

Go east, Kennewick Man

An approximately 8,400-year-old skeleton, discovered in Washington State in 1996, quickly gained renown for having a skull more reminiscent of Europeans than of Native Americans or their presumed northeastern Asian ancestors. Like a number of other ancient human finds in North and South America, the individual dubbed Kennewick Man didn't look like a New World pioneer was supposed to look.

New studies, however, support the traditional view that early settlers of the Americas—including Kennewick Man—hailed from Asia, not Europe. The sites of origin and the number and timing of their migrations remain controversial.

"There was lots of anatomical variation in the teeth and skulls of ancient New World inhabitants," says Joseph F. Powell of the University of New Mexico in Albuquerque. "But in those features, they looked more like later northeast Asians and Polynesians than like Europeans or Native Americans."

Powell compared cranial and dental measures for 37 New World "paleoindian" finds placed at between 8,000 and 11,700 years old, 938 "archaic" New World specimens dating back a few thousand years, and samples of modern humans from around the world.

Paleoindians resembled the archaic group but displayed marked differences from modern populations, Powell contends. The wide range of anatomical variation in the small paleoindian sample also appeared in random samples of similar size drawn from modern populations, he maintains.

Evolutionary changes that transpired after one or more groups reached the New World could have created the anatomical gulf between paleoindians and modern Native Americans, Powell theorizes.

A related study, directed by Jeff C. Long of the National Institutes of Health in Bethesda, Md., finds that Native Americans living in North America exhibit a pattern of genetic diversity reflecting Asian, but not European, origins.

The researchers assessed frequencies of 28 gene variants in 12 Native American groups, one Swedish sample, and one Chinese sample. A statistical analysis indicated that Native American DNA patterns arose solely in Asia. European genetic input probably began after Native American contacts with Columbus and other explorers, Long says. —B.B.

Making culture from scratch

Chimpanzees living in Mahale Mountains National Park, Tanzania, exhibit regular behaviors that field workers view as learned traditions. For instance, low-ranking adult chimps regularly clean the hair of their high-status comrades in a practice known as social grooming.

A research team led by Linda F. Marchant of Miami University in Oxford, Ohio, reports a newly observed tradition among Mahale chimps. The researchers call it the "social scratch."

Simply put, some chimps scratch others, usually on the back. Chimps scratch themselves, of course, but they rarely do so while giving or receiving a social scratch. Instead, social scratching typically accompanies social grooming. Adolescent and adult males, especially those regarded as dominant in the group, get scratched the most. Females sometimes scratch their nursing infants. Such activity may help to ease social tensions, Marchant suggests.

Observations of a group of 53 Mahale chimps from July 1996 to May 1997 identified 31 of them as social scratchers. In that time, 520 social-scratching bouts were recorded.

A social scratch.



Linda F. Marchant

Thus far, she notes, social scratching has not been reported for any of several other long-studied chimp populations. Marchant regards this as further evidence that groups of wild chimps devise unique cultural traditions that they pass from one generation to the next (SN: 12/12/98, p. 374).

"The recognition of social customs provides a common identity for each chimp community," Marchant contends. "This furthers our understanding of what constitutes culture." —B.B.

Ancestral cut-ups

Microscopic analysis of a 1.4-million-to-2.4-million-year-old *Homo* upper jaw has yielded the earliest evidence of human ancestors cutting one another apart with stone implements much as they butchered animals.

The fossil jaw, previously found in South Africa's Sterkfontein cave, bears several incisions made by sharpened stone tools, reports Travis R. Pickering of the University of Wisconsin-Madison. The position and arrangement of the cuts suggest that a facial muscle was sliced off in order to remove the lower jaw from the rest of the skull, Pickering says. A wide range of butchered animals display comparable incisions on their jaws, he and his coworkers assert.

Until now, the oldest evidence of stone-tool cuts on a member of the human evolutionary family came from a 600,000-year-old skull found in Ethiopia.

Pickering's group examined a specimen that consists of nine pieces of cranium and jaw. They studied casts of these fossils with a scanning electron microscope.

Trampling by hooved animals and gnawing or chewing by meat-eating creatures cannot account for the ancient incisions, Pickering holds. The cuts retain the same color and appearance as surrounding bone, indicating that they were not produced after the jaw's burial.

No stone-tool marks appear on the more than 700 animal fossils found in the same Sterkfontein sediment layer as the *Homo* specimen, Pickering notes.

It's not known why someone sliced off the Sterkfontein individual's lower jaw. Possibilities include cannibalism or ritual dismemberment following death. —B.B.

Stone Age resilience

Excavations in 1986 yielded an unusual burial at Dolní Vestonice, a 26,000-year-old site in the Czech Republic. Three skeletons, probably all young men, lay on their backs in the grave, side by side.

Researchers in 1986 noticed that one of the youths displayed obvious skeletal abnormalities. Although this individual must have experienced serious physical problems as an infant, new evidence suggests that he overcame those difficulties and became a full-fledged participant in what was a highly mobile society.

The young man had developmental problems that included bowed limb bones and retarded growth, according to Erik Trinkaus of Washington University in St. Louis. But recent X rays show that he developed bones just as thick and strong as those of his peers, Trinkaus asserts. Moreover, the symmetric proportions of the youth's legs and knees allowed him to walk upright and lead an active life.

Signs of arthritis in his right shoulder and two fingers of the right hand probably reflect extensive involvement in social activities, Trinkaus says, such as weaving cord into hunting nets (SN: 5/23/98, p. 332).

Investigators don't know why prehistoric Dolní Vestonice residents buried three people in a single grave or positioned their bodies as they did. —B.B.