Revolutionizing First American Thinking?
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Jean Guilleux had set aside his trowel that June day in 2004 and was resting his throbbing back when he saw it across the pit—"a dark stain" that he thought looked like carbon. It *was* carbon, from a basin-shaped, hearth-like feature 12 feet below the surface, deep into the Pleistocene terrace. "Since then," says the French volunteer, "everything at [the] Topper [excavation] has changed." Indeed.

The black stain in the soil provided charcoal for state-of-the-art radiocarbon dating, which indicated that the soil in this ancient chert quarry on the banks of the Savannah River dates back at least 50,000 years. Unearthed from that soil in Allendale County, South Carolina, some 85 miles southwest of the capital city of Columbia, were small items that lead archaeologist Albert C. Goodyear believes are the remains of ancient tool making.

Goodyear's sensational claim, announced in November 2004 at a press conference at the University of South Carolina, where he is a professor, stunned his colleagues because it is at variance with most scientists' interpretation of when the first Americans arrived in the New World. For decades, most archaeologists have believed that the first Americans were the so-called Clovis people, big-game hunters known for their distinctive, fluted spear points, who came to this continent on foot from Siberia through Alaska about 13,500 years ago. Archaeological evidence in recent years from a number of sites in North and South America raises the possibility of earlier, perhaps even much earlier, human arrival. But these findings are controversial and not universally accepted.

Goodyear, a 59-year-old Florida native, understands how much is at stake. "The possibilities here are so shocking," he says, "that part of my mind says, 'None of this could be true. This is absolutely impossible.' But the scientific part of my mind says, 'Be deliberate, be methodological, work your method, and see what your results are.'"

Many experts have been extremely cautious, not to mention skeptical, about the most recent Topper discovery, saying that this extraordinary claim must be supported by solid evidence. Goodyear has not yet published his findings in a peer-reviewed scientific journal, although he plans to submit an article in early 2006. Still, he believes that his team's discovery could be huge. "It could have enormous implications, not just for American archeology, but for global archaeology. I think about that sometimes in the middle of the night."

David Topper's Site

Goodyear, known for his research on Paleo-Indian cultures in the Southeast, first saw the Topper site in 1981 when an Allendale County employee named David Topper told him about a rich chert quarry (chert is a cream-colored, flint-like stone used by some ancient peoples to carve tools from ivory, bone, tusk, and wood) located on a hillside above the Savannah River. Goodyear later named the site after David Topper.

Clovis occupations have been found at other places in the Southeast with abundant chert, so Goodyear thought Topper, which had the added attraction of the river, would have appealed to these ancient people. He conducted test excavations there in 1984 and '85. The results prompted the National Geographic Society to fund a larger excavation in 1986, during which Early Archaic side-notched points were found at a depth of 28 to 32 inches below the surface. Similar points found at other sites have been dated to 11,000-11,500 years old.

During the earlier test excavations, Goodyear's team, working in a different part of Topper, found several stone artifacts at a deeper level that were suspected to be Clovis. Goodyear couldn't prove a Clovis occupation at the time "because we hadn't found any of the definitive fluted points at that point," he says. Goodyear and company eventually moved on to the Big Pine Tree site about a mile upriver from Topper. In 1996, the team unearthed numerous Clovis-age bifacial objects and fragments of blades and microblades there. In 1997, he read an article by several prominent early American experts about the Monte Verde site in Chile, which was said to be 14,500 years old, roughly 1,000 years older than the Clovis culture. "And the Meadowcroft site wouldn't go away," says Goodyear, "even though everybody was shooting at it." (Meadowcroft, in western Pennsylvania, was excavated in the 1970s and yielded several pre-Clovis dates.)

Then in May 1998, the Savannah River flooded and Goodyear abandoned the work at the Big Pine Tree site and returned to Topper, which is located on higher ground. Early in 1998 he read with interest a report on the Cactus Hill site in Virginia that seemed to have compelling evidence of a pre-Clovis occupation. "Based on what I had been reading about those other sites that were apparently pre-Clovis, I asked my volunteers if they'd like to go deeper. They said yes." About six-and-a-half feet down, the team found stone flakes and what appeared to be small tools—such as microblades, scrapers, a possible microcore, and chopping implements—that suggest human occupation. The sand just above these items was later dated by optically stimulated luminescence, which determines the last time sediments were exposed to light, to an age of 15,000 years or more.

"I was in shock," says Goodyear. "Until then I had been a naysayer about pre-Clovis claims, but at that point I had a paradigm crash." Both *U.S. News & World Report* and *Newsweek* did cover stories about the discovery. At about the same time, hundreds of artifacts that were indisputably Clovis-era – including fluted points, broken bifaces representing attempts to flake stone points, scrapers, and prismatic blades—were being unearthed from all over the Topper site.

Goodyear began inviting other researchers to visit Topper. Among those who came were geoarchaeologist Mike Waters, the director of the Center for the Study of First Americans at Texas A&M University; geologist Steve Forman of the University of Illinois at Chicago; Dennis Stanford, curator of archaeology at the Smithsonian Institution; and Tom Stafford, a radiocarbon-dating expert at Stafford Research Laboratories in Boulder, Colorado.

In June 2004, with the aid of a backhoe, Goodyear and his team dug approximately 12 feet down in the main pit. On the last day of that year's dig, volunteer Jean Guilleux discovered the black stain that led to the soil's 50,000-year-old radiocarbon date. Underneath were small chips of flint that Goodyear believes are the remains of ancient tool-making.

Last spring, Goodyear and his crew returned to the Topper site for another few months of work. The Clariant Corporation now owns the site, and the giant Switzerland-based chemical maker welcomes the scientists, volunteers, and media members who descend on Topper most every day. The visitors invariably migrate to the main pit, which is surrounded by towering oak trees draped elegantly with Spanish moss.

The affable Goodyear, sporting high rubber boots, seems to be everywhere, acting as overseer, public relations guru, visitors' guide, and cheerleader. He also mentors the volunteers who work at the site. There were 80 volunteers in 2005, ranging in age from 14 to 82; they paid $461 a week to excavate Topper. Guilleux, 63, originally from Tours, France, has been coming to the site since 2001. "It's really a highlight of the year for me," he says. "There is a sense of discovery here, a sense of re-writing history."

April Gordon, a professor of sociology and women's studies at Winthrop University in Rock Hill, South Carolina, has been volunteering at Topper since 1998. "To be part of something history-making is wonderful," says Gordon. "We're helping explain the puzzle of who the first Americans were."

What Is the Evidence?

Most scientists who have visited Topper seem to accept the accuracy of the stratigraphy and the soil dating. The real question is: has Goodyear found man-made artifacts or nature-made geofacts at the pre-Clovis levels? Asserting that the items seem to be man-made at the 15,000-year-old level (where more than 300 square feet have been excavated) and possibly man-made at the 50,000-year-old level (where only about 15 square feet have been excavated) "puts me out there on a limb," Goodyear admits. "The jury is still out with a lot of people."

No bifaces —a common characteristic of Clovis tools— have been found below the Clovis level. Instead, most of the objects are what's known as bend-break tools, which are small pieces that were made by breaking off the edges of flakes. (Goodyear says that bend-break tools are known to other Paleo-Indian sites in America where there are also pseudo burins.) The lack of bifaces in the pre-Clovis level is a "major finding," in Goodyear's view. "It's not only pre-Clovis, it's something very different from Clovis – a different technology."

Some of the chert objects found at the 15,000-year-old level have scratches that he thinks were caused by repeated hand movements. Microwear analysis has been done on several of these pieces at Texas A&M University. "We have interesting photos taken with a microscope of what looks like polish and striations on the pieces," says Goodyear. These are found on the edges of the objects, the place you would expect to find wear on a man-made tool. About a dozen of what Goodyear believes may be "humanly created flakes" from the 50,000-year-old level (including two apparent bend-breaks) will also undergo microwear analysis.

Goodyear has summarized his pre-Clovis findings from the 15,000-year-old level in a chapter of the forthcoming book, *Paleoamerican Origins: Beyond Clovis,* which is scheduled for publication in 2006 by Texas A&M University Press and the Center for the Study of

First Americans. Still, until his findings are published in a peer-reviewed scientific journal, most of his colleagues are guarded about assessing the latest Topper discovery.

"Until Al publishes, it's a just-so story," says archaeologist Michael Collins of the University of Texas at Austin. "I very much believe there were people in the Western hemisphere before Clovis," continues Collins, "but to say *that* much before Clovis is going to have to come with a huge body of incontrovertible evidence. So we're waiting."

Dennis Stanford, who has spent considerable time at Topper, thinks there are items in the pre-Clovis level there that "clearly look like artifacts, so it's very tempting. But it's an odd assemblage if it is cultural." Still, he's "keeping an open mind, waiting to see the final evidence so that I can assess it."

Mike Waters, also a Topper site veteran, calls it "probably the best Clovis site in the Southeast." As for pre-Clovis artifacts, he has "reservations. There's a good possibility the fractures could have been produced by natural processes," Waters says. He, too, is waiting on the analysis.

Refuting the geofact argument, Goodyear says that the area is a "low-energy environment. The stream flow is very low, and it's on a gentle hillside. The [items] are not burned, and they're not frozen. They have the classic marks of being smashed or struck. Where would the energy come from in nature? Not from the stream, not from the hillside. So that implies people did it." Regarding the several scrapers found at Topper, he adds, "And can nature create regularly placed pressure-flaked edges? You need two eyes and a hand with five digits to do that."

He suggests that the pre-Clovis people at Topper may have had "maritime, rivering adaptation. They had a simple, formal technology of chopping tools and flake tools. You have to ask yourself, 'Why such simple, informal tools?' To me, these are not tools to hunt [large animals] with. You're probably looking at tools to make implements to fish with, weave baskets with, make nets with." He thinks these people could have made their way to Topper by landing on the coast by boat and then moving inland to the site.

Now What?

"What's at stake here," says Goodyear, "is that [it would prove] the Western hemisphere participated in the early radiation of our species out of Africa. It would mean there's a whole new chapter in the spread of our species that's left to be discovered." Should Goodyear's pre-Clovis finding ultimately hold up to scientific scrutiny, it's also very likely that the media coverage will increase, making him something of a celebrity.

But all that is pending the analysis. Goodyear and his colleagues are to move the South Carolina Institute of Archaeology and Anthropology, where he has an office, to a larger facility by early 2006. The current quarters are extremely cramped, and hundreds of zip-lock bags containing Topper materials are sitting in the institute's small lab, waiting to be analyzed.

"We've got five years of digging that needs to be laid out on tables, and we haven't had a situation where we could do that," he explains. He has picked out numerous items from Topper and photographed them, but there is no detailed catalog. "I don't have anything counted and weighed and tabulated yet," Goodyear says.

He believes that microwear analysis will answer the question of whether the ancient materials are natural or man-made. About 25 samples from the 15,000-year-old level have been analyzed at Texas A&M, which has a state-of-the-art microscope. He says preliminary analysis indicates that the wear could have resulted form being used as tools. "So far, so good. But we need to have more items looked at under the microscope," says Goodyear. Jim Wiederhold, who performed the microwear analysis, says the results were inconclusive. The 50,000-year-old items will be analyzed in the near future.

Goodyear is seeking private funding so that more of Topper can be excavated. He and his team discovered a hillside area above the main pit in the summer of 2004 that they believe was "an immense" Clovis village. "Every time I think I've plumbed the depths of Topper—bingo, something else jumps up," Goodyear says. He would like to start his own research center at the University of South Carolina because he believes there are other sites like Topper in the Southeast waiting to be discovered.

Though opinions differ on the pre-Clovis component of Topper, experts agree to agree about its Clovis occupation. A national conference in Columbia in October on "Clovis in the Southeast" featured a side trip to Topper. "It's a very significant and important Clovis site," Collins says. "Topper is… just a drop-dead site," adds Stanford. "The Clovis occupation will carry that site." But will Topper prove the Clovis were not the first Americans? "Al needs to stop digging," says Waters, "and start analyzing."