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THE ARCHAEOLOGY OF HALL-WOODLAND CAVE

by

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ABSTRACT

A small cave in the foothills just west of Golden, Colorado, has revealed an aboriginal occupation dating from Woodland times. Materials recovered were probably deposited during the Parker or Franktown Phase (Focus), which would date the occupation within the time span of the 6th to 10th centuries A.D.

Comparisons of Hall-Woodland Cave with nearby sites of the Woodland culture are discussed.

DISCOVERY

In the fall of 1964, Mr. Bill Roadway invited the author to investigate an area just west of Golden, Colorado, for possible caves in which prehistoric man might have taken refuge.

Local informants suggested that one large cave was located in Magpie Gulch. Mr. Roadway had done some exploration in the vicinity but felt that further looking in the gulches might reveal some type of shelter. After much walking, up and down the terrain most of one day, we discovered one small cave.

Further searching of the area failed to reveal other caves, so we returned to the only cave known to us and dug a small test pit, 2 feet square and 15 inches deep. The test pit produced one finely-made corner-notched projectile point, several flakes, and some bone fragments. Also, a distinct layer of charcoal appeared at approximately 8 inches below ground level.

In December, 1965, the owner of the site, Mr. Warren D. Hall, granted permission to excavate the site. In expression of our gratitude to Mr. Hall for his cooperation and for recognizing the significance of the site, we have named it Hall-Woodland Cave after the landowner and the culture found there.

DESCRIPTION OF THE SITE

Hall-Woodland Cave is just west of Golden, Colorado, in the SE $\frac{1}{4}$ of Section 29, Township 3 South, Range 70 West. The site is designated 5JF9 in the University of Colorado Museum Archaeological Survey.

The cave (Fig. 1) is formed in a rocky outcrop of granite gneiss (hornblend) of the Idaho Springs Formation—principally gneiss and schist, with some quartzite, gneiss hg gneiss (Van Horn 1957).

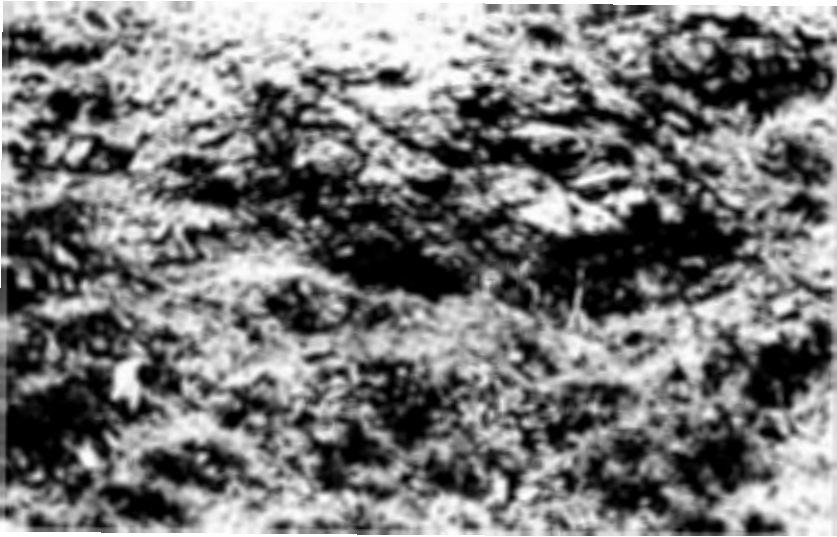


FIGURE 1. Hall-Woodland Cave, looking towards north from south side of Magpie Gulch.

The cave entrance overlooks a small intermittent creek some 30 feet below. The entrance to the cave is exposed to the sun most of the day during the winter months, and one can look down the gulch into the heart of the city of Golden.

The surrounding area is made up of fauna from the two zones of mountain and plain which come together at the foothills of the Rocky Mountains and form a blend of the two zones. Briefly, they are jackrabbit, cottontail, squirrel, coyote, wildcat, skunk, mule deer, meadow mouse, chipmunk, badger, fox, and black bear.

The flora of the area is also a blend of mountain and plain species. Cottonwoods dot the banks of the ravines and the low-lying river banks, with ponderosa pine, Douglas fir, piñon pine, and quaking aspen standing on the high slopes of the foothills. Scrub oak, wild plum, raspberry, a few yucca, and many prickly pear grow in the ravine just below the cave entrance.

EXCAVATION

A two-foot wide trench was laid out from the cave entrance back into the cave 19 feet, with a segment of test trench running to the west wall of the cave (Fig. 2). The test trench was completely excavated to the cave entrance before lines were run out at three-foot intervals to the cave wall, in rectangular grids. The test trench was then used as a walkway in carrying the excavated soils from the inner portion of the cave to an area just outside the cave entrance, where all materials were put through a $\frac{3}{8}$ -inch wire mesh screen. Large and small boulders, which had fallen from the cave ceiling, were mixed with the overburden, which made it hard to control the trenches due to continued sloughing off of the overburden. The grids were excavated in sequence of C-1, C-2, C-3, etc. When excavation of the inner cave was completed, the test trench was extended out to the midden, just outside of the cave entrance. This area was then gridded into three-foot grids and excavated.

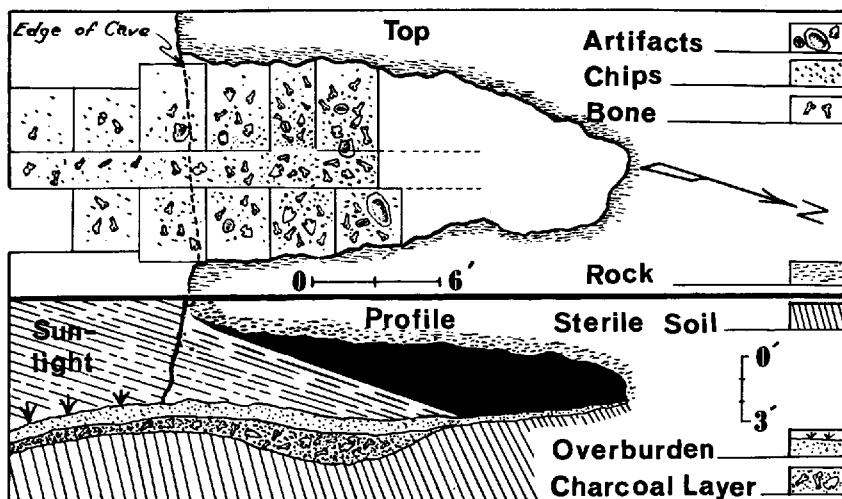


FIGURE 2. Hall-Woodland Cave, plan and cross-section.

MATERIALS RECOVERED

Projectile Points

The cave contained two distinct point types. Type A is represented by two examples of tri-notched points (Fig. 3). One specimen was found at a depth of 15 inches at the nose of the test trench which overlooked the small creek below (Table 1). The other definite tri-notched specimen was found in the screen, and it is impossible to determine its exact stratigraphic location.

The most common projectile point found is corner-notched, Type B (Fig. 3; Fig. 4 a-b, i). The largest example appears to be reworked from a much larger point. The corner-notched points were found at a depth of 10 to 13 inches in a heavy concentration of charcoal (See Table 1).

There is also one example of a side-notched point and one example of a triangular point (Fig. 4 c), which may have been unfinished.

Projectile points similar to the Type B points from Hall-Woodland Cave are associated with the Woodland Culture Zone A, designated MM35, at the Magic Mountain Site (Irwin-Williams and Irwin 1966:94) and the Woodland level from the Willowbrook Site (Leach 1966). The Hall-Woodland Type B points are both serrated and unserrated; Magic Mountain and Willowbrook corner-notched points are also serrated and unserrated, but possibly in different proportions. Projectile points classified as "bb" from LoDaisKa (Irwin and Irwin 1959:35) are also similar to Hall-Woodland Type B.

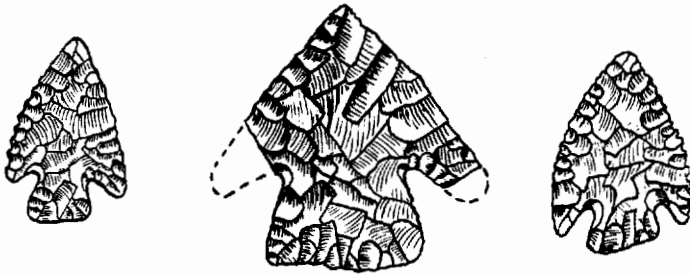
The only surface find of a projectile point is from the mouth of the cave, which is the largest point found, and it is obviously a reworked point. A total of 17 identifiable points were recovered (Table 1).

Knives

The site contained three examples of cutting tools. Two of these fit the category described as an ovoid knife by Irwin and Irwin (1959:132) (Fig. 4 g-h). The Irwins think that the ovoid knife is characteristic of Woodland sites



Type A



Type B

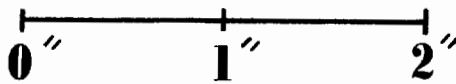


FIGURE 3. Projectile points. Type A, tri-notched points; Type B, corner-notched points.

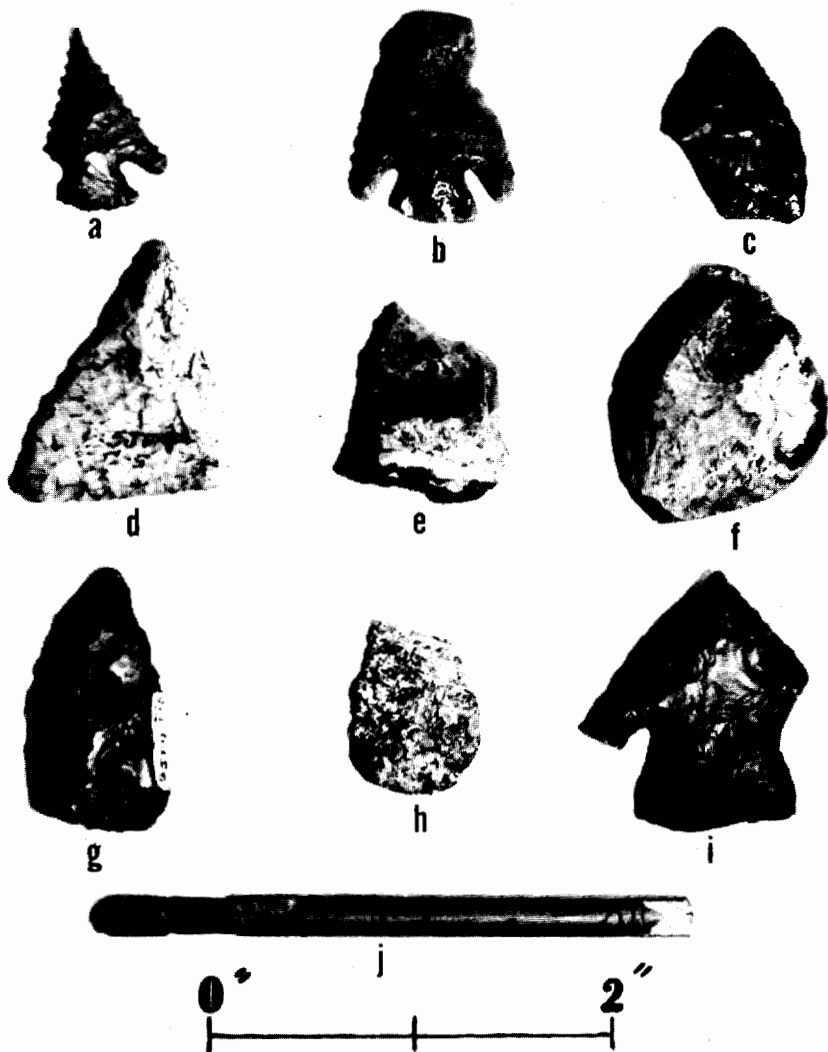


FIGURE 4. Artifacts from Hall-Woodland Cave. a-b, corner-notched projectile points; c, triangular projectile point; d-e, gravers; f, scraper; g-h, ovoid knives; i, large corner-notched projectile point; j, metamorphic rod.

in the Morrison area. It is interesting to note that many amateur collections from the eastern plains area contain ovoid knives found at sites which also produce Woodland pottery. The third example is, probably, a blank which has been retouched to form a cutting edge.

Gravers and Scrapers

One of the two gravers recovered is triangular in shape and flaked along the three sides which taper to a nicely formed graving tip (Fig. 4 d). This specimen was found 18 inches below the surface and it is $1 \frac{1}{16}$ by $\frac{1}{4}$ inches.

TABLE 1. Provenience of artifacts from Hall-Woodland Cave.

ARTIFACTS	DEPTH IN INCHES									UNDETERMINED
	0	6	10	11	12	13	15	18	19	DEPTH
Tri-notched points	—	—	—	—	—	—	1	—	—	1
Triangular point	—	—	—	—	1	—	—	—	—	—
Corner-notched points	1	—	2	2	4	2	—	—	—	3
Knives	—	—	—	2	—	—	—	—	—	1
Scrapers	—	—	—	—	1	—	—	—	1	—
Gravers	—	—	1	—	—	—	—	1	—	—
Manos	—	1	—	1	2	2	—	—	—	—
Metates	—	—	—	—	2	—	—	—	—	—
Potsherds	—	—	1	7	3	—	—	—	—	4
Flakes, Total	159									
Bone Fragments	542									

The other specimen (Fig. 4 c) is flaked on three edges and is rectangular in shape. It has two graving tips, and was found at a depth of 10 inches and is 15/16 by 3/4 inches.

There are also two examples of scraping tools found, which seem to fall into a category of utilized flakes rather than true scrapers.

Metamorphic Rod

This artifact is the most unusual piece recovered from the cave, and it was found in two pieces in the test trench (Fig. 4 j). It is oval in cross-section and measures 3 by 3/16 inches. Three grooves are cut around the rod at one end at intervals of 5/16 of an inch. The other end of the rod appears to have been broken.

Mr. Glenn Scott of the United States Geological Survey examined this artifact and determined that it is composed of a mineral structure of chlorite mica phyllite, a metamorphic rock with minor amounts of plagioclase, quartz, potassium feldspar. No outcrop of this material is known in the immediate area of Hall-Woodland Cave.

Hammers

Two hammers (hammerstones) were found, both inside the cave. One was made from a mano and was heavily battered on one end to the point of fracture. The opposite end also showed evidence of use to such a degree that it had become flattened. This artifact was found at a depth of 11 inches and it measures 1 1/2 inches thick, 4 1/2 inches long, and 2 3/4 inches wide.

The second specimen is made from a river cobble and shows heavy use. It was found at a depth of 12 inches and measures 1 1/4 inches thick, 4 1/16 inches long, and 2 1/2 inches wide.

Manos and Metates

Six identifiable manos were found, all of the one-hand type. One mano was pecked on one side, and the other side ground smooth. All are of the bifacial type: three were made of sandstone and the others were made from igneous stone.

Two slab metates were found. One was in fragmentary condition. The other was complete, found at the rear of the cave, and associated with a mano. Both sides showed evidence of use, but one side was worn more than the other, and this side was found facing the ground. The metate was a thin flagstone slab $\frac{5}{8}$ inches thick, 20 inches long, and 10 inches wide. This type of metate would be very portable, and it might be a type a nomadic group might utilize.

Pottery

Of the 15 sherds recovered, 2 are rim sherds and 13 are body sherds. The clay is slightly micaceous with sand temper. The coarse grit in the pottery is a micaceous sand, which makes it apparent that the pottery was made on the Plains fairly close to the mountains. This identification is based on the occurrence of rounded grains of sand and fragments of sedimentary rocks which do not occur in the mountains (Scott 1967). The inside texture of the sherds is coarse and very gritty. All sherds are cord impressed and show no evidence of being smoothed. The cord impressions run along parallel lines vertical to the rim, with eight cord impressions to the inch. Thickness of the sherds is from $\frac{1}{4}$ to $\frac{3}{16}$ of an inch. Rims are flat, with cord impressions starting at the lip. The lips are undecorated. These features indicate the pottery is of the Woodland type, probably assignable to the Parker or Franktown Phase (Focus) (Withers 1954).

Paleontology

Sixty bone fragments were submitted to Dr. Edward Lewis, United States Geological Survey, for his interpretation. Although the cave contained a significant quantity of bone refuse, most of the samples were split until they were only splinters. The 60 samples submitted for study were the large bone fragments and a few teeth.

REPORT ON REFERRED FOSSILS

by

EDWARD LEWIS

1. The collection of 60 fragments of bones and teeth from the Hall-Woodland Cave in SE $\frac{1}{4}$ Sec. 29, T. 3 S, R. 70 W. has been studied and identified.
2. The fragments and charring of the specimens indicated that the deposit is an aboriginal hearth midden.
3. The Mule Deer, *Dama (Odocoileus) hemionus* (Rafinesque) is represented by about three-quarters of the fragments, so must have been the chief source of meat at this site.
4. Minor percentages, accounted for by one or more fragments, represent:
 - Sylvilagus* sp., Cottontail Rabbit
 - microtine rodent, Meadow Mouse
 - Canis familiaris* (Linnaeus), Dog
 - Cervus canadensis* Erxleben, ("Wapiti")
 - Bison bison* (Linnaeus), Bison ("Buffalo")

It is interesting to refer to Dr. Lewis's report in the LoDaisKa publication (Lewis 1959:101): "We conclude that the people who were responsible for this deposit lived while at this site on a diet in which venison, probably from the Mule Deer (*Odocoileus hemionus*), predominated. There are surprisingly few



FIGURE 5. Woodland potsherds.

Bison bones and one specimen each of Elk and Bighorn." Therefore, basically speaking, the people who inhabited the LoDaisKa Site and the Hall-Woodland Cave lived in much the same way as far as diet is concerned (See Fig. 6).



FIGURE 6. Animal bones broken in order to obtain marrow.

CONCLUSION

Now that I have had several months to think about Hall-Woodland Cave and how it fits in with other excavations in the area, I will attempt to make some conjectures and then try to substantiate these ideas with evidence from the excavation.

I believe that during the winter, severe arctic storms, which now and then push through this area, accompanied by high winds and sub-zero temperatures, may have driven Woodland people into the shelter of this cave for short periods

of time, over a number of years. Even though these people undoubtedly were accustomed to living with nature and all her elements, there must have been times when it was even too much for them to bear. At approximately eight inches below the surface, and running to a depth of 22 inches, the soil was heavily impregnated with charcoal. The charcoal-laden soil seemed to be one continuous hearth, some 18 feet in length and approximately 5½ feet in width, the heaviest concentration at the mouth of the cave and continuing back into the cave for approximately 11 feet. The large amounts of fuel burned seem to be more than just a roasting pit.

Excavation of the inner portion of the cave revealed most of the archaeological materials. And, although the midden just outside the cave entrance was expected to harbor a good sampling of artifacts, this was not the case; this area was almost void of cultural remains, and the only outstanding feature was the concentration of charcoal. So, it seems that the people of the Hall-Woodland Cave occupied the inside of the cave, and activities on the midden outside the cave were limited. The charcoal layer outside of the cave was, then, possibly, a buildup of old fuels that were spent and scattered outside the cave entrance to make room for new inside, and along with the spent fuel went a few discarded artifacts and bone.

At this point in the discussion, the angles of the sun's rays also appear to be of significance. During the months of December and January, the sun hangs low in the southern sky, thus allowing its rays of light to beam back approximately 11 feet into the cave (Fig. 2). It is at this point that the heavy charcoal layer comes to an end, along with the remains of the hearth midden—at almost the exact spot where the sun's rays ended at the rear of the cave. This situation adds to the theory of a winter occupation.

Most of the animal bones were split until they were in a very fragmentary condition. The splitting of bone for marrow is common among prehistoric people, but it is evident that at Hall-Woodland Cave the inhabitants went to some pains to extract all of the marrow possible from most of the bones. This may suggest that game was not plentiful in the area at the time of occupation, or that conditions were not favorable for hunting. The bone fragments indicate that every edible part of the animal was devoured.

The six manos and one complete metate are evidence of some reliance on gathering at the time of occupation. It would be interesting to know what type of gathering could be carried out in the winter months; perhaps such food items as piñon nuts, sunflower seeds, maize, etc., may have been stored for the winter season and ground into meal when needed (?).

The foothills west of Denver, near Morrison and Golden, have a number of natural features which would tend to draw prehistoric man into the area. There is an abundance of running water, fed by natural runoff from high mountain snows and small springs along the way. There are also a number of large outcrops of sandstone formations which have formed natural shelters and cliff overhangs, with an occasional cave on the mountain slope, thus giving the nomadic hunter a wide range of quarters to choose from. Mule deer were apparently abundant in the area during Woodland times. The bone deposit from Magic Mountain, LoDaisKa, Willowbrook 1, and Hall-Woodland indicate this animal was the main quarry taken. The small amounts of bison bones recovered from Hall-Woodland and other nearby Woodland sites may be due to butchering techniques. The evidence at the Olsen-Chubbuck Site in eastern Colorado suggests that the bison were butchered at the location where the

animals were slain, and the bones stripped of meat and discarded. The bones were not carried back to camp (Wheat 1967:50-1). This practice may explain the lack of bison bone deposits at Hall-Woodland and the LoDaisKa sites. But, it has been noted at other sites on the Western Plains that the Woodland people placed a greater reliance on small animals, such as antelope, deer, prairie dog, and rabbit, in comparison to bison (Wedel 1959:667).

As for serrated corner-notched points which seem to occur in most Woodland occupation zones near the foothills, they suggest a trait which may have relationships elsewhere. The only area known to the author where serrated points seem to be fairly common is in the South Park region. Could the Golden and Morrison Woodland sites people have used the area as wintering sites, and the high mountain parks as summer hunting areas?

Although no radiocarbon dates are available for Hall-Woodland Cave, it is thought that the artifacts recovered from the cave are contemporary with the LoDaisKa, Magic Mountain, and Willowbrook 1 Woodland occupations. A series of C-14 dates from the Denver Basin related to the Woodland occupation generally fall into the bracket of time between A.D. 600 and 1000, which should be acceptable for the Woodland occupation at Hall-Woodland Cave. (See Buckles, *et al.* 1963:31; Irwin and Irwin 1961:114-115; Irwin-Williams and Irwin 1966:216; Leach 1966:46; Scott 1963:46, 48.)

It has been suggested that Woodland culture at LoDaisKa and Magic Mountain harbor Fremont influence (Irwin-Williams and Irwin 1966:221). The author, to the contrary, thinks that the Woodland cultures in the area may be entwined with Shoshonian cultures. This assumption is based mainly on the Graeber Cave report (Nelson and Graeber 1966), where 100 plainware sherds of the Shoshoni type and a corner-notched, serrated projectile point which looks like the serrated points from Hall-Woodland Cave, were found. (Editor's Note: Ceramic Type I from the Magic Mountain Site is attributed to the Fremont Culture, but not only does the description duplicate that of the identified Shoshoni pottery from Graeber Cave, it is by no stretch of the imagination similar to the standard Fremont pottery found in western Colorado and eastern Utah.)

The two side- and basal-notched (tri-notched) points are not a type which is common in the Golden and Morrison regions. These points may be intrusive to the Woodland occupation of Hall-Woodland Cave. However, tri-notched points were found at Cliff Swallow Cave in Elbert County in an occupation which is thought to be transitional between Woodland and Upper Republican (Morton 1954:34), or otherwise termed the Franktown Focus by Withers (1954).

With the information now on hand it appears the Woodland occupation of the Golden-Morrison area ends about A.D. 1000 (Irwin-Williams and Irwin 1966:221).

Recent investigations in the Golden area, reported here, indicate an occupation which adds new data to the prehistory of the foothills region. The investigations at Hall-Woodland Cave indicate a Late Woodland occupation with side-notched projectile points. This site helps to clarify some of the data now on hand concerning Fremont and Shoshonian influences in the area and the transitional period between Woodland and Upper Republican known as the Franktown Focus (Withers 1954:2). However, the Prehistoric Pottery Trails Project conducted by the Colorado Archaeological Society (Nelson 1966, 1967) has failed to find a single classifiable Upper Republican rim sherd from the Denver region. Consequently, it appears doubtful that Upper Republican

peoples *ever* occupied the Denver Basin and its adjacent foothills, and evidence indicates that the area was occupied by people (s) making Shoshoni pottery. The Fremont influences suggested by the Irwins are questioned on the grounds of overwhelming evidence against this cultural contact.

The above evidence indicates that the foothills region is a very complex situation with many traits and influences, and one which still needs more investigation. I hope this report will stand on its own merits.

ACKNOWLEDGEMENTS

The author would like to thank all those who have worked to bring this report into being. Hall-Woodland Cave is a united effort by amateur and professional archaeologists, and it is through this type of cooperation that Colorado's prehistoric past can be brought into focus. I wish to offer thanks to Bob Akerley, Raymond Barker, Edith Bennet, David A. Breternitz, Meme Carr, Bob Graeber, Jessie Graeber, Frances Hall, Larry L. Leach, Edward Lewis, Eva Mathews, Norma Nelson, Donald Nordstrom, Bill Roadway, Glenn Scott, Bruce and Wilma Stewart, and H. M. Wormington.

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