large quantities of the cactus. Navajos, among whom peyotism had been steadily strengthening since about 1930 (Aberle 1966:109-110), became the largest consumers of peyote during this time. Also on the Texas scene appeared many non-Indians on quests of their own, raising public suspicion about the legitimacy of peyote. The arrival of the Indians at this time markedly reduced mail-order traffic, but rising gas prices later made mail order both attractive and necessary for the Native American Church membership. The net effect of these combined venerative and pleasure-driven waves of peyote users was that, by the 1970s, the Texas Soil and Conservation Service listed peyote as endangered flora (Morgan and Stewart 1984:292).

The rapid depletion of the plant, coupled with increased demand for it in recent decades, has led to concomitant price increases of the remaining plants. As an example of this, in 1966 Indians paid $15.00 per 1,000 dry peyote buttons, but by 1983 the price for this quantity of peyote buttons had risen to $80.00 (Morgan 1983a:85). Today, small green peyote buttons start at thirteen cents each, with 1,000 button sacks valued at approximately $130.00 in Starr County and priced from $150.00 to $170.00 in Webb County (Anderson 1995:68). Each sack of 1,000 buttons can supply enough medicine for approximately three peyote vigils, so some visitors will purchase several sacks to take back home with them.[1] Together with the substantial time, food, and gasoline expenses Indian purchasers incur during their trips to south Texas, the rising cost of peyote amounts to tremendous overall costs.

Most travelers to south Texas do not measure their journeys in miles or dollars alone, however. Following decades of visits to the peyote region, many Native Americans have developed close relationships with particular *peyoteros*. *Peyoteros* of Webb County, especially, have cultivated lifelong friendships with visiting Indians, often permitting them places to camp for a couple of weeks while they collect and dry their peyote (Morgan and Stewart 1984:282).

A well-known case of this involves a family of Los Ojuelos. Esequio Sánchez was a well-known *peyotero* from this community from at least the 1920s. His work was inherited by his daughter, a woman named Amada Cárdenas. After the decline of Los Ojuelos, Amada continued working as an influential *peyotera* outside nearby Mirando City, where from 1957 to the early 1980s her home served as the official headquarters of the Native American Church of Texas, of which she was a member of the board of trustees (Morgan and Stewart 1984:283). Amada would provide a guest house at which Indians could stay as long as they liked, and for years interacted almost daily with peyotists.

Amada, now 96 years old, no longer gathers or distributes peyote. Many persons, however, Native American and otherwise, continue to visit her home in Mirando City. The esteem in which she is held is reflected in how the people she has befriended over a lifetime address her as "mom" and "grandma," as an esteemed elder. Visitors still erect tipis on her property and hold peyote vigils in her honor. Road chiefs, ritual leaders, celebrate Amada's birthday with vigils every October and honor her deceased husband, Claudio, with vigils every February. Several years ago her guests built a modern hogan on her property as well as a sweatbath; many men undergo a purificatory sweat before beginning the vigils. The peyote used at these rituals now comes from Rio Grande distributors farther south, as most of the peyote collection and distribution in the region now takes place in the southern flank of the peyote growth zone.

Another reason Native Americans make the effort to drive from places as distant as Utah, Minnesota, and Alberta, Canada, is because many consider the peyote gardens, themselves, sacred. They feel compelled to make a personal pilgrimage to them at least once in their lives. Peyote collected personally by the Indians is considered especially powerful medicine, hence the enthusiasm with which they make the arduous journeys. Many parents and grandparents are also eager to take their children and grandchildren to meet Amada Cárdenas, who has known many Native American elders since they were children.

Land Practices Affecting Peyote

Peyote over-harvesting and the use of improper cutting methods have diminished returns on peyote over the last three decades. But as seriously as poor harvesting techniques have endangered the plant's renewability, land alteration practices have been still more damaging to plant populations. Ironically, while certain features of the region have made the land ideal for peyote growth, these same features have invited practices like cattle grazing and rootplowing, both detrimental to peyote. Features of the peyote plant itself, furthermore, make it difficult to propagate commercially. The persistence of grazing and rootplowing and their impact on peyote renewability can be better understood by first reviewing the biogeographical context of the peyote growth region.

George R. Morgan (1976) has described the biogeography of the peyote fields in some detail. Climatologically, the south Texas environment places great stress on plant life (Morgan 1976:28-30). While winter months only occasionally reach freezing temperatures, summertime may provide daily temperatures of over 100 degrees F. As close as the region lies to the Gulf of Mexico, precipitation in the area remains infrequent, limiting itself to thunderstorms in spring and fall and to an occasional hurricane in summer and fall months.

Morgan (1983a:76) has pointed out how the highest densities of the plant occur along the western margins of the Bordas escarpment, on the adjacent Aguilares plains, and on the breaks of the Rio Grande. Peyote grows well in the erosion-resistant gravely and caliche soils of the region, and appears most frequently on east- and south-facing slopes and hillsides, where it receives ample sunlight. The cactus has developed a unique response to the occasionally harsh and drought-ridden climate: the peyote crown will descend below the ground's surface during dry periods, reducing moisture loss through transpiration. Larger crowns cannot retreat, however, and are more vulnerable to blistering and parching. The perennial roots of the plant add to its resiliency, enabling its proliferation in this difficult climatic zone.

Given the arid nature and rocky soils of much of south Texas, most of the area in which peyote is found is not suitable for farming. For the Anglo landowning sector, which has gained increasing control of the land base of this predominantly ethnic Mexican area over the past two centuries, this has left only the options of oil extraction and ranching (Montejano 1988). Oil was a profitable venture for owners of the lands' mineral rights until the early 1980s, after which time oil prices fell and pushed many local drilling companies out of the region, out of business, or both. Recovery in this area has been slow. Ranching has remained the only consistently secure option for area landowners, although the sale of deer, quail, and dove hunting leases also provides them with seasonal income.

South Texas ranching practices have seriously endangered Texas peyote this century. Land-clearing practices enacted since the 1930s have severely impacted peyote growth and regeneration, particularly the rootplowing of ground for pasture land and the seeding with exotic grasses (Morgan and Stewart 1984:292). Rootplowing is a procedure in which a tractor drags a horizontal blade, cutting the roots of plants some 34 to 40 cm below ground level, often seeding at the same time (González 1990:110; Prochaska 1989:41). This radically alters the ratios of trees to brush to grasses, favoring the growth of grasses suitable for grazing. Cattle raising has thus entailed intensive alteration of the land even before cattle are introduced.

In addition to physically uprooting plants, including peyote, rootplowing can for years affect the growth profile of plants common or native to the region such as mesquite (*Prosopis glandulosa* Torr.), blackbrush acacia (*Acacia rigidula* Benth), cenizo (*Leucophyllum frutescens* (Berl) I.M. Johnston), and coyotillo (*Karwinskia humboldtiana* [R. & S.] ZUCC), among others (González 1990:110-112). When cattle take to land, rootplowed or not, they continue the process of peyote destruction by trampling exposed cacti and by killing the plants that provide the humus for cactus seedbeds (Benson 1982: 244). Cattle also tax the water budget of overgrazed patches, creating increased water stress in specific localities (Fuls 1992:192). The effect grazing will have in a given place can depend heavily on the soil type and on the degree to which cattle are rotated within grazing acreage (Meyer and García-Moya 1989). The combined effects of poor grazing practices and rootplowing were so severe in Texas by the 1970s, however, that the state ceased approving cost-sharing for rootplowing for any land containing peyote (Morgan and Stewart 1984:292). Government-funded rootplowing and bulldozing of other south Texas lands continued through the 1970s and 1980s, however, resulting in the extensive erosion and desertification of many areas (Longoria 1997:37-38, 58).

A major consequence of cattle grazing and of the land preparation that precedes it is the restriction of small cacti like peyote to the remaining favorable spots on the landscape (Benson 1982:244). These tend to be rocky outcroppings, steep slopes, or areas with soils too gravely or chemically poor to interest ranchers. It has been precisely from these commercially undesirable areas that *peyoteros* have harvested the cactus most. But even these areas are becoming depleted or restricted in access by ranchers who bar peyote cutters from their property. The scarcity of peyote in northern counties has thus been a function of aggressive harvesting, habitat destruction, and land restriction.

The difficulty peyote has propagating in disturbed areas distinguishes it from other native cacti. Other Texas cacti, like tasajillo (*Opuntia leptocaulis* DC.) and prickly pear (*Opuntia lindheimeri* Engelm) do quite well in disturbed environments and thrive even where cattle grazing and rootplows have been applied (González 1990:114). Since these cacti propagate primarily via stem transplantation, cattle grazing and rootplows can even hasten their spread. In fact, given the difficulty in eradicating these plants, ranchers tend to leave large stands of them on their properties to use as cattle fodder during droughts; the spines are singed before the plant is used. *Opuntia* spp. and cholla cactus (*Cyclindropuntia* spp.) are also known to grow well where their plant competitors have been eliminated, i.e., in rangelands (Benson 1982:244). However, neither the seed dispersal apparatus nor the branching propagation mechanism of peyote seem as successful as those of these other cacti, making artificial, controlled cultivation of peyote unfeasible at present.

This is an unfortunate limiting factor on the agricultural potential of peyote. Some arid-land and desert plants of the United States and Mexico which do manage to combine high distributive potential with renewability include palmilla (*Nolina* spp.) (Nabhan and Burns 1985) and ocotillo (*Fouquieria* spp.) (Cowen 1990). While relatively few species of such regions are suitable for direct human consumption (McKell and Norton 1981:462), those which are sometimes even lend themselves to systematic cultivation for either their fruit, as with pitayo (*Stenocereus* spp.) (Pimienta-Barrios and Nobel 1994) in

Mexico, or for both their fruit and stems, as with prickly pear (*Opuntia* spp.) (Russell and Felker 1987) in Mexico and the United States. Peyote has not yet appeared as responsive as other arid-land and desert plants to such manipulation. This is due largely to the fact that the harvestable part of peyote is the crown itself, not a detachable fruit or stem, resulting in the need to level a plant every time it is harvested and requiring a long period of plant recovery before the next harvest. *Peyoteros* have no doubt realized the difficulties in cultivating peyote and have instead returned over the years to harvesting in time-proven areas, returning to peyote plants that have grown back from their previous cuttings.

Peyote and Humans

As the source of sacrament for the Native American Church and as a means of livelihood for *peyoteros*, the peyote gardens of south Texas are today both revered and needed. However, they are also under increasing pressure to yield peyote beyond the limits of its renewability. For those people who ritually ingest the plant, its increasing scarcity means they will have to pay higher prices per 1,000 button sack. It also means that they will likely make greater efforts to circumvent conventional purchasing channels and try to secure direct harvesting rights to the plant. For those south Texans who rely upon peyote harvesting for needed income, the plant's scarcity may prompt them to search for more plants in lands legally inaccessible to them. Lands currently being harvested, furthermore, will probably see heavier harvesting in the future.

Escalating peyote prices brought on by peyote scarcity and the fees set by landowners threaten also to create (and exacerbate) tensions between some Native Americans and *peyoteros*. Some Native Americans resent having to procure their peyote through local *peyoteros*. As members of a legally recognized body, some Native American peyotists feel entitled to gather the peyote themselves, without middlemen, or at least to be permitted to import Mexican peyote, an option currently unavailable to them. Elders from the Native American Church of Colorado and of Oklahoma have expressed these concerns to the author. These concerns, of course, place strains on relations between Indians and those *peyoteros* who feel they might be getting pushed out of business. On the whole, however, Native Americans seem interested in continuing and improving their relationships with *peyoteros*, since these relationships have generally proven favorable to the interests of all involved. Meanwhile, peyote harvesting continues, and plant supplies dwindle.

Clearly, the issues at hand extend beyond the matter of current peyote sustainability. They encompass a history of human-land relationships and a web of human relationships predicated upon the importance of the plant. Different groups have vested interests in preserving the wild peyote population. The future availability of the plant will depend greatly upon measures taken today to manage its growth zone and to balance its survival needs against those of Native American Church members and *peyoteros*.

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Notes

1. To give the reader an idea of how Native American Church members would sacramentally consume 1,000 peyote buttons, it would help to consider a hypothetical church meeting. In south Texas, meetings generally consist of from 32 to 34 people. Each attendee consumes approximately five to thirteen green buttons, three buttons in dried form, and about half a button in tea form in the course of the night. Thus, in an average meeting, each attendee consumes from eight and a half to thirteen and a half buttons of different sizes and in different forms. In a 32 person meeting, then, with each person ingesting eight and a half buttons, the lower end of the ingestion scale, approximately 272 buttons will be consumed at that meeting. A sack of 1,000 buttons should last for 3.67 meetings of this kind. On the other hand, if there are slightly more individuals, say, 34, in attendance, and if their individual peyote ingestion is at the higher end of the scale, about thirteen and a half buttons each, then their total meeting consumption will approximate 459 buttons. In this case, a sack of 1,000 buttons should last for 2.18 like meetings.

Since meetings usually include people who ingest different amounts of peyote, a sack of 1,000 buttons contains enough peyote for approximately three meetings. However, as peyote button size can vary enormously, some attendees may consume more of the smaller buttons or fewer of the larger buttons, leaving us with no real fix on a standard quantity of consumption. In all likelihood, furthermore, each 1,000 button sack will be adequate for fewer than three meetings, for the following reasons: 1) some meetings may have people who tend to consume relatively more peyote than average; 2) some meetings may have more than 34 attendees who may in turn consume more peyote than average; 3) some of the peyote in each sack may be directed for doctoring (directed healing) use outside the meeting structure, with the remainder being used for meetings; and 4) some meetings may have the peyote make more rounds among attendees than is usual, prompting people to eat more peyote than they had planned. Consult La Barre (164:65-66) for estimated peyote consumption of different tribes in meeting contexts.

As difficult as it is to estimate peyote consumption at meetings, it is equally difficult to determine the number of peyote vigils

conducted every year by the Native American Church of North America, an organization whose membership numbers around 250,000 (Fikes 1996:172). It is my impression, however, that different tribes and Native American Church chapters conduct meetings virtually every week of the year. Days of national interest also prompt meetings, especially holidays like Labor Day, Memorial Day, Armistice Day, and Veteran's Day. Meetings commemorating Mother's Day, birthdays, weddings, anniversaries, adoptions, and graduations also take place. Special meetings are also called on behalf of individuals suffering illness and on behalf of Indian servicemen (Brito 1989:132). The latter meetings are known as "Flag Ceremonies," and date initially from World War II.

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