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Clovis Technology Flowered Briefly
And Late, Dates Suggest

For almost 80 years, one of the most enduring puzzles in the archaeology of the Americas has been the “Clovis culture,” known for its elegant, distinctively shaped projectile points. Was Clovis the progenitor of all later Native American societies, as many researchers have long maintained, and, if so, how and when did it arrive in the Americas?

On page 1122 of this week’s issue, Michael R. Waters of Texas A&M University in College Station and Thomas W. Stafford Jr., proprietor of a private-sector laboratory in Lafayette, Colorado, use new radiocarbon data to argue that Clovis was a kind of brilliant flash in the pan—a movement that may have flourished across North America for as little as 2 centuries around 13,000 years ago. The new dates also put Clovis a bit later than thought, making it harder to accept that it was the first in the Americas.

“What this paper does is reinforce how unusual was the phenomenon we call Clovis,” says Michael R. Bever of the University of Texas, Austin. “To have it rise and fall [throughout North America] in as little as 2 centuries” is a phenomenon with few equivalents in the archaeological record.

Waters says that he and Stafford, an expert in the complex art of radiocarbon dating, set out “to nail down the most basic question: When was Clovis?” The heyday of the technology has typically been set between 11,500 and 10,900 radiocarbon years B.P. (The radiocarbon calibration is disputed for this period, but the widely used IntCal04 calibration puts the dates at 13,300 to 12,800 calendar years B.P.). In an article by Waters and Stafford argue that no fewer than 11 of the 22 Clovis sites with radiocarbon dates are “problematic” and should be disregarded—including the type site in Clovis, New Mexico. They argue that the dateable samples could have been contaminated by earlier material.

Of the remaining 11 sites, Waters and Stafford found that five had been recently dated by higher-precision techniques. The pair decided to redate the others, succeeding in all but one case. The results, Waters says, “were a real surprise.” All of the new dates—as well as all of the previous acceptable dates—occurred within, at most, a 450-year band. Indeed, they say, Clovis probably existed for as little as 200 years, between 11,050 and 10,800 radiocarbon years B.P.—a cultural flowering both somewhat later and considerably shorter than thought.

The later, more precise dates support the emerging view that Clovis was not the progenitor culture, because it overlaps or occurred after other cultures, including one in Monte Verde, Chile, dated to 1000 years before Clovis.

The real surprise of the paper, according to David Meltzer of Southern Methodist University in Dallas, Texas, “is the compressed time frame for Clovis writ large.” So fast was its apparent spread that Stafford suggests that Clovis may have been a set of technologies that were picked up by a mosaic of different cultures across North America rather than a single, fast-moving society. “These tight dates, if they hold up, may help us resolve that long-standing debate,” says Meltzer, who questions the decision to discard the 11 sites.

Meltzer stresses that the dates used are from a minority of North American sites, most in the west, whereas most Clovis points have been found in the east. Until more data are compiled, he says, researchers “can’t know whether this is a real effect or simply a consequence of sampling.” In a sense, Stafford agrees. “We need to get more people out in the field,” he says. “We hope these dates motivate that.”

—CHARLES C. MANN