

# Digging Up The Plains Indian's Past

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INVASION of the Great Plains in the 1700's by the Arapahoe, Cheyenne, and Sioux, their use of the horse and the tepee, and their reliance on the buffalo for food account for the popular misconception of the Plains Indian as a nomad. Actually, the native inhabitants—Pawnee, Arikara, Mandan, Hidatsa, and others—had lived for centuries in permanent villages of earth lodges and obtained most of their food from gardening. But smallpox and cholera contracted from White traders combined with attacks by nomads on horses almost annihilated these sedentary peoples before White settlers arrived.



Carlyle Smith

Along the permanent streams, especially on the Missouri River, the remains of the villages of the sedentary tribes are marked by groups of from ten to 250 depressions measuring from 20 to 70 feet in diameter and

from a few inches to three feet in depth, indicating the sites of earth lodges. Many of the sites are surrounded by deep ditches and mounds used as fortifications. Earlier sites are often so deeply buried that they are found only by inspecting the cut-banks of canyons.

A typical earth lodge village probably had a population of several hundred people. A single house contained ten to twenty people. Villages are rich in pottery and in tools made of stone and bone, a single house often yielding several thousand specimens. Most of the sites do not seem to have been occupied for more than 25 years. By that time the house would have started to decay; the gardens in the river bottoms would have lost some of their fertility; fire wood would be scarce; the population would have increased con-

siderably. In rare instances sites were occupied more than once over a period of several hundred years. This resulted in the superposition of the remains and offers the best clues to the sequence of events in the area.

For the past six years archaeological field parties from the Museum of Natural History at K.U. have been active in Kansas and other parts of the Great Plains. Some students have joined the expeditions for academic credit through the department of sociology and anthropology while others have accompanied us out of sheer interest in the nature of the work.

Each summer since 1950 we excavated sites in the Fort Randall Reservoir, S. D., with funds made available to us by the United States National Park Service. Close liaison has been maintained in the field with the Smithsonian Institution, the University of South Dakota, the University of Nebraska and the Nebraska State Historical Society.

If this field work were not done the information on the prehistoric inhabitants of the region would be lost forever beneath the waters now rising behind the huge dams nearing completion on the Missouri River. The annual field sessions in archaeology provided professional training to students majoring in anthropology, attracted several high school students to the University, and acquainted local residents of the areas where we worked with one of the many scientific activities carried on by K.U.

## Cultures Go Back to 1,000 A.D.

Five sites have given us a record of the cultures occupying the Fort Randall Reservoir from at least as far back as 1000 A.D. up until the present. The longest record comes from the Talking Crow site, named for a Sioux Indian to whom the land was allotted toward the close of the 19th century.

When we arrived, in 1950, a Sioux fam-

ily was occupying a log cabin within the limits of the old village site. Excavations revealed that the Sioux had lived on the site since about 1870. Below the refuse left by the Sioux there was an earth lodge village assignable to the Arikara of 1700-1725. An earlier occupation by an ancestral group dates from about 1600. Still deeper were the remains of a fourth occupation in the 1500's by a group with cultural roots in Nebraska and Kansas. The earliest occupation was by a group of pre-earth lodge people, probably prior to 1000 A.D. Excavations at four other sites help to fill in the record, especially for the period between 1000 and 1500 A.D. Excavations by the Smithsonian Institution farther west have extended the record back to 5500 B.C. for South Dakota. Elsewhere in the Plains the record goes back to at least 8000 B.C.

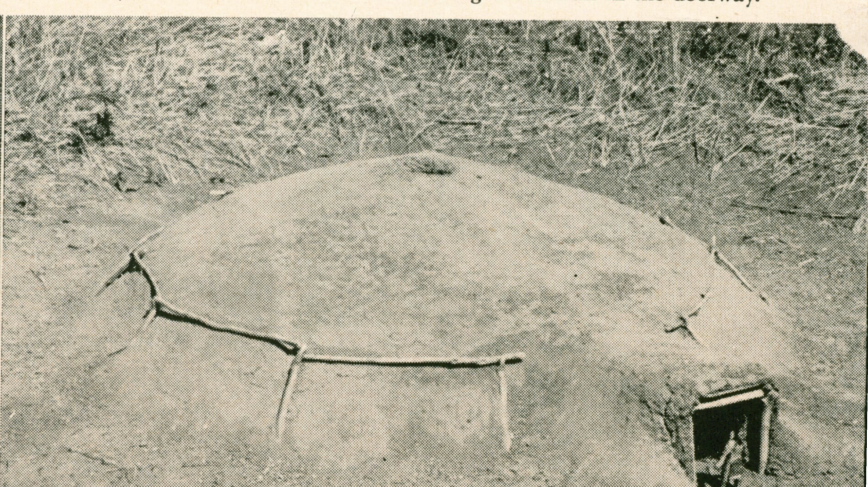
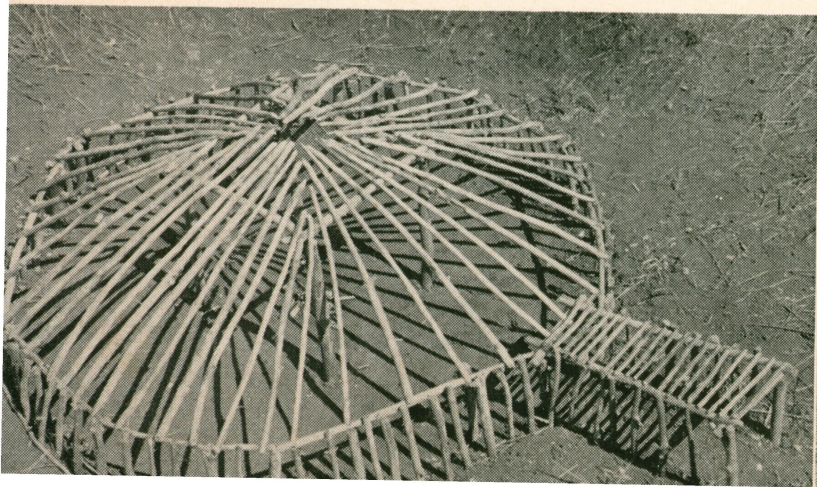
## Lodges Destroyed By Fire

Most of the earth lodges excavated at the Talking Crow site had burned to ground. In all probability this occurred after the abandonment of the site and was caused by prairie fires sweeping unchecked through the area. In 1950 the log cabin of a Sioux Indian, not more than 200 yards from the old village site, met a similar fate. Had the houses burned while the village was occupied we would have found evidence in the form of pottery vessels still in place by the fire and collections of other artifacts stored in various places for ready use. Actually the houses contained only fragments of incomplete pots, large broken tools and small tools which had been lost or mislaid by the occupants.

The fact that the houses had burned helps us in working out the details of construction because many of the beams were preserved in the form of charcoal. We have accounts of early explorers and descriptions by ethnologists of the earth lodges that were in use during the period

**FIRST STEP IN reconstructing an earth lodge was to build the framework as indicated by the excavated remains.**

**OVER THE FRAMEWORK dirt was heaped to form the walls. Every detail was made to scale including the Indian in the doorway.**



of recorded history. However, the houses at the Talking Crow site differ in a few details from those previously described and we had to supplement our observations by experimentation.

#### Build Model of Lodge

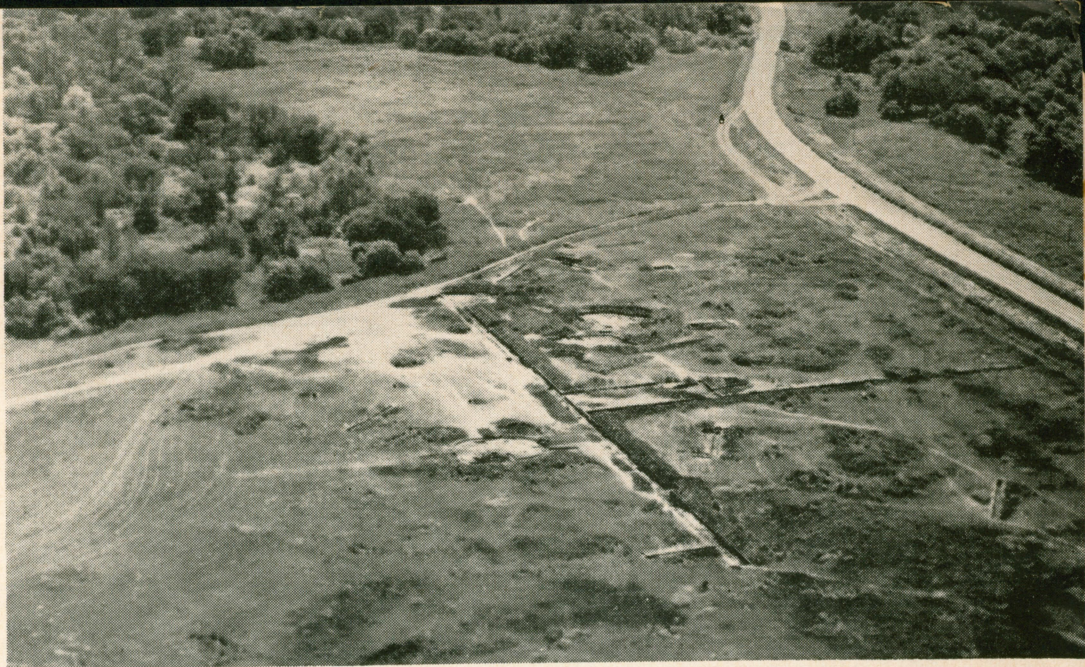
A copy of one of the houses found at the site was constructed on a scale of one-twelfth natural size. This resulted in a structure measuring 35 inches in diameter instead of 35 feet. The model was based on the excavation of House 8, a round earth lodge with four center posts and a covered entrance passage oriented to the southwest. Opposite the doorway was a bison skull such as those frequently associated with religious shrines among the Arikara and Pawnee. A basin shaped fireplace marked the center of the house.

To build the model, a circle 35 inches in diameter was drawn on the ground and the area then was excavated to a depth of one inch to represent the full scale excavation of one foot in depth. In the house we were copying it was found that posts at irregular intervals in the outer wall were larger and penetrated deeper into the soil. It was assumed that these represented the main outer wall posts. Similar holes were dug around the edge in the model. The holes for the four center posts then were dug. Wood cut to the proper lengths for the upright posts was inserted in the holes. Cross pieces were placed across the four center posts to form a square. Similarly pieces of wood were placed from one outer post to the next as shown in the photograph.

The burned remains of the excavated house indicated the former presence of beams radiating out from the fireplace. Similar pieces were placed on the model leaving an opening at the center for a smokehole over the fireplace. Short posts were set around the outer edge of the house leaning against the encircling lintels. The entrance passage was enclosed in a similar manner.

In the excavated house the charred remains of willow rods and bundles of grass were found on the floor. From historical sources we know that a layer of willow boughs was placed at right angles

**THE COMPLETED MODEL** was burned in order to determine whether or not the charred remains would approximate the excavated house.



**AN AERIAL VIEW** of the Talking Crow site shows the excavation trenches, straight lines in the center, and the earth lodges as circles in the ground. (Smithsonian Institution photo.)

across the rafters. Then the willows were covered with bundles of grass oriented with the rafters. Over these two layers was spread about six inches of earth. In the model we could not reproduce the willows to scale so they were omitted and grass alone was used. Damp earth was spread over the grass and compacted by patting with the hand. Earth was banked against the outer walls. Fine dry dust was sprinkled over the completed house and as a final touch the entire surface was soaked with water from a pressure sprayer to simulate the effects of rain. Pieces of wood were leaned against the outside and connected at the tops with horizontal pieces to simulate the method used historically to help retain the earth on the roof. To provide a scale in the photograph a clay model of an Indian about five inches tall was placed in the doorway.

Later we burned the model house in order to determine whether or not the charred remains would approximate the appearance of the excavated house. Because of the limited air space in the model it was necessary to place dry grass soaked in gasoline on the floor. In less than an hour the roof collapsed. Combustion continued around the edge of the house for

some time. The smothering effect of the mantle of earth caused most of the wood to turn into charcoal rather than ashes. When the burning had ceased the collapsed house was sprayed with water to simulate the effect of weathering.

#### Still Analyzing Data

The ruin was in the form of a raised ring of earth with a depression at the center, closely resembling the remains of old earth lodges to be seen on archaeological sites. The earth was removed from the model and the floor swept clean. The roof timbers were found to radiate out from the center exactly as in the full size house. The pattern left by the burned-off posts duplicated that found in the large house.

The work in the laboratory continues. Eventually two or more monographs covering the analysis and interpretation of the data in detail will be published. Students majoring in anthropology are employed in mending broken pottery, sorting specimens, tabulating data, tracing maps, and assembling the pages of manuscript. When the study is complete we will have added a chapter to the true history of peoples who themselves left us no written record.

**THE DRAWING** below indicates the outline and position of the supporting timbers in an earth lodge as found by the K.U. anthropologists.

