KEYWORDS: ***Animal ceremonialism – Bighorn sheep ritual – Native American religion***

THE GREEN RIVER BIGHORN SHEEP HORNED HEADDRESS, SAN RAFAEL SWELL, UTAH

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Abstract. A bighorn sheep horned headdress discovered near the Green River, in eastern Utah within the United States is reviewed. Its history, discovery and subsequent analysis is described. It appears to have been a powerful headpiece employed in a symbolic context for religious expression, perhaps worn by a ritualist in association with the hunt for large game animals (bighorn sheep, antelope or deer). It was likely associated with the Fremont Cultural Tradition, as it was dated by radiocarbon assay to a calibrated, calendar age of 1020–1160 CE and was further adorned with six Olivella biplicata shell beads (split-punched type) originating from the California coast that apparently date to that same general time frame. Such headdresses are mentioned in the ethnographic literature for several Great Basin and American Southwestern indigenous cultures and appear to have been used in various religious rituals. Bighorn sheep horned headdresses can be fashioned directly from the horns of a bighorn sheep and can be functionally fashioned as a garment to be worn on the head without excessive weight and with little difficulty to the wearer. Ethnographic data testifies that the bighorn sheep was applied as a cultural symbol and was employed as a 'visual prayer' relating to the cosmic regeneration of life (e.g. good health, successful human reproduction, sufficient rain and water, and ample natural resource [i.e. animal and plant] fertility).

Introduction

In this essay we address a pre-Historic bighorn sheep horned headdress from the Tommy Morris Collection which was formerly exhibited[1] at the Utah State University Eastern Prehistoric Museum in Price, Utah [Prehistoric Museum], in the United States (Fig. 1). This remarkable artefact (the 'Green River headdress' or 'headdress') was recovered from the vicinity of Robber's Roost in the San Rafael Desert, west of the Green River in the Great Basin (the area is also sometimes identified as the Colorado Plateau; cf. Grayson 1993) of the western deserts of North America. This region is considered to be the former homeland to both the ancient Desert Archaic and Fremont peoples who both regularly hunted bighorn sheep and created rock art imagery (both rock drawings and paintings) featuring horned anthropomorphs and the depictions of these animals.

The San Rafael Swell, just to the west, is also a core area (along with Canyonlands National Park) for the distribution of Barrier Canyon style pictograms (rock paintings), and all major river canyons in this area include painted rock art galleries containing anthropomorphs, some of which are adorned with what appear to us and other researchers as bighorn sheep horned headdresses.

We suggest that bighorn sheep headdresses were an element of Fremont Culture from the San Rafael Swell dating to 1020–1160 CE. We draw on evidence inferred from a bighorn sheep headdress discovered

Figure 1. *Green River bighorn sheep headdress as previously exhibited in the Eastern Utah Museum in Price, Utah. Photograph by AR, January 2012.*

1 The headdress was returned to the former owner's heirs as the original owner and donor of the object had passed away.

in this region and describe certain rock art images to extend the inference. Regional (Great Basin and American Southwest) and pan-cultural ethnographic descriptions strengthen our argument and provide a basis for hypothesising the meaning and symbolism of bighorn sheep religious metaphor.

Research problem and significance of the study

No formal study of this remarkable headdress had been undertaken previously. This study reports on this rare find to clarify some of the assertions in the literature concerning bighorn sheep regalia and related ceremonialism. Included in our study is the dating of the headdress, describing it in some detail and placing it in proper anthropological and archaeological context regarding meaning, function and cultural affiliation.

Background of the Green River headdress

The Green River headdress, as it appeared in the display case in the Prehistoric Museum, was tied together with Native cordage and decorated with six purple olive shell (*Olivella biplicata*) beads (Fig. 1). The display configuration was a partial reconstruction of what Tommy Morris, and previous museum curators, thought the headdress might have looked like when it was in use. It does not appear to be representative of how the artefact was originally discovered in the 1960s, though it is clear that the shell beads and cordage used in reassembling the artefact were found in direct association with it at the discovery site.

Notes at the museum document that the headdress was found in two pieces and exhibited drilled holes in the cranium and had six *Olivella biplicata* shell beads scattered around it. Originally called the 'horned headdress,' this object was initially loaned to the museum in 1969 by Tommy Morris of Price, Utah, along with un-associated baskets, snares, projectile points, beads and other artefacts.

Figure 2. *Coso representational petroglyph panel, with bighorn sheep headdress apparently adorning the hunter of a bighorn sheep. The 'hunter' is using a bow and arrow and the panel dates to a time from c. 1 to 1000/1300 CE. This petroglyph panel is located in Sheep Canyon, Coso Range, Naval Air Weapons Station, China Lake, Ridgecrest, western Mojave Desert, California. Photographed by AG, February 2011.*

In 1989 a special case was built by the Prehistoric Museum for the Green River headdress with inner support for the horns to elevate the headdress off the floor of the case. At this time archaeological curator, Pam Miller, tied the left horn with contemporary sinew and replaced five shell beads; three with new milkweed cordage and two with original cordage to duplicate a 1981 file photograph. Provenience for the discovery site of the artefact comes from a 1991 report that was drafted by unknown museum personnel and states that the headdress was found in the Ekker Ranch in the Robbers Roost area near the Green River in Utah in the Great Basin of far western America. The discovery location is located within a region referred to as the San Rafael Swell.

Other notes on file at the museum state that the object was previously studied by Julian D. Hatch of Boulder, Utah, in 1990, but no report is on file. The object received further study by Ray T. Matheny, Department of Anthropology, Brigham Young University in 1993 and was briefly mentioned in an article on Nine Mile Canyon rock art (Matheny et al. 1997: 72).

Could bighorn sheep horned headdresses ever exist?

Some researchers have asserted that a bighorn sheep headdress could never have existed. This is a basic question that our research addresses, based on multiple data sources.

Whitley states in a discussion on the rock art of the Coso Range in eastern California, that with respect to the hunters that appear to be wearing bighorn sheep headdresses (Whitley 1998: 119; Fig. 6),

> Native American informants have denied the use of bighorn headdresses or hunting disguises because they were too heavy to wear. This suggests that these are not humans but humans partly transformed into sheep.

Keyser and Whitley (2006: 19), more recently, re-assert their belief that a sheep horn headdress is impractical and likely could not and would not have been fashioned. They posit, because of the weight and configuration of a bighorn sheep's horns and the heaviness of the cranium itself, such a headdress would have been nearly impossible to fashion. They state:

> The third line of evidence involves the iconography itself. Figure 9a shows a putative Coso archer wearing a bighorn sheep hunting disguise (cf. Grant et al. 1968). Ethnographic evidence again discounts this interpretation [of the validity of such a bighorn headdress disguise], as the bighorn sheep rack was acknowledged as too heavy to be used in this fashion (Fowler 1992; Steward 1941, 1943; Stewart 1941).

One of the Coso archer figures referred to by Whitley (1998: 119, Fig. 6) and employed in the Keyser and Whitley (2006: 19) discussion again appears here as Figure 2. Given the above assertions, it may be of some importance that we detail exactly how such a costume element appears to have been created.

Further, David Whitley argues that the depictions of horned anthropomorphous creatures in rock drawings and paintings were not meant to represent disguised

or adorned humans per se (Whitley 1998: 109–174). Rather, they were self-depictions of shamans memorialising visions of themselves as animal-humans during encounters with the supernatural. Hence, the description and analysis of the Green River headdress would perhaps provide greater understanding of the role of bighorn ceremonialism in the course of Great Basin and American Southwest indigenous religion (see also Garfinkel 2006; Yohe and Garfinkel 2012; Garfinkel et al. 2016).

There is considerable controversy surrounding the role of hunting cults and large game procurement in the pre-Historic Great Basin and Colorado Plateau. Indigenous groups appear to have at times emphasised large game and were especially focused on the hunting of bighorn sheep. Ritual rock art traditions, animal ceremonialism (cf. Yohe and Garfinkel 2012) and hunting cults appear to have been characteristic of some of these foragers (cf. Garfinkel 2006; Garfinkel et al. 2016).

Based on the notes assembled at the Price Museum, the Green River headdress was cached in a rockshelter or stone crevice. Given its place on the landscape, the aboriginal culture responsible for fashioning the headdress may have regularly participated in long-distance movements directed towards a limited set of high-return resources. They may have planned to return to this location and use the cached headdress again (cf. Bettinger and Baumhoff 1982: 499). As such, at the onset of our research, it seemed possible to us that the headdress was associated either with a Fremont or an older, Archaic culture in eastern Utah (see discussion below on ethnic affiliation).

In addressing the possible existence of bighorn headdresses, we discuss below physical objects that may represent such headdresses, rock art depictions, and ethnographic and ethnohistoric examples.

Other discoveries of similar bighorn sheep headdresses

Mobley headdress

There is a brief piece describing a similarly modified bighorn cranium headdress, reported along the San Rafael Reef, in one of the canyons about 65 km northwest of the Robbers Roost area (Tripp 1967). This headdress was discovered by Bill Mobley of Green River, Utah. Based on an oral history at Brigham Young University, the artefact was found in association with considerable maize. Mr. Mobley took the headdress and other artefacts to the University of Utah where they were photographed and sketched and that resulted in a short article by Tripp (1967). The article, without accompanying drawings or photographs, details a similar splitting of the horn sheath, but does not explain how the horns were attached to the cranium. Much like the Green River headdress, there is reportedly clear evidence of cutting damage along the base of the remaining portion of the cranium.

This oral history, recorded sometime in 1977, indicated that Mr Mobley later sent the possible headdress, along with other artefacts, to his sister in Georgia. This unnamed sister may have donated these items to an exhibition at Georgia State University (Joseph Bryce, pers. comm. 2015). The authors contacted both Georgia State University and the Antonio J. Waring, Jr. Archaeological Laboratory at the University of West Georgia, the current repository of items formerly housed at Georgia State University. Unfortunately, there is no record of any bighorn sheep headdress artefact from Utah in these collections.

Allen headdress

Another possible bighorn sheep headdress was found near Capitol Reef National Park (Allen 2002). This third bighorn sheep headdress consists only of the horn cores attached to a drilled and cut skullcap, so identification as a headdress is tentative (Fig. 3). However, the cutting of the dorsal face of the horns and the drilling of holes in the attached cranium bolsters an attribution for these remains as a fragmentary example of another bighorn sheep horned headdress.

Goldsmith headdress

Cinematographer Paul Goldsmith, who crafted the documentary film *Talking stone: rock art of the Cosos* (Goldsmith and Garfinkel 2013) informed us about another bighorn sheep headdress and provided a photograph of this object (Fig. 4). Goldsmith provided the following information,

> The [bighorn sheep] headdress was discovered in a cave in 1929 in the Capital Reef area [of Utah] prior to it becoming a park. [It was] found in conjunction with three Fremont shields, a bow and quiver with

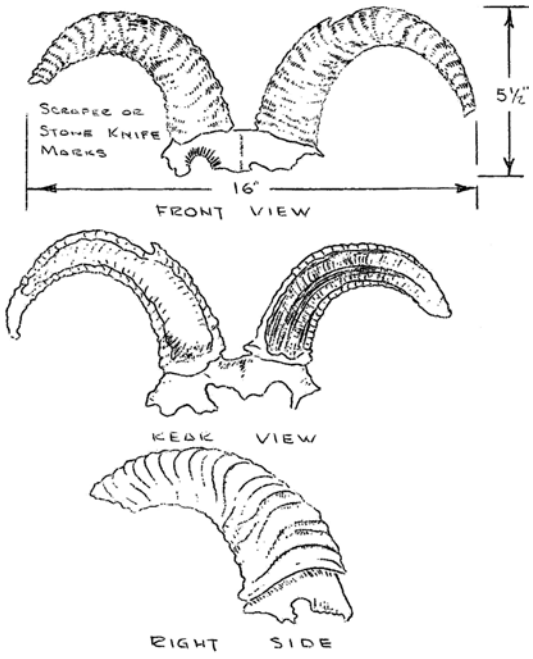


Figure 3. *Pen and ink sketch of possible bighorn sheep headdress elements. This artefact was discovered near Capitol Reef National Park, Utah, and this drawing is based on a brief report by its author (Allen 2002).*

Figure 4. *Headdress from private party putatively associated with an early assemblage of material identified as coming from the Pectol family from Capitol Reef, Utah. Photographed by PG, April 2016.*

> arrows, and several more perishable items. The Pectols found the other artefacts, the headdress was found in a different area by an Indian guide who worked for the Pectol family of Utah (who are somewhat famous from the days of 'cowboy archaeology'). The headdress is believed to be Fremont and is suggested to date from about 900–750 years ago. It may have once had a cape and head mask attached to it (long gone by the time of discovery). It was purchased from the grandson of that Indian guide by a private party who wishes to remain anonymous. That individual lives in Utah.

Notably, the Pectol discoveries have been the subject of considerable controversy — much of the interpretation is best contextualised as 'Mormon oral history' (Morss 1931; Schaafsma 2000; McPherson and Fahey 2008). No mention, in a variety of publications, was made of any bighorn sheep horned headdress and the Goldsmith artefact, whatever its original and authentic discovery site, is shared here for the first time as Figure 4.

Description of the Green River headdress and identification of construction and design

According to Matheny and colleagues (Matheny et al. 1997: 73), the bighorn sheep headdress horns were reported to have been divided in half to minimise their weight and were then sewn to the skull to ensure permanent attachment. *Olivella biplicata* shell beads were attached to the Green River headdress and the regalia may have been used with a hood, though there is no indication of this in the form of extra holes or other points of attachment. It has been hypothesised that the headdress could have served either as a ceremonial accoutrement or as a more utilitarian hunting disguise (Matheny et al. 1997: 73, Fig. 3). Thus, it could have been employed in a ritual or practical function. Further, since many non-Western cultures do not separate the sacred and the profane, it could have had both functions at the same time.

Further examination of the Green River headdress corroborates much of the initial description. The horn

Figure 5. *Reverse (obverse) of the Green River headdress. Scale in cm, the base of the headdress is 13 cm wide. Horns from tip to base measure 53 cm long. Photograph by TR, May 2015.*

sheaths are the key elements of the headdress. They have been split lengthwise leaving over half of the sheath and maintaining the appearance of a complete horn when viewed from the front. The cut edges have been smoothed in most places and exhibit polish in some areas. The horn sheaths expand near their base, providing a nearly complete circumference around the horn core on the cranium (Fig. 5).

The cranial element itself includes the base of the horn cores and the portion of the skull between the horn cores themselves. Some of the lateral portion of the right horn core is missing, though it is unclear if this occurred during manufacture or post-deposition. The base of the portion of the cranium between the horn cores is roughly cut. The upper portions of the horn core interiors have been cleaned and overlap the base of the horn sheaths by two or more centimetres. Most of the horn cores may have in fact been removed to reduce the weight of the headdress since the uppermost portion of the horn core would not be needed for support.

There are numerous drilled holes on the cranium and the horn sheaths. The holes exhibit the characteristic taper typically associated with stone drill bits. Though most of these are along the front margin of the cranium and horn sheaths, there are two holes along the back of each horn. The cordage used to attach the horn sheaths was microscopically corroborated as milkweed (*Asclepias* sp.) fibre.

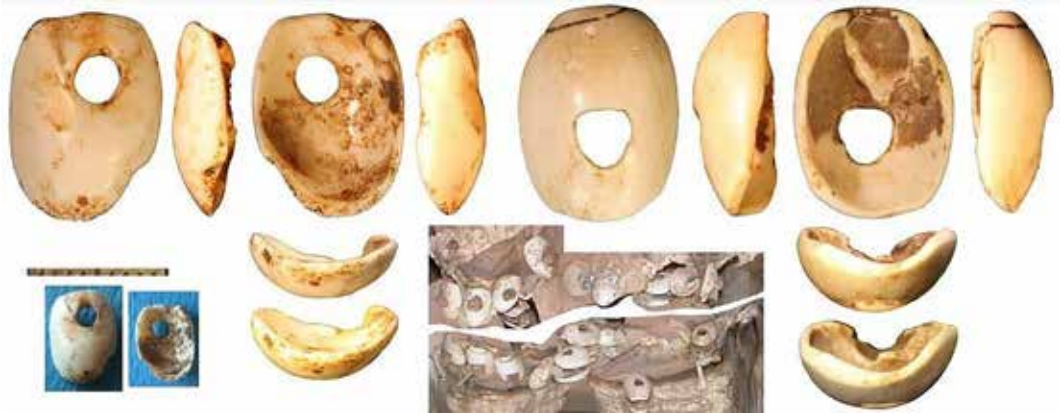
Upon initial assessment, the horns are those of a relatively small animal and appear to be either Rocky Mountain bighorn (*Ovis canadensis*) or perhaps a small or young desert bighorn (*Ovis canadensis nelsoni*) with a one-half to two-thirds curl.

Dating and cultural affiliation of the Green River headdress

Radiocarbon age

In order to obtain the most accurate date for the headdress, we discussed the process with the analysts at Beta Analytical Radiocarbon Laboratories. It was decided that the most accurate dates would not be on bone or shell but on the textile materials. Therefore, dating was conducted on the milkweed cordage that attached the shell beads directly to the bighorn sheep

Figure 6. *Details of the* Olivella biplicata *shell beads adorning the Green River headdress. Uppermost are the original shell beads from the headdress. The beads are classified by type as* Olivella biplicata, *split-punched beads. All beads in the top photograph, on the top of the bottom photograph and those in the 2nd and 4th positions below are enlarged to show details. The actual size of the beads is shown with scale below the top in the first and third position. Photographed by CK, February 2012.*



cranium.

The radiocarbon age for this material (Beta-343500) provided a measured determination of 720±30 radiocarbon years BP with a conventional age of 950±30 years BP (δ13C=10.8‰). With a 2 sigma calibration, the radiocarbon date converts to a calendar age of 1020 to 1160 CE (cal. 930 to 790 years BP). That date is consistent with the age of the shell beads determined through seriation on burial lots in southern California and exhibits close correspondence with the ages associated with the beads in pre-Historic archaeological sites in both the American Southwest and California (see below).

Olivella *beads*

Six *Olivella biplicata* shell beads were originally identified in association with the Green River headdress (Fig. 6). All the beads appear to be the same shape and style. Two of these beads were mailed to Topanga Anthropological Consultants for analysis. Both were studied by Chester King, and the *Olivella biplicata* shell beads were fashioned by perforating or punching holes in the shell walls.

These beads are split-punched bead types (Bennyhoff and Hughes 1987; types D1 and D2). One hundred twenty strung beads of the split-punched types are displayed at the nearby Coombs site, a northern Puebloan occupation dating to 1160–1235 CE. The date is consistent with the two-sigma radiocarbon date calibration for the assay on the cordage attached to the headdress.

Gifford reported split-punched beads from Wapatki in Pueblo III context; however, punched beads are not reported from Lost City sites that were abandoned around 1150 CE (Gifford 1947; Lyneis 1992). A drilled bead, apparently made from a piece of a split-punched bead, was found in a post-Chacoan context at the Aztec ruin and dates between 1150–1290 CE. Split-punched beads have been found at many Fremont sites. They were found at Parowan, Summit Mound, Paragonah, the Nephi Mounds and the Baker Village in western Utah. One was also found at the Caldwell Village site in north-eastern Utah (Ambler 1966: 64–65; Wilde and Soper 1999; Jardine 2007: 41). It appears that split-punched beads were made between 1150–1290 CE.

It is likely that these beads and the headdress itself are associated with the Fremont culture in the area. Beads traded to the Fremont and Southwestern Pueblos were often modified after they left California. Some modification was the result of smoothing and polishing of the rough edges from wear while being used in parts of necklaces, belts, earrings or arm, wrist or leg bands or attached to animal skin or cloth objects. Other modifications included grinding of margins, grinding and polishing the faces of beads and sometimes cutting beads into pieces that were then made into new beads.

Only a few of these punched beads, when found in Chumash sites (in coastal southern California), have any grinding on their margins. When viewed from the dorsal (or concave) side, the smooth edge on the right side of the bead is formed by the outer edge of the shell opening. The other edge is formed by the break that removed most of the callus. Bead-making refuse from Pitas Point (CA-VEN-27) indicates that split-punched beads were made by first punching a hole in the back

Figure 7a. *Bighorn sheep headdress depicted in black and white photograph (above) from the early 1900s as employed in a Native San Ildefonso Pueblo ceremonial. The dancers are mimicking the pattern of the bighorn sheep gait with their hands (extended with poles) and feet. Note the sheep horn headdresses on the dancers. 'Mountain sheep dance Jemez Indians', dated 1932, Pomona Public Library, on-line resource: http://content.cdlib.org/ark:/13030/kt7s2020jd/?order=1.*

Figure 7b. *A painting by Richard Martinez (1904–1987), Pueblo Native American, 1932; http://americanart.si.edu/collections/search/artwork/?id=751. 'Hunting priest and mountain sheep dancers', c. 1917–1920. San Ildefonso Pueblo, New Mexico Died: San Ildefonso Pueblo, New Mexico; watercolour and pencil on paperboard sheet: 15 1/4 × 22 1/2 in. (38.8 × 57.3 cm). From Smithsonian American Art Museum, Corbin-Henderson Collection, gift of Alice H. Rossin 1979. Catalogue number 144.36. Awa Tsireh aka Cattail Bird aka Alfonso Roybal.*

of a large *Olivella biplicata* shell (King 1990: 234, Fig. 4 a–f).

Both of the two punched beads from the Green River headdress collection exhibit ground edges. One is somewhat rectangular in outline and could be classed as Bennyhoff and Hughes (1987) type D2, although the rectangular beads in their illustrations have sharper corners. Edges of these beads were probably ground during their journey to Utah and possibly immediately before placement on the headdress.

It will be important to discover if there were Fremont occupations that date later than the use of punched beads. Possibly the end of large *Olivella* bead manufacture at the beginning of the Southern California Late Period was the result of the loss of the Utah market. The Fremont and Carson Sink people may have been the main consumers of punched beads.

Cultural affiliation, pre-Historic cultural context and symbolism

The most difficult part of our study was attempting to determine the meaning and precise function of the Green River headdress. This component of our study focused on questions relating to how sheep hunting was integrated into the subsistence and ceremonial life of the pre-Historic peoples who employed the headdress. Further, how does the headdress relate to the rock art in the immediate vicinity of the discovery site?

A principal question is what images were being rendered when the headdress was made and used? Are there rock paintings or petroglyphs dating to the time of the headdress in the vicinity of the discovery site that could help us identify its cultural context? Were there any other ritual objects discovered in an archaeological context (at the Price Museum or in the anthropological literature) that date to this time that might have been used in association with the headdress?

It seems likely that the headdress was part of the Fremont religious repertoire and was highly venerated and valued. The use of

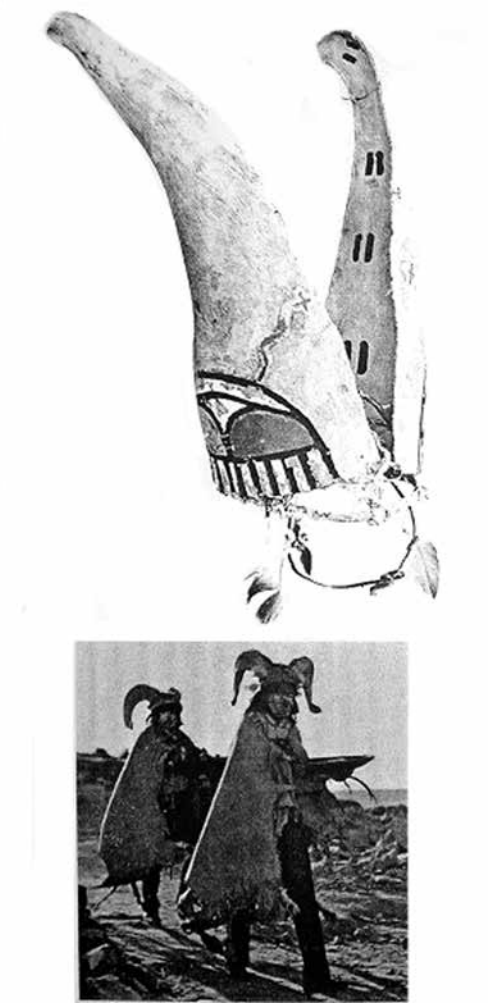


Figure 8. *Hopi Two Horn ceremony dancers (lower left), photographs and narrative from discussion of Two Horn ceremony from an early ethnographic account of the Hopi ceremony. Photograph reproduced from Pueblo Cultures (Iconography of Religions. Section X, North America; Book 4) by Barton Wright. 1986. E. J. Brill Academic Publishers, Leiden.*

***Figure 9**. Lithograph from* Mountains of California *by John Muir (1894), showing sheep hunting disguise. Horns and hood can be noted in this drawing.*

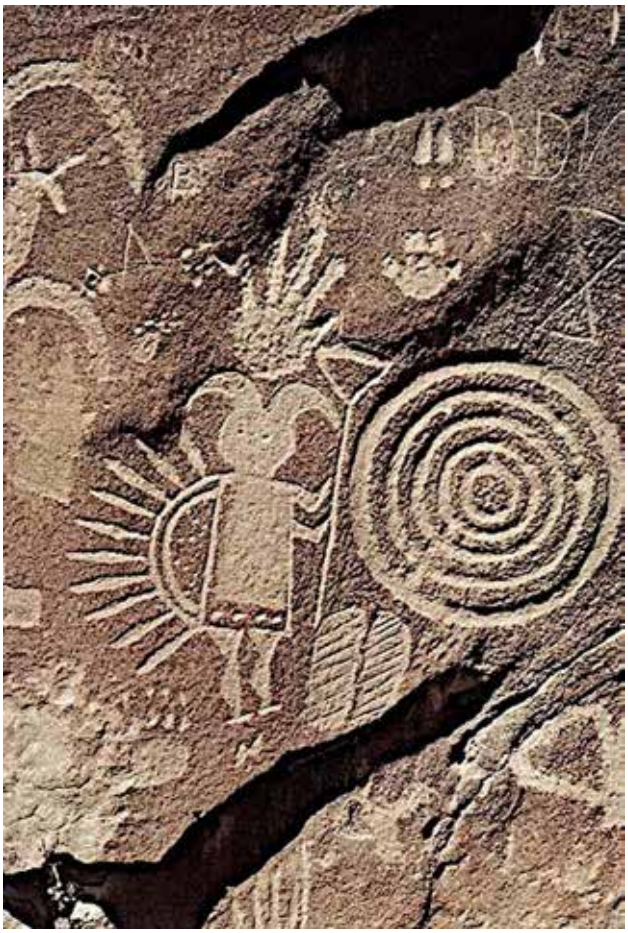


***Figure 10.** Navaho rock art depiction in Largo Canyon, New Mexico of a bighorn sheep horned deity, known as Ghanaskadi. Ghanaskadi is a divine being related to the harvest of corn, seeds and the renewal of the earth. The pack on the figure's back is said to contain mist and/or seeds of all plant species. The track to the right of the main figures is a track of the wild bighorn sheep. The staff or wand is an element of the ritual paraphernalia described as a digging or planting stick and the concentric circles relates to a supernatural portal for the being. The pack on the figure's back is also identified as being embellished on its rim by a rainbow and also exhibits the feathers of the eagle (Reichard 1950: 443). Photograph by MM, March 2014.*

rare *Olivella biplicata* beads and the possible placement of the object into a small rock crevice or shelter point to ritual significance. However, was this exclusively a religious headdress? Could it have also been employed by a ritual headman (shaman) or a hunt leader as a disguise? Such questions are difficult to address. We do know that the headdress was fashioned from a young bighorn and that the horns were hollowed out and cut to reduce their weight.

Animal ceremonialism, and mountain sheep imagery

A recurring motif in rock art is a depiction of a figure (therianthrope or animal-human conflation) adorned with a wild sheep's horns (cf. Garfinkel 2006). This suggests a ritual where a person attempts to become or meld with the spirit identity of a wild sheep. The idea of transformation from human to animal is common to hunter art worldwide. Hunters are attuned to the qualities of animals and these become symbols for agility, survival and power over one's enemies. Fertility (aka increase rites) and world renewal ceremonies regularly feature dancers in animal costumes, masks and headdresses. These animal costumes include headdresses and body suits employing the skins, heads and horns of large game animals (Figs 7 and 8).

If the intention of the headdress manufacturers was to magically control the habits of bighorn sheep, ensuring success in the hunt, then wearing the skin, crania and horns of the animal and fashioning bighorn images in rock art would certainly be a sensible way of getting into the mindset of the bighorn sheep. It appears that in some cultures bighorn were also thought to be spirit helpers or animal guardians. Native people would attempt to communicate with the animals through telepathy, and this process would routinely produce concrete expressions in personal health, success and physical rewards (Kelly 1976: 384–386; Kelly and Fowler 1986).

Hultkrantz (1986: 633) indicates that spirits, sometimes in animal disguise, were some of the supernatural beings recruited by Numic individuals to provide

Figure 11. *Barrier Canyon-style figure with bighorn sheep-like 'horns' embellishing the head and of a goggle-eyed anthropomorph rendered in a full, front-facing visage. Photographed by TR, March 2016.*

success in hunting. Ethnographic references attest that the head and horns of sheep were also used as hunting disguises (Fig. 9) for the Great Basin Numic Paiute and Shoshone peoples (Stewart 1942: 294; Matheny et al. 1997: 72).

Rock art depictions of bighorn headdresses

Throughout the Coso Range of eastern California there are numerous (n = 200+) anthropomorphous figures wearing what appear to be bighorn sheep headdresses (Grant 1985: 28–29; Garfinkel 2007: 137 and 139, Figs 6.4 and 6.6). Many of these images appear to be humans wearing bighorn sheep headgear (Fig. 2). In other cases they are better identified as animal-humans (therianthropic), supernaturals, some with avian feet. In northern New Mexico (Largo Canyon) there are petroglyphs (Fig. 10) and paintings of humans with apparent bighorn headdresses (Grant 1985: 28, Fig. 2.9a). Similarly, in the Cornudos Mountains of New Mexico and at Hueco Tanks, Texas there exist several depictions of people apparently conducting rituals wearing bighorn headdresses (Grant et al. 1968: 40; Grant 1985: Figs 2.10 and 2.11).

A number of rock art panels in the vicinity of the Green River headdress discovery site contain striking representational imagery attributed to the Fremont or more ancient Archaic 'cultures'. Some of these rock art panels include elements depicting 'horned' humans in presumed ceremonial attire or presumed supernatural therianthropic figures with presumed sheep horn embellishments. The rock art of the San Rafael Swell and eastern Utah appears to support hypotheses about shamanic hunting rituals using a bighorn sheep headdress, and may link some ethnographic traditions to the pre-Historic past. Presumed sheep-horned headdresses are common in the local rock art, especially during the late Archaic, transitional and Formative periods.

Barrier Canyon-style rock art (Fig. 11) dates to approximately 3000 to 1500 years ago (and possibly as early as 5000 years ago) (Fig. 12). It commonly includes large wispy, limbless figures with wavy lines and zoomorphs. These figures are often interpreted as spirit figures, shamans or hybrid animal-human deities (Schaafsma 1971; Cole 1990; Kelen and Sucec 1996). Some of these figures are adorned with what appear to be bighorn sheep headdresses. Large images of bighorn sheep with curled horns are also a characteristic element of this rock art style, as are 'sheep horns' on 'snakes'.

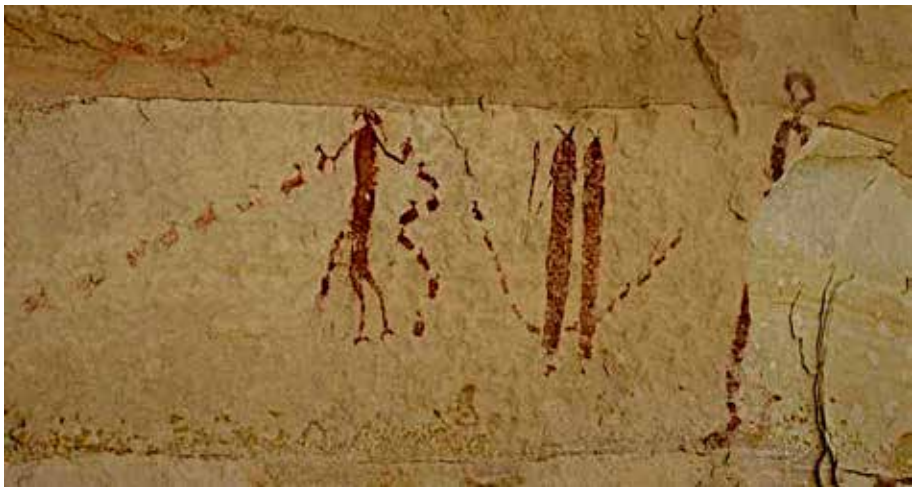


Figure 12. *Barrier Canyon pictogram panel with central animal-human figure in profile, exhibiting curved horn-like features atop the figure's head. Central figure has notably thin and stick-like, avian legs and avian feet, snake-like forked tongue, and a rather bushy long 'tail'. Photographed by TR, April 2015.*

Often anthropomorphs 'hold snakes' in their hands or mouths, or perhaps have snake tongues, and sometimes have bird feet or other animal attributes. As a result, bighorn sheep horns may be interpreted as indicative of a highly stylised animalistic tradition, rather than always identified as more realistically depict-

ed headdresses. Barrier Canyon-style anthropomorphs also have a consistent pattern with large goggle-like eyes which could be face-on views of a person wearing a headdress with horns that have full curls. Other images in the Barrier Canyon style have side view and partial curl headdresses as does the 'game caller panel' and imagery in Thompson Springs (Fig. 12).

Rock art in eastern Utah attributed to the Fremont archaeological culture also features anthropomorphs adorned with bighorn sheep headdresses (Matheny et al. 1997, 2004). This is prominently seen in Nine Mile Canyon, particularly in the well-known panel called the 'great hunt panel' (Figs 13a and 13b). There are dozens of other 'horned' anthropomorphs in this canyon filled with rock art which is about 175 km from the area where the headdress was discovered (Figs 13c and 13d). Many other Fremont-attributed rock art panels closer to the San Rafael Desert also contain 'horned' anthropomorphs. Figure 14 (a–d) illustrates several of these panels from the Price River area, the San Rafael Swell and the Capitol Reef area.

One petroglyph panel in the Dirty Devil River drainage to the west of Robbers Roost is of particular interest (Fig. 15). In this panel, a 'bighorn sheep' is confronted by a 'horned' anthropomorph armed with bow and arrow. The close proximity of this panel to the area of discovery of the headdress artefact perhaps supports the suggestions that the headdress itself was discovered in the canyons of the Dirty Devil River, rather than within the rolling tablelands that characterise Robbers Roost. The presence of a bow in the image dates the panel to the Fremont period (c. 600–1300 CE).

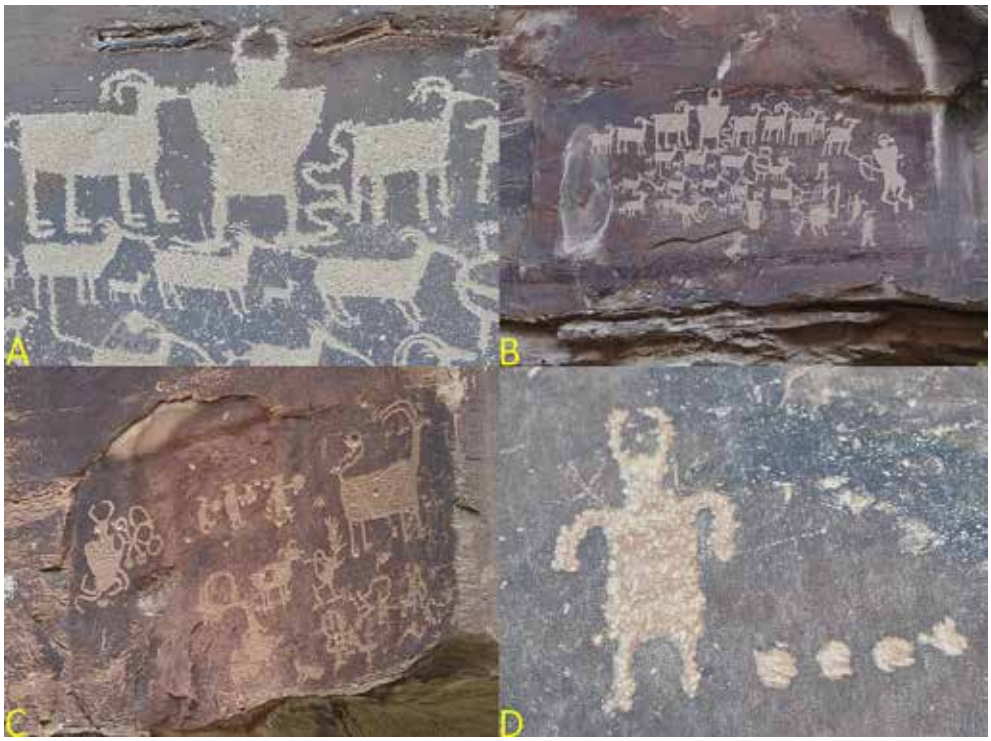


Figure 13. *'Great hunt panel', Nine Mile Canyon, Utah: 'horned' anthropomorphs are noted in various locations within Nine Mile Canyon, Utah, and are attributed to the Fremont tradition. Photographed by TR, March 2015.*

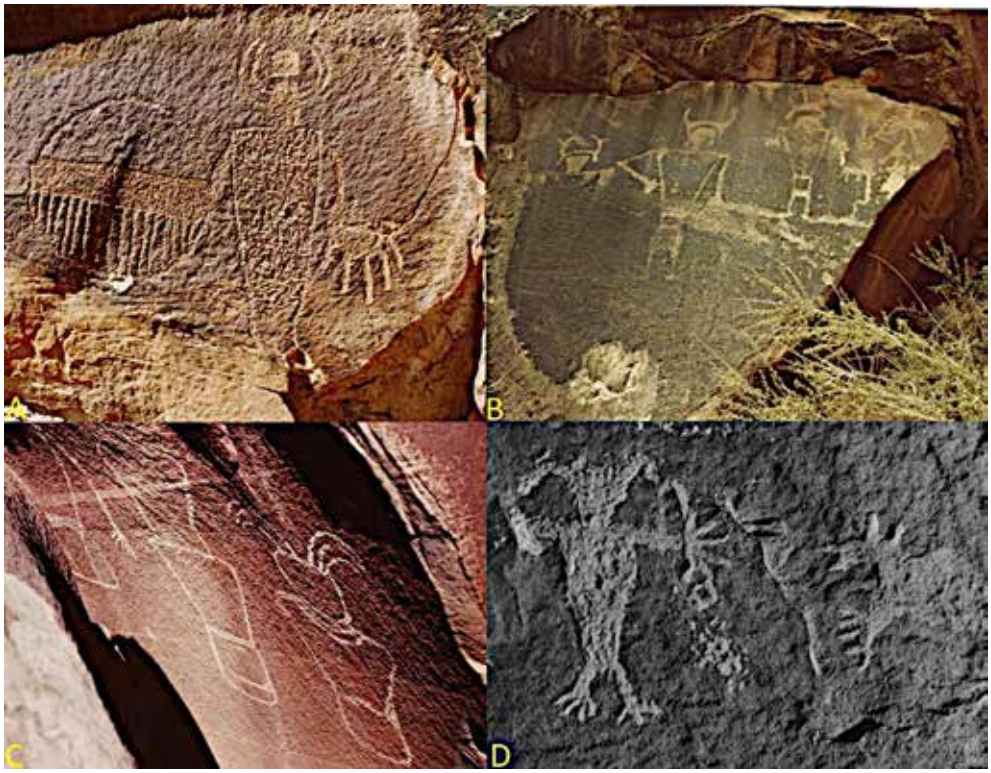


Figure 14. *Horned anthropomorph petroglyph elements. (a) Price River, Utah; (b) San Rafael Swell, Utah; (c) and (d) Capitol Reef, Utah. Photographed by TR, March 2015.*

Figure 15. *Fremont tradition, Dirty Devil River petroglyph panel, west of Robbers Roost, Utah. Bow and arrow-armed 'hunter' attacking a 'bighorn sheep' and wearing a presumed bighorn sheep horned headpiece. Photographed by Aaron Goldtooth, April 2015.*

Ethnographic and ethnohistoric accounts of bighorn headdress ceremonialism

A number of ethnographic and historical accounts of indigenous American Southwestern and Great Basin peoples document rituals and oral traditions that prominently feature bighorn sheep supernatural beings. In general, the bighorn sheep was seen as a powerful animal by Native American hunter-gathers and farmers in these regions and is symbolic of prayerful supplication for health, rain, game, coming of age, earth and human fertility and hunting success. These images and metaphors are ubiquitous in the rock art of the region.

Ute

Eastern Utah was home to several Ute tribes, or *Nuche*, first identified when Spanish explorers visited in the 1700s. The region where the Green River headdress was found was probably Ute territory, though also close to the Kaiparowits Plateau region frequented by Southern Paiute bands. The closest local Ute band, the *Sheberetch*, was more isolated and 'far more desert-oriented' than their mountain and lake-dwelling neighbours (Duncan 2000), and they had little contact with Euroamerican settlers until the mid-1800s. Historic accounts describe the lifeways and worldview after the adoption of the horse, the tipi and some cultural attributes of Plains tribes. Most indigenous people during this time still hunted mountain sheep and other traditional game, as well as retained their practices of conducting rabbit drives with nets, fishing and hunting birds with snares (Calloway et al. 1986; Duncan 2000). Prior to the adoption of the horse, *Nuche* were culturally and linguistically similar to Southern Paiute people.

Southern Paiute

In some parts of southern Utah, mountain sheep were hunted year-round by Southern Paiute bands (Kelly 1976). The Southern Paiute had special 'game-dreamer' songs and dances associated with hunting deer and bighorn sheep called a '*niavi*' (Kelly 1976; Kelly and Fowler 1986). The mountain sheep song was given to the singer in a dream, a gift from the mountain sheep. The 'dreamer-singer' would dream about killing game, food for sheep, rocky places, rain, bows and arrows, and sometimes arrows turning into male mountain sheep (Kelly and Fowler 1986: 384–5).

Some Southern Paiute bands would sing to attract sheep, or have a feast and gather around the singer in a partial circle, lay bows across their bellies and drape arms over their stomachs in an arching posture and then held their fingers in front of them like sheep hooves while moving their arms and fingers in time to the music. Some also had dancers who would jump and mimic bighorn sheep. The 'dreamer-singer' would then direct the band of hunters to a place where they would find and slay the sheep. This was one of the four principal Paiute songs.

Navajo

The Navajo of the Gobernador District in northern Mexico have an important deity known as *Ghanaskidi* (Reichard 1950: 443). Their god is in charge of the harvest, plenty, mist and mountain sheep and it makes these resources available to the people. *Ghanaskidi* is one of the most frequently depicted deities in the Navajo pantheon, both in rock art and sand paintings. Bighorn horns grow from his head. *Ghanaskidi* is the owner/controller of bighorn sheep (animal master) and plays a prominent role in sacred narrative as a humpback deity bearing the seeds of all vegetation and also controls mist. This deity is a principal in the night chant healing ceremony. Rock art imagery from Largo Canyon depicts this immortal with a sheep horn headdress, staff (digging or planting stick) and eagle-feathers adorning a rainbow on his back (Fig. 10).

Hopi

The Hopi of the American Southwest have a secret society or sodality known as the *Ahl. Ahl* members wear the involuted horns of the mountain sheep on their heads and this fraternity directs the November new fire ceremony (Fig. 8). This horn society (*Al, Ahl* or *Ala*) or hunter's society is called *Shayaka*, *Sayaikha* or *Shayaika*, or something similar, and *Sutikanne* in Zuni. These men's fraternities were responsible for initiations that brought men to adulthood. A photograph of their ceremonial attire appears to attest that this costume element is a horned headdress fashioned from bighorn sheep horns (Fig. 8). It may be noted that in many instances the horns are modelled or mimicked using other materials including gourds. However, ethnographic, photographic and archaeological data

support the notion that bighorn sheep skulls were also regularly employed as Hopi ritual regalia (Stephen 1936: 934; Wright 1986; and see discussion below).

The practice of employing the actual skulls and horns of bighorn sheep for religious headpieces may have some historical antiquity. Research at the 14th century Hopi village of *Homol'ovi* in northern Arizona indicates that the Native occupants regularly acquired nonlocal bighorn sheep and used them at the site. This usage was recognised archaeologically by the ritualised deposition of burned and painted bighorn skulls and a researcher, Vincent M. Lamotta, attests that bighorn skulls were regularly used by the Hopi for their ceremonial headdresses (Lamotta 2007: 10).

According to Titiev (1992), the Hopi of Third Mesa had an initiation where the 'horn chief/sun watcher' leads the ceremony with men from both the *Al* (single horn or two horn) and *Kwan* (agave) societies, and the *Tao* (singers) and *Wuwutcim*. *Wuwutcim* is the principal society there. The ceremony is complex, lasts for nine days, and members from the *Al* society participate in patrols and varied ceremonial roles. At one point during the ceremony the *Al* members imitate the behaviour of bighorn sheep.

The 'horn chief' (leader of the *Al* or Two Horn Society) and all members of the society wear the two-horned headdress and light the kiva fires. The deity represented is known as *Alosaka* or *Muy'ingwa*. They re-enact the Hopi emergence into this dry, fourth world, and they solicit the ancestors for rain, health, abundant harvests, and also feast in honour and reverence for their ancestors. This ceremony is also associated with a rite of passage for young Hopi boys to become men and is symbolic of both the beginning and renewal of life. At the close of the ceremony, four *Al* society members reverse their horned headdresses, build bonfires, and again mimic the behaviour of bighorn sheep (Titiev 1992).

Recent discussion with Hopi elders provided some insights regarding their reactions to the Green River headdress under discussion here. The elders said the headdress was for use with the Two Horn Society on Third Mesa. They basically conveyed that the headdress is very powerful and has powers for healing, but also could only be used by a very, very powerful person. If the headdress was not employed properly, in a ceremonial context, it could be very dangerous and bad things could happen.

Eastern Pueblos

A repeating theme in the Eastern Pueblo Indian literature, for Isleta, Santo Domingo, Santa Ana, Zia, Santa Clara, San Felipe, Laguna and others, is that the leader of the local hunter's society is responsible for the successful reproduction of game animals, which usually included bighorn sheep (Ortiz 1979). Traditional Pueblo cultures also had other rituals to ensure fertility, organise and bless hunts and pray for a successful hunt (Fig. 7).

Several had a 'buffalo dance' with dancers in buffalo, antelope, deer and bighorn sheep headdresses. Some made and distributed small animal fetishes or *pahos*/prayer sticks. In one community the hunt chief was required to plant small animal fetishes in the mountains, during a ceremony mirroring the ritual planting of maize and crops, to ensure the reproduction of game.

Sometimes such ceremonies were associated with Mountain Lion or Coyote, and there were versions at both the pueblos of the Hopi and Zuni. These rituals became less important by the mid-1900s, along with a decrease in the importance of hunting. At a few pueblos they stopped entirely by the 1970s, but traditionally most communities held ceremonial dances, usually in autumn or winter (November through March, prior to the equinox). Dress for these dances often required

Ethnic group	Context	Empirical	Spiritual/ritual/ associations	Purpose
Ute	Hunted	Food, horned headdress hunting disguise		Hunting aid
Southern Paiute	Hunted year round	Food, horned headdress hunting disguise	Songs, dances and feasts. Bighorn sheep song given in dream	Hunting magic
Navajo (Dine)	*Ghanaskidi* (Fig. 15)	Horned deity, depicted in rock art and sand paintings	Owner and controller of bighorn sheep (animal master), humpback deity that bears seeds of all vegetation and mist	Renews the world, ensures earth fertility, carries planting/digging stick as wand, eagle feathered rainbow-adorned hump.
Hopi	Ahl Society (Fig. 7)	Wear bighorn sheep horned headdresses	Dance and mimic behaviour of bighorn. Boys' coming of age ritual. Feasting in reverence of the ancestors	Bless the hunt. Solicit ancestors for rain, health, and abundant harvests. Renewal and beginning of life. Power to heal the sick.
Pueblo	Leader of local hunting society (Fig. 5)	Wear bighorn sheep horned headdresses	Dances and ceremonies	Ensure reproduction of game animals for the hunt. Ensure fertility. Bless the hunt.

Table 1. *Ethnographic summary of bighorn sheep ritual and metaphor.*

ceremonial regalia that included headdresses with the horns and antlers of various large game animals.

Hence we have a number of examples of possible analogues for the incorporation of a bighorn sheep headdress in the religious rites of Native peoples in both the Great Basin and the American Southwest (see Table 1).

Metaphor and religious symbolism

Entertaining a number of informed speculations, we can suggest the following potential 'root metaphors' and religious symbolism embodied by the Green River headdress and its embellishments. Horned headdresses and hunting headgear are recognised for Great Basin foraging and Southwestern agricultural societies. Referencing discussions about religious metaphors for such ritual adornments one would hope to find direct ethnographic or historic contextual information within the Great Basin or American Southwest.

However, worldwide much of the interpretive efforts are focused on Siberia — the homeland and origin point for the identification and understanding of shamanism. Ekaterina Devlet (2001), in describing ritual headgear in Siberia, alludes that many compound metaphors apply. Additionally, we have much material provided by Esther Jacobson (1993: 173–190) on Siberian ritualism and related discussion on various clothing elements with respect to their symbolism and signification. Devlet (2001) indicates that the shells adorning the Siberian headgear (in this case perhaps an analogue for the small shell beads attached to the Green River headdress) were identified by Native consultants as birds.

In general, the ritualist adornments (especially the Green River headdress) 'effectively represent a reassignment to themselves of the signs and symbols of an ancient pantheon formulated in the bodies and powers of sacred animals' (Jacobson 1993: 173). Jacobson proposes that by donning the animal headdress, the ritualist became the animal itself and was reborn into its body and knowledge. Eliade (1972) spoke of a ritual adept's costume as representing 'a religious microcosm' and Jacobson (1993) emphasised that such dress was a testament to this animal-human conflation and the power invested in the generative forces of nature.

Recent research (McGranaghan and Challis 2016: 591) on San Bushman ritualist hunting and its relationship to head adornments suggests that wearing animal caps presupposed an intimate and reciprocal relationship with game animals. Only ritualists who 'possessed' such animals were entitled to wear these vestments. These specialists were the specific ritualists who possessed the superlative skill to lure an animal to the hunters for the kill. Employing such an adornment was recognised as a type of 'hunting magic' (McGranaghan and Challis 2016: 594) symbolically echoing the wearer's ability to influence game animal behaviour.

Summary

Synthesising the historic and ethnographic data about bighorn sheep headdresses and looking for consistent patterns that apply (see Table 1) we can tease out the bighorn sheep's salient role as a recurrent cultural symbol and gain some sense of its reverential status. We have documented multiple sources of evidence that such headdresses existed and continue to exist among some cultural groups, contrary to what some have opined. The most elegant example is the Green River headdress.

The spiritual framework in which the bighorn is placed appears to centre on its role as a powerful metaphor applying to mastery of large game and as a means of supernaturally ensuring an abundance of game animals and a successful hunt. Further, the bighorn is seen as a creature that provides the assurance of renewal — ranging from sickness to health, from drought to rain (weather control), from infertility to fecundity in human reproduction and finally in earth renewal and fertility (assurance of a successful harvest of plants and proliferation of game). In essence, the bighorn sheep seems to have been a timeless cultural symbol for the cosmic regeneration of life in all its various facets.

It is important to note that for many Native American societies certain animals were viewed as other-than-human persons or even shamanistic ancestor deities (Betts et al. 2015: 89–91). When Amerindians donned animal costumes and performed ceremonies to re-enact sacred narrative, this was for them not a thing of the past — it was as though the event was happening for the first time and they became, in their minds, those ancestor animal-persons and even deified immortals (Viveiros de Castro 1998: 470–472).

Based on the evidence presented, the Green River bighorn sheep headdress appears to have been a powerful headpiece most likely employed in a symbolic context for religious expression within the hunt itself. It was likely associated with the Fremont Cultural Tradition and dated to about 1020–1160 CE and was adorned with *Olivella biplicata* shell beads originating from the California coast dating to that same time frame. Such headdresses are mentioned in the ethnographic literature and appear to have from time to time been used in religious ritual and as adornments in eastern California, the Great Basin and American Southwest. Such headdresses can be fashioned directly from the horns of a bighorn sheep and can be functionally fashioned as a garment to be worn on the head without excessive weight or difficulty to the wearer.

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