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A REED PIERCED THE SKY:

Hopi Indian Cosmography on Third Mesa, Arizona

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The study of spatial concepts among the Hopi Indians of Arizona is a complicated affair. Because the evidence is rich and highly diversified, the interpretations tend to be so as well.

Hopi spatial concepts can roughly be divided into two general categories: 1. cosmological space as revealed through mythology, and the ritual space of the ceremonials, and 2. terrestrial space as revealed through language, village layouts, agricultural holdings, and other social, political or geographical referents.

This paper will concentrate upon the first general category. But it should be emphasized that mythological models also serve as a basis for a number of referents belonging to the second group, and therefore due reference will be made when necessary.

There are a number of specialized studies relating to the second group which should be mentioned. Hopi linguistic space has been given a rigorous scientific investigation by E. Malotki.[1] Studies of village layouts were made by C. Mindeleff and recently by S. A. Stubbs[2] (an aerial photographic study). Studies of agricultural holdings have been made by R. M. Bradfield and C. D. Forde among others.[3] Other studies concerning related topics are F. H. Ellis' study of boundary markers and M. Titiev's studies of social space.[4]

Efforts have been made to systematize the evidence for Hopi cosmological space and ritual space. But all of the attempts hitherto published have been simplistic. Titiev's opinion that duality is the basis of all Hopi ceremonial systematization[5] has been accepted without question by later research. For example, L. Hieb built upon this theory in his unpublished dissertation in 1972 and reiterated it in 1979. He considered the Hopi six-directional system (consisting of the horizontal and verticle world points) as being a group of binary units—which is correct—but he has delineated an

elaborate bipartite system—which is incorrect.[6] R. M. Bradfield postulates the same theory. He added depth to his analysis by introducing the mythological personae associated with directional ideology. But the very complexity of the historical end-product forced him to explain certain aspects away in order to fit his theory.[7]

A system reduced to elaborate bipartitions is highly arbitrary. It postulates a simplicity which the indigenous evidence does not allow. *There is no strict duality in Hopi life* as with, for example, the Tewa.[8] Hopi duality is, in fact, only one aspect of an excitingly complex picture.

The Hopi use both the quadripartite and the sexpartite divisions of the world. These two must be considered as being two independent systems. The sexpartite system, i.e., horizontal-verticle orientation, I will call the "Astrosphere Orientation." This system is peculiar to the Pueblo Culture, and furthermore, the semantic content of this ideology differs from pueblo to pueblo. This division of the world represents a systematization of the known world for a tribe like the Zuni, as Durkheim and Mauss noted, but does not apply to the Hopi as they wrongly surmised. Zoological, biological, geological and cultural systematization is to be found intimately linked with the Hopi clan system.[9]

The six-directional tables constructed by Lévi-Strauss and again by Bradfield[10] require comment, but before I do, the reader must be made aware of the state of the data before us.[11] In the first place, it cannot be overemphasized that the people called "Hopi" are actually a loosely organized group of independent matrilineal clans. Each clan has its own traditions about how things came to be as they are. And each clan has its own set of rituals and ceremonies with each their origin, efficacy, area of responsibility and method of performance. Within each clan are individuals of varying age and status who can produce varying degrees of accurate statements concerning their religious ideas when interviewed. Not only are there disagreements between clan traditions, but one also finds conflicting traditions and institutions peculiar to Mesa and village affiliations.

In the second place, we find that the early ethnographic data is of varying quality depending upon the researcher's knowledge of the

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Each world begins as a paradise, but is sooner or later disrupted through mankind's evil behaviour. Each world is destroyed by natural catastrophe which forces the faithful few, led by certain clan deities, to climb up to the next world level, the floor of which is the sky of the lower level. In all levels, the cane reed is the method of transportation.

The Emergence Myth continues this line of reasoning by describing the conditions of the Third World prior to the Emergence to the present Fourth World. Even though the versions mentioned are of varying reliability, the main features of the myth are consistently present.[22] Again, the paradisic situation is destroyed through disobedience, evil magic and sexual immorality. The Chiefs gather together to discuss the options. The possibility of travelling to the next world level is considered—it being warranted by tradition. Since the Chiefs had heard Someone's footsteps in the sky, they decide to send a bird, created by Society magic, to find Whoever was up there and attempt negotiations with Him. After three attempts, the bird sent by the Kwan Society (according to my Kwan version) succeeded in piercing the sky. Shortly afterwards, this bird meets the tutelary deity of the Kwan Society, namely, Maasaw, who happens to be living at the present site of Orayvi. Maasaw is the Ruler of the Fourth World. In the Hopi view of things, He became the Protector of the Hopi, the God of Fire and of the Dead, as well as the Purifier Who will return on the Last Day of this Fourth World existence.

Maasaw is asked by the bird, on behalf of the human race, for permission to bring them up to His World and to live on His land. He agrees on the condition that they follow his spartan way of life.

The bird returns with this message. The Chiefs begin once again to wield their magical powers. They plant several types of trees which are to provide them with the means of transporting themselves to the world above. After the third try, it seems that the cane reed is the only plant strong enough to pierce the sky while still holding itself up. Upon the Emergence of Mankind from this hole, which is called *sipaapuni* (the etymology of which is unsure, perhaps from *sipoq*, "in the womb" or *sipna*, "navel"),[23] the cane reed is ripped up and knocked down in order to prevent the evil ones from following them.

After that, languages and the different maize types are distributed among the tribes of men. But besides this, there are three other events which are important to this study.

In the first place, the sun and the moon are created by the newly emerged Hopi leaders. It seems that the Fourth World was soft and without heat or light, except for Maasaw's fire.

In the second place, a death occurs: the Village Chief's son dies. This death is absolute proof that a witch had escaped with them in the confusion of the flight from the Third World. As the Chief is about to cast the exposed witch back into the hole of Emergence, the witch pleads with the Chief to look into the *sipaapuni*. Upon doing this he sees his dead son, very much alive, in the Underworld, happily enjoying the Paradise of the Dead. The witch is allowed to live since death is obviously a transition to another and better life form.

In the third place, the human tribes spread over the face of the continent. Each clan has its own Migration Tradition, but the goal of all these migrations was to explore the continent and for each clan to test its particular cultic power. The clans spread out, as commanded by Maasaw, in all directions. But they were also directed to return to Maasaw's land, especially Orayvi. Little by little, each clan arrived at Orayvi, but were first allowed entrance after demonstrating their cultic abilities. Each clan was thereafter allotted plots of land.

2. *An Interpretation of Emergence Mythology: World Axis, World Center, Opposing Worlds*

Although there is other evidence, which will be introduced below, it is necessary to stop here and identify those elements of cosmography which the Four Worlds Cycle illustrate.

There are two obvious elements which come to mind: that of four worlds resting upon one another and the fact that these worlds are connected. It should be noted here that the means of connection are four different plants, but all of the same species, i.e., *paaqavi*, "cane reed." I identify this system as being Axial, and the cane reed as being one of the many *Axis Mundi* figures which are found in so many religions the world over. Eliade[24] defined *Axis Mundi* as being

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establish each clan's rights to political leadership, the best property and the most lucratively placed farmlands. Thus, this mythology constitutes a cosmography, an urbanography, a sociography and a agripolitical geography.

The main consequence of this new Center, anchored in the home of the tutelary deity of the Hopi, is the introduction of *two World Centers which are in horizontal opposition to each other.* In other words, each Center is peripheral to the other. And since Maasaw apparently dwells at both of these Centers, then He must be the epistemological link between the two.

3. *Fertility Mythology: World Center and World Axis*

The next group of myths which revolve around fertility, fecundity and the deities of those functions, I call "Fertility Mythology." Our interest here is restricted to those Fertility Myths which involve the place known as Tuuwanasavi ("Sand-Center-Place"), i.e., "Center of the World," as opposed to Tuuwaqalalni ("Sand-Border"), i.e., "the Horizon" or "the Edge of the World."[27] Tuuwanasavi has perhaps been incorporated into the modern Hopi worldview, but it has been known to scholars since Voth's work.[28] There are a few myths which illustrate the nature of this place.

Voth related a myth[29] about the time Orayvi suffered from a four year famine which was caused by crop failure due to frost and drought. Due to the activities of an abandoned bother and sister, and a hummingbird, the God of Germination and Growth, Muy'ingwa, was persuaded to visit His life-giving powers once more upon the face of the earth.

What is of interest for us here is that Tuuwanasavi, which lies under a cactus with a single red blossom, consists of three *kivas* each beneath the other.[30] In each *kiva* are found different types of edible vegetation. And each *kiva* is connected by an opening in the floor of the one above it. Muy'ingwa lives in the bottommost *kiva* together with grass herbs and maize of all kinds as well as all kinds of birds (these would most likely be birds of warmth and fertility).

Muy'ingwa's ascent is worth quoting:

> He first ascended to the first kiva above him, where he stayed four days. During this time it rained a little about Oraíbi. After four days he ascended into the next kiva above him when it rained again on the earth. He then ascended into the third kiva, whereupon it rained considerably in and around Oraíbi, and when he after four more days emerged from the last kiva he found that the grasses and herbs were growing nicely.[31]

Other myths emphasize Tuuwanasavi's heat-giving qualities.

The axiality of this place is obvious. The myth further illustrates something which will be shown in the section on ceremonial integration below, namely, that ritual activity is enhanced and made effective through strict adherence to spatial contexts and its complementary numerals.

I recorded a myth about "The Boy and the Eagles"[32] which relates how a boy was borne up to another world in the sky by an eagle. In order to penetrate the hole in the sky which connects the earth with the heavenly world, the bird flew to Tuuwanasavi (where the boy's parents had their cornfield by chance) and first then began ascending to the next world. The entrance hole is described as being a *sipaapuni* hole in the floor of a *kiva*.

In this manner, Tuuwanasavi's axiality is extended through the heavens, constituting a true *Axis Mundi.*

4. *Solar Mythology: Opposing Worlds, World Axis, World Center*

It seems that the Sun is of little consequence in Emergence Mythology, since, as we learned, the Sun was created by human beings, although a few versions give the honor to Kookyangwwuuti, "Spider Woman."

There are a number of myths about Taawa, "The Sun", which are not associated with the Emergence Mythology in any way. This separate "Solar Mythology", as I call it, has been published in a few versions[33] but is continually evident throughout Hopi mythology and especially in Hopi everyday belief.

The myth relates that there lived a Huru'ingwwuuti in the eastern ocean and a Huru'ingwwuuti in the western ocean. This deity type is translated by Voth as "Hard Being Woman," who owns hard substances such as shells, corals, turquoise, and beads.[34] We find that this dual Huru'ingwwuuti is restricted to Third Mesa.

The Sun rises from the eastern Huru'ingwwuuti's *kiva* (here understood simply as an underground chamber), and sets in the *kiva* of the western Huru'ingwwuuti, wherefrom he continues his

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Already with their names we can deduce a number of things about these Beings: 1. each is a Chief and therefore has subjects to rule over, 2. each cloud belongs to one of the six directions, and 3. each cloud has a specific color.

If one attempts to specify the characteristics of these creatures, one is confronted with the bewildering data from First Mesa and almost nothing from Third Mesa. One thing remains certain in the sparse mythological data: these Chiefs are very humanlike. There is a Third Mesa myth which tells about how these Cloud Chiefs, in human form, approached a Hopi girl one at a time in order to propose to her.[41] Accepting this piece of information, the Hopi conception of these Beings is that of clouds in human form.

Don Talayesva from Orayvi called them "the Six-Point-Cloud-People—our departed ancestors who live north, east, south, west, above, and below", who can send or withhold rain, health, good crops, long life, drought and famine.[42] The Katsinas, on the other hand are servants who bring offerings to the Astrosphere Cloud People.[43] It is self-evident that these "Six-Point-Cloud-People" have a tremendous influence upon Hopi everyday life.

When a Hopi dies,[44] the remains are prepared at once for burial. The preparations include washing, marking and dressing the body. The face is covered with a cotton mask and prayerfeathers are attached to the newly washed hair and the mask. The mask symbolizes the transformation of the departed spirit to a cloud: "This represented the billowy clouds that would hide his face whenever he returned to drop rain upon our parched lands."[45]

Prayers are addressed to the dead one. The only Third Mesa prayer published is the following:

> Well, dear Uncle, it is time for you to go.... I have dressed you for your journey to the House of the Dead. Lose no time in getting there. Our dear ones will welcome you gladly and show you to your special seat. Look after them as you have cared for us. Remember us and send rain. Visit us in December and sing the prayer songs again in our Soyal, for we still need your help. Be good and be wise in your future life.[46]

Prayers from First and Second Mesas emphasize the dead one's transformation by bestowing a new name.

The spirit of the deceased, *hikwsi*, "breath," leaves the grave on the fourth day after inhumation by way of a digging stick which has

been stuck into the surface of the grave for that purpose. Thus the *hikwsi* travels up a symbolic axis and is met by clouds which arrive to gather the *hikwsi* up and accompany it to Sipaapuni. The *hikwsi* then descends along the Axis through Sipaapuni to Maski. This route travelled from axial center to Axial Center reminds us significantly of the Sun's daily circuit. And, as the prayer quoted above indicates, the spirit regularly returns as a rainbearing cloud. Our data, however, falls short when we attempt to clarify how the deceased spirit ends up as a denizen of the Astrosphere poles, for such must be the case if the Chiefs are to be Chiefs over anyone.

This return to the Underworld clearly underlines the concept of Opposing Worlds. On the one hand, World/Underworld and on the other hand, the two World Centers, Orayvi/Sipaapuni, which lie in horizontal opposition to each other.

Titiev has investigated many of the elements which illustrate this duality,[47] but with liberal quotations from First Mesa and almost nothing from Third Mesa, an unfortunate circumstance in a book about Orayvi on Third Mesa. A case in point is Titiev's reference to a First Mesa tradition which relates that deaths in the Underworld result in births in this World and vice versa. But, as F. Eggan pointed out, his Orayvi material points to a belief in the female deity Taalawtumsi, who controls births and sends children. She carries all babies as little wooden images in Her womb. When women desire children, Taalawtumsi sends these little images into the womb of the respective woman.[48] Such an important contribution to an understanding of Third Mesa conceptions does not harmonize with Titiev's synthesis.

Communication and exchange between these two worlds forms the backdrop for quite a few rituals. One example is found in Talayesva's account of his pilgrimage to Sipaapuni. A cornmeal path is made near the water-covered entrance to the Underworld. This path becomes "the main road that the Six-Point-Cloud-People travel when they emerge from the sipapu to bring rain to the Hopi. They ascend into the air at this spot, look eastward and go to the farms of the most worthy people."[49]

What we find here is that the ideas concerning the Afterlife integrates and makes use of the cosmographical systems given by the Emergence Mythology, i.e., World Axis, World Center and Op-

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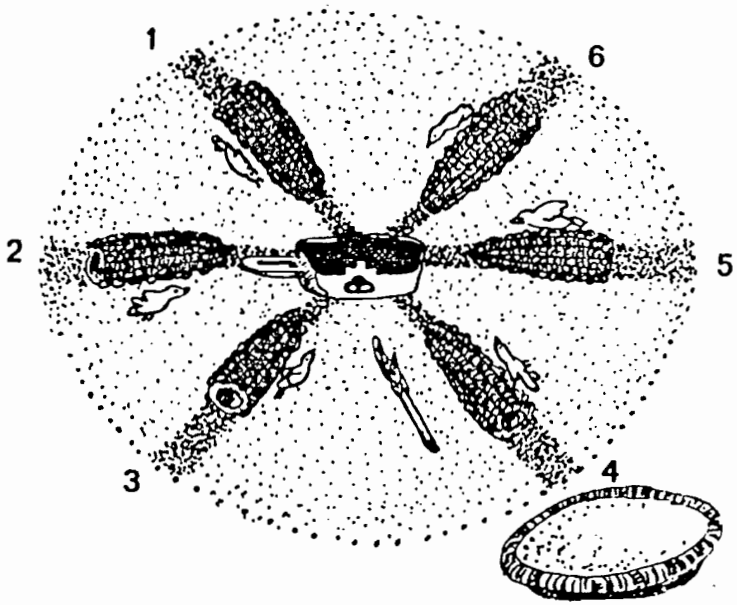

Powamuy Medicine Altar: 1. *kwiniwiq*, "north(west)"—yellow, 2. *teevenge*, "(south)west"—blue/green, 3. *atkyamiq*, "nadir"—grey, 4. *taatöq*, "south(east)"—red, 5. *hoopoq*, "north(east)"—white and 6. *oomiq*, "zenith"—black. Redrawn by Bente Østergård from H. R. Voth 1901, plate XLIX.

the same time activates real clouds. Then cornmeal is sprinkled again *from* the six directions toward the bowl, to the accompaniment of songs sung to each direction. The Priest also sticks a bone whistle into the water from each direction and blows. This also occurs to the accompaniment of song. He also asperges water six times towards the bowl along the cornmeal lines. All of these activities are meant to bring the spirits thither.

The spatial orientation of these ritual movements are "centripetal" and not, as Hieb would have it, "centrifugal."[53] The reason for this movement towards the Center is, in my opinion, that the water from the surrogate Sipaapuni (the water-hole) transforms the medicine altar to a surrogate Sipaapuni as well. In this manner, the altar becomes a ritualized World Center. And thus all of the rain-bearing powers are invited towards the new ritual Center, as to a surrogate homestead.

This medicine altar ritual is one of many religious actions which pay strict heed to the Astrosphere Orientation. Perusal of Voth's reports and the many songs he recorded illustrate the endless repetition of the number six, and emphasize that ritual movement is always towards the Center.

Emphasis upon the Center lies also in the village layout as well as in the architecture of the *kiva*. The village is built around an inner courtyard or plaza. In the center of that plaza is an altar, *pahoki*, "prayer-stick house," for making offerings to the spirits and deities which attend the religious dances in the plaza. The *kiva*, on the other hand, is specifically patterned after Emergence ideology, where the main entrance is through the roof, an inner world which is connected by a ladder to the upperworld. The symbolism is further enhanced by the fact that most *kivas* are underground chambers. This means that the participants symbolically enter the womb of the earth whenever they descend the *kiva* ladder, a symbolism which is purposely dramatized during the all-important Wuwtsim Ceremonial.

Each *kiva* has, as noted above, a *sipaapuni* of its own, somewhere near the center of the *kiva* floor. Offerings are placed in this hole and the spirits and deities of the Underworld are invoked through the hole.

5.c. *The Astrosphere and the Katsina Cult*

The Tuuwanasavi evidence introduces a discrepancy in the ritual as well as the cosmographic context. Tony Hillerman's interpretation of the meaning of Tuuwanasavi is unsatisfactory. His postulate is not supported by the mythological evidence.

We must look elsewhere in search of an explanation for the existence of Tuuwanasavi in Hopi cosmography. Once again we find integration through the ritual context. During the Powamuy Ceremonial, the children of a certain age group are initiated into the Katsina Cult in the form of an ordeal. Shortly before the ordeal, the children and their parents gather into the *kiva*. Suddenly a masked figure descends the *kiva* ladder. This person represents Muy'ingwa Himself. The assembled parents then ask Him where He came from, and he replies: "*Yangqw, Tuuwanasangaqw nu' pitu.*" ("From yonder, from Tuuwanasavi, I arrived.") Then he holds a

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lack of concrete evidence. I think that on the basis of the archaeological evidence, one can safely postulate four main periods in the development of Hopi religion: the Desert Culture Period in the Utaztecan homeland, the Desert Culture Period in the Great Basin region, the Transition Period from Desert Culture to Pueblo Culture in and around the Grand Canyon, and finally, the Pueblo Culture Period on the Hopi Mesas. Each of these periods has contributed to the semantics and morphology of the Hopi religion. This hypothetical religio-historical development should not be understood in a purely unilinear sense. In an area as complex as the Pueblos, one can expect to find multilinear developments as well as none at all. But changing conditions have certainly left their mark. A more detailed study of this problem will be taken up elsewhere.

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The orthographic system used here has been developed by Dr. Ekkehart Malotki, Northern Arizona University. In his book (1978, pp. 201 ff., noted below) are listed the symbols used here. According to this system, long vowels are simply doubled and the glottal is marked '. I have consistently written the Hopi Village names phonetically because many of the "accepted" spellings are incorrect.

[1] E. Malotki, *Hopi-Raum. Eine sprachwissenschaftliche Analyse der Raumvorstellungen in der Hopi-Sprache* (Tübingen, 1979).

[2] C. Mindeleff, "Localization of Tusayan Clans," *Nineteenth Annual Report of the Bureau of American Ethnology* (Washington, 1900) and S. A. Stubbs, *A Bird's-Eye View of the Pueblos* (Norman, 1950).

[3] R. M. Bradfield, *The Changing Pattern of Hopi Agriculture* (London, 1971) and C. D. Forde, "Hopi Agriculture and Land Ownership," *Journal of the Royal Anthropological Institute* 61 (1931): 357-405.

[4] F. H. Ellis, "Pueblo Boundaries and Their Markers," *Plateau* 38 (1966): 97-106; M. Titiev, "The Influence of Common Residence on the Unilateral Classification of Kindred," *American Anthropologist* 45 (1943): 511-530; and "The Importance of Space in Primitive Kinship," *American Anthropologist* 58 (1956): 854-865.

[5] M. Titiev, *Old Oraibi. A Study of The Hopi Indians of Third Mesa*, Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. XXII, No. 1 (Cambridge, 1944), pp. 173 ff.

[6] L. A. Hieb, *The Hopi Ritual Clown: Life As It Should Not Be*, Princeton University Ph. D. Diss. (1972), pp. 79, 118, and "Hopi World View," in *Southwest*, Handbook of North American Indians Volume 9, ed., A. Ortiz (Washington, 1979), pp. 577 ff.

[7] R. M. Bradfield, *A Natural History of Associations. A Study in the Meaning of Community* (London, 1973), Vol. II, p. 256. See especially his, in my opinion, unsuccessful attempts to explain away Maasaw's association with the Underworld in Vol. II, p. 258.

[8] A. Ortiz, *The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society* (Chicago and London, 1969).

[9] E. Durkheim and M. Mauss, "De quelques formes primitives de classification. Contribution à l'étude des représentations collectives," *L'Année Sociologique* Sixième Année (1901-1902), pp. 34-45, see esp. p. 44 n. 4. (Engl. ed., London, 1963, 1970, pp. 42-55).

[10] Claude Lévi-Strauss, *La Pensée Sauvage* (Paris, 1962), pp. 55-56 (Eng. ed., pp. 40-41) and Bradfield 1973 Vol. II, pp. 92-93.

[11] Cf. my comments in "The Sa'lakwmanawyat Sacred Puppet Ceremonial among the Hopi Indians in Arizona: A Preliminary Investigation," *Anthropos* 77 (1982), p. 165; "Book of the Hopi: the Hopis' Book?", *Anthropos* 78 (1983): 547-556; and my forthcoming *Of Spirit and Wood. Sacred Puppet Ceremonials of the Hopi Indians*.

[12] Mennonite H. R. Voth's many studies of Hopi ceremonials from the end of the last century are admirable because of his impressive collection of eyewitness data and his excellent knowledge of the Hopi language. See for example his "The Oraibi Powamu Ceremony," *Field Columbian Museum Publication* 61, *Anthropological Series* 3 No. 2 (Chicago, 1901): 60-158 (hereafter: *FCMP* 61, *AS* 3 No. 2); "The Oraibi Summer Snake Ceremony," *FCMP* 83, *AS* 3 No. 4 (Chicago, 1903): 262-358; "The Oraibi Oáqöl Ceremony," *FCMP* 84, *AS* 6 No. 1 (Chicago, 1903): 1-46; *The Traditions of the Hopi*, *FCMP* 96, *AS* 8 (Chicago, 1905); and "The Oraibi Maraw Ceremony," *FCMP* 156, *AS* 11 No. 1 (Chicago, 1912): 1-88.

Of all the known Hopi researchers at the time, including such big names as J. W. Fewkes and Alexander M. Stephen, Voth is the only one who was fluent in Hopi. Harold Courlander's criticism of Voth in *Hopi Voices* (Albuquerque, 1982), p. xviii, on the basis of his supposed faulty knowledge of the language is a parody coming from a man who not only recorded only in English but has produced "composite" narrative collections of Hopi as well as other native peoples. A small knowledge of the Hopi language, difficult as it is, and the briefest acquaintance with Voth's texts and manuscripts are enough to discredit Courlander's opinion. Cf. H. C. James, *Pages From Hopi History* (Tucson, 1974, 2nd pr. 1976), pp. 147-158 for a more sympathetic view of Voth's missionary activities.

[13] See B. L. Whorf's selected writings in *Language, Thought, and Reality*, ed., J. B. Carroll (Cambridge, 1956, 12th pr. 1976). Works highly critical of Whorf are H. Gippur, *Gibt es ein sprachliches Relativitätsprinzip?* (Frankfurt am Main, 1972); E. Malotki 1979; E. Malotki, "Spatio-Temporale Metaphorik im Bereich der Pronominal-lokatoren der Hopi-Sprache," in *Integrale Linguistik*, ed., E. Bülow and P. Schmitter (Amsterdam, 1979), pp. 493-518; and *Hopi Time* (The Hague, 1983).

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again different than the version in Voth. It should be noted here that the parallel existence of Emergence Mythology and Solar Mythology is also found on First and Second Mesas.

[34] Voth 1905, p. 1 n. 2. His conclusion is based upon the root *huru*, "hard, fast." Cf. J. Epp, *Small Hopi-English Dictionary*, unpubl. ms. Oraibi, ca. 1916, and C. F. Voegelin and F. M. Voegelin, *Hopi Domains* (Bloomington, 1957, rpr. Chicago, 1974), B12.

[35] Besides several unpublished versions which I and others have collected, there is only one published version from Third Mesa found in James 1940, pp. 14-15 and 1974, pp. 18-22. Voth's (1905, pp. 30-36) two versions are unfortunately both from Second Mesa. The Snake Dance and its myth seems to belong to the First Mesa groups.

[36] Signature 11.10-11.11.1.234, recorded March 20, 1979 at Paakavi, Third Mesa.

[37] There are many published tales about the Pöqanghoyas, but the only published bilingual texts are in Malotki's (1978) Third Mesa material.

[38] See A. M. Stephen's First Mesa evidence: "Hopi Tales," *Journal of American Folklore* 42 (1929), pp. 10-14, 15-20. According to Malotki 1978, p. 206, the Hopi do not consider them as being twins.

[39] A. W. Geertz, *Fundamental Methodological Problems With Particular References to Cults and Myths Associated With the Investigation of the Religion of the Hopi Indians*, Magisterial Thesis (Aarhus University, 1977), Fascicle B, Part III, pp. 209-223.

[40] Malotki 1979, p. 205 sentence 927 and p. 325 n. 150.

[41] Voth 1905, pp. 157-159.

[42] Simmons 1942, pp. 52, 57, 59, 88.

[43] Ibid., p. 177.

[44] This section is based upon Voth, "Brief Miscellaneous Hopi Papers," *Field Museum of Natural History* 157, *AS* 11 No. 2 (Chicago, 1912), pp. 99-103 and Simmons 1942, pp. 256-257, 313-316.

[45] Simmons 1942, p. 313, also p. 256.

[46] Ibid., p. 313.

[47] Titiev 1944, pp. 171 ff.

[48] F. Eggan, *Social Organization of the Western Pueblos* (Chicago, 1950, 6th impr. 1973), p. 47. Eggan is one of the few who actually stipulates from which Mesa he draws his material.

[49] Simmons 1942, p. 241.

[50] There are short articles about this Boundary Pilgrimage in the Hopi newspaper *Qua' Töqti*: "Pilgrimage to Shrines Returns," October 19, 1978 and "Hopi Priesthood Leaders make Shrine Pilgrimage," October 23, 1980. One can also read about this pilgrimage in J. Page and S. Page, "Inside the Sacred Hopi Homeland," *National Geographic* 162 (November 1982), pp. 606-629, and in their *Hopi* (New York, 1982), pp. 218-224.

[51] Third Mesa invocations can be found in Voth, "The Oraibi Summer Snake Ceremony," pp. 277-278 and "The Oraibi Oáqöl Ceremony," pp. 8-9.

[52] Terms which I have not been able to elicit on Third Mesa. The only term I happened to elicit was *pongyalalwa*, "they are building the altar." However, I am sure that the medicine altar has a name.

[53] Hieb 1979, p. 578.

[54] Voth 1901, p. 156. The whole text is found on pp. 155-157 and Voth's translation on pp. 99-102.

[55] See my comments in A. W. Geertz 1982, p. 173.

[56] See Arlette Frigout's investigation of the use of spruce among the Hopi in "Le Repos des Nuages," in *Échanges et Communications*, ed., J. Pouillon and P. Maranda (The Hague, 1970), Vol. I, pp. 100-114. Her article on Hopi ceremonial space is not of use here, since it is only a collection of loose observations: "L'espace cérémoniel des Indiens Hopi (Arizona - Etats Unis)," in *XXXVI Congreso Internacional de Americanistas España 1964. Actas Y Memorias. Vol.3* (Sevilla, 1966), pp. 465-470.

[57] Muy'ingwa plays an important role on First Mesa. But He is so much confused with the Fertility Deity from Antelope Mesa, Aalo'saka, that it is difficult to separate the two. See H. Hartmann, "Alosaka und Muyingwa," *Baessler-Archiv* n.f. XXIII (Berlin, 1975), pp. 293-346. It is of special interest to note that on First and Second Mesas, there are traditions which name Muy'ingwa as the child of Huru'ingwwuuti (cf. Voth 1905, p. 8). In this tradition, there is only one Huru'ingwwuuti who is figured in contrast to the Sun.

[58] Cf. E. Earle and E. A. Kennard, *Hopi Kachinas* (New York, 1938, 2nd rev. ed. 1971), p. 4.

[59] Voth 1905, pp. 63-65.

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