


 HUMAN EVOLUTION

Kennewick Man's genome

Palaeontology has in recent years been revitalized thanks to the studies of ancient DNA. The fact that we have been able to describe entirely new hominins (Denisovans) based essentially on DNA alone — without any morphological evidence — is just one example of how things have changed. Rasmussen *et al.* report the genome of Kennewick Man, illustrating how DNA sequence can shed light on controversies that go well beyond science itself.

Kennewick Man — one of the oldest and most complete skeletons in North America — takes his name from the location where his remains were found, in Washington State, USA.

Following the initial discovery, Kennewick Man was dubbed The Ancient One by the Native American tribes who wished to claim the skeleton and reburial it according to their customs. However, although radiocarbon dating put the age of the skeleton at 8,340–9,200 years before present, morphological studies of the

skeleton implied that Kennewick Man was a descendant of a population that migrated before the population (or populations) that gave rise to modern Native America.

Following a court ruling not to release the remains for a traditional reburial, the dispute reached an impasse — that is, until now. By generating and analysing a low-coverage genome sequence of Kennewick Man, Rasmussen *et al.* unambiguously show that this individual is more closely related to Native Americans than he is to any other human group from which data are available. Mitochondrial DNA and Y chromosome sequence data further support his direct relationship with contemporary Native Americans.

Although the support for Kennewick Man's relationship to the contemporary Native American tribes is clear, fine details of genetic ancestry are rarely simple.

Results of population genetic comparisons leave several possibilities.

Individuals from the Colville tribe — one of the tribes claiming Kennewick Man as their ancestors — may be direct descendants of the population to which he belonged, but within the past ~8.5 thousand years have received some gene flow from other American populations. Another possibility is that the Colville descend from a population that ~8.5 thousand years was somewhat diverged from the population to which Kennewick Man belonged. Still another possibility is a combination of both of these scenarios.

It is clear that the Colville do show close affinities to Kennewick Man or the population to which he belonged. Additional modern descendants may be identified as more Native American groups are sequenced. Importantly, this work demonstrates genetic continuity within the Americas over at least the past 8 thousand years. It also demonstrates — yet again — the power of ancient genomics.

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