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PEYOTE AND PLANTS USED IN THE PEYOTE CEREMONY

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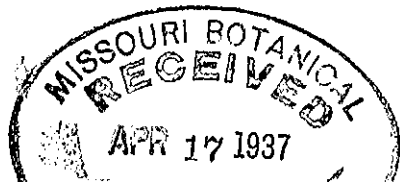
I. Economic Importance of Peyote.

PEYOTE, (*Lophophora Williamsii* (Lem.) Coult.), a small, grey-green, narcotic cactus of the Rio Grande region of the United States and Mexico, is the centre of an elaborate religious ceremony common to more than thirty American Indian tribes. The peyote-cult, incorporated into the Native American Church, has been given a charter by the State of Oklahoma. Inasmuch as this cult, practically unknown in the United States before 1885, yet numbering 13,300 members in 1922,¹ is rapidly increasing² in the face of intense opposition from missionary groups, the following observations should prove botanically and ethnologically interesting.

Peyote is also an important article of commerce. It grows in a limited area close to the Rio Grande in Texas and in scattered places throughout the states of Aguas

¹There is great need for a new and exact census. No later statistics are available from the Bureau of Indian Affairs of the United States Department of the Interior. The number of communicants at the present time is, without doubt, far in excess of this figure for 1922.

²See "Secretary Ickes Moves to Protect Minority Religious Group at Taos Pueblo", *Indians at Work*, November 15, 1936, pp. 8-13; Office of Indian Affairs, Washington, D. C.



Calientes, Chihuahua, Coahuila, Durango, Hidalgo, Jalisco, Neuvo León, Querétaro, San Luis Potosí, Tamaulipas, and Zacatecas in Mexico. The practice of sending pilgrims to gather it in the field has grown up among the Indians of the southern plains of the United States, following the long established custom of all the peyote-using tribes of Mexico. The pilgrims from this country use automobiles and bring back trailers full of peyote.

The more northern tribes, however, are forced to procure their supply of peyote (the dried heads of the cactus, usually called mescal buttons) through the mail from merchants in Laredo, Texas. This is permitted, since *Lophophora Williamsii* is not a narcotic under Federal regulation. Neither is it restricted in Mexico. However, the states of Colorado, North and South Dakota, Kansas, Montana, Nevada, Oklahoma and Utah have taken legal action to prohibit the use, transportation and possession of peyote. This action was subsequently repealed in Oklahoma. However, in the enforcement of legal restrictions difficulties have been encountered.

Several business establishments in Laredo, Texas deal exclusively in mescal buttons (9)³. The annual variation in price usually ranges from \$2.50 to \$5.00 a thousand buttons. I find that, for small amounts, the present price is \$6.00 a thousand. The Laredo establishments supply most of the peyote used by tribes from Iowa north to the Canadian border. Some of the peyote used in Oklahoma and neighboring states is also supplied from Laredo.

Independent gatherers average about two hundred heads a day in October. The heads are cut off, leaving the root in the ground to send forth new shoots. The financial returns of independent gatherers are meager unless the sales are made to peyote-seeking pilgrims who

³Italic numbers in parentheses refer to Bibliography.

pay from four to six cents a pound for the newly cut heads.

The peyote industry is not an insignificant business, in spite of the fact that it is little known outside of Texas. It is said (9) that inhabitants of the small town of Neuvo Laredo, on the Mexican side of the Rio Grande, derive their livelihood almost exclusively from the peyote trade. In Ward County, Texas, the town of Peyote takes its name from the trade in mescal buttons gathered in Ward and Winkler Counties. From the following evidence, the economic and cultural importance of peyote in Mexico can be clearly seen. The town of Hikuli in the state of Sonora derives its name directly from the Tarahumare word for the cactus. A village in the state of Jalisco is called Peyotan. A mission in the state of Durango bears the name El Santo Nombre de Jesus Peyotes on account of the abundance of the plant in the surrounding hills.

No statistical data regarding the extent of this industry are available. However, assuming a price of \$4.00 a thousand buttons and a per capita consumption of six buttons once a week,⁴ \$20,000 seems a very conservative estimate of the actual annual commercial transactions involved north of the Rio Grande. This estimate would be greatly modified were it possible to include in it the great amount of peyote used in Mexico where most of the supply is collected by the Indians themselves.

Peyotism was embraced over ten years ago by a group of negroes in Oklahoma (16), but no records of the present state of this branch of the peyote-cult are available.

⁴Meetings are often held more than once a week, and the per capita consumption is, no doubt, much higher as *every* participant eats at least four buttons, and some consume upwards of thirty in a single meeting. Add to this the large amount used medicinally, and the extreme conservatism of this estimate, based on figures for 1922, will be evident.

It apparently ceased to exist after the death of its leader in 1926 (16). It would not be surprising, however, if groups of non-Indians near the reservations use peyote.

It has been stated from time to time by investigators, and the statement has often appeared in the newspapers, that the use of peyote has spread to France (the alkaloid mescaline sulfate usually being used instead of the crude drug) and that the Paris press has waged a vigorous campaign to stop its use and spread. Reko writes (12) on this point: "In Paris (und übrigens auch in anderen Städten) existieren geheime Gemeinden von Peyote-Essern, deren Mitgliederzahl von Kundigen vorsichtig auf etwa 10000 geschätzt wird." If this statement is correct, the Texas peyote trade may be of much greater proportions than are suggested above. It has not been possible, however, to verify this statement as to the number of peyote users in France.

II. Peyote and Its Use.

Peyote is eaten in the dried form (less often fresh) because of the sense of ease and well-being that it induces and, in some cases, because of the psychological effects (the chief of which is the kaleidoscopic play of richly colored visions) often experienced by those who indulge in its use. Peyote is considered divine, a "messenger" enabling the individual to communicate with God without the medium of a priest. By some of the adherents of the peyote-cult the drug is believed to be the incarnation of the Holy Ghost.

Correlated with its use as a religious sacrament is its supposed value as a medicine. By some Indians it is claimed that if peyote is used correctly, all other medicines are unnecessary. The supposed curative properties of peyote are responsible probably more than any other attribute for the rapid diffusion of the peyote-cult in this

country. The emphasis on the therapeutic and pseudo-therapeutic use of the plant is great among the Plains Indians even today; it is regarded as a physical and spiritual panacea.

There are few diseases known to the Indians for which peyote is not believed to be a cure. Among the many diseases listed by my Indian informants were tuberculosis, pneumonia, influenza, intestinal ills, scarlet fever, diabetes, rheumatic pains, colds, and especially grippe; some even included venereal diseases. A Shawnee informed me that peyote tea was a very good antiseptic wash for wounds and bruises and a soothing liniment if applied warm to an aching limb. Partly masticated mescal buttons, packed around an aching tooth, are said to bring relief.

Peyote is used freely as a medicine and tonic in daily life "as white man uses aspirin," according to the statement of a Kickapoo. This common use of the drug has led foes of the peyote-cult to make the accusation that the Indians become "addicted" to it, but, in my field-investigations, no habitual use of peyote was noted. The statement that peyote is an aphrodisiac has been disproved, since investigation has shown it to possess definite anaphrodisiac properties.

Although it is still a question whether or not peyote is harmful, the usual absence of uncomfortable effects following its use, even among beginners, combines with many other considerations to support the view that it is morally and socially safe, and productive of little physical harm.

In the United States, peyote is ordinarily taken in the dried form. In Mexico, fresh peyote is ground on a metate and the resulting thick, brown liquid is drunk (4); it may also be added to fermented fruit juices to render the resulting alcoholic beverages more intoxicating (4,

12), a fact which probably has led to the unfortunate confusion of peyote or mescal buttons with the alcoholic "mescal" or agave-brandy distilled from the juice of *Agave spp.* In many places peyote tea may be used in preference to the dry buttons, the tufts of hair of which often cause nausea if not removed. The use of this tea is very common when a patient is being treated during a peyote ceremony.

There are nine "anhalonium" alkaloids. Eight⁵ of these may be found in *Lophophora Williamsii*: Mescaline, Pellotine, Anhalonidine, Anhalonine, Lophophorine, Anhalamine, Anhalinine, and Anhalidine. Of these, the first five are sedative in physiological action; anhalamine is an excitant. Anhalinine and Anhalidine have only recently been isolated and in amounts too minute to be of use in physiological tests. Anhalonine and Pellotine hydrochlorides find minor use in insomnia, neurasthenia, and hysteria; the latter is analgesic, though not to the extent of morphine. Mescaline, the vision-producing alkaloid, is used (as the sulfate) for this purpose in psychological investigation and is valuable to the psychopathologist in investigating mental derangements. All of these alkaloids can be synthesized.

In the isolation of the alkaloids from the plant material, a residue that is said to consist of a waxy substance and "two resinous bodies" (13) is obtained. This has not been investigated thoroughly either chemically or physiologically; it has been suggested that it may be physiologically active, but present indications are that it is not.

The ninth "anhalonium" alkaloid, Anhaline,⁶ is ob-

⁵The number and relative proportions of these alkaloids in *Lophophora Williamsii* vary greatly with seasonal and environmental changes; any number from four to eight may be present.

⁶Anhaline, isolated from *Ariocarpus fissuratus* (Engelm.) K. Schum. in Engler and Prantl Natürl. Pflanzenfam. III. 6. a. (1894) 195, is identical with hordenine found in *Hordeum spp.*

tained from several species of *Anhalonium*, with which genus *Lophophora Williamsii* was formerly identified.

In Mexico, the term *peyote* or *peyotl* refers to plants other than *Lophophora Williamsii*. This has been the source of much confusion.

A representative list of Mexican "peyotes", all of which are either narcotic or medicinal, would include: among the *Cactaceae*: *Ariocarpus fissuratus* (Engelm.) K. Schum., *Astrophytum myriostigma* Lem. (11), and *Astrophytum asterias* (Zucc.) Lem., *Pelecypora aselliformis* Ehrenb., and *Strombocactus disciformis* DC. (2); among the *Crassulaceae*: *Cotyledon caespitosa* Haw. (4); among the *Compositae*: *Senecio calophyllus* Hemsl., *S. Hartwegii* Benth., *S. ovatifolius* Sch. Bip. (4), and *S. Petasitis* DC. (11), as well as several species of *Cacalia*, especially the supposed aphrodisiac and sterility cure obtained from *Cacalia cordifolia* HBK. (13); among the *Leguminosae*: *Rhynchosia longeracemosa* Mart. & Gal. (11); and among the *Solanaceae*: *Datura meteloides* DC. ex Dunal (11).

Under the diminutive term *peyotillo* are included the cactuses *Dolichothele longimamma* Britton & Rose and *Solisia pectinata* Britton & Rose (4).

Peyote (*Lophophora Williamsii*) is often confused with the intoxicating Mexican seed *ololiuqui*, the botanical identification of which still seems to be uncertain. Specimens received from Mexico under this name have been identified at the Gray Herbarium as *Rivea corymbosa* (L.) Hall. f. A narcotic drink prepared from these seeds is called *piule*; it is without doubt this name that has caused confusion (10).

The application of the name *peyote* to so many widely different plants cannot be satisfactorily explained by assuming successive borrowings. Turning to etymology, it is found that Safford (13) holds to the old theory that

the word *peyote* comes from the Aztec *peyutl* (a silky cocoon) and was applied to *Lophophora Williamsii* and the several species of *Cacalia* because certain parts of these plants were velvety or silky (the tufts of hair of the cactus, the soft tuberous roots of the composites), resembling caterpillar cocoons. Although generally accepted, this etymology does not seem to explain the application of the same name to the great array of plants which possess no soft or silky parts whatsoever. As far as the botanical evidence is concerned, the etymology (10) which derives *peyote* from the Aztec prefix *pi* (small) and *yautli* or *yolli* (herb with narcotic odor or action) seems more probably correct. Thus, in this broad sense (a small, narcotic herb), the word could have been and was applied to scores of Mexican plants. There may be some doubt as to the validity of this etymology in the minds of American Uto-Aztec linguistic experts, but the botanical evidence seems to support it as a more logical origin of the term.

Unfortunately for the botanist and anthropologist, *teonanácatl* ("flesh of the gods") has, in recent years, become a common name for mescal buttons in America. This is the result of an erroneous identification by Safford (13) of peyote with the sacred, intoxicating mushroom of the Aztecs. Failing to find a fungus possessing narcotic properties in Mexico, and noting that the dried head of *Lophophora Williamsii* resembles "a dried mushroom so remarkably that at first glance it will even deceive a mycologist", Safford concluded that the two (mescal buttons and the sacred mushrooms) were identical (13).

It is to be regretted that the misapplication of this Aztec word (*teonanácatl*) to peyote had established itself so firmly before a correction was forthcoming. Inasmuch as refutation of this has not been made by English authors, the following contradiction made by Reko (12)

may prove significant and end confusion: "Dem [the Safford identification] muss widersprochen werden. Die Nanácatés sind Giftpilze, die mit Peyote nichts zu tun haben. Seit alten Zeiten ist es bekannt, dass ihr Genuss Rauschzustände, Extasen und Geistesstörungen hervorruft, aber trotz ihrer Gefährlichkeit hat man sie überall, wo sie vorkommen, wegen ihrer berauschenden Eigenschaften bis auf den heutigen Tag geschätzt." Reko also states (12) that, today, in the provision markets of Mexico, certain mushrooms the exact names of which are not known are called *nacátl* and classes *Amanita mexicana* Murrill as one of the *nanácatls*. In connection with this refutation, it should be remembered that the Spanish historian, Sahagun, writing in the sixteenth century, carefully distinguished between *teonanácatl*, the sacred mushroom, and *peiotl*, the earth-cactus. The intoxicating *Basidiomycetes*, species of *Amanita* (especially *Amanita muscaria* (L.) Pers.), are so well known in so many places that it is difficult to understand how Safford's identification was accepted so readily. Although little is known about intoxicating mushrooms in Mexico, nevertheless Safford's identification was not based on substantial evidence. Intensive research work relating to this important problem is being done in Mexico and should result in definite information concerning the "sacred mushroom" of the Aztecs.

In an unpublished manuscript: "Was bedeutet das Wort *Teonanácatl*?", Reko points out philologically that the name applies to "divine" food of a soft or fleshy nature; in this light, it is difficult to see how the term could ever have referred to the corky, though succulent, peyote, much less to hard, brittle mescal buttons.

III. Plants and the Peyote Ceremony.

In the peyote ceremony, there are additional plants

that play somewhat lesser roles. With few exceptions, these are local plants of the Plains. Among the American Indians, their use is remarkably constant. The following account with regard to the plants used may be considered applicable to any American peyote-ceremony and is based on my personal investigation among the Kickapoo, Kiowa, Quapaw, Shawnee and Wichita, and is supplemented by the observations of R. W. LaBarre among the Caddo, Comanche, Delaware, Osage, Oto, Pawnee, Ponca, and Southern Cheyenne.

Peyote (señi),⁷ sage (tägyi), cedar (k'okiädlä), hay, oak leaves, corn shucks, tobacco (täbä), various woods, the gourd, mescal beans (k'awn-k'odl) and fruits are always used; the practice of painting the face, still common with some of the older leaders, calls for any of a dozen berries or roots as well as for certain "earths" of which the use is subject to regional and tribal variation.

The ceremony begins with a prayer, for which each member rolls and smokes a cigarette. The tobacco is always Bull Durham; it is kept in a cotton bag which is passed around the circle of worshippers. The cigarettes are never rolled in paper; the use of corn shucks (*Zea Mays* L.) or the leaf of the black-jack oak (*Quercus nigra* L.) for this purpose is more in keeping with the old tradition which the peyote-cult strives to preserve. The leader may, according to a Kiowa statement, hand a consumptive patient a few dried sumac (mokola) leaves (*Rhus glabra* L.) for mixing with the tobacco. This is believed to make the tobacco-smoke more potent as a purifying agent; neither the sumac nor the tobacco, however, are considered to be medicinal when used in the peyote ceremony. This blending of sumac and tobacco is so well liked

⁷Inasmuch as the Kiowa tribe has been one of the most, if not the most, active in the diffusion of the cult, all native names are given in Kiowa.

by men and women generally that it is common in everyday social smoking.

The cigarette is lighted from a glowing "smoke-stick" of Cottonwood (*Populus spp.*) or other soft wood removed from the altar-fire and handed around the circle (Figure I). Among the Oto, whose cult is organized into the Church of the First Born, tobacco has no part whatsoever in the ceremony.

Cedar incense (*Juniperus virginiana* L.) is next sprinkled on the fire by the leader; the participants reach out their hands and waft the fragrant smoke towards their bodies, rubbing the chest and face. The cedar is considered a purifying agent and is used at intervals during the all-night ceremony before or after prayer. The paraphernalia are thrust into the smoke occasionally during the ceremony.

The cotton or beaded-chamois bag containing the peyote supply is reverently passed around, each person taking four buttons without further ceremony. The "Father Peyote" is either an exceptionally large and beautiful plant or a button handed down from some great leader of the past;⁸ this is placed in the centre of the crescent-shaped altar on a cross or rosette of sage leaves. Prayers are addressed to God through this Father Peyote.

Meanwhile, each participant is given or removes, from the hay serving as a cushion under the blankets, a sprig of sage (*Artemisia vulgaris* L.). In localities where sage is plentiful, the cushion may be entirely of sage instead of hay mixed with sage; the Wichita near Anadarko, Oklahoma, follow this procedure. Rolled between the palms, the sage is rubbed all over the body as a purifying agent. It is also used for this purpose in the sweat-house

⁸One Kiowa peyote-leader treasured a Father Peyote given to him by the great Comanche chief and peyote-leader, Quanna Parker.

and in other rituals. Some may chew a few leaves before eating the peyote buttons.

Peyote and a cigarette may be called for at any time during the night unless some special rite, such as Midnight Water is in progress. When the bag of mescal buttons has made its first circuit, the leader begins to sing, shaking for accompaniment with his right hand a gourd rattle (*Lagenaria spp.*); a companion beats time on a small kettle-drum made from an iron pot covered with buckskin. The drumstick is usually made of maple (*Acer spp.*), but the finest ones are of true South American mahogany (*Swietenia Mahogani Jacq.*).

Each male worshipper sings four songs and passes the instruments on to his neighbor. Together with the musical instruments are used a staff made of bois d'arc or Osage orange-wood (*Maclura pomifera* C. K. Schneider) and a fan of eagle or pheasant feathers. The staff is held upright in front of the singer with the feathers of the fan hiding his face; a sprig of sage that was started on its round from the leader's place is usually held with the fan.

The wood for the fire must be slow-burning; other than this, there are no rules governing its selection. Black-jack oak (tdok-a-di-awng) is most preferred, but other woods are used: Red oak (*Quercus borealis* Michx. var. *maxima* Sarg.), Hackberry (*Celtis occidentalis* L.), Red-bud (*Cercis canadensis* L.), Box-elder (*Acer Negundo* L.), and Cottonwood make excellent substitutes for black-jack. Mulberry (*Morus rubra* L.), Elm (*Ulmus spp.*), and Osage orange are never used, as they crackle and throw off sparks while burning. (The framework of ceremonial tepee is of Cottonwood.)

Some leaders of the ceremony wear, hanging across the chest from the left shoulder, a string of mescal beans (*Sophora secundiflora* (Orteg.) Lag. ex DC. (1, 3, 14, 15, 17), a native of Mexico, Texas and New Mexico). These

beans, usually red in color, are not eaten in the ceremony; they serve merely as symbolic ornaments. The symbolism of the beads is very vague, but is probably associated with the fact that *Sophora secundiflora* is one of the most conspicuous plants growing near the places where the very inconspicuous peyote is found. The Kickapoo say that the mescal-bean shrub shades and protects peyote in the field, and that the beans are worn when peyote is eaten because of the protection it gave the sacred plant. In view of the uses mentioned below concerning the wide use of this bean in the pre-peyote Plains rites before the introduction of peyote, it seems probable that it is a survival from the past. A Kiowa leader wore several beans on the lower part of the leggings of his buckskin peyote-uniform as a safeguard against stepping on menstrual blood; Skinner (15) also reports this use among the Ioway.

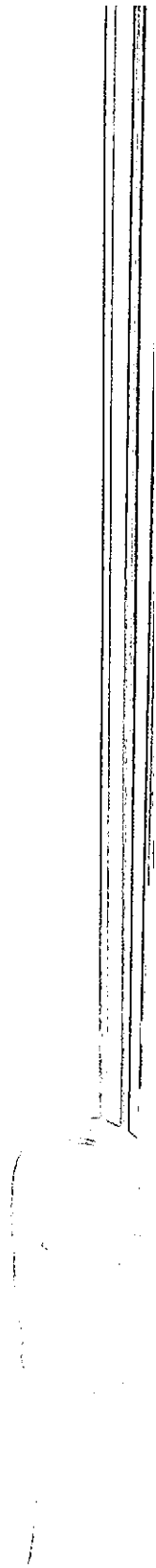
The Kiowa, and probably also most Plains Indians, believe the beans to be alive. Some Kiowa prefer to own a string of light, yellowish-red mescal-beans (Figure II); others would rather have them of a deep red color. The variation in color may be due to different stages of maturity when gathered, or the yellowish tinge may be brought on by gentle heating (14), a custom common among the Ioway Indians in preparing the mescal-bean for brewing in the old Red Bean Dance.

Important as this article is in peyote worship, no reference to the mescal-bean necklace has been found in the extensive literature which has been published concerning the cult.

In addition to the use of mescal-beans in the peyote-cult, these beans are interesting from several other points of view. It is said that about fifty years ago it was the custom in parts of Texas to use long strings of *Sophora* beans for barter. Mescal-beans are poisonous to cattle

EXPLANATION OF THE ILLUSTRATION

Figure I. Heliotype reproduction of a Shawnee smoke-stick of cottonwood (*Populus balsamifera* L.). The charred end was kept glowing at the altar-fire for lighting cigarettes before prayer. The use of certain Christian elements in this aboriginal cult is strikingly shown by the presence of the cross and the word *Christ* associated with the crescent-shaped altar, its peyote, and the water-bird. Smoke-sticks are not always so elaborate. Collected at McCloud, Oklahoma, June, 1936. Harvard Botanical Collection (Economic Botany) No. 5025.





when eaten in large amounts (1). They contain the alkaloid sophorine (cytisine) (18) which causes death by asphyxiation (5). It has been stated that one bean is sufficient to kill a man (7), but this certainly must be an exaggerated statement. A Wichita informed me (his statement being corroborated by several Kiowa and Kickapoo) that members of his tribe ate one bean before a foot-race to prevent panting afterwards. A Kickapoo stated that a decoction made by boiling the ground beans in water and strained through a cloth was employed to cure earaches. Similarly, LaBarre reports that the Cheyenne value it as an "eye-water." The beans are used as an intoxicant in the form of a tea by the Indians of San Antonio, Texas, and of northern Mexico; the intoxication is said to be marked by an initial period of stimulation followed by a deep sleep of long duration (8). Skinner, quoting Harrington, states (15) that the Ioway Indians use the mescal-bean⁹ as an intoxicant in their Red Bean Dance; the beans are "killed" (crushed) and brewed with herbs (unfortunately not enumerated) which are said to make the tea milder. "Everything looks red to the drinker for a while, then he vomits and evacuates the bowels, which the Indians say, cleans out the system and benefits the health, even in the case of children." (15)

Mescal-beans were usually included in the War Bundles of the Indians of the southern plains. The Ioway Red Bean War Bundle is considered a fetish, protecting

⁹Skinner reports (15) the mescal-bean as *Erythrina flabelliformis* Kearns. Inasmuch as the seeds of the two legumes (*Erythrina* and *Sophora*) are easily confused, and as *Erythrina* seeds are not narcotic, this is palpably an error, and the seed indicated must have been that of some *Sophora*. Safford states (14) that *Erythrina* seeds are often contained in the same package with the narcotic *Sophora secundiflora* beans sold in Mexican drug markets, but that, inasmuch as the two plants are not at all similar, the adulteration is intentional.

the members of the Red Bean Dance from the dangers of war and bringing them luck in all enterprises, especially in horse racing and formerly in the buffalo hunt.

The beans were once widely used as adulterants for the alcoholic agave-brandy or mescal, making the drink more intoxicating (14). This use of the seeds is the reason for the name *mescal bean* which has been extended and wrongly applied to the dried heads of *Lophophora Williamsii*. Although the term, thus misapplied, has acquired wide usage in anthropological literature, it is *never correctly* employed to designate peyote buttons.

Mescal-beans are also called coral beans and *frijolillo*; the Mexican name is *toleselo*.

The peyote ceremony ends at about six o'clock in the morning, when a dawn feast is brought into the tepee by the wife or sister of the leader. This consists of bread, parched corn, meat, and sliced canned fruits; sometimes candy is added. The fruit is purchased at nearby stores and is the ordinary "fruit salad" used so widely in this country. The participants have little hesitation in using commercial preparations in the meeting, although, in general, plants and preparations rooted in past tradition still claim precedent. The tobacco is always the same commercial brand, but the cigarette papers supplied with the tobacco are discarded in favor of the more traditional leaf wrappings.

With the end of the dawn feast, the ceremony comes to a close. The members lounge about until noon, when a second and much larger feast is prepared by the host. This is not a part of the ceremony itself, and the menu varies. Meat is usually the most important food at the noon meal.

IV. Importance of Plants to the Ceremony.

The underlying causes of the rapid spread and tenacity

of the peyote-religion are many and are complexly inter-related. Among the most obvious, and those most often listed, are: the ease in obtaining the narcotic; the lack of Federal restraint; the cessation of intertribal warfare; reservation life with its consequent intermarriage and peaceful exchange of social and religious ideas; the ease of transportation and postal communication; and the general attitude of resignation towards the encroaching culture of the white race.

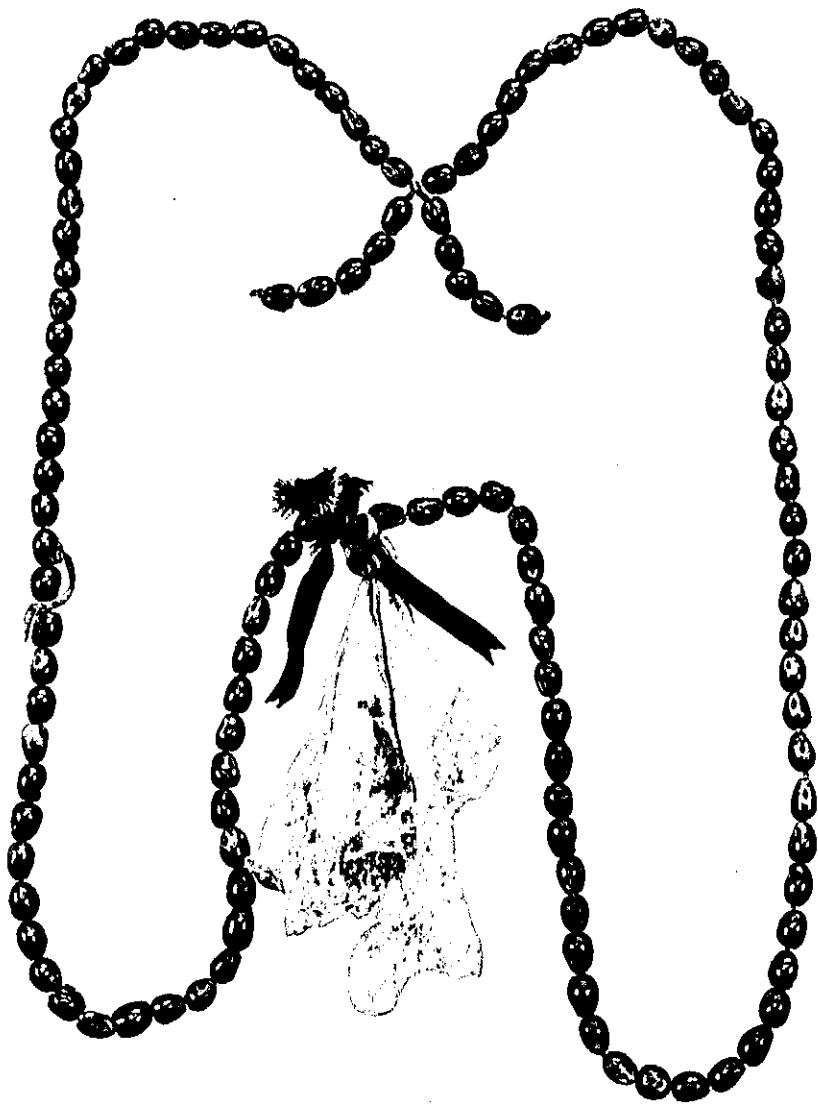
From the Father Peyote down to the cigarette wrappings, the peyote service is a form of worship expressed through the use and symbolism associated with articles of nature—both animal and vegetable. It is obvious to any student of peyote that perhaps one of the greatest factors to which is attributable the diffusion and tenacity of the cult is its appeal to the aboriginal mind, in the face of rapid culture changes.

Of the plants used in the ceremony, only peyote is new to the Plains Indians. Its remarkable physiological and psychological effects have caused it to become dominant in this new complex of traditional ceremonial plants. Peyote has become dominant in the daily life of the Indian as well as in the ceremony, for its use as a therapeutic agent and general tonic is now widespread. In fact, the medicinal powers attributed to the peyote are responsible probably more than anything else for the wide and rapid distribution of the peyote-cult. It still holds its place in Indian life as a physical and spiritual panacea.

Peyote and the plants associated with it embody so much of the traditional that is of prime importance to Indian religion and enough of the new that the peyote-cult has been enabled to withstand persistent opposition. The peyote-religion will doubtless successfully resist disintegration for many years because of its remarkable adaptability to the changing life of the Indian.

EXPLANATION OF THE ILLUSTRATION

Figure II. Heliotype reproduction of a Kiowa mes-
cal bean necklace. The beans (*Sophora secundiflora*
(Orteg.) Lag. ex DC.) are strung on buckskin. At-
tached to the string are several personal trinkets:
a piece of red ribbon, beaver fur, a child's ring, a
lace handkerchief with a bundle of dried beaver
muscle "medicine" under the ring. All the neck-
laces are similar, but the personal trinkets vary
with individual tastes and are thought to have
symbolic meaning. Collected at Anadarko, Okla-
homa, July, 1936. Harvard Botanical Collection
(Economic Botany) No. 5026.



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