THE MYSTERY OF T

Archeozoologist Dr. Terrance Martin works to piece together the story behind an ancient bison's death.

"The bison emerges from the prairie grass along the river's shore. The water is shallow in this area, and the animal swims across. On the other side of the river a hunter lies in wait, spear in hand. Like the bison, he too knows that this is a good crossing point. When the creature lumbers onto the bank, the hunter lunges."

Story By Jeanne Handy
Photos Courtesy of Tom Handy and the Illinois State Museum

Spread out on a table in the osteology lab at the Illinois State Museum's Research and Collection Center are the bones of an ancient bison recently liberated from its muddy grave. It is up to Dr. Terrance Martin, curator of Anthropology, to try to piece together not only the fragments of bone but a story as well. He knows that the mystery of the bison will not easily or entirely be resolved. The story of its discovery, however, is one of the most gratifying of his career.

On August 29, 2005, Martin had joined others from the Illinois State Museum and its branch, the Dickson Mounds Museum, on the shore of the Illinois River. Remarkable finds had intermittently been unearthed at this site just south of Peoria since 1995. They had discovered the partial skeletons of eight bison from which radiocarbon analysis of four bone samples dated between 300 and 400 B.C.—much earlier than expected.

HE ANCIENT BISON

(Photo by Tom Handy.)

Terrance Martin examines the mandible, or lower jaw, of a bison found on August 29, 2005 along the Illinois River south of Peoria.

At first, the archaeologists concluded the bison found on these shores were involved in a catastrophic drowning incident. There were historic accounts of these animals falling through frozen rivers to their deaths, and this seemed a likely scenario. But then a chert flake was found imbedded in an isolated bison vertebra, probably from the tip of a stone spear point. They began to hope for more evidence that humans had hunted and made use of the earliest Illinois bison. Alan Harn of the Dickson Mounds Museum spent several days directing an earth-moving machine operator in digging several trenches. But further proof had not been forthcoming.

Therefore, it was with some disappointment that the archaeologists returned one last day to close out the site. To their surprise they found that the river level had dropped from the day before. And eroding from the mud in a newly exposed area was another bison—the most complete skeleton yet. They scrapped their plans for site closure and began excavation of this latest discovery. As Martin worked to extract some ribs he felt something else. Could it be? The group was ecstatic when he confirmed that a projectile point was lodged between two ribs. Never before had an Indian bison kill been documented in Illinois.

Back in his lab, Martin worked to learn more about the creature through painstaking study of its skeleton. Although the individual bones were laid out in their entirety in the mud, they had crumbled into pieces as they were removed. The bones had to be glued back together, compared and markings on them studied. With each step, the story of the bison's final day was being retold.

Alan Harn, Rick Scott, and Terrance Martin view bison remains unearthed on the river shoreline.

Terrance Martin, kneeling, begins excavation of a bison at water's edge. A Dickson projectile point (above) was discovered in the bison's rib cage.

First, Martin determined that he was, indeed, dealing with a bison. Within his lab are huge file cabinets filled with bones from animals of different species. From his bison cabinet he pulled specimens with which to compare each bone to confirm its placement within the skeleton and to substantiate that each piece belonged to the same individual.

Next it was necessary to establish how long ago the animal had died. He had been confident from the beginning that the date would be an early one—the spear point told him so. As ancient peoples evolved, so too did their points, making them distinctive for the period of time in which they were used. Although the stem—an important part for identification purposes—had been broken away from the rest of the point and was missing, Harn had identified the remaining portion as a Dickson point, a type used by the Early Woodland people from 500 to 100 B.C. Still, Martin needed confirmation, and he carefully extracted bone samples for carbon-14 dating. The results would match what he already knew—the bison had been killed 2,400 years ago.

His examination of the bone markings brings the story to its climax, telling a tale of struggle between man and beast. The divot found on the right 10th rib next to where the spearhead had lain and a second, deep cut on the right sixth rib are, according to Martin, impact marks. The wound to the sixth rib was made from the right side, with the spear angling forward into the bison's lungs. The second spear thrust was made from the opposite side, where it passed through the organs and impacted the interior portion of the 10th right rib. What next? When the spear point broke off within the animal had the hunter been forced to retreat from a raging beast, had others assisted him, or had this been the final blow?

In the lab, the channel in a rib formed by what appears to be the thrust of a projectile point is evident.

Martin searched for conclusive signs of butchering on the bones but found none. This was not surprising. An ancient hunter using stone tools would have been careful to avoid damaging contact with the skeletal structure. Perhaps, as documented in Louis Hennepin's description of a bison kill in the 1600s, the hunter had retrieved only the premium parts such as the tongue and hump meat.

"As these animals crossed the river, they sometimes killed forty or fifty, merely to take the tongue, and most delicate morsels, leaving the rest with which they would not burthen themselves, so as to travel more rapidly."

In fact, Martin believes the location and condition of the mandible, the lower jaw, is evidence that the bison had died in the hunter's presence and that he had, at the very least, retrieved its tongue. The archaeologists had found the jaw a short distance from the rest of the skull as if it had been cut away, broken in two, and flung back down.

And Hennepin's mention of a river crossing—it fit. Is this why there was such a large accumulation of bison bones at the site? Was it a good crossing point and therefore also a good hunting area? According to the radiocarbon dates, the animal with the chert chip in its vertebra and the speared bison were killed in different episodes. Plus, they had found bison remains dating from a much later time, between 1316 and 1460 A.D. Perhaps Native Americans had been hunting on this beach for centuries.

(Photo by Tom Handy.)

In the Illinois State Museum laboratory, Terrance Martin (below) carefully glued the bison bones together and analyzed bison specimens.

He pondered what may have happened to the leg bones and other skeletal parts not found with the remains. Did prehistoric Indian hunters carry them away? Did wolves or coyotes scavenge them? Martin realizes there are portions of the bison's story that, like these missing bones, will never be recovered. Nevertheless, he now knows that 2,400 years ago an Early Woodland hunter encountered this animal. It was a moment placed on pause until centuries later when a skeleton rose from the mud, allowing the saga of an ancient hunter and his prey to continue.

(Photo by Tom Handy.)

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"The hunter stabs at the creature once more and feels his point wedge between the ribs. When he succeeds in dislodging the spear shaft, only the stem remains attached. He has lost the point to the bison. Fortunately the animal succumbs, and careful butchering begins. There will be such a feast. Finally he cuts the lower jaw away from the skull and breaks it apart to get to the choicest morsel—the tongue. Tossing the two halves aside, he gathers up his bounty and heads back to camp."