

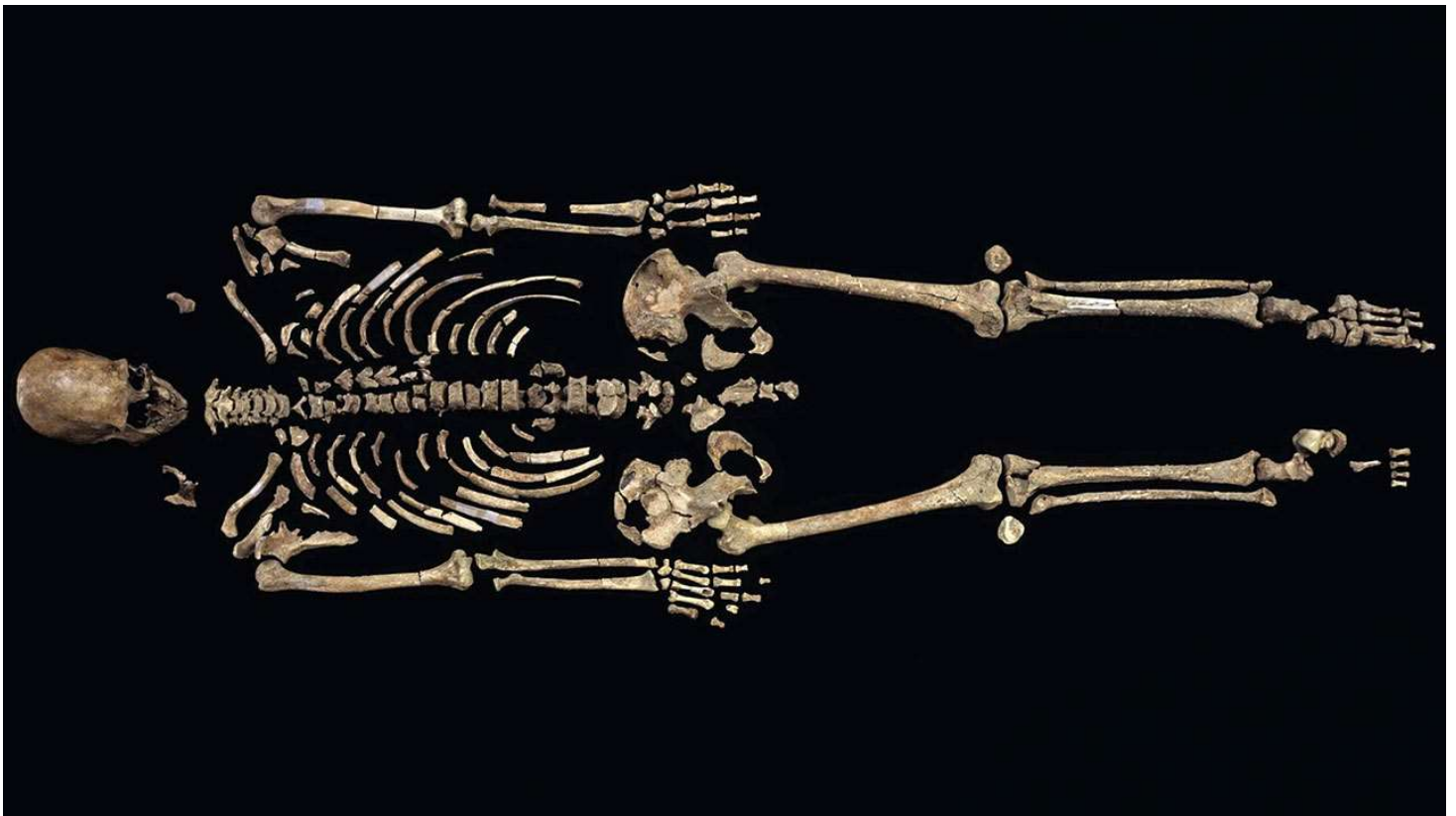
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NEWS ARCHAEOLOGY

Mystery solved: 8500-year-old Kennewick Man is a Native American after all

Tribes who lost skeleton vindicated by science

18 JUN. 2015 · BY MICHAEL BALTER



The genome of Kennewick Man, found by the Columbia River in 1996, ties him closely to local Native American tribes. CHIP CLARK/SMITHSONIAN INSTITUTION

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To scientists, he is "Kennewick Man." To Native Americans, he is the "Ancient One." More than a decade ago, Native Americans lost their claim for custody of this 8500-year-old skeleton from Washington state, when a federal appeals court ruled there was [no evidence he was related to any modern tribe](#). Now, after several false starts, researchers have succeeded in sequencing Kennewick Man's genome. Their conclusion: The Ancient One is closely related to at least one of the five tribes that originally fought to rebury him on spiritual grounds.

"This is great news for us," says Jim Boyd, chair of the business council of the Confederated Tribes of the Colville Reservation in Washington. Boyd says that the Colville people, who provided two dozen DNA samples for comparison with Kennewick Man, are now discussing whether to reclaim the skeleton under U.S. law. The U.S. Army Corps of Engineers, which currently has legal custody of Kennewick Man, is also studying whether to return the nearly complete skeleton—which was found eroding from the shore of the Columbia River in Kennewick, Washington, in 1996—to the tribes. When radiocarbon dating revealed that he was thousands of years old, a legal tug of war began between local tribes and scientists who wanted to study him, but ended in the tribes' defeat in 2004.

The findings are "ironic" given the long controversy over where the bones should end up, says lead author Eske Willerslev, a paleogeneticist at the University of Copenhagen. "The reason we can come to these conclusions is because the skeleton was kept for science," and not reburied as the tribes had wanted, he told reporters during a news conference yesterday. "But the conclusions show that he was Native American in the first place."

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Outside scientists praise the work, published online today in *Nature*, in part because it also [offers clues to the prehistory of North America](#).

Their excitement stems from the paper's clear resolution of a long-standing controversy over whether Kennewick Man was really a Native American or most closely related to Europeans or other groups outside of the Americas. Earlier studies of the skull suggested that it was long and high in shape, most resembling that of Polynesians or the Ainu people of Japan rather than the broader, rounder skulls of today's Native Americans. Some researchers had argued on that basis that Kennewick Man was part of an early wave of migration to the Americas and that today's Native Americans belonged to a later, unrelated wave.

For years there was no way to scientifically resolve the question, in part because tribes were able to claim many of the bones and rebury them, in accordance with their cultural practices, without genetic or other studies. But in recent years, two studies of ancient remains suggested that modern Native Americans could trace their ancestry to the original inhabitants of the Americas, who probably arrived in North America about 15,000 years ago. These remains included the [12,700-year-old Anzick child from Montana](#), whose nuclear genome was sequenced last year, and the partial sequence of mitochondrial DNA from the [13,000-year-old bones of a teenage girl from Mexico](#). Like Kennewick Man, the girl had a long, high skull, suggesting that skull shape did not correspond with ancestry. But [other researchers found that study's methods wanting](#).

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When Kennewick Man was first made available to researchers in 2005, several attempts were made to sequence his DNA, without success. But more recently Willerslev's team, which also led the study of the Anzick child, was given access to a larger sample from a hand bone.

"The DNA was highly damaged," Willerslev told reporters, and the team was only able to fully read the genome an average of one time. Although this so-called 1X coverage is much less than the 50X to 100X or more now possible with modern genomes, Willerslev said that it was still enough to convincingly show that the skeleton is closely related to today's Native Americans.

Other experts agree. "Even 0.05 coverage is enough," says Harvard University population geneticist David Reich, who calls the paper "exciting and impressive."

The team, which also gained access to DNA from the Colville tribe, found that the Ancient One is especially close genetically to that tribe and other northern groups such as the Ojibwa and Algonquin. Moreover, he is much more closely related to today's Native Americans than to the Ainu and the Polynesians, the researchers conclude.

To explore why Kennewick Man's skull might resemble peoples outside the Americas, the team's anthropologists also reanalyzed the cranium, comparing it to 1368 male skulls from around the world. They found that Kennewick Man does indeed resemble the Ainu and Polynesians—but that it still fell well within the wide range of variation of Native American skulls. Thus, earlier researchers "got it wrong," says co-author Marcia Ponce de León of the University of Zurich in Switzerland, because they assumed that the individual features of the Kennewick skull represented those of the larger population to which he belonged. Genetics has now proven that assumption to be incorrect, Ponce de León adds. (The leading anthropologists originally behind this claim, Douglas Owsley of the Smithsonian Institution in Washington, D.C., and Richard Jantz of the University of Tennessee, Knoxville, did not respond to multiple requests for comment.)

Connie Mulligan, a geneticist at the University of Florida in Gainesville, praises the study for demonstrating that "Kennewick Man is a solid Native American, which is the argument that always made the most sense." But Mulligan disagrees with the politically important conclusion that Kennewick is most closely related to the Colville, Ojibwa, and Algonquin groups. Her reading of the data, Mulligan says,

puts Kennewick equally close to some other groups in Central and South America; indeed, Willerslev and his colleagues also conclude that Kennewick Man has affinities to more southern groups.

Theodore Schurr, an anthropologist at the University of Pennsylvania, says that the relative closeness of the Colville is "somewhat surprising" given the long controversy over Kennewick Man's origins, but that it probably reflects the early creation of local, genetically related groups that endured over thousands of years after the original peopling of the Americas.

Although they originally lost in court, the Colville and other local tribes may now be able to reclaim the Ancient One under the [Native American Graves Protection and Repatriation Act](#), which gives tribes the chance to bury ancestral skeletons. As a result of the new paper, the U.S. Army Corps of Engineers is now studying whether to return the bones, which are currently housed at the [Burke Museum](#) in Seattle, Washington, and cannot be viewed by the public.

The saga of the Ancient One has now run "full circle," says Shane Doyle, a professor of Native American studies at Montana State University, Bozeman, and a member of the Crow tribe, who helped bridge the gap between scientists and Native Americans during the sequencing of the Anzick genome. The skeleton should be "returned to his descendants and respectfully returned to the Earth where his loved ones left him," he insists. Like members of the Colville tribe who cooperated with the research team, Doyle supports scientific research on ancient skeletons, "but the days of going around or above tribal communities are over."

As for the Colville people, Boyd says, "right now we are just basking in the moment."

With reporting by Ann Gibbons and Robert F. Service.

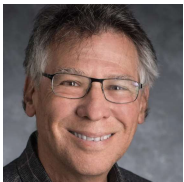
doi: 10.1126/science.aac6861

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