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## The Claussen Archaeological Site: Prehistory Of The Flint Hills

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## *The Claussen Archaeological Site: Prehistory Of The Flint Hills*

On a warm afternoon in May 2000, I was walking along Mill Creek in Wabaunsee County inspecting soils and sediment exposed in a steep stream bank that stands about thirty feet above the creek. It is a common routine for me. Most of my research involves reconstructing the geology, paleoecology, and archaeology of stream valleys, so I look for places where creeks and rivers have cut into their own deposits. These cutbanks are my “windows” into the past.



CLAUSSEN ARCHAEOLOGICAL SITE  
MILL CREEK, WABAUNSEE COUNTY  
*Steven Perry*

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The stream bank along Mill Creek was one of those windows. When I looked down the steep face at the southern end of the exposure, I noticed mussel shells, pieces of flint, and fire-reddened rocks sticking out about eight feet below the land surface – a buried archaeological site.



Streams frequently deposit sediment on their floodplains, so it's not unusual to find the remains from prehistoric people far below the land surface. Given what I know about rates of sedimentation, I suspected that the buried archaeological horizon was approximately 1,000 years

old. My estimate wasn't far off. Charcoal among the buried artifacts later yielded a radiocarbon age of about 1,225 years before present. This places the occupation in the Middle Ceramic period, when groups of farmers and hunter-gatherers inhabited the Flint Hills.

Although my discovery was significant, what I saw several hundred feet to the north and at a much greater depth was even more exciting. As I cautiously walked along the bottom of the 30-foot-high stream bank, I spotted mussel shells eroding out of a dark layer about 25 feet below a stream terrace. The terrace is a former floodplain left elevated above the valley floor when a stream down-cuts, and all of the sediment exposed in the tall bank was deposited over thousands of years by floodwaters. I crawled up to the mussel shells and used a trowel to clean off the face of the nearly vertical bank. With each stroke of the trowel, more mussel shells appeared, along with charcoal, bone fragments, charred hackberry seeds, burned earth, and a few small pieces of chipped stone.

I also saw concentrations of artifacts 3-4 feet below the artifacts that initially caught my attention. The dark layer containing all the artifacts is a former surface soil, now buried under 25 feet of stream deposits.

Considering the depth of the artifacts and the magnitude of weathering in the stream deposits, I knew the shallowest archaeological horizon was at least 10,500 years old. Again, later radiocarbon dating confirmed my estimate. Three separate archaeological horizons were identified in the upper 3 feet of the buried soil: an upper horizon dating to 10,300 years ago, a middle horizon dating to 10,400 years ago, and a lower horizon dating to 10,550 years before present. Based on these ages, the three cultural horizons represent Late Paleoindian occupations on a former floodplain.

This discovery on the bank of Mill Creek launched a series of archaeological and paleoenvironmental investigations over the next ten years, and the locality would gain fame as the Claussen site, named after landowner Dr. Vern Claussen.

It is the second oldest recorded buried archaeological site in the Flint Hills and among the oldest stratified sites in Kansas.

The most extensive excavations at the Claussen site occurred in 2003, when the Kansas Anthropological Association and the Kansas State Historical Society joined forces with the University of Kansas for a two-week dig in the hot July sun. Two groups of archaeologists under the direction of Donna Roper and Virginia Wulfkuhle focused on the Ceramic-age cultural deposits at and near the south end of the stream bank, while a third group supervised by KU archaeologist Jack Hofman concentrated on the deeply buried Late Paleoindian cultural deposits at the north end. I focused on the soils and stratigraphy of the site and placed the archaeological record into a geologic context.

A large excavation block at the southern end of the stream bank exposed a pair of hearths surrounded by dense scatters of chipped stone, pottery, and mussel shells, plus several tools and

some animal bone. According to Roper, this occupation represents a Middle Ceramic-period short-term encampment. During the excavation more than 130

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pottery fragments belonging to a single vessel were found over a small area. Partial reconstruction of the vessel revealed a plug-shaped handle with a human effigy face. The face is simple: the eyes and mouth are holes that were made with a small hollow tool, and finger pinches on the soft, pre-heated clay formed the nose.

The Late Paleoindian horizons dating between 10,300 and 10,550 years ago yielded many chipped-stone artifacts, all derived from the Permian-



AN EFFIGY HUMAN FACE  
ON THE HANDLE OF A VESSEL UNEARTHED AT THE CLAUSSEN SITE  
*Kansas State Historical Society*

age Florence cherts, or “flint,” common to the Flint Hills. We discovered only a small handful of tools, however. Nearly all of the stone artifacts were flakes shed during the production or sharpening of tools. Apparently, the Paleoindians were careful not leave many tools behind. This seems logical given the great effort that goes into making them. Also, the remains of a variety of animals, including vertebrates and invertebrates, were found in the Late Paleoindian horizons. Although Paleoindians frequently are described as big-game hunters, the earliest people who

occupied the Claussen site were eating just about every animal that came down to the creek for a drink, plus waterfowl, land birds, reptiles, mollusks, and fish. Deer and antelope were the most common vertebrates, along with birds, especially turkey. Fresh-water mussels also were a major food source. The Paleoindians gathered live mussels from gravel bars, placed them in shallow pits with smoldering wood, and covered them with green vegetation. This slow cooking process caused the shells to pop open – a Kansas clam bake. Oddly, the remains of only one bison were found. Hence the

animal remains recovered here indicate that subsistence behaviors soon after the Ice Age were very different from the bison-focused Native Americans on the Plains out west at that time.

No projectile points or other artifacts that could be assigned to specific cultural groups were found in the Paleoindian horizons during the 2003 excavations. However, inspection of the site in 2005 resulted in the discovery of a Dalton adze used for smoothing rough-cut wood, plus a complete Dalton projectile point. The adze and projectile point were lying at the foot of the 30-foot-high stream bank, so their original position in the artifact-bearing buried soil is unknown. The Dalton period extends from about 12,500 to 11,000 years ago, when a culture of ancient Native American hunter-gatherers, referred to as the Dalton people, made a distinctive set of stone tools that are today found at sites across the middle of the United States, especially the Ozarks. The Dalton adze is the earliest known heavy-duty woodworking tool

in the North American archaeological record. Initially referred to as “turtleback scrapers” because of their shape – flat on the bottom and humpbacked on the top—Dalton adzes probably were hafted like

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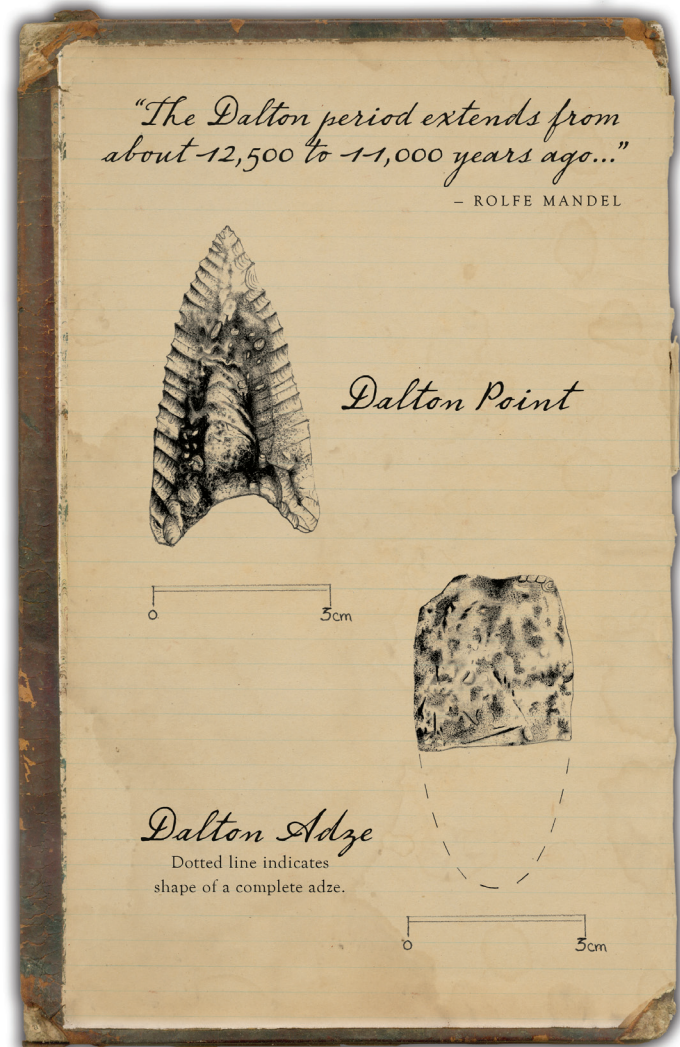
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modern adzes, in which the cutting blade is perpendicular to the haft or handle.

Over the past five years, we’ve learned a lot about what the environment looked like before, during, and after the periods of prehistoric human occupation at the Claussen site. The paleoenvironmental information has been gleaned from fossil land and aquatic snails, from ancient phytoliths (microscopic silica bodies left behind by plants) and from the chemistry of organic carbon preserved in the soils and sediment at the site.



ARTIFACTS DISCOVERED  
 AT THE CLAUSSEN SITE IN 2005  
 Illustrations by Wade Parsons

Here's what we now know. About 12,500 years ago the valley bottom of Mill Creek was a moist, woodland setting with one or more springs in the immediate area of the Claussen site. Between 12,500 and 10,600 years ago the setting became drier as spring activity decreased, though trees were common. But soon after the Late Paleoindians arrived, the climate became warmer and drier, trees disappeared, and the landscape was transformed into an open, dry setting with prairie to brushy vegetation. Since about 10,000 years ago Mill Creek valley has been dominated by prairie vegetation with trees mostly limited to the edges of the stream.

What attracted people to the Claussen site over a period of at least 11,000 years? The answer is now obvious. Game, including deer and turkey, was abundant just as it is today. Mussels thrived in gravelly sediment on the stream floor providing readily available protein and minerals. (Pesticides, herbicides, and silt-laden runoff from agricultural fields have reduced today's mussel population.)

Also, upland prairie plants, including wild onion, prairie turnip, hog peanut, funnel lily, and Jerusalem artichoke, and a variety of bottomland plants, such as hackberry, wild cucurbit, ragweed, goosefoot, marsh elder, and sunflower, were food sources. There's high-quality Permian chert for making tools exposed in the valley wall several hundred feet from the site. Finally, fresh, clean water was available in the creek and from at least one local spring.

The Claussen site was a prehistoric paradise. And many sites similar to it probably are deeply buried in stream valleys throughout the Flint Hills. Finding those sites remains a challenge, but thanks to Claussen, we know what they look like and where they may occur.

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*Rolfe Mandel is the Executive Director of the Odyssey Geoarchaeology Research Program at the Kansas Geological Survey and a Professor in the KU Anthropology Department. He has spent much of his career studying post-glacial landscape evolution in the Great Plains, and he is an authority on how earth-surface processes have affected the archaeological record of the Plains and Midwest.*