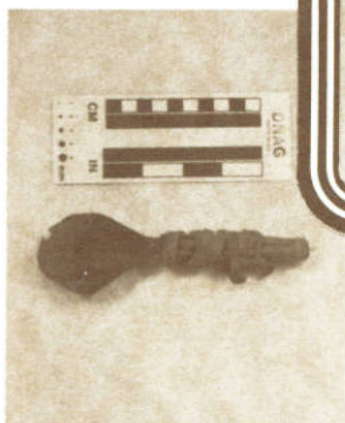
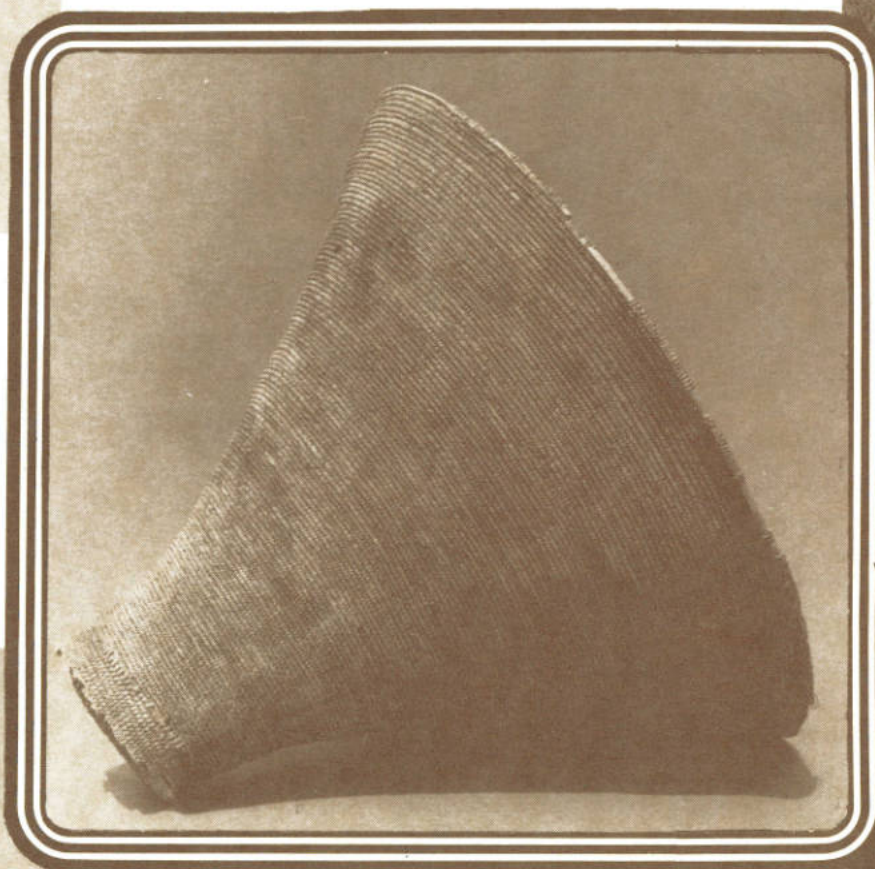
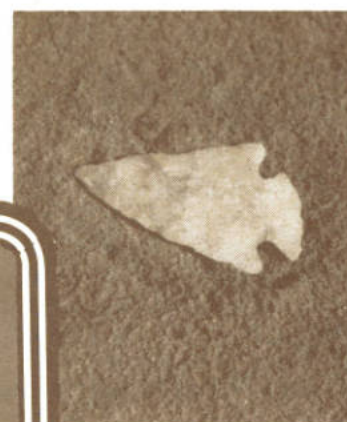


Canyon Legacy

A Journal of the Dan O'Laurie Museum - Moab, Utah

Number 7

\$4.50



Recent Archaeological Discoveries



Canyon Legacy

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Canyon Legacy was established in 1989
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Materials for possible publication
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UT 84532, typed double-spaced with
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ISSN: 0897-3423

Fall 1990

WITHIN...

Visitors and locals alike have long been fascinated with the prehistoric Indian cultures of the Four Corners region. The remains of the Ancient Ones evoke feelings of mystery, of wonder and speculation. Recent finds, excavations and scientific interpretations have enabled archaeologists to define, or in some cases even redefine, the lifeways of "Those Who Came Before."

This issue of *Canyon Legacy* presents some of the more interest-
ing discoveries made recently in the field of Southwest archaeology.

Jean Akens



photo by Jean Akens

Canyon Legacy

Number 7

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FRONT COVER: (left top) Huntington figurine, photo by Norm Shrewsbury;
(center) Basketmaker burden basket, photo by Gil Wenger; (right top) Orchard
pithouse point, photo by Jean Akens; (left bottom) horn spoon from Patterson Bun-
dle, photo by Bruce Louthan; (right bottom) unusual sherd from Dead Horse Point
road excavations, photo courtesy of Alpine Archaeological Consultants, Inc.

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Archaeological Excavations Along State Road 313 Near Dead Horse Point, Utah

by Alan D. Reed

INTRODUCTION

For public safety and convenience, the Utah Department of Transportation (UDOT) recently upgraded State Road 313 to Dead Horse Point State Park and the Island in the Sky District of Canyonlands National Park. The actual road construction was a culmination of a process that involved planning, design, and consideration of potential environmental impacts. Construction projects on public lands must also address cultural resources covered under such laws as the National Historic Preservation Act. Before road construction could begin, archaeologists working for UDOT, the Bureau of Land Management, the State Division of History, and private consulting firms worked together to ensure compliance with these laws.

Early in 1989, archaeological consultants working under contract with UDOT walked the road right-of-way and carefully inspected it for artifacts and other indications of past human activity. This inventory resulted in the discovery of 41 archaeological sites. The majority were found in Sevenmile Canyon, though artifact scatters were also found in the uplands at the head of the canyon. All of the sites were evaluated in terms of their potential for yielding scientifically valuable information. Thirteen sites were identified as important cultural resources, worthy of protection. Highway planners were able to route construction disturbances around all but three of the thirteen important sites, preserving the remainder for future generations. The three sites that could not be avoided were designated for scientific excavation to recover and preserve the important information that they contained. Known as 42GR2211, 42GR2232, and 42GR2236, these sites were excavated by Alpine Archaeological Consultants, Inc. dur-

ing July of 1989 with assistance from members of the Moab and the Salt Lake-Davis chapters of the Utah Statewide Archaeological Society.

Excavations were structured by a research design, prepared prior to the beginning of field work. The research

design posed questions and hypotheses that might be addressed by information collected from the three sites and specified means of collecting the necessary information. The design was based upon present understanding of the culture history of the region, a synopsis of which follows.

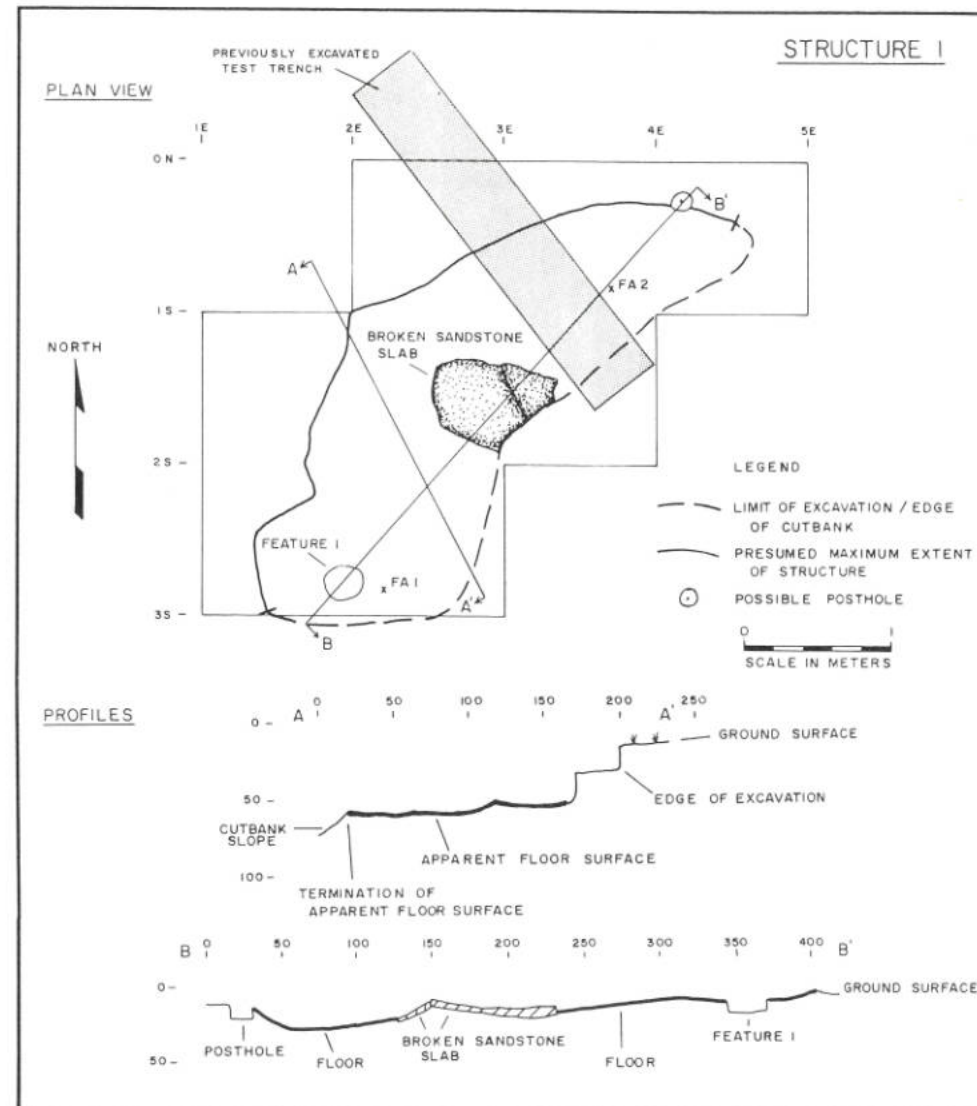


Figure 1. Plan view and profiles of the partial structure excavated at site 42GR2211 in Sevenmile Canyon.

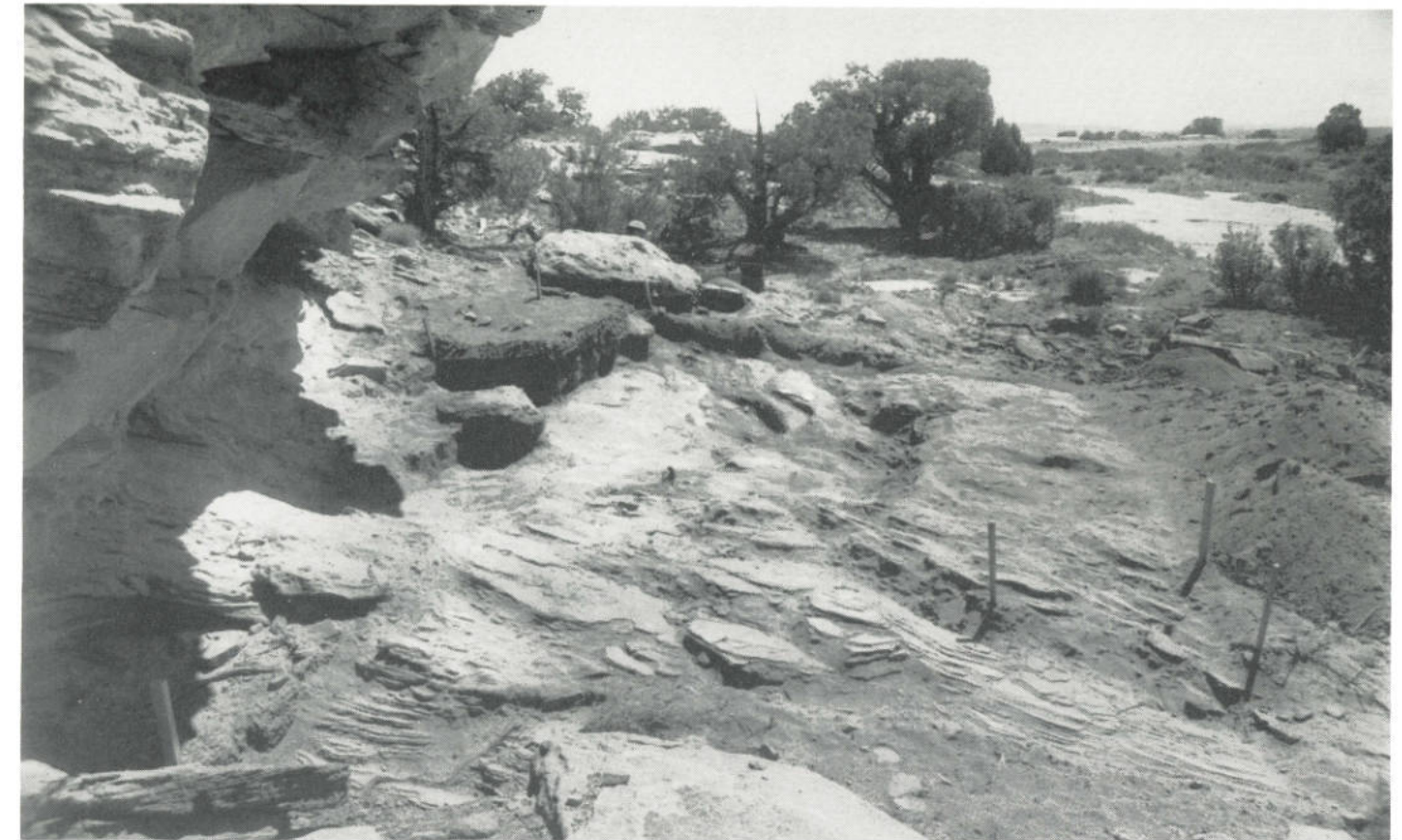


Figure 2. The rockshelter at site 42GR2232 after it was excavated to bedrock.

REGIONAL CULTURE HISTORY

For thousands of years, southeastern Utah has served as homeland for Native Americans. The first inhabitants of the area may have hunted mammoth and other now-extinct animals along major river bottomlands as early as 10,000 B.C. For the next ten millennia, the mesa and canyon country offered sufficient quantities of plants and animals for peoples engaged in a hunting and gathering lifeway. Sometime between A.D. 1 and 700, a major change in lifeways emerged with the adoption of agriculture. These early farmers, the Fremont and the Anasazi, constructed pithouses and masonry surface rooms and crafted fine pottery. They persisted, and indeed flourished, until approximately A.D. 1200 to 1300 when they abandoned southeastern Utah. It is believed that periods of drought may have rendered lower elevations unsuitable for farming while cool climatic conditions may have caused growing seasons to be too short for corn production in the uplands, resulting in stress to prehistoric farmers. They may have reacted by emigrating to areas

more suitable for farming or, in the case of the Fremont, may possibly have reverted to a mobile hunting and gathering lifeway.

Sometime after the departure of the Fremont and the Anasazi, the ancestors of the Ute and Southern Paiute moved into southern Utah. These people were pedestrian hunters and gatherers who lived in small brush structures called wickiups and manufactured small amounts of brownware pottery. Following Euro-American contact, these groups began to acquire horses and other artifacts. Their way of life was dramatically changed, resulting in the evolution of the Ute and Paiute culture of historic record.

EXCAVATION RESULTS

Site 42GR2211, located at the mouth of Sevenmile Canyon, was the first site excavated. When first recorded, stone artifacts were found in association with a lens of charcoal exposed in a drainage cutbank. Test excavations revealed that the charcoal stain represented the remains of a small habitation structure.

The structure was situated on an alluvial terrace that had been partially destroyed during an erosional episode dated by geologists to approximately A.D. 950. This erosional episode formed the cutbank exposing the structure. When excavated, the structure was found to be semicircular in shape (Figure 1). Evidence suggests that it was built near the ground surface at the time of occupation and that it may have been covered by a brush superstructure. Three potsherds, classified as Emery Gray, were recovered in the structure. Emery Gray is a Fremont pottery type used in east-central Utah between A.D. 700 and 1200. A sample of charcoal collected in the structure was dated by the Carbon-14 method to about A.D. 725. No evidence of corn was found, suggesting that the site was only occupied for a period of a few weeks or months, while the inhabitants were gathering wild plant foods and hunting.

Site 42GR2232 is a small rockshelter with an associated scatter of stone and pottery artifacts located atop the mesas west of Sevenmile Canyon. Because soils were shallow, they were dug in 5

cm (2 inch) levels (Figure 2). This technique enabled archaeologists to identify two unrelated occupations of the site. The lower levels yielded numerous fragments of grinding stones but few other artifacts. Carbon-14 dating of the lower levels indicates that the earliest occupation of the site was somewhere between approximately A.D. 250 and 550. The upper levels yielded a variety of projectile point styles and a small number of Emery Gray potsherds. The projectile points include Bull Creek, Rosegate, and small side-notched varieties (Figure 3), typical of Fremont sites dating between approximately A.D. 950 and 1250. The upper levels dated to about A.D. 1175.

Artifacts and animal bone found at the site indicate that hunting was an important site activity. Besides projectile points, a relatively large number of cutting tools and some chopping and scraping tools were recovered. These artifacts may have been used in butchering or hide preparation. The identifiable animal bones were rabbit, mule deer, pocket gopher, ground squirrel, and snake. The gopher and squirrel bones may have been introduced into the archaeological record by natural means. The rabbit and mule deer bones may be the remains of prehistoric meals, as might the snake bone, which was charred. Seeds and herbs were also probably gathered for food, as evidenced by the discovery of grinding stones. No evidence of corn or other domesticated plants was found.

Perhaps the most important discoveries were made at site 42GR2236, located a short distance from Dead Horse Point State Park in a pinyon and juniper woodland. When discovered, the site consisted of a scatter of chipped stone flakes, a grinding stone, and two small projectile points. The two points were classified as Desert Side-notched points and indicated to archaeologists that the site might represent a Ute or Southern Paiute occupation.

Excavations at site 42GR2236 focused on two concentrations of artifacts. Both probably represent activity areas of a single occupation. One concentration was evidently the locus of flintknapping, where stone tools were manufactured or reworked. At the other concentration, flintknapping and

cooking took place. A hearth was discovered there, containing fragments of animal bones and five potsherds.

The potsherds evidently represent fragments of a single vessel. One of the sherds was sent to a specialist for petrographic analysis to determine the types of rock used for temper. Microscopic analysis of a thin-section of the sherd revealed that igneous rock was used as temper, which could have come from the mountains of southeastern Utah or southwestern Colorado. The analysis also revealed that the pottery was made by coiling. The coils were partially smoothed, resulting in a corrugated exterior surface (Figure 4).

Corrugated pottery was commonly produced in the later phases of the Anasazi tradition and was also made by some Fremont groups. The sherds

from site 42GR2236, however, were in some ways dissimilar to Anasazi or Fremont corrugated wares. The corrugations were more smoothed-over and, more importantly, the sherds were reddish in color, indicating that they were fired in an oxidizing environment. Fremont and Anasazi corrugated wares were fired in a reducing atmosphere where exposure of the vessels to oxygen is limited, producing gray or black vessels. Poor control of firing atmosphere is more characteristic of ceramics made by Numic peoples such as the Ute or Southern Paiute. The sherds from site 42GR2236 are hence tentatively classified as Intermountain Brown Ware, a variety generally dated between A.D. 1300 and historic times.

Affiliation of site 42GR2236 with the Ute or Southern Paiute is supported by projectile point typologies and

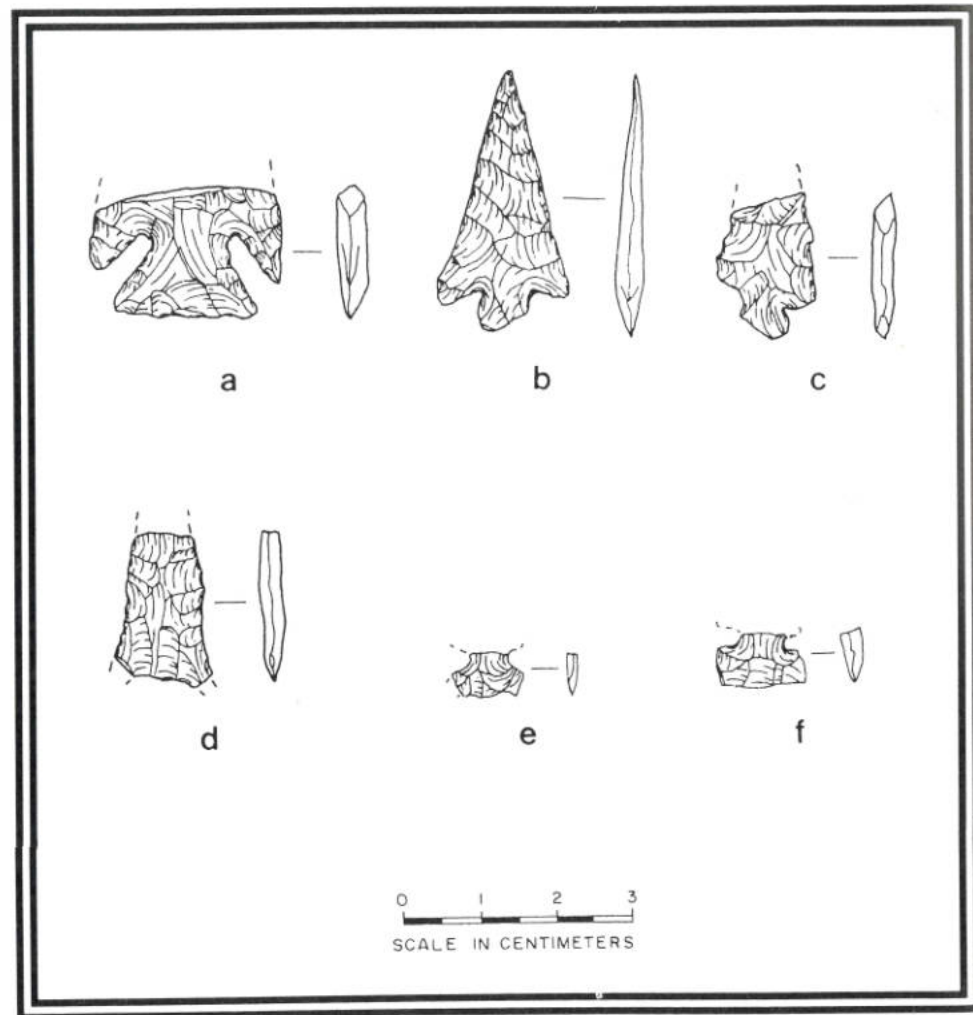


Figure 3. Projectile points recovered by Alpine Archaeological Consultants at site 42GR2232.

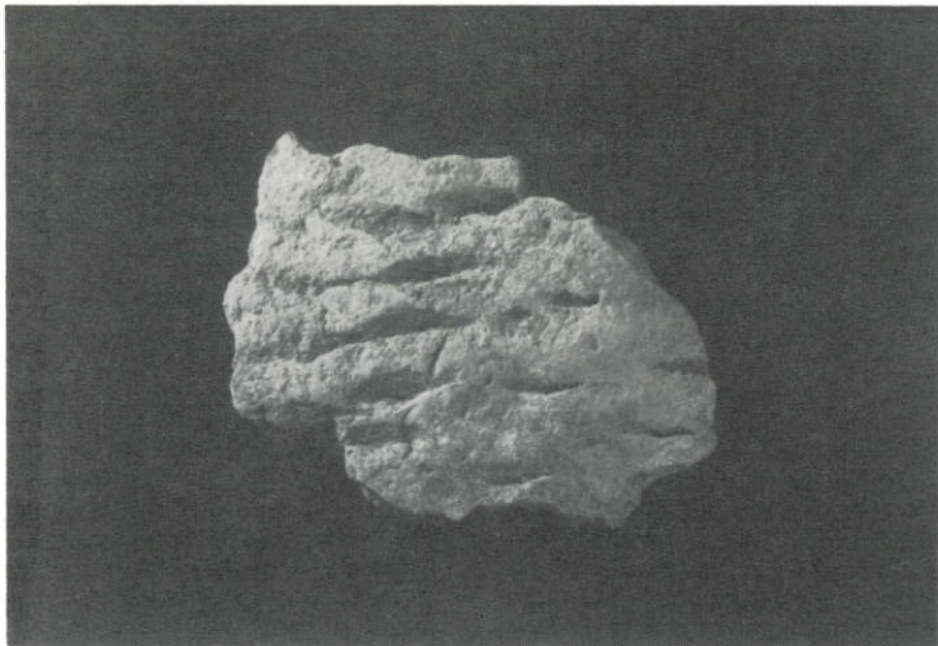


Figure 4. A corrugated brownware pottery sherd discovered at site 42GR2236, which is possibly the earliest Numic (Ute or Paiute) site thus far excavated in southeastern Utah.

by Carbon-14 dating. The projectile points recovered at the site during the excavation are small, unnotched points with concave bases, referred to as Cottonwood Triangular points (Figure 5). They are generally contemporaneous with the Desert Side-notched points recovered earlier at the site. Although Cottonwood Triangular points are occasionally found at Fremont sites, they are more prevalent at Ute or Southern Paiute sites. Carbon-14 dates obtained from the hearth at site 42GR2236 indicated that the site was inhabited around A.D. 1275. This was about the time that the last hold-outs of the Anasazi were abandoning southeastern Utah. The Fremont had evidently left the area about 75 years earlier. Many archaeologists believe that Numic-speaking peoples such as the Ute or Southern Paiute probably entered southeastern Utah following A.D. 1200. Therefore, site 42GR2236 is one of the earliest sites attributed to Numic-speaking peoples in the region.

The information collected at the three sites furthered our understanding of the prehistory of southwestern Grand County. It appears that the Fremont and Numic-speaking peoples utilized the vicinity of State Road 313 in a similar manner. Both groups appear to have used the area on a short-term basis. Small groups of people, probably nuclear families or small bands,

traveled to the area to collect and process locally available cherts into tools, to hunt rabbits and mule deer, and to gather wild seeds and herbs. Even the agricultural Fremont did not attempt to cultivate lands or build substantial villages.

The excavation project achieved its objectives. Important archaeological information was retrieved from three sites threatened by road construction.

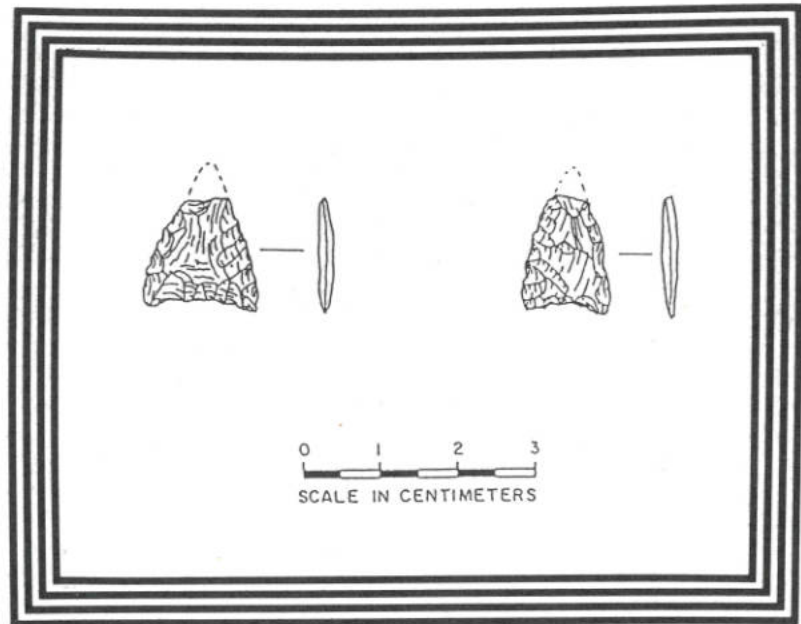


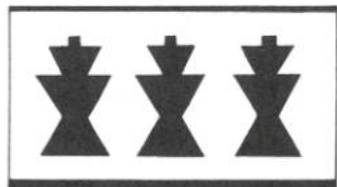
Figure 5. Cottonwood Triangular projectile points recovered at site 42GR2236.

The archaeological field work was conducted early enough in the highway improvement project that no delays in construction were incurred. Data from the three sites were analyzed and were integrated into a technical report for use by land managers, cultural resource managers, and other interested individuals. The artifacts were submitted to the Edge of the Cedars Museum in Blanding, Utah, where they are available for public display or future study.

NOTE: This report was prepared for the Utah Department of Transportation under terms of contract No. 90 0084

ABOUT THE AUTHOR

Alan D. Reed is the principal investigator for Apline Archaeological Consultants, Inc. This group of contract archaeologists works out of Montrose, Colorado.



THE HUNTINGTON CANYON FIGURINES: A Study of Ritual Context

by Jacki Montgomery

INTRODUCTION

Recent archaeological excavations at a small Fremont village in Huntington Canyon, Utah have generated new insights into the Fremont Figurine Complex. The unprecedented caches of clay anthropomorphic (human-like) figurines recovered from several dwellings provides an excellent opportunity for both descriptive and contextual analysis of this little known aspect of Fremont culture.

The Fremont culture (circa A.D. 450 to 1250) has long been acclaimed for its artistic and technological achievements in producing anthropomorphic figurines. Information on these statuettes, which have been found throughout Utah, was first published in 1931 by Noell Morss in *"The Ancient Culture of the Fremont River in Utah."* During the 1920s Morss, then a Harvard University anthropology student, engaged in field work along the Fremont and Muddy River drainages in south-central Utah. Morss focused on many aspects of Fremont material culture, but was most intrigued by the clay figurines he found in the rockshelters that he described as "...a cult of unbaked figurines obviously related to, but more elaborate than, Basketmaker III figurines." His interest in figurines of the Northern Periphery was further spurred by the discovery of the spectacular Pillings group found in a rockshelter on a tributary of Range Creek Canyon, Utah. These he described in detail in his renowned publication, *"Clay Figurines of the American Southwest."*

Compared to the Anasazi culture, hardly anything is known about Fremont religious or ceremonial activities, primarily because Fremont structures lack evidence of ritual features that are

prevalent in Anasazi proto-kivas and classic kivas, such as the sipapu, floor vaults and prayer stick impressions, as well as ceremonial artifacts. Many Fremont researchers have speculated that the anthropomorphic figurines probably played an important role in the ritual institution of the Fremont people, but how and to what extent is still highly speculative.

THE HUNTINGTON COLLECTION

The figurines and associated clay objects found at the Huntington Canyon Fremont Village occurred primarily in two caches or concentrations: Groups I and II. Group I figurines were recovered from a well-preserved burned pithouse (Structure 1) occupied around A.D. 1150, based on tree-ring dates. It contained approximately 15 individuals, most of which were clustered on a narrow shelf constructed along the northeast edge of the interior pithouse wall. Though the artifacts were sealed within the dwelling by the collapsed superstructure, only four figurines in this group were complete. Besides the anthropomorphic figures, other enigmatic artifacts were found on the shelf, including funnel-shaped or cornucopia vessels, miniature "pinch pots" and a rare miniature clay cradleboard.

Group II clay objects occurred in an unburned surface dwelling (Structure 3), radiocarbon dated to approximately A.D. 1105. This group represented a minimum of 16 individuals. Because the dwelling was not "sealed" after its abandonment, the fragile unbaked clay objects suffered displacement and breakage, leaving only 3 complete figurines. This jumbled cluster of clay objects probably were originally positioned in a special place within the household, perhaps analogous to the earthen shelf in Structure 1.

GROUP I AND II FIGURINES - DESCRIPTIONS

The vast majority of the figurines in the Huntington Canyon collection have extended body profiles, obviously modeled from frontal viewing. They are fashioned from untempered clay that was probably collected from the nearby colluvial soils, which have eroded from the surrounding cliffs. The majority of the specimens are of one-piece construction, although some figurines have a "disengaged chin or head," which was separately modeled then carefully attached to the body. As typified in the Fremont Figurine Complex, this collection lacks arms or formalized leg appendages, although individuals with "stump-legs" appear to represent pseudo legs. In upright position the figurines required support and were probably propped up against the pithouse wall, at least in the case of Group I individuals.

The study of Group I figurines delineated two different physical types of statuettes: 1) *Plain Anthropomorphs* exhibit simplicity of form with long tapering bodies and simple eye slits, and lack decorative motifs or adornments. One individual displayed breasts (female) and another had a pinched-in nose (Figure 1, second row). Similar anthropomorphic representations have been termed "ghost figures" in Fremont rock art studies, evoking a supernatural or ethereal persona. 2) *Formalized Anthropomorphs* display more recognizable humanoid traits such as defined rounded shoulders, waists, pinched-in noses, applique "coffee-bean" eyes, and painted motifs and/or adornments, such as earrings or necklaces (Figure 1, first row). The co-occurrence of these two figurine physical types is noteworthy, sug-

gesting that they may have functioned for different esoteric purposes or played divergent roles within the Fremont ritual structure. In the past, it had been suggested that the plain anthropomorphs might be temporally earlier. This is obviously not the case since they were found together in this collection, as they have been elsewhere in Utah.

In both Groups I and II there is a preponderance of female individuals identified by conical breasts, constricted waists and/or "hair-bobs;" skirts or aprons are also depicted (e.g. Group II). Flat chested figurines were presumed to portray males, as they lack such anatomical traits as wide hips and definable waistlines. The pairing of the sexes was not apparent in the Huntington Canyon collection as described among the Pillings group and those excavated from the Old Woman Site. In these classic examples, sexes as well as pairs of individuals were significantly identified by way of dress and adornment. Morss and others suggest

that these elaborately paired figures may be analogous to a pantheon of deities whose pairing symbolizes that of modern Hopi supernaturals (e.g. society impersonations) such as Snake Boy and Girl or Flute Girl and Boy.

In striking contrast, anthropomorphs from Group I and Group II represent different techniques of embellishment. In the former assemblage the majority of the formalized anthropomorphs were decorated with appliques, as well as painted designs, on the face and/or torso. The predominant coffee-bean eyelet is always accentuated with bluish-black pigment. Compared with the Pillings or classic figurines only a small percentage of the individuals in this collection (Group I, in particular) were lavished with decorative appliques. An exception was a complete male (Figure 1, first row) who was carefully decorated with pierced ear pendants that rested upon a continuous clay "string of beads." Covering the lower face was a layer of yellow ochre thought to represent a

mask.

Figurines in Group I were embellished with various painted motifs, most often on their chests; this applied particularly to male individuals. Executed mainly in red ochre, elements included solid triangles and vertical band motifs; a single female displayed a slash. Among the most unique artifacts was a seated or squatting individual (male) with a V-shaped motif extending between chin and waist (Figure 1, first row center). The only seated statuette thus far reported from the Fremont area, it also exhibits a mask motif on its lower face, painted in yellow ochre. Interestingly, these design elements, in particular the mask motif, are reminiscent of anthropomorphic pictographs found east of the Wasatch Mountains and attributed to the Fremont culture. As suggested by others, this type of facial embellishment is of possible ceremonial significance, perhaps symbolizing different personages or supernaturals.

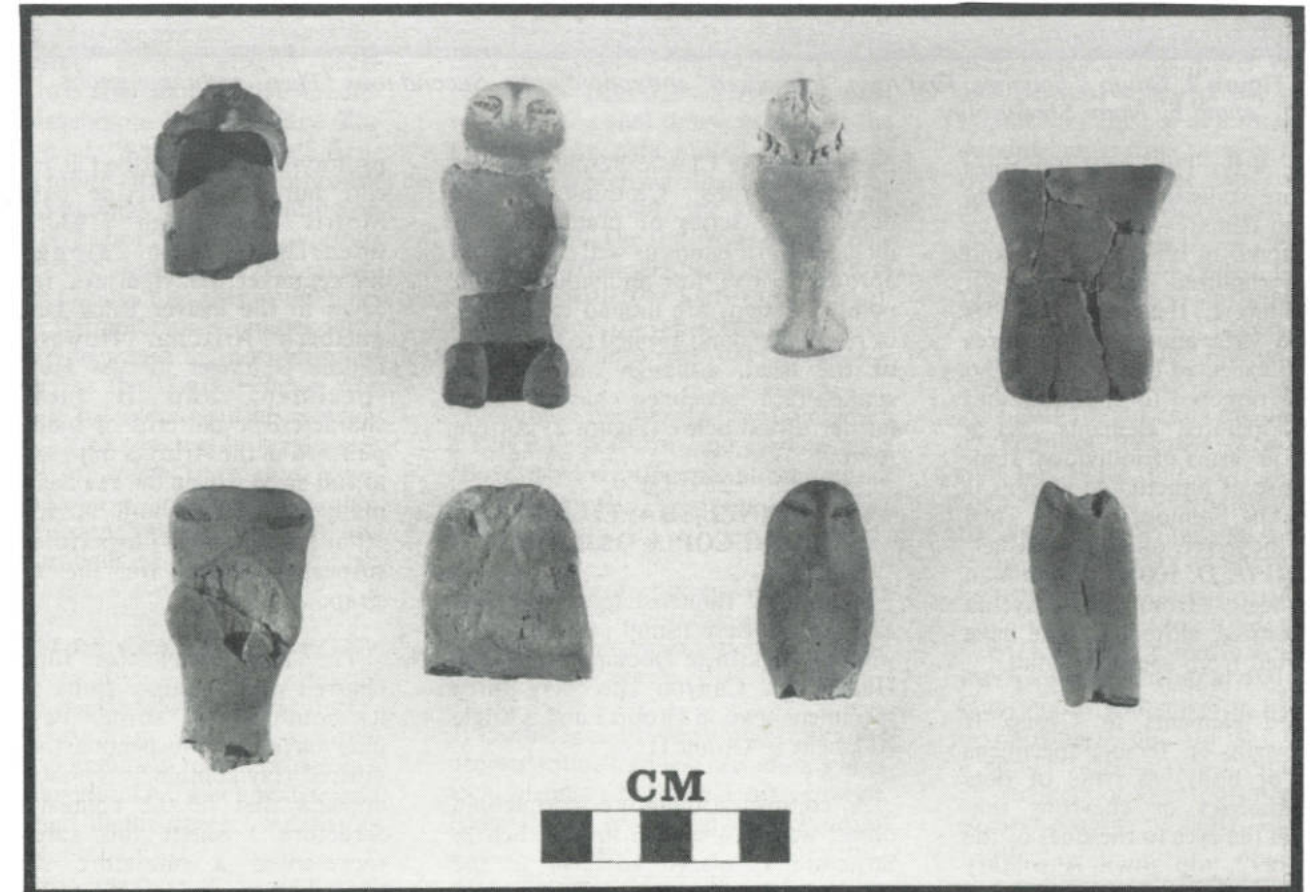


Figure 1. Group I figurines. First row: miniature cradleboard and "formalized" anthropomorphs. Second row: "plain" anthropomorphs.

photo by Norm Shrewsbury

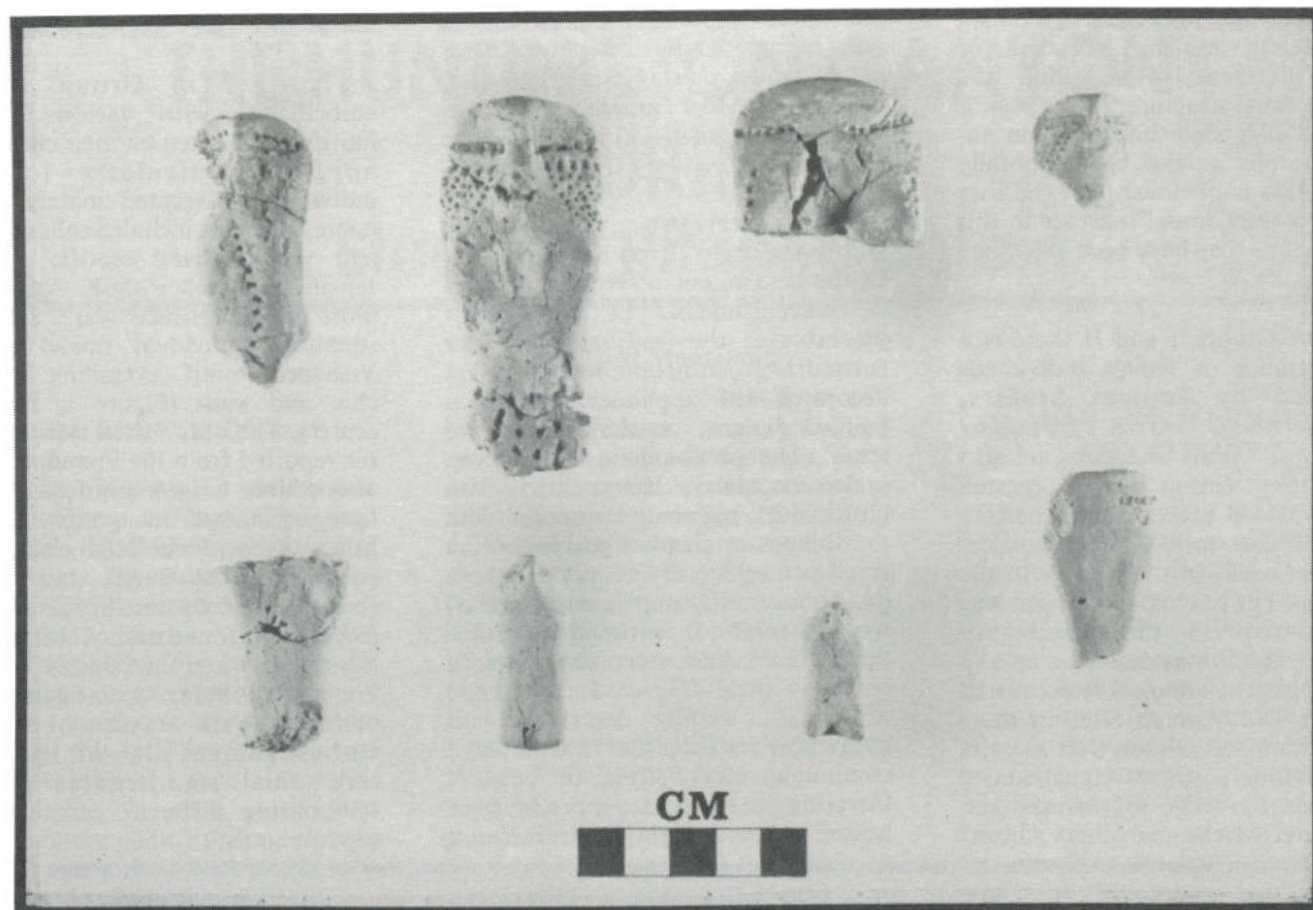


Figure 2. Group II figurines. First row: "formalized" anthropomorphs. Second row: "Plain" anthropomorphs. photo by Norm Shrewsbury

In some ways Group II figurines exhibit more stylistic unity, including slight or no demarcation between the head and torso in both the plain and the more formalized types (Figure 2). Unlike Group I, this assemblage is embellished with anatomical features and designs executed by punctures and incisions as opposed to appliques and elaborately painted elements. As a group and in terms of individual figurines, the use of punctuated designs is unusual in the Fremont culture. They do appear, however, on earlier Basketmaker II/III (A.D. 100 to 700) human effigies, mostly from the Kayenta Anasazi District, although some have been reported from southern Utah.

Punctured elements in Group II occur primarily on female specimens (face and/or body) as rows of dots forming triangles or chevrons that extend from the eyes to the sides of the face (Figure 2, top row). A solitary head of one individual displays a double row of small punctures extending beneath its eyes, which resembles the "weeping eye" motif

present among Classic Vernal rock art anthropomorphs. Clothing is also depicted by series of punctures and includes waist bands as well as skirts or aprons. Those few individuals with painted designs are limited to a black or red/black band applied to the crown of the head, although one peculiar sunken-face specimen has a head border of red ochre (Figure 2, bottom row).

FUNNEL-SHAPED OR CORNUCOPIA OBJECTS

Miniature funnel-shaped unbaked clay vessels were found in association with the figurines. Documented at the Huntington Canyon site were three specimens, two in Group I and a single fragment in Group II.

A complete miniature cornucopia object was recovered from the shelf in Structure 1, placed adjacent to the seated or squatting statuette previously described. This vessel, manufactured from an untempered clay material, is almost identical to earlier Basketmaker

prototypes first described as miniature clay burden or carrying baskets by Morris and Burgh (1930s), who unearthed them along with Basketmaker III figurines from dry caves in the Prayer Rock District of northern Arizona. However, the handle is longer on the Huntington specimen, and it lacks the characteristic patterns of indentations punched in the Arizona objects. Similar to full-sized woven burden baskets, the miniatures from both Arizona and Huntington exhibit the perforations or suspension holes for the tumpline strap.

The tiny vessel was filled with charred whole juniper fruits and near its mouth was a "string" bag, which may have once suspended the fragile unfired clay container. Symbolically it appears that in the context of the Structure 1 shelf, this rare object represented a miniature container related to the procurement/storage of wild food stuff, perhaps functioning as a ritual offering.

MINIATURE CRADLEBOARD

Also deserving mention is the top portion (base was missing) of a miniature unfired clay cradleboard with a "U-shaped" hood or sunshield. This artifact was also placed on the shelf in Structure 1, situated near the whole cornucopia object. A similar artifact was found near Torrey, Utah and called the Lee Cradle (cited in Morss, 1954). This specimen, however, was manufactured from basketry materials instead of clay. Inside this miniature cradle was a tightly bundled formalized anthropomorph with facial decorations.

Prototypes of the Formative culture "babes-in-cradles" are also known from Basketmaker III sites. In particular, a miniature clay cradleboard was extracted from a crushed jar along with figurines and cornucopia objects from Mummy Cave in Canyon del Muerto, Canyon de Chelly National Monument, Arizona. During Pueblo III and IV times, infant human effigies occasionally occurred in imitative cradleboards attached to bowls or jars. The latter type of "babes-in-cradle" figurine resembles the plain anthropomorphs described in the Huntington Canyon collection. Likewise, various "infant" style figurines in this collection (both Groups I and II) would have fitted in the miniature cradleboard, which also possessed an indentation in the frame for the "babes" head. For example, a complete figurine measuring only 2.8 centimeters in height was recovered in Group II (Figure 2, second row) and is very similar to other individuals designated as "infant" anthropomorphs from the Old Woman site.

MINIATURE CLAY PINCH-POTS

Several miniature clay vessels occurred in association with the figurine caches and probably represent special-use receptacles. The specimens found on the shelf in Structure 1 were only

partial and failed to contain any substances. Like the other enigmatic artifacts these were untempered and originally unfired. They may have had a similar function as the present day sacrosanct vessels, cited by ethnographers as used in contemporary Pueblo curing ceremonies. Such small vessels are employed to mix material such as powdered herbs and mineral substances with water, to administer as medicine. These are not only given to people but are offered as items of ritual paraphernalia to figurines.

RITUAL CONTEXT: STRUCTURE 1 SHELF

Archaeologists are known to be highly skeptical about interpretations dealing with prehistoric ceremonialism or ritual activities. In the Anasazi cultural area, various architectural features such as the kiva and dance plaza are recognized as ceremonial in function, since they are ethnographically comparable to modern day Pueblo religious practices. At present, religious or ritual practices among the Fremont are only hinted at, such as when interpreting their spectacular rock art, especially the anthropomorphic figures. The following distinctions surmised from artifacts and features found in Structure 1 provides clues to the function of the dwelling and its contents in terms of ritual context.

- 1) Pithouse interior features, including a bench or platform and earthen shelf above it where the special-use "ritual paraphernalia" was left at abandonment.
- 2) Intentional placement of clay figurines and other enigmatic objects perhaps arranged in such a way to represent a scene or ritual stage.
- 3) Occurrence of other non-utilitarian objects with figurines, including a non-local obsidian Bull Creek arrow point, fragments of baskets, a large clump of

red and yellow unmodified ochre, pinyon pitch, etc.

4) Unusual clusters of procured plant remains, such as the cache of juniper fruits and another of wolfberry seeds. Also clusters of corn cobs and high frequencies of corn pollen, cattail pollen and other plants commonly associated with medicinal/ceremonial uses.

5) Presence of a male adult burial with rich array of grave goods (chipped stone tools, numerous Utah type metates and bone implements) interred prior to intentionally burning the pithouse.

6) Evidence of "craft specialization" based on the prolific amount of chipped stone artifacts, especially used and unused arrow points.

Though not conclusive, the above observations suggest that at least Structure 1 functioned in part as a special-use household for either the storage and perhaps manufacture of ritually important items, or as a shrine for conducting integrative ritually related activities. Based on the inherent fact that the fragile unbaked figurines are non-portable, it would seem feasible that they were stationary, and utilized for singular or multiple ceremonies.

In conclusion, the Huntington Canyon collection provides a unique opportunity for studying not only the role of Fremont figurines at a particular time and place, but more significantly their contextual relationship as an important tool in delineating how the Fremont religious or ceremonial institution operated.

NOTE: Data utilized in this article was gathered and analyzed from the Huntington Canyon Site (42EM2095) investigations and will be published in a comprehensive report for the Utah Department of Transportation by Abajo Archaeology of Bluff, Utah.





Burned pithouse (structure #1) where Group I figurines were found.
photo courtesy of Jacki Montgomery

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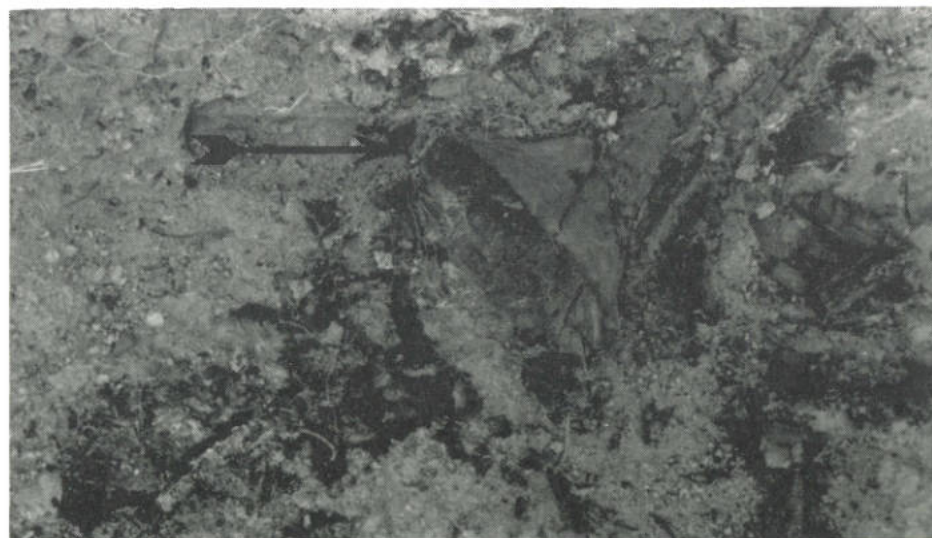
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ABOUT THE AUTHOR

Jacki Montgomery is a professional archaeologist currently employed by Abajo Archaeology of Bluff, Utah. She has worked in the area for about 8 years, conducting field work and publishing reports on the history and prehistory of the Colorado Plateau.

* * *



Miniature burden basket lying in situ on figurine shelf. Charred juniper fruit and remnants of a "string" bag appear near mouth of tiny vessel.
photo courtesy of Jacki Montgomery



THREE TURKEY HOUSE

Halfway down the steep, rockslide cliff
I stop and see it
Perfectly preserved
Square and silent
Stone roomed houses,
Roofed with rounded timbers
Jutting out of hand curved holes.

A wind sighs softly and comes
Around the corner, straight
Into my face.
Snow flakes spin around
Lightly as feathers.
They land on my head and some
Float into my eyes.
Blinking, I stare into the shadow cave.

Standing at the bottom of the
Bare, clear wash
I look upward, past
Hand carved footholds
Now fading away,
Toward one single hole, placed with strategy,
Into an exquisite rock wall.
One single arrow through that hole would
Spin the attacker off his foothold and into
Eternity.
Three Turkey House, your name is Defense.

No individuals come out to me
Here we are all one.
There is a connectedness present,
Life, death, victory, loss
There is no division.
Art is earth, sky, and seasons.
I have seen firelight on faces,
I have seen moonlight on water.
Now designs of countless sherds dance off their splintered shells
They dance before my eyes
And into my soul.

Black and white
Orange, red
Zigzag, swirled, whorled,
Dotted, and thin lined
They speak of Woman long ago
Knotted hands, caked with red clay
Expertly forming, then
Exquisitely painting Designs
With thin chewed yucca brush, dipped in beeweed.



Beside the sherds I see piles of
White-shiny beads
Smoothed by unknown hands
Through countless generations.
They come from the sea, to this desert land.
They sing to the sky, their ancient songs.
Thousands of miles they have traveled
Carried in Hunchback's pack,
Gifts and lures for countless women.
Their journey is not yet complete.

And suddenly I see one perfect darkly red
Arrowhead
Lying before me on a small stone.
The Holy People have sent you a message
Whispers my Navajo friend.
You must pick it up and breathe from it
Four times.
You must give something back in thanks
To Mother Earth.
Something from you.
Now you will be protected by Them.

Shaken from reverie I see
Big snow coming down, now heavy,
Blanketing the silent village of stone.
It blurs and mists all form.
A death knell is coming with the wind.
A high and keening sob
A cry for what is long gone.
We turn and stumble over
Slick, snow covered river rocks.
It is time for us to leave,
Climb out the steep red cliffs.
Leave only the spirits
One red brown Coyote
With Raven protectors
In this silent shadow world.

Nancy Cottrell Shanaman

Anasazi Roads In Southeastern Utah

by Winston Hurst, Dale Davidson
and Owen Severance



Aerial view of Cottonwood Falls showing prehistoric road segments (1 and 2), great kiva (3) and greathouse mound (4).
photo by Winston Hurst

DISCOVERY...

For many years, archaeologists have recognized the existence of an ancient Anasazi "road" system in north-eastern New Mexico. During the past two decades, over 600 miles of these formally constructed thoroughfares have been documented in the San Juan Basin and adjacent areas surrounding Chaco Canyon. As archaeologists have become attuned to the often subtle remains of these roads, preserved segments have been identified over an ever widening area.

Within the past two years, archaeologists have formally recognized and documented prehistoric road segments north of the San Juan River in what is now Utah. Definite segments have been identified in four of the major northern tributary drainages to the San Juan, and the search has just begun. One road can now be traced intermittently for nearly thirty miles.

The Utah roads are similar in most respects to their much-publicized counterparts in New Mexico and are associated with similar kinds of architectural features. There is no longer any doubt that an elaborate and formal road network linked various Anasazi settlements and special sites in southeastern Utah and probably throughout the Four Corners area.

Archaeologists were not the first to recognize these ancient trails, either in New Mexico or Utah. Although the roads received little attention until the 1970s, Navajo Indians had pointed them out to archaeologists in New Mexico during the early 1900s. Likewise in Utah, Albert R. Lyman,

the venerable "First Settler" and prolific chronicler of San Juan County history, recognized several road segments in South Cottonwood Wash drainage during his boyhood and young adult years. One of the segments was shown to him by Jim Mike, a Ute Indian. It was Lyman's accounts of these roads that inspired the early morning airplane flight that led to their rediscovery and recognition by archaeologists in July, 1988.

DESCRIPTION...

Like their New Mexico counterparts, the Utah roads can be extremely subtle and hard to see. Some segments are only evident to sensitive eyes, but others are very well preserved and clearly evident. The roads are most often recognizable from the air at times of low sun angle, appearing as linear shadowed depressions from fifteen to fifty feet wide. Like modern roads, they were cut through the crest or edges of small ridges which they crossed. There is evidence of filling and possible bridgework in some areas where they crossed low spots or washes. When a

road climbs over a cliff, it is often marked by large pecked steps, frequently with supplemental hand holds.

The prehistoric road swales are "U" shaped in cross section, while modern roads across the same terrain are usually (though not always) identified by the two tracks left by wheeled vehicles. Also, prehistoric roads tend to be wider and more weathered than historic roads or bulldozed mineral exploration trails. Unlike modern vehicle roads that must meander in order to provide the inclined ramps essential to wheeled travel, the Anasazi foot roads run relatively straight with little concern for topography.

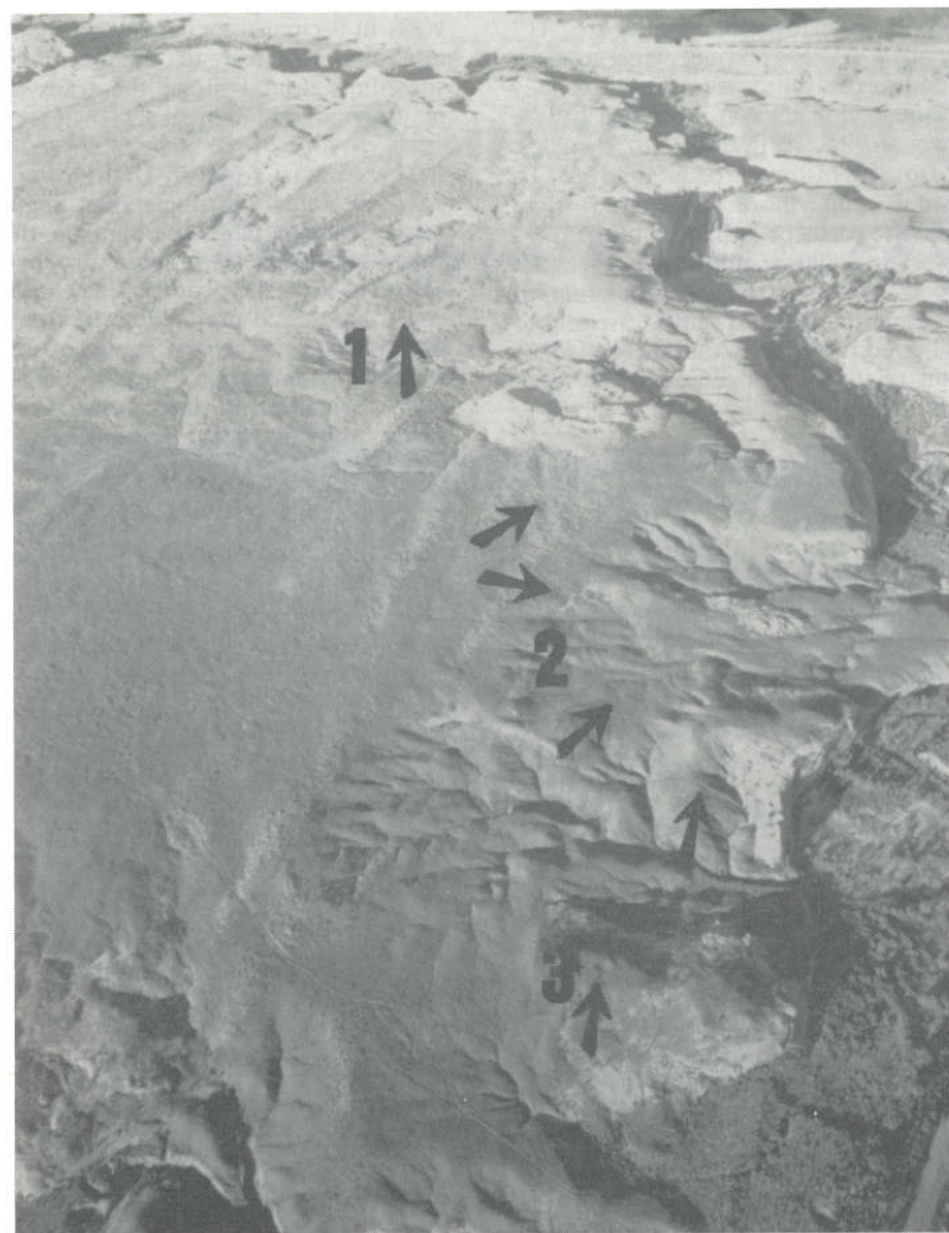
In Utah, as elsewhere in the Four Corners area, the prehistoric roads often connect major Anasazi settlements. These settlements frequently boast a large rubble mound which is the remains of a "greathouse" or multi-storied building with massed rooms and enclosed kivas (special rooms, usually underground and circular, probably ceremonial). Great-house communities also often include a

large surface depression caused by the collapse and filling of a forty- to sixty-foot diameter "great kiva." Shrine-like features consisting of low masonry walls in a circular or horseshoe shape up to thirty feet in diameter are sometimes found along the trails at major topographic breaks.

The Anasazi roads in Utah are not yet well dated. Artifacts that might help us assign dates are rare on the roads and could have been dropped before or after the period of the road's construction and use. While the roads likely follow the general routes of ancient trails predating Anasazi times, their formalization into constructed roads probably took place during the last several centuries of Anasazi occupation, before the abandonment of the area around A.D. 1300. At least some of the Utah roads may have been in use by A.D. 900, at the end of the period known to archaeologists as "Pueblo I." This conclusion is based on the association of road segments with substantial settlements and one isolated great kiva dating to the late 800s.



Oblique view of a prehistoric road in San Juan County.
photo by Winston Hurst



Aerial view of a great kiva and road swale, with historic dirt road (1), prehistoric road, (2) and great kiva (3).
photo by Winston Hurst

DILEMMA...

The function of the Anasazi roads is far from clear. Certain archaeologists argue that at least some trails were utilized for long distance transport of commodities, including building material and trade goods, and possibly

for the movement of information (using runner-messengers, for example). Others argue that most roads are localized phenomena associated with greathouses and represent monumental public works whose main function was to reinforce the community's organizational bonds. Still others see the roads

as ceremonial avenues used for ritual processions. It is very likely that all of these interpretations are correct: Different roads may have served different functions; the same road may have served diverse functions at different times; and road construction for any purpose would have certainly served to organize and reinforce the community's social order.

At this early stage in the research, it is possible to say that the existence of roads in southeastern Utah is causing major rethinking about Southwestern prehistory. The finding of roads and greathouse communities in areas far removed from the Chaco is forcing archaeologists to recognize that the prehistoric Southwest was much more integrated than once thought. The roads are fundamentally essential to our growing understanding of Anasazi trade, economy, social organization and possibly religion. They are the physical evidence of far-flung social and economic ties and undoubtedly played a crucial role in the spread of a wide variety of beliefs, ideas, behaviors, art styles and so forth.

The surviving prehistoric road segments are often subtle and extremely vulnerable to the accelerated erosion caused by foot traffic, heavy grazing and especially wheeled vehicle traffic. The few artifacts on them are critical to the determination of the roads' age and function. Casual collection or rearrangement of artifacts and increasing foot or vehicle traffic in the vicinity of the roads will distort or obliterate the archaeological record and obscure critical information. For these reasons, the public is not yet encouraged to search out or visit prehistoric roads, pending formal documentation and systematic examination by archaeologists. However, hikers, bikers, hunters and jeeps should be alert for anything that might possibly be an ancient road. Anyone who finds a suspected road remnant is urged to carefully avoid any impact to it and to promptly report it to one of the



authors of this article, a legitimate archaeologist or publicly funded museum in their area, or to the agency responsible for managing the land on which it is found.

ABOUT THE AUTHORS

Winston Hurst is currently archaeologist/curator at Edge of the Cedars State Park in Blanding. It was his curiosity about the historical descriptions of Albert Lyman's "roads" that led to their rediscovery and recognition. Dale Davidson is the Bureau of Land Management District archaeologist in Monticello who implemented a "roads" documentation project on the public lands he administers. Owen Severance is an electrical engineer and active San Juan County avocational archaeologist.



A San Juan County Anasazi ruin, near one of the prehistoric roads.
photo by Jean Akens



Owen Severance on prehistoric steps marking a road alignment.
photo by Winston Hurst



THE PATTERSON BUNDLE

A Pre-horse Ute Subsistence Kit?

by Bruce D. Louthan



INTRODUCTION

Prior to contact with Euro-Americans, the Ute Indians were hunter-gatherers who traveled on foot. They first obtained horses sometime after A.D. 1600 from the Spanish or other Indians, by purchase, trade or theft. By about 1700, most Ute who wanted them had horses, and the increased mobility had begun to change their culture and lifeway dramatically. The artifact known as the "Patterson Bundle" comes, it is thought, from Utes who did not have horses, hence before A.D. 1700. There are several reasons for reaching this hypothesis even before radiocarbon dates have been attempted. It is the premise for many of the operating "conclusions" offered here.

DISCOVERY

The Patterson Bundle was found by Bryce and Margaret Patterson in 1984 in the Book Cliffs northwest of Crescent Junction, Utah. It was discovered in a small overhang buried in juniper bark wrapping.

After discovery the bundle was kept by the Pattersons for about four years. While in their possession, the bundle's contents were inspected and it was shown to friends, but most of the time it was kept in storage. It was given to the Bureau of Land Management in 1988, following Mr. Patterson's death, and is now on display in the foyer of BLM's Moab District Office.

DESCRIPTION

COVERINGS: The bundle is just

that, not a pouch or sack. The outer wrapping is made of a worn leather garment fragment, as is the inner wrapping. Both appear to be remnants of buckskin shirts or the long dress-like leather garments worn by both Ute men and women, and show heavy use and holes from wear.

The outer wrapping exhibits patching and mending. It is elongated in shape and appears to have had pieces removed from its sides to achieve this. One end of the outer wrapping has another piece sewn to it, which possibly served as a lining or innerface at the neck during its previous use as a garment. In addition the ends have thongs or leather strips for the purpose of tying the bundle together. This is the extent of customizing the fragment for its use as a wrapping.

The inner wrapping is of slightly softer leather and has more holes or tears, but no patches. It is roughly triangular in shape with two small portions on opposite sides that are tied off in "pouches," one containing red ochre. While there are seams or at least sewing on this item, its original use is less clear than the outer wrap.

CONTENTS: Between the outer and inner wrappings were four coils of willow bark cut in narrow strips. These appear to have been raw materials for basket weaving.

Inside the inner wrapping were approximately 17 smaller pouches. "Approximately" is used for two reasons. First, some of the pouches had been unwrapped and it is possible that some of the loose pieces of leather

inside the bundle were former pouches. These possible pouches could have contained small items that were loose inside the bundle when received. The second reason for uncertainty is the definition of a pouch. There are at least two corners of larger leather wraps or pouches that tied off to form a separate pouch, and items stuffed inside the end of another. Whether these should be counted separately is debatable.

The bundle and pouches contain a wide variety of items, both raw materials and fabricated or altered goods. Since analysis of all the items is not complete, some identifications and explanations are not yet certain. Also, it should be understood that information on spatial arrangement of the contents is limited, so that possible interpretations based on groupings of pouches or artifacts are necessarily limited. Based on preliminary information thus far obtained, however, some working "conclusions" can be put forward.

CLOTHING: Besides the discarded garment fragments that compose the outer wrappings of the bundle, several other hide items or pieces from clothing are present. These include two worn-out moccasins. They are of different types of leather and are not a matched set. One is of thinner material and is darker brown, while the heavier is lighter in color. Both were worn through and were probably kept merely for mending materials. A small wad of leather was stuffed in the toe of the lighter one.

Two of the pouches appear to be sleeves or leggings tied at each end with

strips of leather. Again, the two are of different leather and apparently fragments of different garments. Inside these are stone flakes or pieces of raw chipping material.

Another pouch, the largest, also contains stone flakes, some partially worked. This item appears to have been made from the front or back section of a buckskin shirt. Its edges were pulled together and tied to each other to form the pouch. One edge of this item is finely fringed.

Lengths of quill-wrapped fringe, not attached to any garment, are also present. It is interesting that there appear to be stitch marks on the outer bundle wrapping where something, perhaps this fringe or other decoration, has been removed.

ADORNMENT: A bone and berry necklace strung on a leather thong is present in the bundle. It appears to be a double strand necklace with the inner strand predominately of bone and the outer string mostly of berries. The bones are probably bird or rabbit and the berries appear to be juniper.

The other item of adornment is dewclaw tinklers. These are sewn separately on a length of leather thong close enough to strike one another in movement and make a small "tinkling" sound. These were used on clothing by both men and women generally in dance and by shaman in ceremonies. Spare dewclaws were strung in nested fashion (i.e. one set inside hollows of the next one, and so on) on another leather thong.

IMPLEMENTS: A horn spoon is perhaps the most intriguing of the bundle's contents. It was made by heating a desert bighorn sheep horn while still green and spreading out the sides to form a bowl. The narrow tip was then hafted to two flat wood pieces to form a handle. The handle was originally wrapped with fine sinew but when one fastening broke, the spoon was crudely repaired with a piece of hide thong. It may have been kept pending more time to do a better repair job.

Stoneworking tools are also present in the form of two deer antler tip flakers and a ball of pine pitch. The antler flakers exhibit considerable use

wear at the tips. The more used one has a cutting groove where it was removed from the antler rack. The other appears to have been broken off without benefit of pre-cutting.

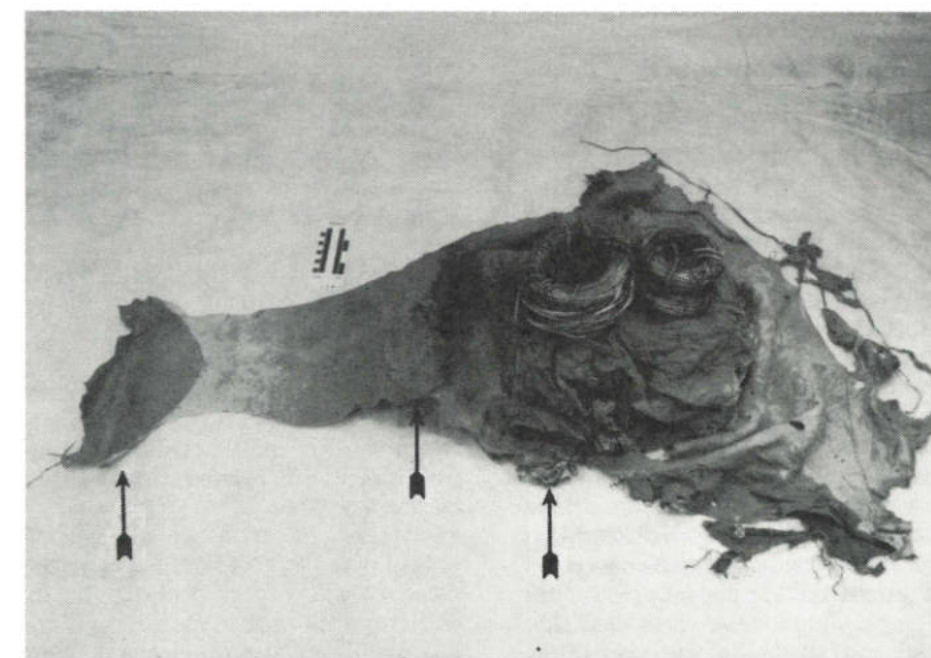
The chunk of pine pitch is quite hardened now but could have been heated to soften. It could then be applied as an adhesive on arrow tips, knives or other hafted items. Fresh pine gum was also occasionally chewed by the Utes and even used as a poultice on wounds.

Two knife fragments and a reworked projectile point are also in the contents. All three are manufactured from whitish translucent chert, often called chalcedony. Since there is an abundance of that type of material in the Summerville formation near Moab, it is quite possible that the material was obtained locally. It is also possible that these pieces came from the same cobble since chert composition and color may differ within the same rock. The larger fragment is a square-based knife (biface) with a broken tip. The smaller item is the tip from a different biface, slightly lighter in color.

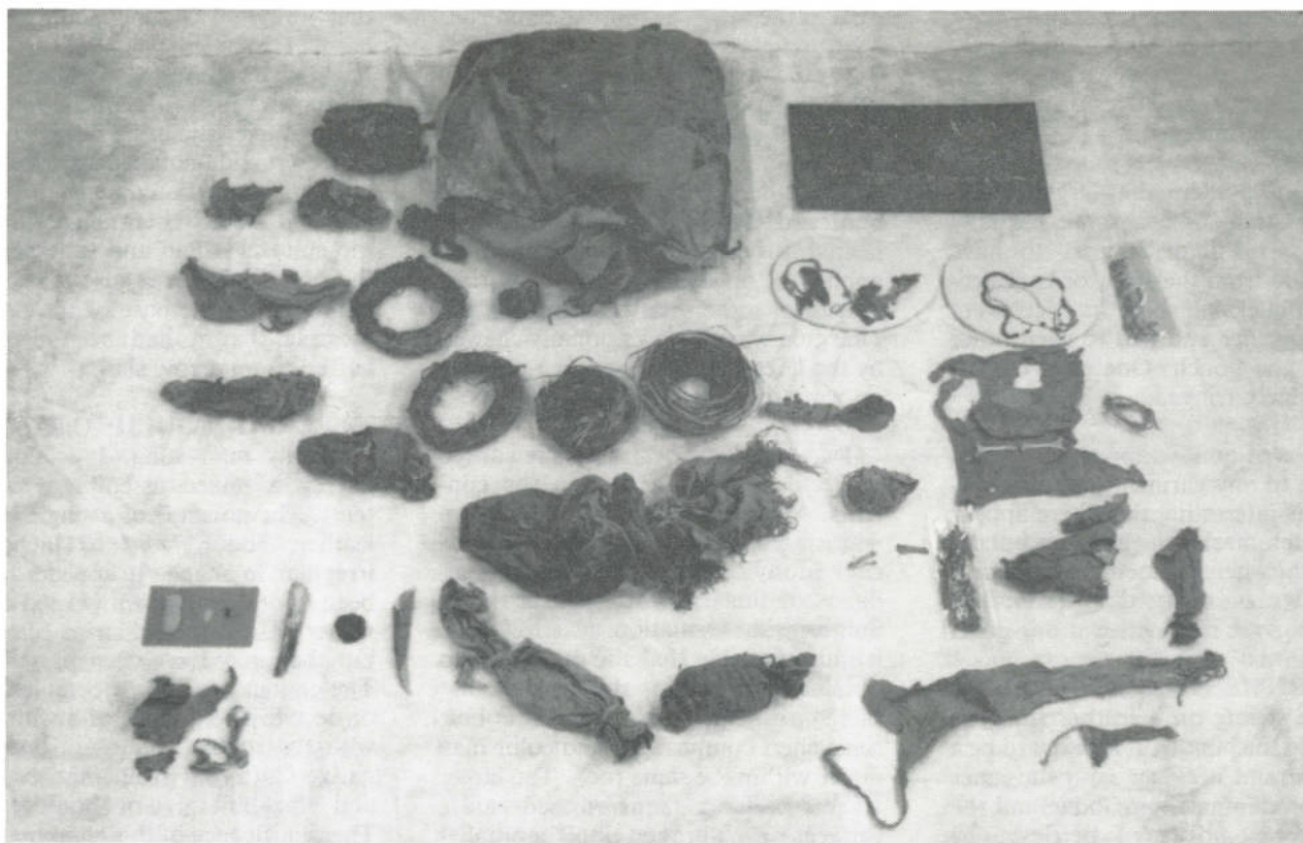
The arrow point is small and resembles a Desert Side-notched type

that the late Numic Indian groups used. However, its sides have been reworked, altering its original shape. Moreover the base is concave and lacks the characteristic basal notch prevalent in Desert Side-notched varieties. Still, until a radiocarbon date is obtained, it is one of the better temporal clues as to the cultural origin and time period of the bundle. There is also a residue of pine gum on the base of the point indicating that it had been previously hafted to an arrow shaft.

SPECIAL POUCH: One pouch is especially interesting. It is unique in having a mixed assemblage of contents. The pouch is of a single piece of leather, about 7 by 10 inches and irregular in shape. It appears to have been bound by its own twisted corners rather than detached strips of leather, but they may have been present also. The contents include a complete ovate or double edged knife of a white chert with red streaks, the main body of a native Cutthroat trout, and two right and left rabbit thigh or shoulder bones. The significance of this combination, if any, is unknown as yet. It is possible that it was intended as a ceremonial grouping (offering?) or possibly they are from an as-yet-unidentified food processing activity.



Patterson bundle with outer wrapping pulled back to show bark coils on top of inner wrapping. Note garment innerface on left end, repair below and to right of scale and small edge pouch at bottom center.
photo by Bruce Louthan



*Patterson bundle with contents displayed. Inner wrapping not shown.
photo by Bruce Louthan*

MISCELLANEOUS POUCHES:

The balance of the pouches are smaller and contain various items. These include dock plant roots and other tubers. Dock contains a high concentration of tannin, used in the tanning process. The other root types are unidentified but could have served a medicinal or technical purpose.

Two or more pouches contained small bones believed to be rabbit foot bones. These may have been used in jewelry or for needles. Judging by the number that were loose when the bundle was received, another pouch may have contained these. It is fair to say that these small bones must have been useful to the bundle's original owner(s).

One pouch contained small feathers. Some are down and none seem large or straight enough for use on arrows.

A piece of rawhide wrapped in a funnel shape contains what appears to be a deer's nose. Its significance or why it is wrapped in rawhide is unknown.

One small pouch contains pieces of

red ochre, prized by many aboriginal groups but especially the Ute for personal adornment and ceremonial use. One of the edge pouches on the outer wrap also contains red ochre.

MISCELLANEOUS TIES, WRAPS AND EMPTY POUCHES:

Seven scraps of leather comprise the rest of the artifacts. These were probably separate pouches or originally used as ties on other ones. Through handling they may have become separated from their original contents or wrappings. These are the likeliest items to be submitted for a radiocarbon date sample. Unfortunately in that process the items chosen would be destroyed, so the choice must be made after all information potential is exhausted from those pieces.

OTHER CONTENTS: Various pieces of willow bark broken from the tied rings, strands of cedar bark and other chaff are also present in the bundle. These have been saved for possible identification and analysis.



INTERPRETATION FROM INTERNAL EVIDENCE

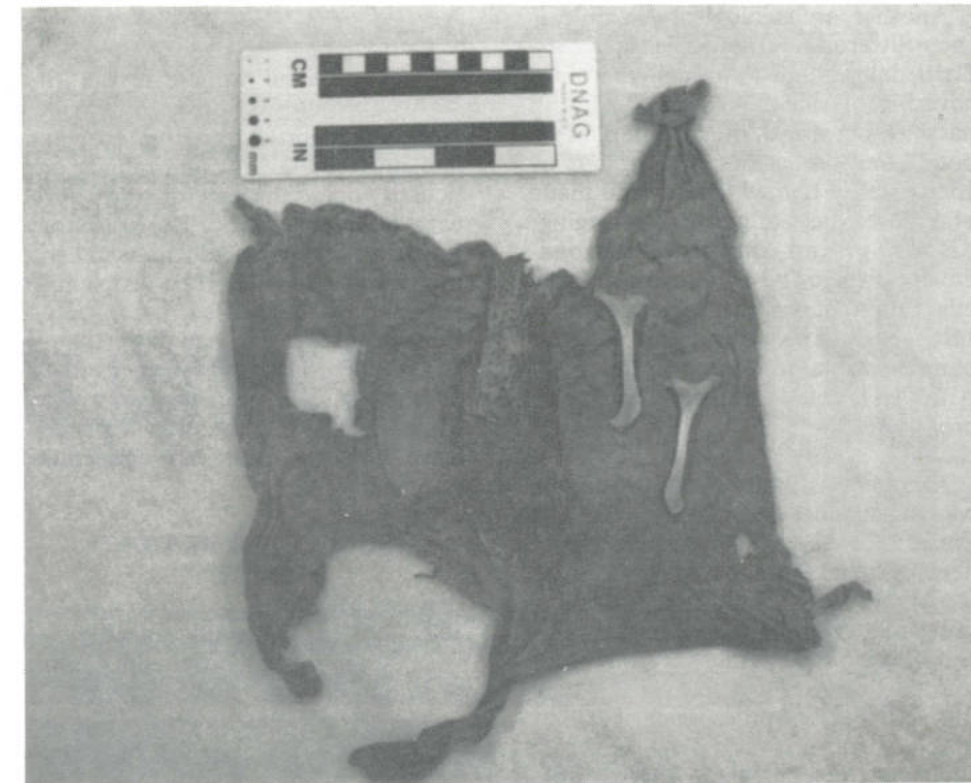
FUNCTION: The contents of the bag appear too varied to be a shaman's bundle. Moreover, as one colleague pointed out, there appear to be items associated with both men and women's activities. This is suggested in that the willow bark coils were usually considered women's materials, while the stoneworking materials were most often associated with men. In fact, the bundle may have originally been two or parts of two bundles. Due to the press of time or other problems, a couple traveling through the area may have decided to cache some of their burdens and combined them. Rather than open the inner bundle and rewrap everything together, the willow coils were simply placed on top and another wrapping added. Of course this reconstruction is speculative but has good foundation.

The bundle can best be characterized as a subsistence kit because it contains items useful in various ways for eking out a living and sustaining life. The variety of contents suggests that the bundle contained items not necessarily

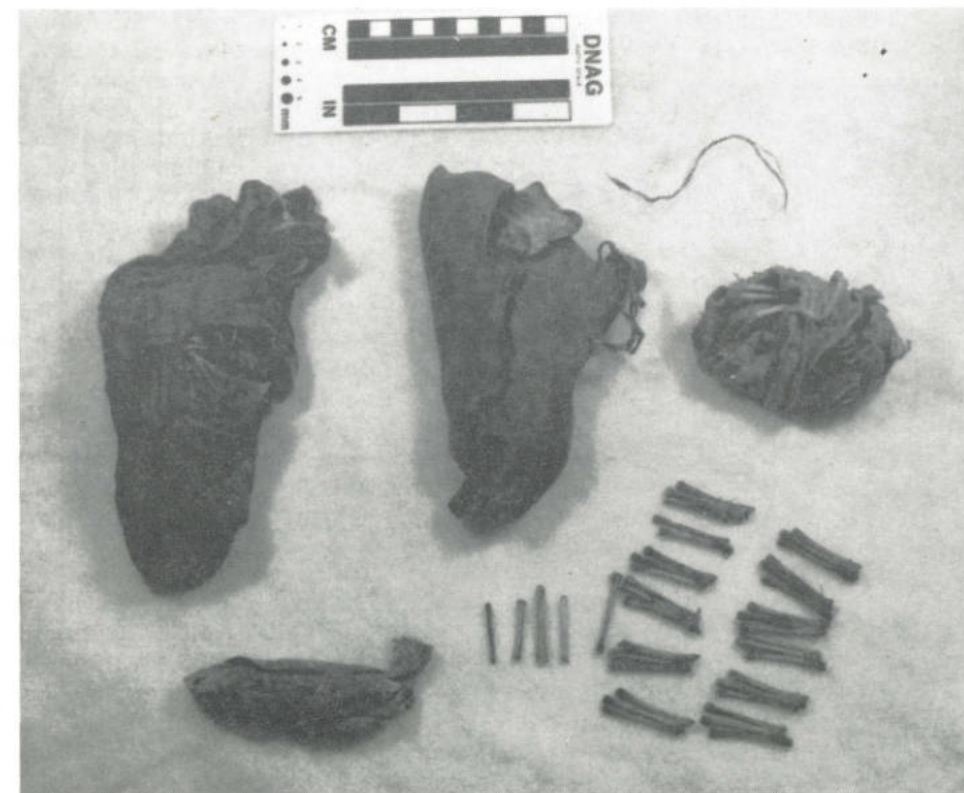
special or ceremonial. Also in the apparent absence of a burial, this does not appear to be a grave offering. Although there are pieces of red ochre present, this was commonly used by others besides shaman, and the special pouch with its dried fish, knife and bones is not compellingly ceremonial. Of course we should always remember that much, some would say all, of primitive lifeways were conducted in a "sacred" context that we are unfamiliar with in our modern secular world.

ORIGIN: The people who created this artifact were probably quite mobile. They were also excellent leatherworkers, since much of the leather is well tanned and sewn. These facts together with the admittedly weak connection of the projectile point type suggest that the original owners of the bundle were Utes or the people we call Utes.

DATING: Without artifacts unique to a given period or a chronometric date such as radiocarbon, it is difficult



*Pouch with unique assemblage of double-edged knife, dried fish body and two rabbit bones.
photo by Bruce Louthan*



*Pouches of rabbit foot bones. Loose bones still show original arrangement in foot.
photo by Bruce Louthan*

to assign a firm date or culture to a find such as this. However, due to the mere fact that such a relatively light burden with still usable items was left for no apparent reason other than that it must have been a burden or at least a bulky load, it is postulated that this item predates the acquisition of the horse by the Utes. This would place it before about A.D. 1650 and no later than 1700. After that time such a burden would have been carried easily on a horse.

EXTERNAL COMPARISONS

Most of the available anthropological literature on bundles is about shaman or religious (including warfare) bundles. The exception to this is a book about Navajo "jish," which includes mention of a bag formerly carried under the arm by some males. It held miscellaneous items and was reportedly carried under a different arm than a shaman's bundle so as not to be confused with them. The Patterson bundle could best be compared to that kind of Navajo bag or to a mountain man's "possibles" bag, where miscellaneous items of possible future use were kept.

Another archaeological example is the Sitterud Bundle found near Castledale, Utah. Although the outer covering of that item is rawhide and has carrying straps, the inner large seed pouch has similarities in that it is of good quality tanned leather and made of a reused piece of garment, a legging. Also the general contents of that bundle are diverse and include much lithic material so it was characterized as a subsistence kit also. The Sitterud bundle was carbon dated to mid 1300 A.D., so it could be either Fremont or proto-Ute.

Another possibility is that the bundle was what one anthropologist called "insurance gear." This consisted of items cached around a group's home territory (e.g. Ute hunting grounds) for use at some time in the future. The contents of the bundle certainly contain sufficient raw materials to fulfill this function but other items seem out of place for that use. Lack of other such cache bundles makes this possibility hard to evaluate. And where other types of bundles have been reported from Eastern Utah and Western Colorado, these are as yet unpublished or published with insufficient data.

SIGNIFICANCE

The Patterson Bundle is the first such well preserved prehistoric leather find to be reported from the Moab area and only the second in Utah. It particularly opens the way for study of the early obscure period of Ute prehistory. As such it offers us added insight into long periods of time when people lived and thrived and died here, before Europeans arrived. Anything that illuminates the past may help us in the present, such as the current western drought, for "Those who refuse to learn from the Past...are condemned to repeat it."

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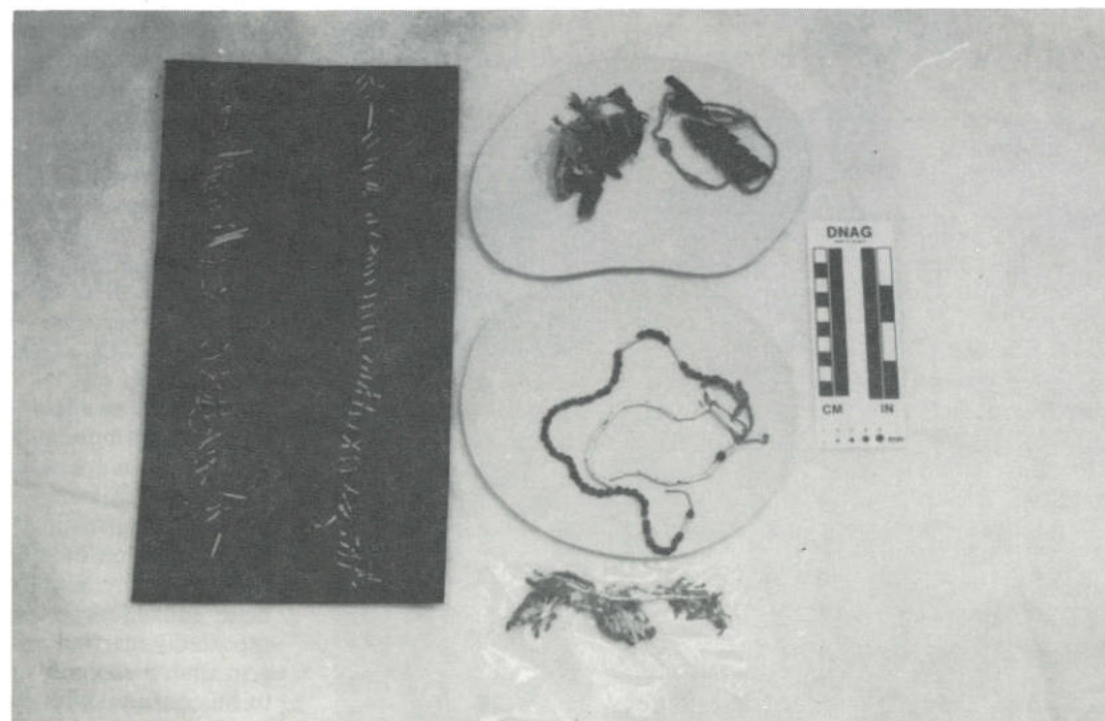
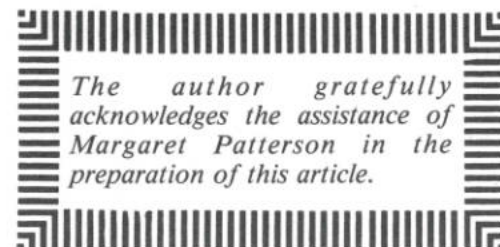
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ABOUT THE AUTHOR

Bruce D. Louthan is the Bureau of Land Management Moab District archaeologist. A member of the Dan O'Laurie Museum board and co-creator of this journal, Bruce is currently President of the Utah Professional Archaeological Council.

The author gratefully acknowledges the assistance of Margaret Patterson in the preparation of this article.



Porcupine quill fringe (left); dewclaw tinklers (upper right); double-strand necklace of juniper berries and bone (middle right); fragments of quill fringe (bottom right).

photo by Bruce Louthan

ANASAZI BURDEN BASKET

by Julie Howard

An exciting discovery was made in July, 1990 by three Moab teen-agers. David York, Travis Hoag and Steve Walden were exploring one Sunday afternoon when they found a small cave southwest of town, high in the cliffs that rim Moab and Spanish Valley. Scrambling around rocks, looking into cracks and caves, David York discovered a small alcove. Peering inside, his eyes trying to adjust to the dim interior after the bright summer sunlight, he spied what he thought was an odd-shaped rock. On closer examination, David realized that what he was seeing was a large basket, of a kind called a burden, or carrying basket.

The boys took the basket home and rinsed off the fine windblown dirt. When wet, a broad zig-zag design pattern became apparent on the cone-shaped basket. The design element is symmetrical, being built up from the bottom of the basket toward the top. This is typical of the earliest known basket patterns, which are simple, symmetrical and formal. It is a coiled basket, made of stitches interlocked on a two-rod-and-bundle bunched foundation. Based on design and coiling technique, as well as the black decoration, the burden basket is diagnostic of the Basketmaker II time period that

dates to approximately A.D. 1 - 500. This makes the burden basket from 1500 to 2000 years old!

The basket is 100% complete, although the bottom piece is not attached. The base is flat, which is unusual in a burden basket. The straps to suspend the basket from the carrier's head are not present but the tumpline holes, where ties of yucca or other plant fiber cords would have attached, are evident. The basket measures 70 x 65 centimeters in diameter and is 55 cm. high.

Basketmaker II is the earliest known period of Anasazi development in the Southwest. During this time domesticated plants, principally corn--and later beans and squash--were introduced from Mexico. The Basketmakers retained many traits that were developed during Archaic times and, although domesticated plants were available, much time was still devoted to hunting and gathering wild foodstuffs. And baskets were the only transportable containers these early people had.

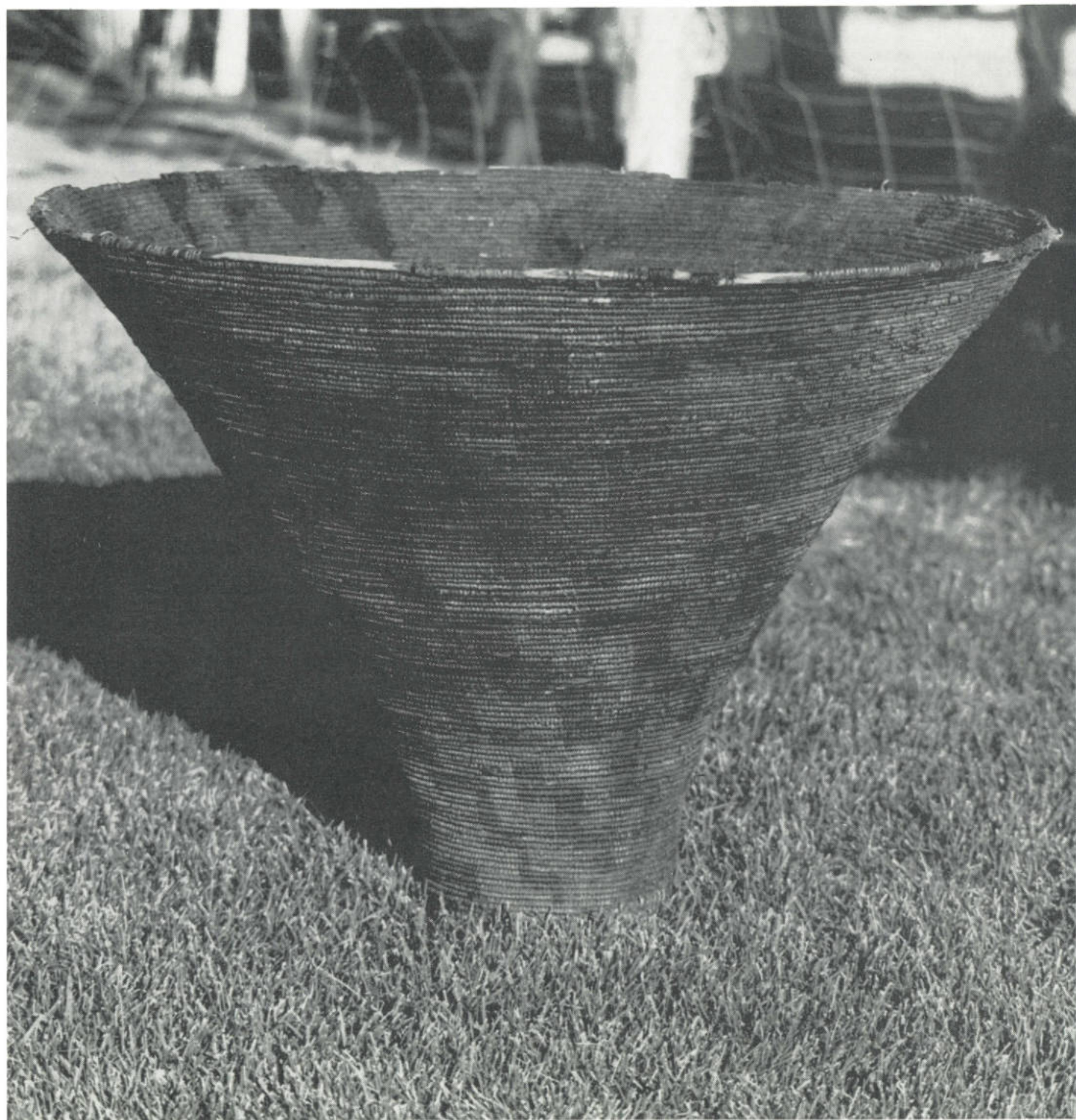
Sites of the Basketmaker period usually contain numerous in-ground storage cists made of upright stone slabs, in which corn and other plants

were placed. Caves were occupied, but in some areas shallow pithouses were constructed and used for living and storage.

With the exception of tool-making, basketry is one of the oldest of all Anasazi craft arts. Pottery making began during Basketmaker III times (A.D. 500 - 700/750), but the early vessels were often formed within baskets and many early pottery designs copied those on baskets.

Even after ceramic vessels appeared, baskets continued to be made, and in greater numbers (perhaps due to population increase). By the Basketmaker III period another color, such as red, was often added to basket design pattern. Throughout time, trays and bowls were the dominant shapes produced.

The burden basket found by the boys was an isolated find. It was probably cached in the small cave by someone who was out collecting foodstuffs and, after the base became damaged, left the basket behind. Perhaps no tool--or time--was available to make repairs. For some reason, the owner never returned to reclaim the basket.



Anasazi Basketmaker burden basket.
photo by Patience York

The boys who made the incredible find turned it in to the Bureau of Land Management archaeologist, then the site was revisited and the context in which it was found was documented. As David York explained, "I thought it would be better in a museum where everybody could see it." Since so few sites have been professionally excavated in the Moab area, this find provides important evidence for occupancy of the region during the

Basketmaker II period.

The basket is on permanent display at the Dan O'Laurie Museum. It is a fine addition to the prehistoric artifacts on exhibit.

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ABOUT THE AUTHOR

Julie Howard is the Grand Resource Area archaeologist with the Bureau of Land Management. She is also an active board member of the Dan O'Laurie Museum.



After the burden basket was found, another local resident interested by the find brought this tiny ceramic replica to the attention of the author. Found around 15-20 years ago, the vessel is of unfired clay and decorated with red paint. It measures 6 centimeters at the widest part and is 6 cm. high. These ceramic replicas are found during the Basketmaker III period in association with burden baskets.
photo by Julie Howard

ORCHARD PITHOUSE

by Bruce D. Louthan

In November, 1988 and April, 1989 a prehistoric pithouse was excavated by the Moab Archaeological Society on the west side of Moab, Utah. The site had been uncovered by sidewalk construction and, though half cut away by bulldozing, appeared to contain significant data about the ancient occupation of the Moab area to warrant excavation.

FIRST IMPRESSIONS

Artifacts from the disturbed surface of the site included stone flakes, two arrow points, and plain gray ceramics. This suggested that the structure might date to the Anasazi occupation, especially between A.D. 450 and 1200, which had produced most of the visible prehistoric remains near Moab. Archaeological sites with partially subterranean structures-- pithouses as they are called by archaeologists--have long been associated with farming peoples in the Southwestern U.S. but only infrequently before that. This seemed logical since the investment of time and labor to build such a complex structure was inconsistent with the constantly mobile nature of hunting and plant gathering peoples. However, in recent years there had been reports of pithouses from pre-agriculture Archaic times (about 8000 B.C. to A.D. 1) from the states of Wyoming and Colorado. Still at the very least, a pottery-using occupation was expected to come out of the dig. What *did* result was surprising and added a new chapter to Moab's prehistory!

THE STRUCTURE

The dominant feature of the site was a bowl-shaped ash and charcoal stain. Upon excavation this proved to be a single circular structure just over 13 feet in diameter.

The top of the ancient structure lay about 19 inches below present ground level. This would represent the approximate ancient ground surface, where the prehistoric people began digging the hole for their home. The floor of the pithouse was originally dug about 37 inches below ground surface into sandy clay alluvial soil. The fill in this "bowl" was of a medium to dark

brown color and included chunks of adobe hardened when the roof of the structure burned. Abundant rodent burrows and alfalfa root casts marked in deep black punctuated the fill, giving it a polka dot pattern at times. The confusion and uncertainty caused during excavation by this mass of criss-crossing intrusions was enormous.

Despite this handicap a clear picture eventually emerged. Several pits extended below the floor. These included two more or less central firepits, one large and two smaller storage pits and a peculiar elongated



Orchard Pithouse as it appeared when Kent Dalton noticed the sidewalk cut had exposed the burned structure.
photo by Jean Akens



Project director Bruce Louthan and pithouse discoverer Kent Dalton during initial profile cleaning.
photo courtesy of Bruce Louthan

but shallow "trench" in the northwest edge of the structure. These pits varied in depth from 5 to 15 inches below the general floor level. The irregular shape, placement and size of these floor pits argued against their use as sockets for posts to support the roof of the structure. All appear to have been possible storage pits, although analysis for plant parts and pollen are needed to identify precisely the use involved. The trench was about one and a half inches deep, and may have been the result of repeated use as a sleeping spot. No internal walls or dividers common in Basketmaker II pithouses were present but these are usually found in the southern half of the structure, which in this case had been destroyed by the construction work.

Just outside the edge of the pithouse were found three definite postholes, a possible fourth, and a fifth projected on the basis of a burned roof beam location. They are 6 to 8 inches in diameter and 2 to 5 inches deep. No remains of the posts were found in place.

Based on the arrangement of the known and projected postholes, the structure would have had between 10 and 12 vertical support posts around the edge. There may have also been

with earth for waterproofing and insulation. "Leaner" poles set close together and also covered with earth would have formed the sloping outer wall, completing the dome shape.

Unfortunately the exact arrangement of the roof beams is not known since the ash stains of only two beams were found, both in the northwest quarter of the structure. There would have been a smokehole in the roof, which may have doubled as an entryway for a ladder. If not, the entrance would have been through the now-destroyed southern half, via an antechamber like that of an igloo.

OTHER FEATURES

Two additional firehearths were found above or outside the pithouse floor. Radiocarbon dating from these pits confirmed that these were later use of the area. One of the firehearths appeared to have been built inside the depression of the collapsed pithouse. The other had abundant ash and charcoal and included a metate fragment. Both hearths were undoubtedly the result of campfires built during visits to the area by later hunters. The site may have rested on a slight hilltop above the nearby creek, before modern leveling for irrigation farming.

several internal supports. However, since the postholes were not slanted in, the external posts were set vertically and may have borne the full weight of the roof. Of course, these posts were joined by horizontal roof beams, and those were in turn criss-crossed with smaller branches and bark, and topped



Orchard Pithouse shows as darker colored soil in this profile shot made early in the excavation.
photo courtesy of Bruce Louthan



Members of the Moab Archaeological Society work with local professionals. Pithouse outline can be clearly seen behind project director Bruce Louthan.
photo by Jack Akens

ARTIFACTS

Important artifacts included four projectile points. Two are small and of a type considered to be early arrow points. Close examination suggests that these would fit well into a Basketmaker II or III context (about A.D. 1 to 450 and 450 to 700, respectively). Unfortunately they come from the disturbed surface dirt pushed on top of the site, apparently from elsewhere.

The other two projectiles are dart points for the short spears thrown by the atlatl, or throwing stick, used before the bow and arrow appeared sometime after A.D. 1. They are of identical stone material, a red-streaked white chalcedony. One, which is classed as an Elko Corner-notched point, was found directly on the floor of the structure in the southwest corner, near the profile. The other is similar but tending more toward side-notching. It was found in the northeast quadrant well above the floor and apparently had been on the roof or the lip of the pithouse at the time of the ancient fire that destroyed the

structure.

The only pottery fragments were from the disturbed soil piles on the site surface and the nearby plow zone. Thus they do not appear to be related to the pithouse. They are plain gray pieces lacking decoration. Their temper is not uniform and looks like the unsorted river sand inclusions typical of the pottery in the Moab area in later times. Unfortunately this is not sufficient to date the potsherds on their own.

Recovery of bone from the site was very limited and did not provide any significant hints as to site purpose. Perhaps more will emerge with completion of laboratory analysis. Similarly, plant use is undefined until flotation and pollen samples can be scrutinized. Funding for this is currently unavailable.

The most unique find of the dig does not relate directly to the pithouse or its period of use. It is a rectangular leather pouch that was intruded into the upper layers of the site in historic times. It is

in remarkable condition for having been buried some 16 inches under the surface, and was found sewn shut. An X-ray suggests that the contents are some type of seed or bean having the appearance of puffed wheat. Since the pouch was found next to a large posthole that still contained wood fibers, a modern date seems likely and preliminary analysis of the construction technique confirms this.

DATING

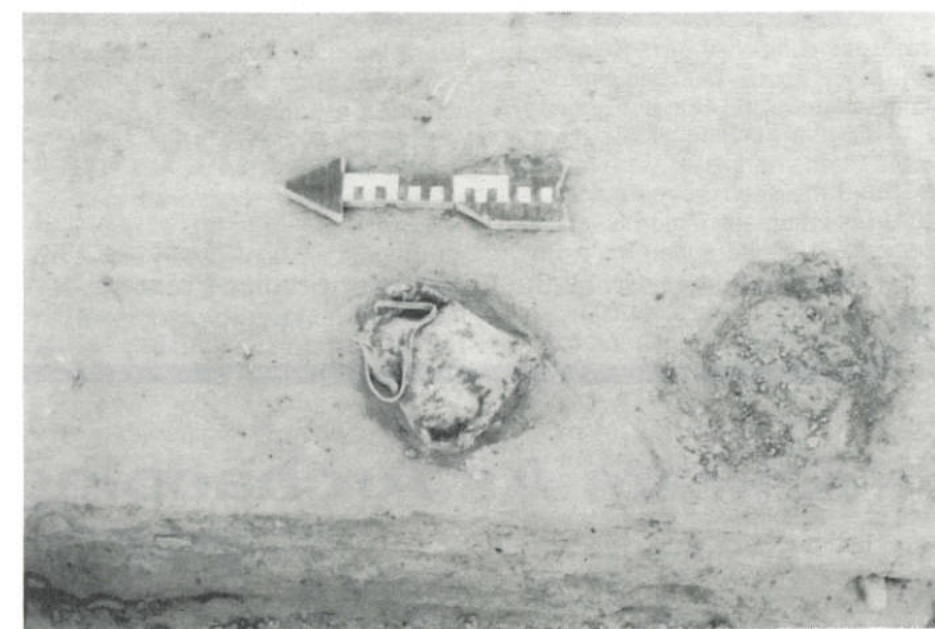
The pithouse structure produced numerous radiocarbon samples, which have been processed. The resulting dates cluster around 300 B.C. The firepit outside to the west dates to about A.D. 240, while the other hearth was made about A.D. 510. All dates have a range of error of plus or minus 70 to 90 years.

MEANING AND SIGNIFICANCE

The fact that the Orchard Pithouse dates to 300 B.C. is of some note. Fundamentally we now know that Archaic peoples occupied the Moab

Valley. While this was speculated previously, the extent of that usage was uncertain. The Orchard pithouse required an investment of time and labor for those who constructed it, indicating that the area was of key significance to the early inhabitants. Whether use was made only on a seasonal basis remains for further study to define, as well as the specific interest in being here. Was the nearby Moab marsh the focus, perhaps?

Of much wider significance, the early date of the structure pushes the known use of this architectural form back into the Late Archaic period, which until recently was not usually thought of as a house-building time in the American Southwest. As luck would have it, at least two *very* structures were reported in central Utah shortly after the Orchard site was dug. One was found during excavations prior to construction of Interstate 70 north of Richfield and dates to about 750 B.C. The other is inside Aspen Shelter in Salina Canyon and dates to 1800 B.C. Although details are sketchy, neither has any external postholes. However, as more of these sites are reported a clearer picture of construction styles will probably emerge.



Historic leather pouch in original find spot. Note the posthole to right; it measures eight inches in diameter.
photo courtesy of Bruce Louthan

The finding of the pithouse suggests some interesting possibilities about Moab's prehistory. First is that more such early sites may lie under the present day city and that the most abundant sites might prove to not be the Pueblo II period occupation so commonly reported before. Second,

the later use of pithouse residences in Moab during Pueblo II times may represent continuity with early traditions rather than mere outdatedness on the Anasazi cultural edge. Third, the unusual pottery temper tradition hereabouts (i.e. unsorted river sand) may have early roots also, perhaps dating to Basketmaker III times. Of course, more sites of that time period with pottery present must be found near Moab before that idea can be seriously probed. Care must be exercised not to make too much of this since a similar temper tradition exists along the San Juan River Valley. Perhaps it is just laziness on the part of the potters, but it is unusual and therefore important to tracing trade and people movement through pottery evidence.

Finally, it is hoped that more information on Archaic or even earlier pithouses will be uncovered in the near future. It is exciting to begin to get a more complete picture of those earliest periods than has been reflected in the cave sites that have mainly revealed Archaic prehistory up till now. Perhaps one day we will even trace the pithouse-building tradition back to eastern Russia where mammoth hunters built them at least 20,000 years ago. Stay tuned! The story of the Past isn't all told yet.



Moab Archaeological Society members Margaret Patterson and Greg Nunn taking a burned wood sample from a fire pit for carbon dating.
photo by Jean Akens

QUATERNARY CORNER

A contribution from the Quaternary Studies Program of Northern Arizona University in Flagstaff.

Packrats As Archaeologists' Helpers

by Saxon Sharpe

INTRODUCTION

Early southwestern explorers and settlers recognized packrat nests or middens and described them in their journals and diaries. Lieutenant James H. Simpson, on a military expedition in Northern New Mexico in 1849, wrote in his journal that he observed attached to the rock in some crevices a "dark, pitchy substance agglutinated with the excrement of birds and animals of the rat species." As this material is visually and olfactorily unsavory, it is of little wonder that the scientific value of packrat middens remained unrealized for well over a century.

Since 1964, packrat middens have been used to help reconstruct the past vegetation of various areas throughout the desert southwest. Paleobiogeography (the past distribution of plant and animal species), paleoclimatic reconstruction, and archaeological interpretation have all benefited from the use of data from packrat middens. After a brief look at packrat behavior, this article focuses on how middens have been used to help interpret the archaeological record; specifically, how middens have supplied additional information on incipient plant cultivation, local and regional sources of wood for construction and fuel, and questions concerning resource depletion in Chaco Canyon.

PACKRAT ECOLOGY

Packrats or woodrats (*Neotoma* sp.) are rodents closely related to the deer

mouse. Twenty species are distributed across North America from Nicaragua to the Arctic Circle. These rats eat plants, are nocturnal, and do not hibernate. Packrats build nests, or middens, with materials gathered within an area roughly the size of a football field. Leaves, twigs, pine needles, and cactus spines are common in most southwest middens. Packrats also collect pebbles, seeds and small to medium bones-- in short, almost anything from within their territory that is small enough to transport back to their midden site. Dung from other animals is often incorporated into these nests, possibly to disguise or cover the packrat's own smell and camouflage the midden from predators.

Packrats scurry around and over their nests, urinating and defecating as they move about. Once their viscous urine hardens, it is called amberat, and it makes the exterior of the midden dark and shiny (indurated). This is the type of midden Lieutenant Simpson saw and later described in his journal. Induration helps to preserve a midden's contents. Amberat readily dissolves in water, so indurated middens are found only in dry, protected areas such as alcoves or on the underside of overhanging cliffs.

Packrats may continue to occupy a midden site for generations, and it is estimated that they can collect over 25 gallons of material in a 200 year period. If a midden is built in a dry, sheltered location it may survive for more than 40,000 years, although most middens

are considerably younger. Because packrats collect such a wide variety of materials and preserve them so well, middens are an excellent local repository of past plants and animals. Examination of the contents of ancient packrat nests, and the subsequent radiocarbon dating of these materials can tell paleoecologists which species of plants and animals were inhabiting the area at the time of midden construction.

PACKRAT MIDDENS AND ARCHAEOLOGY

Data from packrat middens have helped to answer major questions regarding southwestern archaeology: When can horticulture be documented for different areas of the southwest? Where were the Chaco Canyon Anasazi cutting timber for construction and fuel? What was the environment like at the time of the Anasazi abandonment? Two Quaternary paleoecologists who have been seeking answers to these questions from packrat midden analysis are Thomas R. Van Devender (Arizona-Sonora Desert Museum) and Julio L. Betancourt (United States Geological Survey). They have reported some fascinating facts regarding the Anasazi culture of the southwest.

For example, corn (*Zea mays*) pollen was found in a packrat midden dated to 3,120 years B.P. (before present) in Canyon de Chelly National Monument, an extremely early date for corn on the Colorado Plateau. Betancourt has ruled out the possibility of contamination

within this sample by younger local corn pollen because a nearby 12,000 year old midden, subject to the same contamination, contained no corn pollen. Corn pollen does not disperse well due to its large size and rapid settling rate so an airborne source seems to be ruled out. This pollen must have been transported to the site by either people or packrats. This find documents the cultivation and utilization of corn from the immediate area and is the first documentation of archaic occupation (7,500-2,000 yr B.P.) in Canyon de Chelly National Monument.

High concentrations of bee-plant (*Cleome* sp.) pollen were also found within this same midden. Archaeological pollen samples from this area have contained up to 50% bee-plant pollen, yet this pollen is rare or absent in most modern pollen samples from within the Monument today. Since bee-plant was an important semicultivated crop for prehistoric southwestern peoples, additional cultural activity is indicated for this area.

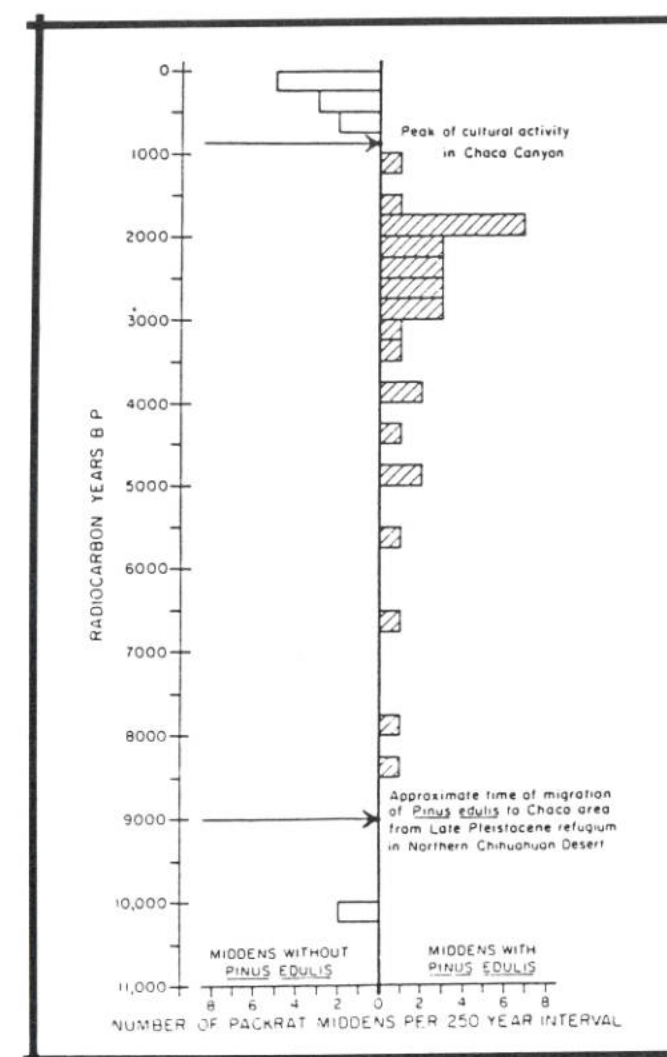
By comparing vegetation from dif-

ferent packrat middens we can sometimes determine local prehistoric environments and areas modified by human activity. For example, middens show that ponderosa pine (*Pinus ponderosa*) grew on both sides of Chaco Canyon during the last 4,000 years, although not abundantly. Today there are only a few of these trees left on Chacra and South Mesas, yet over 200,000 pieces of architectural timber, predominantly ponderosa pine, were used in various prehistoric structures at Chaco Canyon.

Packrat midden analysis supports the theory that the majority of the timber used to build these Chacoan structures must have required procurement and transport over long distances (30-40 km), transport possibly facilitated by the extensive Chacoan "road system." About 970 yr B.P. spruce (*Picea* sp.) and fir (*Abies* sp.) timber began to appear in these building constructions. This event may signal the depletion of ponderosa in the area. These alpine conifer species, spruce and fir, were not found in any local middens, indicating that the Anasazi had to travel over 100 km to the nearest source to fell them. Pinyon pine (*Pinus edulis*) does not grow near the Chacoan sites today. The nearest pinyon pine woodland is about 10 km. away on Chacra Mesa, yet most of the charcoal found in the east dump at Chetro Kettle was pinyon pine. Did the Anasazi haul firewood to Chaco Canyon as they did architectural timber, or were their wood supplies closer to the site during prehistoric times than today? Packrat midden analysis was utilized to help answer this question.

Forty-four middens were collected from areas within Chaco Canyon to determine the past vegetation. On the adjacent figure (Fig. 1) the cross-hatched bars represent middens containing pinyon pine. The open bars represent middens without pinyon pine. Before 9,000 yr B.P. it was too cold for pinyon to survive in the area, hence the open bar at about 10,000 yr B.P. At the top of the graph, just after the peak of cultural activity in Chaco Canyon, about 900 yr B.P., none of the middens collected contained pinyon pine.

Is the absence of pinyon pine from these middens related to human impact or to climate? Although more data



Forty-four packrat middens from localities west of Gallo-Fajada Wash confluences with Chaco Wash, San Juan County, New Mexico. Each bar represents the number of middens dated within each 250-year interval, using the raw radiocarbon dates and ignoring uncertainties. Cross-hatched bars indicate 32 middens with pinyon (*Pinus edulis*), open bars without. Absence of pinyon before 8,300 B.P. is attributed to biological and climatic factors; lack of pinyon after 1,000 B.P. is related to cultural impacts.

throughout the plateau should be collected to fully answer this question, it looks as though the pinyon depletion was most likely due to human impact. Wood was a critical resource for the Anasazi, just as it is an important resource for the Hopi today. It is ethnographically documented that each year the Hopi men traveled farther to gather pinyon and juniper fuel wood, and that after 900 yr B.P. coal replaced wood as a source of fuel. The Anasazi may have had similar problems. Certainly the decline of the Chacoan culture was not due solely to resource depletion, yet it may well have contributed additional stress to their society.

To test potential impact of prolonged fuel demands on the Chaco Canyon woodlands Betancourt resorted to a computer model. He found that a population of 6,000 people living in the Chaco complex during the 12th century could have decimated the woodlands in less than 200 years. With a pinyon woodland density of about 15 cords per hectare, depletion would have occurred between 800 and 1000 B.P.; an analysis fully supported by the data from the local packrat middens.

To determine whether or not climatic change caused this depletion of pinyon pine we need further documentation. Short term climatic variability is not evident in the Chaco midden vegetation chronology. Currently we do not have enough information to determine if a long term climatic change caused this decline. To test this model we would need to determine if pinyon depletion occurred across the Plateau at the same time, indicating climate as the causal factor, or if depletion was local, coinciding with periods of expanded population at different population centers.

The use of packrat midden analysis in archaeological contexts is still in its infancy, but they have great potential to unlock some of the mysteries surrounding the prehistoric peoples of the Colorado Plateau. Information from middens can affect theories on prehistoric climate, agriculture, and resource utilization and depletion. Many questions concerning the paleo-environmental record on the Colorado Plateau remain to be researched. Packrat middens provide an invaluable potential resource for the study of the

past 40,000 years of climatic and biotic change on the Plateau.

SUGGESTED READING

Julio L. Betancourt, Thomas R. Van Devender and Paul S. Martin, (1990) *Fossil Packrat Middens from Chaco Canyon, New Mexico: Cultural and Ecological Significance.*

Eds. S.G. Wells, D. Love, T.W. Gardner (1983) *In Chaco Canyon Country; A Field Guide to the Geomorphology, Quaternary Geology, Paleocology and Environmental Geology of Northwestern New Mexico.* (American Geomorphological Field Group 1983 Field Trip Guidebook.)

ABOUT THE AUTHOR

Saxon Sharpe is doing graduate work at Northern Arizona University, in the Quaternary Studies Program. Sharpe not only writes or obtains the appropriate articles, but was instrumental in establishing the Quaternary Corner column.



Chaco Canyon, New Mexico.
photo by Jean Akens



Books of Interest

PACKRAT MIDDENS

by Julio L. Betancourt, Thomas R. Van Devender and Paul S. Martin
The University of Arizona Press
Tucson, 1990
470 pgs., Illustrated
\$55.00

The study of packrat middens is becoming a valuable tool for reconstructing paleoecology and prehistoric lifeways in the Southwest. This book is an ambitious compilation of recent investigations of fossil records from the United States, Mexico, Africa, the Middle East and Australia.

These contributions from various multi-disciplinary researchers cover both technical and methodological concerns as well as the recent applications of the fossil record from many arid regions. Although this publication is geared to the scientific community, others will find it both interesting and provocative. The book is supplemented with over 200 charts, maps and photographs.

by Keith Montgomery

EXPLORING THE FREMONT

by David Madsen
Foreword by Terry Tempest Williams
Utah Museum of Natural History
Salt Lake City, 1989
70 pgs., Illustrated
\$15.00

EXPLORING THE FREMONT is the eighth volume in the Utah Museum of Natural History's Occasional Publications Series. The work was an adjunct to the Fremont exhibit, and served as the Museum's first exhibit catalog. It continues as an important reference about this prehistoric group.

In the foreword, Terry Tempest Williams cautions readers not to be awed by the artifacts, but to focus on

the information to be learned about this prehistoric culture. Madsen then explores the evidence showing that the Fremont were a diverse group. Written in a clear and interesting style, the book holds your interest and provides valuable information on the Fremont. Included are excellent photos of the artifacts held at the Utah Museum of Natural History.

by Marilyn Peterson

ROCK ART OF THE WESTERN CANYONS

Colorado Archaeological Society
Mémor #3
Denver Museum of Natural History and Colorado Archaeological Society, 1989
184 pages, Illustrated
\$10.95

Only recently has western rock art begun to be seriously examined, and in 1987 artists, archaeologists and others specializing in rock art studies were brought together for a one day symposium. This volume is a collection of the 12 papers presented, and they cover a diverse range of interesting topics related to western rock art.

The need for preservation and protection of our western sites was presented, as well as the connection between Navajo tradition and astronomical constellations and the relationship of Classical Greek and Italian Renaissance art to Fremont rock art. One hotly debated topic covered the controversial issue of certain South-eastern petroglyphs considered by some to be of Celtic origin. Many other fascinating topics were also covered.

by Kate Hogue

BEFORE THE ANASAZI

by Larry D. Agenbroad
Plateau Magazine, Volume 61, #2
Museum of Northern Arizona

Flagstaff, 1990
32 pages, Illustrated
\$6.00

Until a few years ago, most archaeologists denied the presence of early man on the Colorado Plateau. New evidence has forced a re-thinking of this position. This magazine discusses the Pleistocene environment in which early man lived, and asks: Who were these people? Where did they come from? How and when did they arrive here?

The various North American cultural stages are covered, giving in-depth information on the Clovis, Folsom, Plano and Archaic cultures, and the events that would cause a shift from hunting as a lifeway to hunting and gathering. The article is written in a manner that makes it interesting for everyone and is enhanced with drawings and photographs.

by Pat Flanigan



photo by Jean Akens

* CHILDREN'S CORNER *

THE PUEBLO

by Charlotte and David Yue
Houghton Mifflin Company
Boston, 1986
117 pgs., Illustrated
\$12.95

This book deals with Pueblo Indians and the villages they lived in. The Pueblo Indians and their ancestors have lived in the Southwest for so long that it is as if they have always lived there. Their artifacts, dwellings and pottery have helped to tell the history of the land.

The book tells about the dwellings, how they were made and with what materials and stone tools. It also describes pueblo furnishings and the ceremonial chambers known as kivas. **THE PUEBLO** explains how each village was a separate structure and how the communities that took shape answered the social needs of that particular community.

by Sue Taylor (age 15)

CORN IS MAIZE:

The Gift of the Indians

Written and Illustrated by "Alik" Harper and Row, Publishers
New York, 1976
34 pgs.
\$4.50

(for ages 4-8)

Corn - sweet and juicy on the cob; freshly popped; in cornbread, tacos and tamales - delicious however prepared. Corn isn't just for eating either. It is used to make cornhusk dolls, and is found in soap, baby powder, even some kinds of medicine. From the time Indians first cultivated corn, it and people have depended on each other to live and grow.

This book tells how corn was found by Indian farmers thousands of years ago and how it is used today. **CORN IS MAIZE** is a successful blend of social studies, science and history.

by Ruth Trimble

THE VILLAGE OF BLUE STONE

by Stephen Trimble
Illustrated by Jennifer Owings Dewey and Deborah Reade
Macmillan Publishing
New York, 1990
56 pgs., Illustrated
\$13.95

In this book you take a ride with two cowboys, Richard Wetherill and Charles Mason, as they discover the ruins of Cliff Palace in Mesa Verde. The author then describes a year in the life of the "Village of Blue Stone." This story tells how the Anasazi lived from day to day, beginning with the winter solstice observations of Old Bear Claw and the Sun Watcher.

You will have a chance to experience Pueblo ceremonies, work, art and family life. If you have questions about the Anasazi, this book may just answer them.

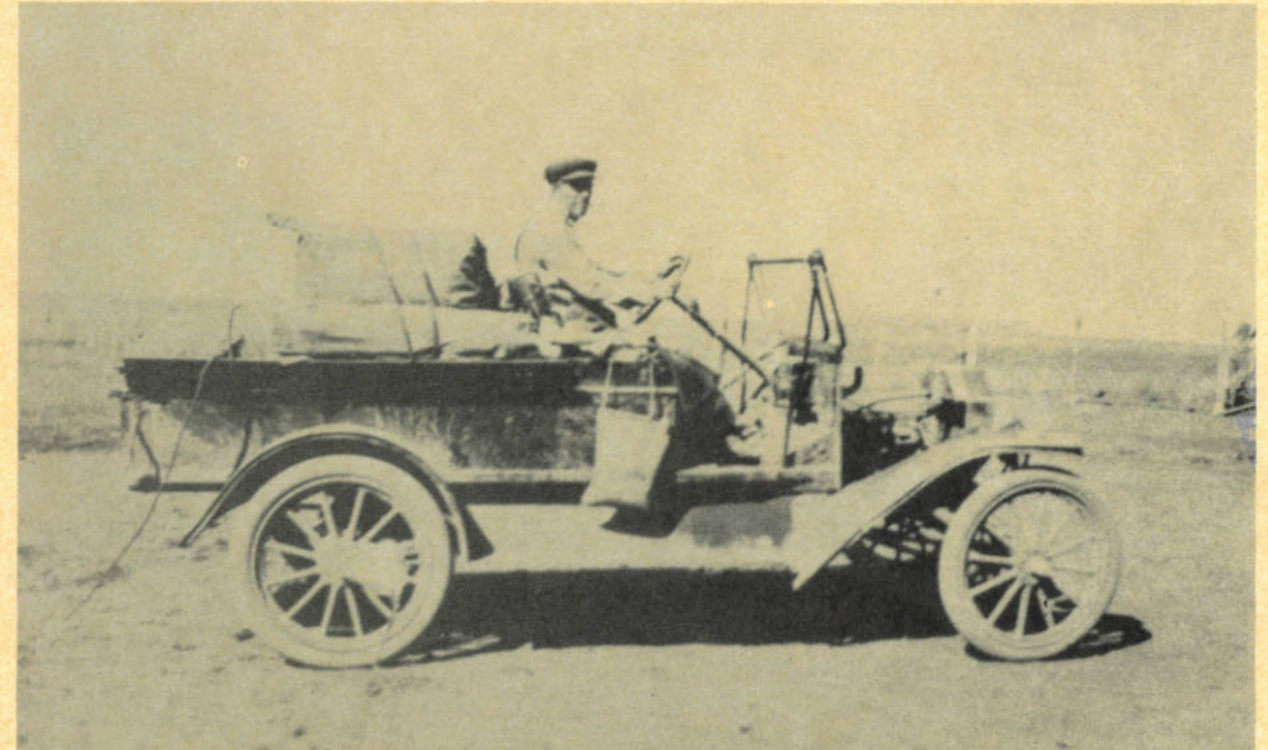
by Skye Fossey (age 11)



NEXT ISSUE...

Transportation, according to Webster's New World Dictionary is "a means of conveyance." But in a region as rugged and remote as Moab and southeastern Utah, to move people and goods from one place to another has always been a challenge. The swift rivers and their tributary canyons, as well as long stretches of waterless desert did -- and often still do -- present nearly impassable obstacles.

The solution to the transportation problems created by the area's isolation makes interesting historical reading. This winter, join *Canyon Legacy* in exploring the subject of **TRAINS, PLANES AND AUTOMOBILES; A Regional History.**



Early auto mailman to Moab; pre 1917
photo courtesy of Dan O'Laurie Museum

BACK COVER: Sketch of Hovenweep Ruin walls by Kurt Balling.

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Canyon Legacy ISSN: 0897-3423

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