

## **A Skeleton Moves From the Courts to the Laboratory**

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SEATTLE, July 18 - The bones, more than 350 pieces, were laid out on a bed of sand, a human jigsaw with ancient resonance. Head to toe, one of the oldest and best-preserved sets of remains ever discovered in North America was ready to give up its secrets.

After waiting 9 years to get a close look at Kennewick Man, the 9,000-year-old skeleton that was found on the banks of the Columbia River in 1996 and quickly became a fossil celebrity, a team of scientists spent 10 days this month examining it.

They looked at teeth, bones and plaque to determine how he lived, what he ate and how he died. They studied soil sedimentation and bone calcium for clues to whether he was ritually buried, or died in the place where he was found. They measured the skull, and produced a new model that looks vastly different from an earlier version.

And while they were cautious about announcing any sweeping conclusions regarding a set of remains that has already prompted much new thinking on the origins of the first Americans, the team members said the skeleton was proving to be even more of a scientific find than they had expected.

"I have looked at thousands of skeletons and this is one of the most intact, most fascinating, most important I have ever seen," said Douglas W. Owsley, a forensic anthropologist from the Smithsonian Institution's National Museum of Natural History. "It's the type of skeleton that comes along once in a lifetime."

He said the initial job of the team was to "listen to the bones," and the atmosphere, judging from the excitement of the scientists as they discussed their work, was electric.

Dr. Owsley said answers to the big questions about Kennewick Man - where he fits in the migratory patterns of early Americans, his age at the time of death, what type of culture he belonged to - will come in time, after future examinations.

"But based on what we've seen so far, this has exceeded my expectations," said Dr. Owsley, leader of the 11-

member team and one of the scientists who sued the government for access to the bones. "This will continue to change and enhance our view of early Americans."

In preparation for the initial examination, the hip and skull were flown to Chicago, where they went through high-resolution CT scans, much more detailed than hospital scans. Those three-dimensional pictures were used to produce casts and replicas of the bones.

For now, the team has finished what amounts to a sort of autopsy, with added value. To that end the examination, which took place under extraordinary circumstances at the Burke Museum of Natural History and Culture at the University of Washington, was aided by a forensic anthropologist, Hugh Berryman of Nashville, who often assists in criminal investigations.

"This is real old C.S.I.," said Dr. Berryman, referring to the crime scene investigations that inspired the hit television shows.

The skeleton caused a furor from the time of discovery, making waves far beyond the academic realm, after an examining anthropologist said it appeared to have "Caucasoid" features. One reconstruction made Kennewick Man look like Patrick Stewart, the actor who played Capt. Jean-Luc Picard in "Star Trek: The Next Generation."

American Indian tribes in the desert of the Columbia River Basin claimed the man as one of their own, calling him the Ancient One. The tribes planned to close off further examination and to bury the remains, in accordance with a federal law that says the government must turn over Indian remains to native groups that can claim affiliation with them.

A group of scientists sued, setting off a legal battle, while the bones remained in the custody of the Army Corps of Engineers.

In 2002, a federal magistrate, John Jelderks of Portland, Ore., ruled that there was little evidence to support the idea that Kennewick "is related to any identifiable group or culture, and the culture to which he belonged may have died out thousands of years ago."

The ruling, backed by a federal appeals court last year, cleared the way for the scientists to begin their study.

After being dragged into the culture wars, Kennewick

Man remains a delicate subject - something that was clear in how the examining scientists parsed their descriptions of the skull at the end of 10 days of study.

David Hunt, an anthropologist at the Smithsonian who was instrumental in remodeling the skull, said he was sure there would be criticism of his reproduction, but he said it was based on the latest and most precise measurements of the head. He said it was accurate to within less than a hundredth of an inch.

Standing by the translucent model inside the Burke, Dr. Hunt said, "I see features that are similar to other Paleo Indians," referring to remains older than 7,000 years that have been found in North America.

But his colleague at the Smithsonian Dr. Owsley said that term was imprecise.

"It should be Paleo-American," Dr. Owsley said. "These bones are very different from what you see in Native American skeletons."

Earlier, other anthropologists said that Kennewick Man most resembled the Ainu, aboriginal people from northern Japan. The scientists who examined Kennewick Man this month did not dispute that designation, but they said fresh DNA testing, carbon dating and further examinations would give them more accurate information.

Earlier DNA testing, done during the court cases, failed to turn up matches with contemporary cultures.

One key to Kennewick Man's life and times will be the stone spear point that was found embedded in his hip bone. Dr. Owsley said it was clear that the man did not die of the projectile, which had been snapped off.

"This was a healed-over wound," he said.

But the spear point, which was made of basalt, will be the guiding clue as anthropologists seek a match to other cultures.

Kennewick Man's discovery brought fresh vigor to the discussion over how the Americas were inhabited. Earlier theories held that people crossed a land bridge between Siberia and Alaska. But Kennewick Man, along with a few other findings, suggested that there were waves of migration by different people, some possibly by boat.

The scientists who examined the skeleton, and their

supporters, still fear that a political move could cut off future study. On behalf of several tribes, Senator John McCain, Republican of Arizona and chairman of the committee that controls Indians affairs, has introduced an amendment to the law the governs custody of ancient remains.

His proposed change would broaden the definition of Native American remains, expanding it to well into the past. Indians say such a change is needed to protect ancient ancestors, while others say it will make it nearly impossible to study ancient remains, even if they have little or no connection to present tribes.

But as the scientists finished their 10-day study of Kennewick Man, with plans to report the results in October, the politics for once seemed to take a back seat to the giddiness of discovery.

"This is like an extraordinary rare book," Dr. Berryman said, "and we're reading it one page at a time."