



Grave Disputes

As U.S. legislation requiring the return of Native American remains to tribes turns 20, a new controversy threatens the tenuous relations between the scientific and Native American communities

locked away in a neutral facility.

Twenty years ago, Congress passed a law aimed at laying to rest such arguments between scientists and Native Americans, and government, university, and Indian representatives will gather in Washington, D.C., on 15 November to commemorate the anniversary. But the debate over the Native American Graves Protection and Repatriation Act (NAGPRA), which gives Indians a chance to reclaim their ancient dead, is very much alive. The Department of the Interior office that oversees NAGPRA came under fire this summer from the U.S. Government



“NO DEBATE; REPATRIATE!” WAS THE CHANT of protesters standing outside the chancellor’s home at the University of California, San Diego (UCSD), on a winter’s day last year. The focus of their ire: 10,000-year-old Paleoindian bones found in 1976 during excavations at the former chancellor’s home. The local Kumeyaay Nation wanted to remove the remains from a university collection and return what they believe are their ancestors to Mother Earth.

More quietly, but just as passionately, the university’s anthropologists argued in nearby conference rooms that the rare ancient bones have no direct relation to the tribe and should be kept for scientific analysis. The remains, they said, could help illuminate the still-mysterious question of how and when humans migrated from the Old World to the New. Today, the sought-after bones remain

◀ **No debate.** Native American protesters demand the return of UCSD’s bones.

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Special features include an expanded interview with archaeologist Stephen Lekson and a podcast interview with editor Elizabeth Culotta.

Accountability Office (GAO) for poor record keeping, questionable decision making, and inadequate resources. And new rules put into effect in May extend the law to give tribes like the Kumeyaay a way to recover even those ancient bones that cannot be linked to an existing people.

Neither Kumeyaay nor UCSD officials will say if the new regulations tilt the battle in favor of the tribe. But the controversy over the revised law exposes the divide between some Native Americans and scientists. “Anyone deceased should be allowed a decent burial,” says James Riding In, an American Indian studies professor at Arizona State University (ASU), Tempe. “These are not just specimens for study.” Yet scientific researchers say valuable data on past North American societies may be

Into the earth. Cheyenne rebury the remains of ancient members of their tribe in 1993, after repatriation became law.

irretrievably lost. “This is disastrous,” says physical anthropologist Keith Kintigh, who also works at ASU Tempe and helped negotiate the original legislation. “The law was not meant to return everything.” The antipathy runs deep. “It’s a mini culture war,” laments Ann Kakaliouras, a physical anthropologist at Whittier College in California.

Conflicts such as the one between the Kumeyaay and UCSD, however, obscure a measure of reconciliation and even collaboration between some archaeologists and Native Americans. “Science doesn’t always supersede human needs,” says archaeologist Larry Zimmerman of Indiana University, Indianapolis. That view has resulted in growing trust between Indians and scientists, he says, and a growing number of Native Americans who are involved in archaeology in some way (see sidebar, p. 168). In return, archaeologists are increasingly gaining access to Indian oral tradition. And some researchers say early fears of a wholesale loss of specimens were overblown.

Yet researchers who study primarily human remains rather than artifacts worry that the new rules will make their work even more difficult. They point out that the oldest skeletons, many of which are likely to be covered by the new rules, are often the most valuable to science (see p. 171). “The idea of repatriating 10,000-year-old skeletal remains to the group that happens to be living in the vicinity where those remains were found is simply preposterous,” says ASU Tempe paleontologist Geoffrey Clark. Kintigh hopes legal action will eventually overturn the new regulations.

Sherry Hutt, who directs Interior’s NAGPRA office, acknowledges that data will be lost as bones are returned to Native Americans. “I would be wrong and naïve to say otherwise,” she says. But she also warns researchers that it is “untenable and inappropriate” to retain the roughly 180,000 objects and remains now controlled by federal agencies and federally funded universities and museums. The message, she says, is that “if you haven’t got going on it, you better get going.”

Unpleasant work

The roots of the conflict lie in the enormous collections of Indian remains and grave goods assem-



bled primarily during the second half of the 19th century. For example, more than 4000 heads of Native Americans were taken from battlefields and burial grounds, stored in the Army Medical Museum in Washington, D.C., and used by some researchers to argue for the racial inferiority of Native Americans. Famed anthropologist Franz Boas said that it was “most unpleasant work to steal bones from graves, but what is the use, someone has to do it.”

Native Americans had little say about the disposition of such remains, many of which

Whose bones? Scientists want to study these 10,000-year-old bones, which the Kumeyaay claim as ancestors.

were displayed publicly. “They should have stayed in the ground with Mother Earth,” says Riding In. Given the long history of grave desecration and the reverence most tribes have for ancestors, asserting control over such remains became a key goal of the nascent Native American movement during the 1970s.

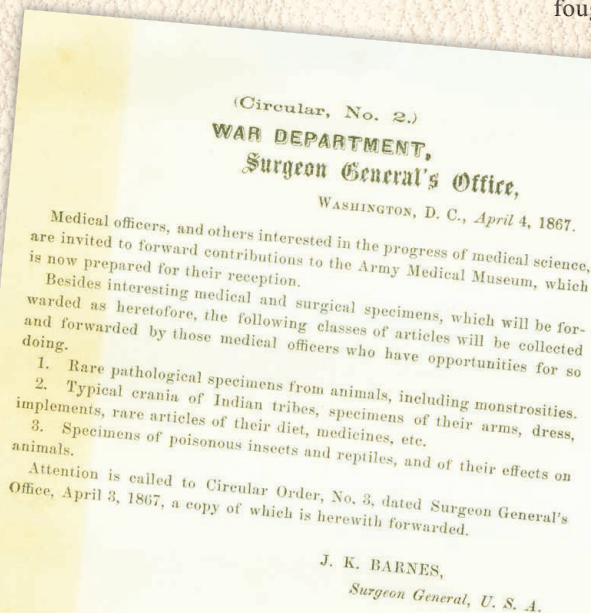
During the same period, American archaeology was changing. Its long association with art and the humanities began to wane. A new generation of researchers began to draw on the hard sciences to piece together past cultures. “The move was away from the history of a people and toward adopting the scientific method,” says archaeologist Michael Wilcox of Stanford University in Palo Alto, California, a descendant of Arizona Yumans. Archaeologists began to use new and more sophisticated tools to study animal, plant, and human remains often neglected in the past. They dated remains with radiocarbon, analyzed diets with isotopes, and took the first steps toward extracting DNA to trace relationships among populations. As a result, osteoarchaeology, or the study of ancient human bones, flourished in the 1980s.

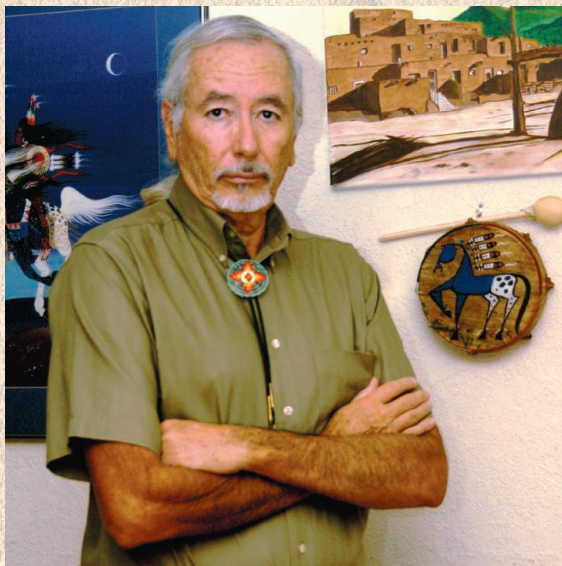
The unfortunate conjunction of these two trends pitted Native Americans, with their pent-up grievances and newfound political muscle, against a group of overwhelmingly white scientists devoted to rational inquiry and largely unfamiliar with modern Indian culture. Researchers initially fought the law but misjudged its appeal.

NAGPRA was widely seen as human-rights legislation, granting Native Americans—there are roughly 4.5 million in the United States today—the right to rebury their dead. The bill passed both houses of Congress unanimously and became law on 16 November 1990 (*Science*, 1 April 1994, p. 20).

The final legislation was a compromise with scientists that laid out a complicated process for repatriation. Under NAGPRA, all institutions that receive federal funding were to make inventories of remains and ceremonial

Grave disrespect. In the 1800s, an army museum requested Native American remains and objects.





◀ **Rescue mission.** ASU's James Riding In says remains must be reburied.

at all, in part because of its great age (*Science*, 30 July 2004, p. 591). And in other cases, Native Americans felt that institutions were using the law's "unaffiliated" category to block repatriation. So they pushed for changes that would give them an opportunity to recover those remains as well. In May, the Department of the Interior implemented rules that allow tribes to request "culturally unaffiliated" remains found on their current or historical lands. The new rules affect roughly 120,000 Native American and Hawaiian remains.

Many Native Americans complain that the rule doesn't go far enough, because it exempts unaffiliated ceremonial objects and grave goods. And some researchers predict that the impact on science will be limited because Indians simply won't ask for large numbers of bones. Some groups no longer remember traditional ceremonies, have taboos on handling the dead, or lack the necessary time, money, and organization. "Tribes don't have the facilities or the personnel to handle this stuff," says Wilcox. "Much of it will remain in the collections."

objects and repatriate them to "culturally affiliated" tribes. Some items were exempt, including objects and remains that could not be linked to a particular tribe and those found on private land.

Repatriations proceeded, though slowly in many cases. By the end of 2009, federal agencies had reported giving back about 9000 or 55% of "affiliated" human remains and 130,000 or about 68% of associated funerary objects, according to a recent GAO report.

However, in the most famous repatriation case, scientists won a lawsuit arguing for the right to study a 9400-year-old Paleoindian dubbed Kennewick Man, which they said could not be affiliated to Native Americans

Walking in Two Worlds

Archaeologist and Choctaw Indian Dorothy Lippert gives Native American remains and sacred objects back to tribes as part of her job at the Smithsonian Institution in Washington, D.C. But sometimes her work becomes personal. Lippert, 43, recalls that in 2003 she learned that the museum held the skeleton of a Choctaw woman who was 30 to 40 years old when she died in the early 1800s. "It was me," says Lippert. "It was so devastating to see. Over 100 years ago, I would have been dug up and put in a museum."

That personal connection sets Lippert apart from non-Indian archaeologists, she says. She and the small but growing number of other Native American archaeologists sometimes find themselves torn between their culture and their profession, as tribal traditions clash with scientific inquiry. Now new government rules, which allow tribes to claim "unaffiliated" remains and objects, are likely to stir up old tensions, as researchers

Bridging communities.

▶ Stanford's Michael Wilcox sees growing interest in archaeology among Native Americans.

fear a loss to science (see main text, p. 166).

But as the original law ordering institutions to give back Native American bones celebrates its 20th birthday, Lippert and her colleagues are testimony to what has changed. In 1990, there were almost no Native Americans with Ph.D.s in archaeology, according to an informal tally kept by archaeologist Michael Wilcox of Stanford University in Palo Alto, California, who is a descendant of Arizona Yumans. Today there are 15 to 20, plus perhaps hundreds of Native American archaeologists without degrees or with master's, bachelor's, or associate degrees.

The central conflict these archaeologists face is how to deal with human remains, because cul-

But others foresee disaster. The new rules are "draconian," says archaeologist Stephen Lekson of the University of Colorado Museum of Natural History in Boulder, and make it much easier for tribes to request unaffiliated objects. After the original law passed, says Kintigh, "I was not one of those who said the sky would fall." But he fears the new rule will deny researchers access to crucial specimens forever. The American Association of Physical Anthropologists argued in a 10 May letter to Hutt that the rule "could effectively remove ... human remains that document the rich and complex biocultural history of the first Americans." The result, it warned, could be "wholesale reburial of indigenous history." The Society for American Archaeology took a softer line, criticizing the rule for failing "to recognize scientific study as an important part of increasing knowledge about the human past."

Counting bones

After 20 years, just how much has NAGPRA affected research? Individual opinions vary, and answers based on quantitative analyses are hard to come by. But several researchers have tried. Physical anthropologist Elizabeth Weiss of San José State University in California examined osteological graduate work from



tural and religious beliefs make handling them all but prohibited for many Native Americans. Some tribes, such as the Navajo, believe that contact with human remains can cause physical illness. Others respect the dead by not handling them and so avoid working with bones "out of consideration for our relatives," says Sonya Atalay, an Ojibe and archaeologist at Indiana University, Bloomington. Wilcox recalls at first being interested in studying bones, but after working in a lab he grew troubled by the lack of sensitivity among his non-Native colleagues and switched to archaeology. How many Native

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the 1980s to 2006 and found that the number of anthropology theses using skeletal remains worldwide increased dramatically, while the percentage of U.S. work using Native American remains dropped sharply. She thinks students are abandoning research in North American bones in favor of greener pastures elsewhere (see sidebar, p. 170). Kakaliouras also found a steep drop in the number of papers based on Native American skeletal remains at annual physical anthropology meetings, but her results don't quite fit with Weiss's: She found that the decline didn't begin until after 2004 and thinks it may be due more to fear of NAGPRA than to NAGPRA itself.

The most comprehensive attempt to understand NAGPRA's impact is now under way at the University of Arizona in Tucson, led by physical anthropology Ph.D. student Elisabeth Cutright-Smith. She and two other graduate students are analyzing the content of two journals that represent different though related disciplines—the archaeological journal *American Antiquity* and the *American Journal of Physical Anthropology*—before and after NAGPRA. Like the other studies, the team found that worldwide analyses of human remains have risen since the 1970s.

But preliminary results show contrasting patterns in the two journals. The number of papers on Native American remains published by the archaeological journal increased after the early 1990s, but the number published by the physical anthropology journal began to decline in 2001. In addition, mention of consultation with tribes rose after 1996

Boning up. Anthropologist Elizabeth Weiss seeks to learn from ancient bones. ▶

in *American Antiquity*, as did the amount of ethnohistorical data and oral tradition. But in the anthropology journal, use of tribal knowledge declined. “The passage of NAGPRA has provoked contradictory outcomes,” says Cutright-Smith.

Determining the law's effect on fieldwork is even more difficult to quantify. Under NAGPRA, archaeologists and land managers must notify tribes of finds on tribal or federal land, triggering what can be a protracted consultation. Utah's state archaeologist, Kevin Jones of Salt Lake City, says land managers find the NAGPRA process “daunting and burdensome” and “want a quick decision,” so they're inclined to swiftly turn newly discovered human remains over to tribes. “I have no doubt that information is being lost,” he adds.

Some archaeologists will even turn their backs on bones found in the field. Wilcox recalls finding a human bone in a national park with a National Park Service archaeologist, who immediately warned him against picking it up or even looking at it. That's not an option for those who rely on bones for data. “Archaeologists in the field can just avoid burials” and work on artifacts, explains Kakaliouras. “But for physical anthropologists, this is their bread and butter.”

Collaboration or conflict?

For many archaeologists, however, the loss of data that comes with repatriation is



trumped by its human-rights value. “Absolutely, we lose some pretty important information,” says Lekson. “But it's still the right thing to do.” And NAGPRA has actually proved beneficial to some researchers. “For a long time, indigenous people were left out of the equation,” says George Nicholas, an American archaeologist who teaches at Simon Fraser University in Burnaby, Can-

Americans handle Native bones as physical anthropologists today? Says Wilcox, laughing: “I would say zero.”

And yet archaeologists in the field are bound to encounter human remains at some point. “I'm faced with that all the time,” says Atalay, who researches the cooking practices of 9000 years ago by studying food residues in hearths and cooking vessels. Most of her “dirt archaeology” takes place at an ancient site in Turkey, where she excuses herself when human remains are excavated. John Norder, a member of the Spirit Lake Dakota Nation and a professor of archaeology and ethnohistory at Michigan State University in East Lansing, has done the same on past digs and says his “colleagues have been understanding.”

A legacy of exploitation colors the way Native American archaeologists are perceived both by their peers and by American Indians. In the early 1990s, a few years after the Native American Graves Protection and Repatriation Act was

Personal touch. Dorothy Lippert feels a connection to Indian remains. ▶

enacted, Norder says Indian activists “would literally yell in my face” for being an archaeologist. Although passions have since cooled, Wilcox says Native American archaeologists are still considered suspect by the Indian community: “To them, it's like a chicken working for Colonel Sanders.” Lippert, who like Norder caught grief from Native American activists years ago, today gets an angry earful from some of her fellow archaeologists, who wonder where her loyalties lie because she supports the new rules. Says Wilcox wryly: “We manage to make everyone unhappy.”

Still, for Lippert at least, living in two worlds means she is positioned to make a difference. In July, 7 years after she learned about the bones, the female Choctaw skeleton was repatriated and reburied in Oklahoma.

—KEITH KLOOR

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A World of Graves

The United States isn't the only nation grappling with native claims on ancient skeletons (see main text, p. 166). But different cultures have wildly divergent views of their long-dead ancestors, with profound consequences for the kinds of research that can be done. Here's a brief roundup of world attitudes toward the study of ancient human remains:

Australia: As in the United States, tens of thousands of indigenous remains were collected by mostly white researchers 100 to 200 years ago. Today, laws allow—but do not mandate—return of Aboriginal bones to their descendants. In recent years, Aborigines have focused on recovering remains from U.S., British, and other foreign collections. Some 1000 were returned between 1998 and 2008.

Israel: Ultra-Orthodox Jews, offended by scientific study of human remains, have long argued for their immediate reburial. In 1994, in the wake of protests by this group, the attorney general ruled that archaeologists must turn over ancient bones to the Ministry of Religious Services for reburial. In September, grave finds at a Jaffa construction site sparked protests in the United States as well as in Israel.

Canada: No comprehensive legislation has been passed, but the country has a long-standing policy to repatriate remains and objects to its indigenous peoples, called First Nations, and there is a tradition of cooperation rather than antipathy between archaeologists and First Nations people. For example, one well-preserved 500-year-old corpse, found in a British Columbian glacier in 1995, was studied with tribal approval and cremated a decade later, after researchers had dated the bones, examined the clothing, and determined that the body's DNA resembled that of 17 people living nearby.



United Kingdom/Europe:

Studies of domestic ancient remains are welcomed here, as seen in the enthusiastic embrace of scientific work on Ötzi, the 5000-year-old Ice Man found in the Alps. But many museums have drawn fire for their large collections of bones from former European colonies; only half of the 20,000 human samples now in London's Natural History Museum

are British in origin. Although the prime ministers of Britain and Australia agreed in 2000 that Britain would return its Aboriginal remains, many museums have balked, with a few exceptions. The head of the Aboriginal warrior Yagan, killed by white settlers nearly 2 centuries ago, was returned and reburied in July in Western Australia.

In other parts of the world, there is often little difficulty in studying ancient bones. In East Asia, for example, burial practices today center on cremation, so living people feel little connection to ancient remains. In Africa, widespread pride in the continent's role as the cradle of the human species fosters positive attitudes toward paleontology.

But some physical anthropologists worry that indigenous tribes in South America will eventually focus on the issue, blocking the one open avenue for no-holds-barred studies of ancient Americans. In Chile, for example, a New Zealand team excavating on the west coast encountered concern among local tribes about how any bones might be treated (*Science*, 11 June, p. 1344). The result, worries physical anthropologist Elizabeth Weiss of San José State University in California, could be a stampede to more favorable places outside the Americas. "Those who want to study human remains," she predicts, "will go to Europe, where this is not going to be an issue."

—A.L.

—ANDREW LAWLER

ada. "Now archaeologists increasingly are working with descendant communities" in both the United States and Canada.

Collaboration can provide access to tribal knowledge and shed light on material remains, particularly from more recent eras. For example, Sebastian LeBeau, a Lakota who now teaches ethnic studies at Minnesota State University, Mankato, was able to elicit data on sites used for vision quests from the people of the Cheyenne River Reservation for his anthropology Ph.D. That gave researchers a more nuanced understanding of the way the people used the landscape, says Zimmerman.

Such work reflects the growing interest in archaeology within Indian communities. Wilcox believes that Native Americans are more curious now about the traditions of their ancestors, including diet, technologies, and material culture. "When you get beyond the politics, people are interested in these kinds of questions," he says. "Not the whole community, but enough to establish good relations." There are more Native American professors and students, as well as many who work for private cultural resource management companies, some of which are wholly owned by Native Americans. "Before this dialogue started, many Native Americans may have hated archaeologists," says Wilcox. "Now they see what it can do, that it can offer jobs, and they have a much more positive feeling."

On the scientists' side, with NAGPRA no longer an adolescent, a younger generation of researchers says they view the legislation as a historical fact and a welcome righting of past wrongs. Nicholas, for example, simply accepts that Native Americans have the right to withhold objects that contain what amounts to proprietary data. And he's confident that the new rules won't prove as damaging as many fear. "Some folks thought NAGPRA marked the end of archaeology," he says. "But 20 years later, it is more vibrant and relevant than ever."

Others, particularly physical anthropologists, are more pessimistic. "The next few years will be pretty dismal," predicts Weiss. "We'll see an increase in lawsuits, infighting by tribes, and more collections placed off-limits. It's not going to be a pretty picture." Riding In of ASU agrees there are dark clouds ahead. "Relations are still strained, especially with those hard-core scientists who want to deny Indians our human rights," he says. "They are just as determined to resist as we are."

With reporting by Keith Kloor, a writer in New York City.

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