20. THE RED POWER OF VINE DELORIA, JR.

Had the tribes been given the choice of fighting the cavalry or the anthropologists, there is little doubt as to whom they would have chosen ... A warrior killed in battle could always go to the Happy Hunting Grounds. Where does an Indian laid low by an anthro go? To the library?

—*Vine Deloria, Jr. (1988)*

THE 1971 DIG in Welch, Minnesota, was going pretty much like all others, mostly dust and discouragement, but the students still felt lucky to be there. They slaved for weeks, learning to move dirt scientifically. They dug in square pits, wrote detailed fieldnotes, and took routine photographs. They screened everything, picking out even the tiniest bones and artifacts. They catalogued and classified, looking for clues to what life had been like in the ancient Indian village that once stood here.

Then the Indians showed up. Representing a new protest group called "AIM"—the American Indian Movement—they confiscated excavation equipment, burned the fieldnotes, and backfilled the excavation trenches. Clyde Bellecourt, their leader, announced that the Indians of Minnesota were deeply offended because archaeologists were disturbing graves of their ancestors. No more digging would be permitted.

Then, like the dress-up Mohawks at the Boston Tea Party, the Indians from AIM offered to pay for any damage caused by their protest.

The archaeologists, shocked and irritated, complained about "five weeks of work down the drain." Tears welled up in one student's eyes as she explained how careful they had been. Another excavator, preparing for a career in archaeology, said that the activists had made her lose respect for all Indian people and that these citified Indians were simply ignorant about their own past. A third said that the Indians just did not understand—archaeologists are "trying to preserve Indian culture, not destroy it." The AIM radicals did not care what the archaeologists said. They couldn't see how archaeologists were showing respect to Indian people by digging up their dead ancestors.

Russell Means, the self-described "most controversial Indian leader of our time," remembers his first glimpse of AIM Indians. "I couldn't help notice the way they were dressed and their haircuts—parted on one side and combed into waves falling across the other side, the way Indian boarding-school students had once been forced to wear their hair. They wore beaded belts, sashes, chokers, moccasins, headbands, and lots of Indian jewelry. I thought, what are they trying to prove? Those guys looked ridiculous, all dressed up like Indians. I asked somebody, 'Who are those guys?' 'They're from the American Indian Movement in Minneapolis,' he answered."

Unlike the Boston Tea Party, the Minnesota protest was staged by real Indians—dressed up like real Indians. Their mostly peaceful acts of civil disobedience illustrated a deep dissatisfaction with the Federal government and their own lack of representation. In the 1971 Minnesota confrontation, the Indians of AIM were reestablishing claims on their own heritage, showing the world that Indians were very much alive.

DID CUSTER DIE FOR YOUR SINS?

Any of the Minnesota students with a current issue of *Playboy* stashed under the mattress could have spotted the next incoming round. Those who were mystified that protest against white domination targeted an innocent archaeological dig would soon have the mystery cleared up. Vine Deloria, Jr., a Standing Rock Sioux law student had just published an extract from his soon-to-be-released blockbuster, provocatively entitled *Custer Died for Your Sins: An Indian Manifesto*. Deloria's book exploded on the scene in 1969—trashing academics, missionaries, Congress, the Bureau of Indian Affairs, and most other non-Indians who frequented Indian Country.

Particularly stinging was Deloria's Chapter 4—"Anthropologists and Other Friends"—a humorous, take-no-prisoners indictment of anthropological research in Indian country. In Deloria's hands, the term "anthro" became a clever slur, soon to be picked up by angry young Indians across the land (some of whom had never actually encountered an anthro first-hand). To Deloria, the Anthro-American was a meddlesome academic who "infests the land of the free, and in the summer time, the homes of the braves."

"Indians," Deloria teased, "are . . . certain that Columbus brought anthropologists on his ships when he came to the New World. How else could he have made so many wrong decisions about where he was?" He also suggested that, like religious missionaries, anthros were "tolerably certain that they represent ultimate truth" when they set themselves up as the authoritative sources on tribal cultures. He questioned how they had become the custodians of the Indian past.

Deep down, said Deloria, anthros are motivated mostly to climb the academic totem pole. "Reduction of people to ciphers for purposes of observation apparently appears to be inconsequential to the anthropologist compared with the immediate benefits he can derive, the production of further prestige, and the chance to appear as the high priest of American society, orienting and manipulating to his heart's desire." Archaeologists carted off Indian bones and artifacts to faraway museums and wrote complex ethnographies and site reports that were intrusive, irrelevant, and insulting to Indian people. All "amateur" inquiry—research that did not fit this absurd world and therefore was not sanctioned by the academy—was frowned upon and derided.

Furthermore, Deloria argued, anthropology's commitment to "pure research" had forced Indian tribes into unfair competition with academics for funding from private foundations and federal agencies. Anthropological research was especially wasteful, he said, because the "scholarly productions are so useless and irrelevant to real life." Deloria's anthros dwelt only on the past, seeking "authenticity" and ignoring the interests of modern Indian people. Archaeologists in particular were perpetuating myths and images that had structured white perceptions of Indian people for centuries. For them, the only good Indians were the dead ones. He challenged anthropologists to "get down from their thrones of authority and PURE research and begin helping Indian tribes instead of preying on them."

Deloria was infuriated at the anthropologists' silence during those critical days in 1954, when Congress was terminating federal services to Indians. Why, he asked, should Indians maintain an ethnographic zoo for the professional pleasure of academics that had so miserably failed to support tribal interests? After decades of "pure research" on the reservations, why couldn't the anthros have said *something* in support of Indian rights?

Deloria clearly expressed his view that the so-called "alliance" between anthropologists and Indians had long been imbalanced and contradictory. He brought up anthropology's long-term colonial associations and scoffed at the anthropologists' claim of scientific objectivity. Deloria branded archaeologists as exploiters of Indian people, accused them of perpetuating long-standing Indian stereotypes, and asked them to stop digging up his ancestors.

RED POWER ON ALCATRAZ

Custer Died For Your Sins and the American Indian Movement were hardly the first time Indians had spoken out on their own behalf. While the bloody military campaigns involving freedom-fighters like Sitting Bull and Geronimo remain the best-known Indian response to the white invasion, native people of the nineteenth century resisted mainstream domination in multiple ways: Sequoyah developed his own syllabary to publish a newspaper and books in Cherokee; Paviotso Paiute Sarah Winnemucca spoke on the East Coast lecture circuit to promote the well-being of her people; Wanapum medicine man Smohalla and Paiute prophet Wovoka promoted their visionary message of salvation in the famous Ghost Dances of 1870 and 1890; and Arthur Parker had helped establish the Society of American Indians in 1911. Each one in his or her own way promoted pan-tribal resistance to exploitation by outsiders.

The termination debacle of the 1950s had brought a new unity of Indian purpose, sparking a number of Indian protests and conferences that emphasized the need to protect the tribal land base and promote cultural pluralism in the United States. By the 1960s, Indian activists had a track record of successful social protest. The Indian fish-ins of the Pacific Northwest and the successful fight by Taos Pueblo for the return of sacred Blue Lake typified a focus on measured, obtainable goals with clear-cut solutions. When Vine Deloria Jr. was selected as executive director of the National Congress of American Indians (NCAI) in 1964, he called for qualified Indians with the necessary skills to assure the success of federal social and economic programs in bringing prosperity to Indian Country.

The skyrocketing urban Indian population, fostered in large measure as a byproduct of termination, brought large numbers of native people in contact with the militant wing of the 1960s civil rights movement. The American In-

dian Movement was formed initially in response to police brutality in urban Minneapolis. AIM members patrolled the streets in a media-based counterattack, documenting with cameras episodes of police brutality against Indians. These emergent Red Power advocates joined forces with broader civil rights concerns. The largely reservation-based constituency of the NCAI, on the other hand, had problems with the urban activists and their confrontation politics, and a split of sorts developed between the two perspectives. Deloria warned in *Custer* against merging Indian concerns with the broader civil rights movements, but the off-reservation factions continued to build ties with black militant groups.

The 1968 Poor People's March on Washington drove a wedge between moderate and militant Indians. In November 1969, a group calling themselves "Indians of All Nations" began a 19-month occupation of Alcatraz Island, in the middle of San Francisco Bay. Millions of Bay Area residents saw "The Rock" daily, and headlines across the nation made Alcatraz ground zero for the growing Red Power movement.

Four months after the Alcatraz takeover, Deloria told a reporter that while he was not against militancy, he was against stupidity. He considered the occupation to be entirely irrelevant because the Alcatraz activists lacked any meaningful backup in Washington to effect real change. "You can sit on the rock for the next 100 years," Deloria warned, "but if you have nobody carrying that paper through the government agencies, then how do you expect to get title to it, see?" As the Alcatraz occupation dragged on, Deloria received a memorable call from the Nixon White House, ordering him to "get those Indians out of that prison or we'll throw them in jail!" As Indians observed at the time, without decent housing, water, or employment opportunities, Alcatraz looked more like an Indian reservation than the federal prisons then in service.

For Deloria, the Alcatraz takeover became "an Indian version of the Poor People's March," a symbolic protest with ill-defined goals and without specific solutions. The newspapers said that the Indians occupied Alcatraz because they were entitled to the island as a federal surplus property provision of the 1868 treaty of Fort Laramie. Calling this interpretation "a myth," Deloria said that the Alcatraz sit-in, "in legal terms . . . meant nothing." The NCAI had refused to endorse the Poor People's March because, in Deloria's words, its leaders were "unable to articulate specific solutions and see them through to completion."

According to historian Troy Johnson, AIM leadership entered the national scene only after visiting the Indian occupation of Alcatraz. They saw

the power of the press, and how Indian imagery could be used to manipulate it. They also realized the reluctance of federal bureaucrats to punish Indians engaged in civil disobedience. As "Indians of All Tribes, Inc." focused on the Alcatraz occupation, "AIM seized the historical moment and became the premier national Indian activist group," Johnson wrote, "sponsoring a series of protests that would continue throughout the decade and encourage others to speak up for themselves and for their rights."

AIM had reversed the agenda of Parker's Society of American Indians. Although both movements promoted Indian goals and identity at a national level, the emphasis on tribal sovereignty, retention of treaty rights, and self-determination for reservations had replaced the previous calls for assimilation and abolition of reservations. An emphasis on traditional tribal values replaced Parker's reliance on racial determinism. "Going 'back to the blanket' carried positive rather than negative connotations," writes the anthropologist Jeffrey Hanson, "and the outer, visible Indian replaced the inner Indian of the SAI."

The occupation of Alcatraz from 1969 to 1971 was followed by the 1973 takeover of Wounded Knee on the Oglala Lakota (Sioux) Reservation, where Dennis Banks, Russell Means, and 250 AIM supporters faced off against federal marshals. The flashy imagery of Alcatraz and Wounded Knee played well in the world of urban Indians. According to Means, "about every admirable quality that remains in today's Indian people is the result of the American Indian Movement's flint striking the white man's steel. In the 1970s and 1980s, we lit a fire across Indian country. . . . Thanks to AIM, for the first time in this century, Indian people stand at the threshold of freedom and responsibility." Richard West and Kevin Gover take exception to Means, suggesting that while AIM "probably never had the influence in the Indian community that the American media believed it had, it did reflect accurately the frustration and anger felt by all Indians, at least to some degree."

DO THE WASHINGTON REDSKINS HONOR INDIAN PEOPLE?

Beginning in the 1960s, the Red Power movement confronted the power of names head-on. Deloria joined several other Indians leaders in calling attention to the demeaning stereotypes and misleading Indian imagery assigned by the non-Indian mainstream, focusing in particular on the American sports and advertising industries. In 1968, the National Congress of American Indians launched a campaign to address stereotypes found in print and

other media, urging America's high schools, colleges, universities, and professional sports franchises to "do the right thing" by taking a hard look at the racist implications of appropriating Indian names and images. The next year, Dartmouth College changed its mascot from the "Indians" to the "Big Green"; in 1971, Marquette University abandoned its "Willie Wampum" mascot; in 1972, Stanford University teams stopped being the "Indians," Dickinson State switched from the "Savages" to the "Blue Hawks," the University of North Dakota stopped being the "Fighting Sioux," and the University of Oklahoma retired its "Little Red" mascot. In 1996, Miami University of Ohio quit being "Redskins" and, in March 1999, the Crayola Company announced that it was dropping the color "indian red" from its 64-crayon box. Emphasizing that the name was based on a reddish-brown pigment commonly found in India, a Crayola spokesman maintained that the "indian red" crayon had nothing to do with American Indians, but "if it confuses children, it's something that should be reevaluated."

Not all Americans were willing to give up their Indian imagery without a fight. There is today no single word more offensive to Indian people than the term "redskins," a racial epithet that conjures up the American legacy of bounty hunters bringing in wagon loads of Indian skulls and corpses, literally—the bloody dead bodies were known as "redskins"—to collect their payment. For years, Deloria and others have emphasized that such racial slurs would never be permitted for other ethnic groups in America. When they asked the National Football League to change the Washington team's name to something less offensive, they were told that the term is only meant to "honor" native people—the equivalent to using the n-word to name a sports team, then claiming it was done to "honor African-Americans."

In *Red Earth, White Lies*, Deloria recounts the curious tale of Marge Shott, former owner of the Cincinnati Reds baseball team. When Shott made some derogatory remarks about African Americans and Jews in a *private* conversation, she was suspended for a year from baseball. When Jimmy the Greek, a popular sports telecaster, suggested on a national broadcast that African Americans had longer muscles extending up their backs because slave owners bred them that way, he was summarily fired. Thousands of Indians were outraged when actress Jane Fonda was shown on national television supporting her husband Ted Turner's Atlanta Braves with an enthusiastic rendition of the "Tomahawk Chop."

"We have been lectured by every redneck peckerwood who can man a typewriter about how harmless these names and symbols are," complains Deloria. Where are all the protests of racism when Indian people are the subjects? Although this cavalier attitude stems from stereotypes through which America has long defined Indians, Deloria notes that the problem has been exaggerated by scientists who "may not have intended to portray Indians as animals rather than humans, but their insistence that Indians are outside the mainstream of human experience produces precisely these reactions in the public mind. . . . The constant drumbeat of scientific personalities manipulating the public's image of Indians by describing archaeological horizons, instead of societies, speaking of hunter-gatherers instead of communities, and attacking Indian knowledge of the past as fictional mythology, has created a situation in which the average citizen is greatly surprised to learn that Indians are offended by racial slurs and insults."

In 1992, Deloria joined Suzan Shown Harjo and six other Indian leaders to press the mascot issue by suing the Washington Redskins football team. "This is one of the last vestiges of overt racism right out in public in America, and it happens on a weekly basis during sports season," said Harjo. "This is the worst name you can call Native Americans in the English language." In *Harjo et al. v. Pro Football, Inc.* the co-petitioners asked the federal government to cancel trademark protection for the team's name, on the grounds that federal law was not designed to protect those making money from using offensive language. Framing the context as "protection against racism" vs. "profit from racism," Harjo, Deloria, and the others pressed their case for seven years until a federal panel ruled in their favor in April 1999. The ruling meant that marketing and merchandising of the Washington Redskins logo would no longer receive trademark protection (it is now pending appeal).

Several newspapers, including the *Minneapolis Star Tribune*, *Seattle Times*, and *Portland Oregonian*, recognizing the racial overtones involved, refuse to print the term "Redskin" in reporting the results of sporting events. U.S. Senator Paul Simon asks, "Can you imagine tolerating a halftime dance at a football game of a Catholic priest or Jewish rabbi with vestments on, holding a chalice or Torah? It is a small thing but small things are important."

These battles over mascots and Indian imagery underscore the power of naming in mainstream America; and Indians across the country are trying to reclaim that power. In the early 1980s, Papago leaders informed the Bureau of Indian Affairs that they wished to have their tribal name changed to Tohono O'Odham in subsequent official correspondence because the former "Papago" did not like being called "bean-eaters." The tribe's name was officially changed to Tohono O'Odham soon thereafter. A decade later, several members of the Navajo Nation made a similar request, asking to be known by the traditional name, Diné, which means simply "people," but so far, the tribe's

name remains "Navajo." Some Sioux Indians prefer to be known as Dakota or Lakota because "Sioux" is a French adaptation of an Ojibwe or Chippewa word meaning "enemy."

A similar problem has cropped up with the term "Anasazi," used for more than 60 years by archaeologists to denote the Indian people living at Chaco Canyon and elsewhere in the Four Corners between about AD 200 and 1600. The Anasazi people are considered by most archaeologists to be ancestors of the modern Pueblo groups in New Mexico and the Hopi people of northwestern Arizona. In the last few years, a number of Pueblo people have expressed concern over the term "Anasazi." Why, they ask, should their ancestors be known by a Navajo term meaning "ancient enemy"? Although a number of substitute terms have been suggested, many archaeologists today use the term "ancestral Pueblo" instead of "Anasazi."

Indian people also sometimes object when the term "prehistoric" is used to characterize their ancient past. In a European framework, "history" means written records, and for most of the Americas, such documentation did not begin until the arrival of Columbus. But most tribes maintain rich oral traditions, which describe in detail their remote past, and today, some scholars substitute the terms "precolumbian" or "precontact" for the era formerly called "prehistoric." This is why, except for direct quotes from historical sources, you'll not find the word "prehistoric" anywhere in this book.

REFUSING TO WALK THE BERING STRAIT AND NARROW

There's a real feeling that we've been here forever. The Bering Strait theory makes logical sense, but it doesn't override the traditional belief at all. That comes first.

—Larry Benallie (1996),
Archaeologist and member of the Navajo Nation

In the very first sentence of *Red Earth, White Lies*, Deloria says, "Like almost everyone else in America, I grew up believing the myth of the objective scientist." He then goes on to compare the codification and repetition of scientific "truths" to the myths that have emerged from the Judeo-Christian tradition. The more he read, Deloria says, the more he became convinced that scientific arguments are largely based on authority rather than fact, and on manipulation rather than objective reading of the data. He defines science as that "collection of beliefs—some with considerable evidence, some lacking proof at all—which reflects data gathered by a small group of people over the past five hundred years with the simple belief that phenomena have been objectively observed and properly described because they have sworn themselves to sincerity."

In recent years, Deloria has attacked several popular scientific theories, striking particularly hard at the proposition that the populating of America occurred across the Bering Straits, which he considers a farcical "smear tactic" against Native Americans. "The Bering Strait theory is tenaciously held by white scholars against the varied migration traditions of the natives and is an example of the triumph of doctrine over facts," Deloria argues. "If the universities were controlled by the Indians, we would have an entirely different explanation of the peopling of the New World and it would be just as respectable for the scholarly establishment to support it."

Deloria uses the Bering Strait theory to illuminate the smoldering resentment felt by many Indians against science. He says that the recent Kennewick and Monte Verde discoveries only highlight how little science really knows about Indian origins. Archaeologists, he argues, have yet to find either the African Eve's cradle or to locate the frozen superhighway that delivered the first Americans across the Bering Strait from Asia. "Excavating ancient fireplaces and campsites may be exciting," Deloria suggests, "but there are no well-worn paths which clearly show migratory patterns from Asia to North America, and if there were such paths, there would be no indication anywhere which way the footprints were heading."

According to many Indian creation accounts, native people have lived in the Americas since emerging onto Earth's surface from a spiritual underworld. Deloria suggests that many have a cultural memory of traumatic continental and planetary catastrophes, keeping this information alive in tales deliberately constructed to preserve and to entertain. Calling science "the dominant religion," Deloria goes well beyond promoting the truth-value of oral tradition. He launches a full-scale attack on western science: "Like any other group of priests and politicians . . . scientists lie and fudge their conclusions as much as the most distrusted professions in our society—lawyers and car dealers." Here are some alternatives proposed by Deloria as antidotes to the standard teachings of natural history and conventional science:

"Humans and some creatures we have classified as dinosaurs were contemporaries."

Oral traditions from the Pacific Northwest discuss oversized animals in their lakes and rivers. Deloria concludes that because current research suggests that some

dinosaurs were warm blooded with instincts not unlike modern mammals, "there is no reason to hesitate suggesting that some of these creatures, described as animals or large fish by observers, were surviving individuals of some presently classified dinosaur species."

"There were mammoths or mastodons still living in the eastern United States at the time the Pilgrims landed."

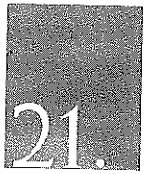
Deloria believes that mammoth bones found on the surface must date to the historic period because "they could not have lain on the ground for thousands of years without suffering complete decay or dissolution." He takes Thomas Jefferson at his word on the matter and cites a British Columbian Indian story to the effect that they built lakehouses on stilts to protect themselves from mammoths.

"Radiocarbon Dating is a Sham"

Deloria believes that radiocarbon dating is "grossly inaccurate" and that scientists routinely instruct radiocarbon lab personnel in preferred results. He claims that radioactive materials washing downstream from the Hanford Atomic Energy plant have hopelessly contaminated the Kennewick bones, "making a test of anything there absurd."

Scientists in Deloria's view are "incredibly timid people" crippled by an excessive reverence for authority and orthodoxy. "Many subjects, no matter how interesting, are simply prohibited because they call into question long-standing beliefs." Prestigious people are permitted to dominate entire fields of inquiry, which are "populated by little people trying to protect their status [and] some areas of 'science' have not progressed in decades." He singles out—correctly, in my view—the historian Samuel Eliot Morison and the physical anthropologist Aleš Hrdlička as heavy-handed zealots who dominated conventional academic inquiry in their day, defending the intellectual *status quo* at all cost and quashing research proposals designed to explore alternative possibilities.

Ideas like these are increasingly being endorsed by large numbers of fundamentalist Christians and liberal activists. This broad constituency joins Deloria in rejecting current theories of human evolution as unfounded dogma, at least in part because the archaeological finds contradict traditional belief systems—Biblical or otherwise. These are strange bedfellows: Native American communities, right-wing Christian groups, and left-wingers. It is just this curious coalition that was instrumental in the passage of reburial legislation by the U. S. Congress.



LEGISLATING THE SKULL WARS

In the larger scope of history this is a small thing. In the smaller scope of conscience, it may be the biggest thing we have ever done.

—Congressman Morris Udall (1990), sponsor of the NAGPRA legislation

THE 1971 CONFRONTATION in Minnesota triggered a nationwide dialogue over whether archaeologists should dig up dead Indians. At the time, many tribes seemed lukewarm about the issue unless it affected them directly. A number of tribes, including Zuni, Navajo, Makah, and Pequot, operated their own archaeological research programs, and they were accustomed to making sure that archaeologists serve the tribal interest.

In the late eighteenth century, Thomas Jefferson wrote that "the dead have no rights" and two centuries later, some anthropologists are reiterating the same message: "I explicitly assume that no living culture, religion, interest groups, or biological population has any moral or legal right to the exclusive use or regulation of ancient human skeletons since all humans are members of a single species," writes Douglas Ubelaker, a bioarchaeologist with the Smithsonian Institution. "Ancient skeletons are the remnants of

unduplicable evolutionary events which all living and future peoples have the right to know about and understand. In other words, ancient human skeletons belong to everyone."

As the reburial issue heated up throughout the 1970s and 1980s, the Indian attitude toward archaeologists hardened. Archaeologist Larry Zimmerman tells a story about excavations on the Crow Creek Sioux reservation, in South Dakota. When some local tribal members asked him what he was doing, Zimmerman replied that looters had vandalized the site, and that he was digging to protect the past. The Indians said that they did not understand the difference between looters and archaeologists. "What is the difference if you dig burials with a trowel or a bulldozer?" asked Chick Hale, a Prairie Potawatomi spokesman. "Is it any better to go into a bank and steal the money all at once, or is it better to steal it a penny at a time?" Over time Zimmerman came to see the importance and sincerity of other perspectives, and became one of the very first archaeologists to advocate a more sensitive approach to Native American remains.

Indian leaders began to complain that whereas non-Indian graves are protected from desecration, grave robbing, and mutilation by criminal statutes in all fifty states, these same protections were not extended to the Indian dead. Instead, Indian graves were defined as "'nonrenewable archaeological resources' to be treated like dinosaurs or snails, 'federal property' to be used as chattel in the academic marketplace, 'pathological specimens' to be studied by those interested in racial biology, or 'trophies or booty' to enrich private collectors," write Walter R. Echo-Hawk and Roger C. Echo-Hawk, (Pawnee attorney and historian, respectively). As Echo-Hawk saw it, "If you desecrate a white grave, you wind up sitting in prison. But desecrate an Indian grave, you get a Ph.D. The time has come for people to decide: Are we Indians part of this country's living culture or are we just here to supply museums with dead bodies?" Indians declared that Native American concern for the dead must override scientific objectives.

Archaeologists were particularly sensitive to such criticisms. Some defended their profession by citing well-documented cases of red-on-red violence and of Indians desecrating the bones of other tribes. Historian Francis Parkman, for example, recorded a Crow war party's treatment of five Sioux corpses that had been ritually buried in trees. After dislodging the grave bundles and kicking them apart, the Crows held rifles against the skulls and blew them to pieces. Is this behavior acceptable, archaeologists asked, just because the ghouls happened to be Indians?

What about Arthur Parker, a Seneca Indian? In his role as New York State archaeologist, Parker personally excavated hundreds of Iroquois Indian burials. Why, archaeologists asked, should modern Indians be so appalled at archaeologists disturbing the old graves when their ancestors had done so all along? Several museum-based anthropologists pointed out the number of Indians who had willingly sold sacred and ceremonial artifacts to museums. As their traditional world fell apart in the late nineteenth century, many Indian people made the difficult choice to entrust their heritage to museums for long-term safekeeping.

Many archaeologists dismissed 1960s Indians as unauthentic, believing that American anthropology was being unjustly vilified by a cadre of "Professional Indians," career-building activists whose biology was their sole credential. Professional Indians seemed to be opportunists who advocated Indian perspectives on controversial topics more for their own personal advancement than from any deep-felt commitment to the issues. But the profession of archaeology almost uniformly misread the depth of belief among many elders and spiritual leaders who were deeply concerned about their dead. Many archaeologists believed that Indians had no real knowledge of their own history. and were just lashing out in resentment at the highly trained non-Indians who knew more than they did. Many agreed with archaeologist Clement Meighan who warned, "if archaeology is not done the ancient people remain without a history and without a record of their existence." Archaeologists argued vigorously during the 1980s against any potential legislation that would protect the "religious beliefs" of Indian people when no other religious group in America was granted such protection. According to archaeologist G. A. Clark "It is simply a fact that most of the pre-contact aboriginal cultures of the New World would have vanished without a trace were it not for archaeology (and the occasional presence of a western observer to record observations about them)." As for the Professional Indians who made their living touting a contrived connection with past religions and traditional spirituality, most archaeologists saw them as phony. Few Indian people, they argued, any longer held these beliefs. In fact, most Indian knowledge of these traditions, they said, is derived from archaeological collections and anthropological scholarship—the very body of scholarly knowledge that the Professional Indians were now attempting to destroy.

This is why many archaeologists felt that the "Deloria problem" was basically educational. If they could just enlighten the Indians about what they were doing, then the Indians would recognize how important science really was—and stop complaining about archaeologists conducting legitimate science. When confronted by Deloria and the AIM activists, most archaeolo-

gists believed—and many still do—that if the Indians would just listen to archaeologists, they could learn a great deal about their own past.

Throughout the 1970s and 1980s, archaeology's response to *Custer Died for Your Sins* was mostly a knee-jerk defense of the status quo. Even in the face of increasingly strident criticism, as someone said, anthropologists continued with "business as usual, only *more* so." As one archaeologist put it, the Red Power protests and the calls for repatriating artifacts and reburying bones have a bright side—after all, "it's good that Native Americans are finally starting to care about their pasts."

"I AM A FUTURE ADULT MEMBER OF THE OMAHA TRIBE..."

Most bills presented before the United States Congress die a slow and painful death, victims of political compromise and bureaucratic red tape. In the late 1980s, however, it had become increasingly clear that the reburial and repatriation issues were not going to disappear, thanks in large part to the impact of the American civil rights movement, the increasingly effective lobbying efforts from Indian Country, and the alliance of Native Americans with mainstream religious organizations. Red Power groups correctly sensed that this was a battle they could win, and faced with the almost certain passage of federal legislation, several museums began internal audits of their collections to locate materials that seemed to be "culturally inappropriate" and to seek out ways to return those remains "proactively," before the law required them to do so.

In 1988, a delegation of Omaha leaders approached the anthropologists at Harvard. They knew that Alice Fletcher had been convinced that the Omaha tribe would soon vanish into the Great American melting pot, and the influential La Flesche family as well as many other Omahas had agreed with her. All of them were wrong because the Omaha did not vanish. Exactly a century after Yellow Smoke turned over the Sacred Pole of the Omahas to Fletcher and La Flesche, his descendants stood in a small courtyard outside the Peabody Museum, and the Omaha people respectfully asked that their consecrated religious artifacts be returned to them.

As with many nineteenth-century museum acquisitions, there are some lingering questions about how the Sacred Pole actually came to the Peabody Museum. In *The Omaha Tribe*, Fletcher and La Flesche explain that "influences were brought to bear" by Iron Eye La Flesche to prevent the sacred items' burial. Even today, considerable oral tradition survives among the Omaha about what these "influences" might have been. Some believe the transfer was not entirely voluntary, that perhaps La Flesche took the pole without Yellow Smoke's consent.

While the Peabody staff debated the merits of the Omaha repatriation request, Ian W. Brown, curator in charge of the artifacts, received a number of letters from Omaha school children, pleading with him to return their Sacred Pole. Brown was particularly moved by the letter from Cary Alice Wolf that began "I am a future adult member of the Omaha tribe. . . ." Cary's letter went on to say that her grandmother "wrote two books on the Omaha language and I am learning the old ways of my fathers and my people. Our young generation of Omahas do cherish the sacred ways. We will take care of and keep the Sacred Pole for our future children. Just as our elders have kept and are teaching us the ways now, we will teach the future Omahas."

After some months of deliberation, the Peabody Museum decided that, although not legally required to do so, they would return the Omaha Sacred Pole. In an emotional presentation at the annual Omaha Powwow in Macy, Nebraska, the Peabody Museum formally returned the Sacred Pole and 280 other sacred artifacts to Doran Morris, Tribal Chairman of the Omaha and Yellow Smoke's great-great-grandson.

The Sacred Pole comes from another era. Yellow Smoke and the other keepers perished more than a century ago. The last renewal ceremony for the Sacred Pole took place in 1873, and the last buffalo hunt a year later. The modern Omaha scored a victory in getting their most sacred artifact returned, but there is some doubt about how to treat the Venerable Man. To them, he remains alive with meaning, and modern Omaha leaders still debate the necessary protocols and rituals required of them. The Omaha people still remember the death of Iron Eye La Flesche shortly after his son Francis, the anthropologist, recorded the legend of the Sacred Pole. Although some still fear the Venerable Man, most apparently believe that if he is treated like a respected elder, his power will help the tribe to continue their spiritual renewal.

The Omaha were long considered one of America's vanishing Indian tribes. After spending her "infuriating and depressing" summer with the Omaha in 1930, Margaret Mead called them a "broken culture." But the Omaha still live in Nebraska, and they retain the traditions of prayer and ceremony, the belief in the power of dance and song, and the stories of their tribal past. They have survived as a people and as a sovereign nation. Today, the Venerable Man resides at the Center for Great Plains Studies in Lincoln, awaiting a move to an Omaha cultural center to be built on the reservation.

THE PASSAGE OF NAGPRA

In 1990, Congress passed and President George Bush signed into law landmark legislation called the *Native American Graves Protection and Repatriation Act* (NAGPRA). A significant triumph for Indian people, NAGPRA permits living Indians to exercise their traditional responsibilities toward the dead. The late Northern Cheyenne Elder William Tallbull put it this way: "How would you feel if your grandmother's grave were opened and the contents were shipped back east to be boxed and warehoused with 31,000 others and itinerant pothunters were allowed to ransack her house in search of 'artifacts' with the blessing of the U.S. government? It is sick behavior. It is un-Christian. It is [now] punishable by law." As Judge Sherry Hutt pointed out in congressional testimony, rather than extending special rights to Native Americans (which would violate the 14th Amendment), NAGPRA awards an equal protection of property rights already extended to other Americans. She calls NAGPRA "one of the most significant pieces of human rights legislation since the Bill of Rights."

NAGPRA covers several basic areas of concern. First, it recognizes the importance of tribal consent when dealing with Indian graves on tribal lands and requires "consultation" with tribes over remains found on federal lands. NAGPRA mandates that, by November 16, 1993, all museums and universities receiving federal funds (personal collections are not included) send a summary of Native American sacred and ceremonial objects and unassociated funerary items to Indian tribes potentially affiliated with those artifacts. Two years later, on November 16, 1995, these same institutions were required to file an inventory of Native American human remains and associated grave goods with culturally affiliated tribes. Indian tribes shown to be culturally affiliated with these artifacts and remains could then request their return. The National Park Service provided museums a listing of 771 tribes, bands, and nations to which the appropriate inventories should be sent. Only federally recognized native groups appear on the list; tribes recognized only by state-level governments and those whose federal standing is pending are not covered by the legislation.

The bill also mandates an intensive and continuing interaction between archaeologists and tribal representatives. At first, these interactions were tinged with mistrust and apprehension. For decades, many Native American people felt uncomfortable visiting public museums where their cultural heritage was on display. Some Indian people saw NAGPRA as placing them on equal footing with museum and university officials. Other Native American representatives believed that NAGPRA unfairly favored the museum community, hindering native people in gaining control over materials that rightfully belonged to them (and which in their view should never have left Indian land in the first place).

The bill made its heaviest impact on archaeologists working on federal or tribal lands, but even those working on private land became involved, because most archaeologists were wary of dissolving collections long held in the public trust; such behavior is contrary to every museum charter. Many collections contain pieces specifically commissioned for exhibit and study. Museums argued that, far from robbing Native people of their heritage, ethnographers and archaeologists have attempted to preserve this heritage for the common good. Still, museums across the country are complying with the new law of the land.

THE BONES GO HOME

Suzan Shown Harjo, then executive director of the National Congress of Americans Indians, had protested in the late 1980s to the *Los Angeles Times* that the Smithsonian was holding the skulls of her Cheyenne relatives hostage. "It wasn't enough that these unarmed Cheyenne people were mowed down by the Cavalry at the infamous Sand Creek massacre; many were decapitated and their heads shipped to Washington as freight." Harjo tried to imagine the reactions of her ancestors when they returned home, "finding their loved ones disinterred and headless."

More than 125 years after they were first shipped east, the Smithsonian Institution returned the remains of the Sand Creek massacre victims to their Cheyenne descendants. Tribal members packed cedar chips around the bones and reburied the blanket-wrapped remains in a cemetery in Concho, Oklahoma. For the Cheyenne, the return was a formal admission by the federal government that the skulls and skeletons should never have been seized from the battlefield in the first place. It fell to the living to make it right with the dead.

In another noteworthy case of cooperation, Smithsonian scientists and a delegation of Blackfeet representatives together resolved the problems raised by fifteen skulls sent from the Blackfeet reservation to the Army Medical College in 1892. The Blackfeet were concerned because their ancestors had been at war with neighboring Indian groups in the late nineteenth century. What if enemy skulls had been misidentified as Blackfeet?

To avoid an unacceptable mixing of spirits, they asked for assurances that only legitimate Blackfeet remains were being returned for reburial. Accordingly, bioarchaeologists at the Smithsonian conducted a battery of tests on the remains, returning only those thought conclusively to be Blackfeet. These remains were subsequently reinterred in Montana, where a monument was erected on the Blackfeet reservation.

Some tribes chose not to deal directly with human remains at all. The Eastern Shoshone people on the Wind River Reservation in Wyoming did not wish their ancestral remains repatriated because they questioned the accuracy of museum records. The Zuni people asked that the skeletons removed from tribal lands remain under museum curation.

Phillip Walker, a physical anthropologist, has worked with the Chumash Indians of southern California for a quarter century. The Chumash have long designated an individual as *liwimpsbit*, a tribal member intimately familiar with the human skeleton. "These medical practitioners not only could set bones, but they could also arrange all the bones of a human skeleton properly, and determine whether those ancestral bones had once belonged with a man or a woman." These traditional practices opened up some common ground between Walker and the Chumash, serving as a basis to insure that bioarchaeological research could be conducted within an environment showing proper respect for the dead. Together, they established a specially designed subterranean ossuary at the University of California, Santa Barbara, where tribal remains are stored and protected—and available for bioarchaeological research under the supervision of their Chumash descendants.

Many Chumash say that they can gain a deeper understanding of tribal history from these collections. The thought of losing that, when so much has already been lost is not appealing. "The basis of the arrangement we have with the tribe," writes Walker, "is the mutual trust and respect we have built over the years through working together to prevent the destruction of archaeological sites and grave robbing."

THE PUEBLOS RETURN TO PECOS

On May 22, 1999 in the largest repatriation and reburial of the twentieth century, the Pecos and Jemez Pueblo people welcomed home the remains of nearly 2,000 of their ancestors. One thousand Pueblo people and well-wishers walked alongside the 53-foot-long eighteen-wheeler carrying the remains for the final mile of a 2,200 mile-trip that had started out in Massachusetts, where

the bones had been stored and studied for more than seven decades. Three days earlier, an honor guard of two hundred had left on foot from Jemez Pueblo, seventy miles west of Pecos. Working their way eastward—through the chilly Jemez Mountains, across the Rio Grande, and into the Sangre de Cristo Range—they were backtracing the path of their ancestors who in 1838 had abandoned Pecos to join relatives at Jemez. As they walked, five and six abreast on the two-lane road, War Chief Pete Toya said simply, "We are real grateful, happy and proud that our ancestors are on their way home."

Their destination was a long rocky ridge where for eight centuries the powerful Pecos Pueblo had stood. There was no dispute over cultural affiliation: the Jemez and Pecos people had long been linked by biology, language, and spiritual beliefs. Disease and warfare during the Spanish colonial period reduced the population at Pecos until, in 1838, the handful of survivors relocated to Jemez. In 1936, the United States Congress formally recognized that the two tribes had merged. Although the Pecos descendants retained a certain autonomy, the Pueblo of Jemez was named as their legal, cultural, and administrative representative. Thanks to actress Greer Garson, whose Forked Lightening Ranch abutted Pecos Pueblo, the site became a National Monument in 1965.

When NAGPRA was signed into law, the people of Jemez Pueblo began discussing how to bring the remains of their ancestors back to Pecos. About the same time, as prescribed by the new law, James Bradley, Director of the Robert S. Peabody Museum in Andover, contacted Jemez representatives, saying simply "We have a lot of your stuff." The Jemez replied in equally simple language: "We know, let's talk."

Walking alongside the truck carrying the bones was Ruben Sando, the Governor of Pecos Pueblo. He carried with him the ceremonial cane of authority presented to the Pueblos by Spanish King Philip III in 1620—the same year the Pilgrims splashed ashore at Plymouth Rock. Raymond Gachupin, now the Governor of Jemez Pueblo compared the gathering to a celebration, like a "whole family getting together at Christmas, a reunion. You feel fulfilled." Not far away, 87-year-old Juan Ray Tafoya quietly wept, his grandson Bryan whispering softly to him in their native Towa language, the traditional tongue of the Jemez people. "He wants to walk the last mile," explained Bryan, "It's spiritual to him." And so he did.

The Pecos repatriation was difficult for archaeologists. The collections had been stored at Harvard University in Cambridge and the Phillips Academy in Andover since the 1920s. The esteemed archaeologist A. V. Kidder had dug them up in then-revolutionary excavations, and some say Kidder's

work at Pecos provided a "Rosetta stone" for understanding the basics of Southwestern archaeology. These were the same skeletons that Earnest Hooton had studied, and many physical anthropologists had worked on the bones since. The Pecos collection had long been the largest available skeletal population from a single Indian community. Although the Pecos skeletons are well studied, the prospect of what might have been done with newer technology, newer theories, and newer science will always bother museum scientists, whose job descriptions call for preserving museum specimens, not disposing of them. No matter how culturally, social, or politically appropriate, the Pecos repatriation entails a loss to science. But a number of scientists believe that the sacrifice is warranted given the human component involved in archaeology. After all, archaeology and paleontology have rather different ethical mandates.

The two thousand skeletons were buried in an unmarked area in the National Park at Pecos.

THE NEW YORK ESKIMOS RETURN TO GREENLAND

Rather different emotions greeted the bones of the six Greenland Eskimos, Minik among them, who in 1897 had sailed into New York harbor aboard Robert Peary's ship *Hope*, and lived at the American Museum of Natural History while working with Franz Boas and Alfred Kroeber. Canadian author Kenn Harper heard their story while traveling in Greenland in 1977. A decade later, his book, *Give Me My Father's Body*, called the story to the attention of the American press once again. Although NAGPRA does not apply to international repatriations, the American Museum of Natural History decided, in 1992, to explore the possibilities of returning the Eskimo skeletons to Greenland for (re)burial.

Acting on behalf of the museum, Edmund Carpenter, an anthropologist specializing in Eskimo studies, and Jorgen Meldgaard, an archaeologist with the Danish National Museum, met with town officials at Qaanaaq, the Greenland village presently occupied by descendants of the six New York Eskimos. Their plan for reburying the remains was met with unexpected silence. Although the Qaanaaq Eskimos expressed an interest in continued anthropological research, none seemed particularly interested in discussing a return of the bones. Finally, after a delay of nine months, Pastor Hans Johan Lennert of

Qaanaaq's Lutheran Church agreed to conduct the reinterment, but apparently only after a Danish bishop pressured him.

The Royal Danish Air Force flew the four tiny coffins containing the skeletons to Thule, and Carpenter accompanied them to Qaanaaq in August 1993. After a service in the modern glass-fronted church, a pickup truck took the remains of Qisuk, Nuktaq, Atangana, and Aviaq to the Lutheran cemetery where they were buried beneath a cross and a bronze plaque that begins, "They Have Returned." After the service, everyone shook hands.

Ted Carpenter and his wife, Adelaide, asked the community about their reaction to the service, one resident said simply, "Embarrassment." Carpenter believes that "The whole service was really for us," that the Eskimo were only participating in the reburial ceremony as a courtesy to their American and Danish guests. The people of Qaanaaq knew that Qisuk and the others had left Greenland because they wanted to; they liked Admiral Peary, and he had treated them well in the past. Once in New York, Peary disappeared, and the four had died. When the strangers arrived for a church service so many years later, the Eskimos at Qaanaaq went along because they did not want to upset anyone.

"How do you feel" the Carpenters asked Qaqqutsiaq, Minik's last surviving relative, "about the return of the bones?"

"If that's what [the museum people] wanted," replied Qaqqutsiaq, "it's alright. If [the bones] had stayed where they were [in New York], that would have been alright, too."

"May I record you saying that?"

"No, I'll soon be dead," replied the 94-year-old, "and I don't want my voice left behind. And no photographs. I want nothing left."

Qisuk, Nuktaq, Atangana, and Aviaq were not Christians, but many of their modern descendants in Qaanaaq are, and so, they believed, were the strangers who brought the bones from New York. They knew that the Christian religion places great emphasis on respecting and burying the bodies of the dead.

But the Polar Eskimos' religion—the tradition in which Qisuk and the others were raised—attributed only evil properties to the dead. This is why, in 1897, they told Alfred Kroeber that the bodies and personal effects of the deceased must quickly be discarded and not discussed again. Although the modern people of Qaanaaq were too polite to say so, many felt that Qisuk would not have wanted his bones brought back home. Polar Eskimos of his day tried to avoid the remains of their dead.

WHO'S GOT ISHI'S BRAIN?

Yet another reburial story was played out in the strange saga of Ishi's brain.

Since his death in 1916, the poignant story of the last "wild man" in America had faded from the public eye. Then came an Ishi revival of sorts, sparked by the 1961 publication of *Ishi in Two Worlds* by Theodora Kroeber (Alfred's second wife and companion for four decades). The book, which tells Ishi's story without melodrama or romanticism, was an instant hit. *Ishi in Two Worlds* still enjoys brisk sales, making it the University of California Press' all-time top seller.

In his mid-eighties when Theodora wrote the book, Alfred Kroeber agreed to share his memories of Ishi but refused to participate directly in the writing. "This was, to be sure, the teacher keeping his finger out of the student's pie," Theodora Kroeber wrote later, but it "was more than that: the old sense of pain and hurt returned with these recollections as readily as the indubitably happy and comic and fulfilling memories. I knew then that Kroeber would never have written Ishi's biography. He had lived too much of it, and too much of it was the stuff of human agony from whose immediacy he could not sufficiently distance himself."

During the 1990s, two documentaries and a made-for-television movie brought the Ishi story to an entirely new American audience. In *The Last of His Tribe*, Native American actor Graham Greene starred as Ishi, and Jon Voight played a melancholy young Kroeber. Ishi's burial urn, placed in a cemetery near San Francisco, became something of a tourist attraction.

In May 1997, as part of the NAGPRA review of human remains, Arthur Angle of the Butte County Native American Cultural Committee announced plans to rebury Ishi's remains in his tribal homeland near Mt. Lassen. Citing Ishi's belief that the body must be whole for the spirit to reach the land of the dead, however, the committee refused to proceed without the brain, which had been removed at the 1916 autopsy. Angle wrote to California Governor Pete Wilson, stating his intentions and soliciting help in locating the long-missing brain, which they believed was preserved somewhere in the University of California system.

The staff of the Phoebe Hearst Museum of Anthropology, appropriately located in Kroeber Hall on the Berkeley Campus, launched a detailed investigation into the whereabouts of Ishi's brain. The staff reported that all the existing records suggested that Kroeber and his colleagues had firmly opposed

treating Ishi as a specimen. They could find no record that Ishi's brain was anywhere at Berkeley and suggested it had been cremated with the rest of the body. However, it might have been transferred the University of California Medical School in San Francisco.

At this point, administrators at the University of California asked Nancy Rockafellar, research historian in the History of Health Science Department, to investigate. Rockafellar got in touch with Orin Starn, a Duke University anthropologist who was researching a book about Ishi. Starn found a long-ignored file at Berkeley indicating that when Kroeber arrived back in California, Ishi's brain was waiting for him. Seven months after Ishi's death, Kroeber wrote to Aleš Hrdlička at the Smithsonian Institution: "I find that at Ishi's death last spring his brain was removed and preserved. There is no one here who can put it to scientific use. If you wish it, I shall be glad to deposit it in the National Museum Collection." Hrdlička quickly replied that he would "be very glad" to add Ishi's brain to his collection, which already contained more than two hundred human brains (including that of John Wesley Powell). Ishi's brain was shipped to the Smithsonian Institution on January 5, 1917.

In January 1999, the curatorial staff of the National Museum of Natural History confirmed that Ishi's brain was indeed stored at the Smithsonian's off-site curation facility in Silver Springs, Maryland. Smithsonian officials had not known that anybody was looking for it. Four months later, the Smithsonian's Museum of Natural History offered to return Ishi's brain to the Redding Rancheria and Pitts River Tribes of northern California under the conditions of federal repatriation legislation.

Ishi's death had deeply affected Kroeber. There can be no doubt about that. But sometime between forbidding the autopsy and his October letter offering Hrdlička the brain, Kroeber changed his mind. Did he come to see some scientific merit in preserving the brain, or was he simply looking to cement his personal and professional relationship to Hrdlička, the most important physical anthropologist of the day? Whatever the answer, Kroeber's curious behavior reflects the classic Jeffersonian paradox: his unfeigned devotion to Ishi his friend, weighed against his scientific perception of Ishi as a priceless scientific specimen.

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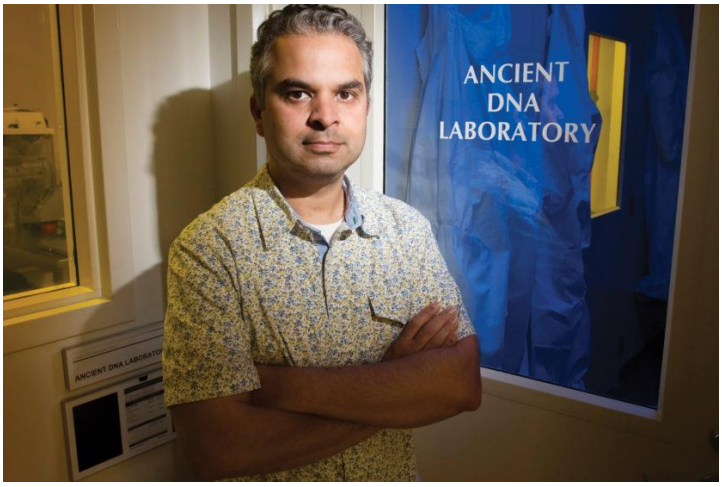


Ripan Malhi, associate professor, UI Dept. of Anthropology, focuses his research on Native American populations, particularly of the Pacific Northwest. He strongly believes in establishing relationships with tribal communities, and shares his findings and updates with them. (Image by L. Brian Stauffer)

Molecular anthropologist Ripan Malhi works with ancient DNA and indigenous communities to make connections to the past

Mary Timmins
January 4, 2018

Who says dead men tell no tales? Consider Shuká Káa, a young man who met his demise more than 10,000 years ago while hunting a bear. Thanks to anthropologists and geneticists, Shuká Káa has been able to tell us a great deal. Enormous advances in genomic science have made possible the seemingly impossible—unlocking the genetic code in ancient bones. At the University of Illinois, Ripan Malhi holds keys to the human history locked up in DNA—those molecules, present in the cells of all living organisms, that deliver unique instructions for growth, development and reproduction. A pioneer in the evolving field of molecular anthropology, Malhi is on an extended journey back in time, in quest of information about long-ago humans and the lives they led.

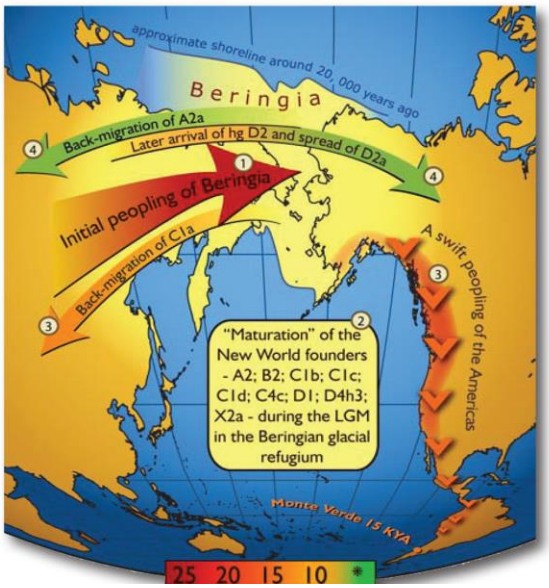
“Genomic analysis is now extremely informative,” says Malhi, whose easy smile and friendly manner belie his intense attention to detail. “Especially these days, when you can analyze complete genomes, not only in living people, but in ancient people as well.”

Such analyses, Malhi says, yield new data about the lifeways of peoples of the past and how they moved around the world and adapted to different environments. “Then,” he says, “we can try to combine genomic information with archaeological information and (at least in the Americas) indigenous oral histories to further enrich our understanding of the past.”

Malhi focuses much of his research on Native American populations, particularly those of the Pacific Northwest. His groundbreaking comparisons of human DNA from the present and from long ago suggest that tribal communities there include living descendants of ancient individuals. In the process, he has built strong and respectful ties to those communities.

His most recent study includes an analysis of the bones of Shuká Káa (in Tlingit, “Man Ahead of Us”), which were discovered in 1996 in the On Your Knees Cave on Alaska’s Prince of Wales Island and date back more than 10,000 years. DNA from three other individuals found along the coast of British Columbia within 200 miles of the Alaska site also are part of the study; those remains date back 1,750, 2,500 and 6,075 years, respectively. (Control samples from ancient individuals found in Washington state and Montana also were included.)

The study shows genetic continuity between those ancient individuals and 100 members of six communities in the Pacific Northwest, including Metlakatla and Lax Kw’alaams communities on Prince of Wales Island and Tlingit- and Haida-speaking people in southeast Alaska. The work, which also involved researchers from the



Native American oral histories underpin the theory that humans first entered North America from Asia, crossing a glacial land bridge called Beringia. Malhi's research indicates that early immigrants found progress to North America blocked by glaciers, which led them to evolve new traits. (Image courtesy of Wikiwand).

University of Chicago, Penn State, the Sealalska Heritage Institute and the University of Oklahoma, was published in April 2017 in the Proceedings of the National Academy of Sciences.

"Indigenous communities on the Northwest Coast have oral histories that talk about how they have been in that region since—they call it 'time immemorial,'" Malhi says, noting that his study supports that tradition, establishing "genetic continuity from the present day back to 10,000 years ago."

CROSSING THE BRIDGE

Those oral histories underpin the theory that humans first entered North America from Asia, crossing a glacial land bridge that spanned what is now the Bering Strait. One hypothesis, for which Malhi provided genetic evidence in a 2007 study, makes the case that early immigrants had an extensive layover en route to their new home. An enormous amount of the world's water was locked up in glaciers at the time—the Last Glacial Maximum, which peaked in 24,500 BCE and lasted more than 6,000 years—blocking ingress to the North American continent. Malhi says his study suggests "that ancestors of Native Americans lived in isolation on a land bridge called Beringia." Living for generations in this glacial refugium, the migrating people adapted and evolved new traits. Once the world warmed and the glaciers started to melt, the population was able to enter North America and spread rapidly across the continent. "That's why you find mitochondrial genomes in the Americas that are unique to the Americas," Malhi explains.

Mitochondrial DNA passes from mother to child. It is far more abundant in cells than the complete DNA in the nucleus. Mitochondrial DNA has proven extremely useful in genomic research, but it tells just half of an individual's genetic story. Among Malhi's achievements is his successful isolation and analysis of the nuclear DNA in ancient samples. He is among a small vanguard of scientists doing so, based on the pioneering work of a group in Denmark who mapped the first genome of an ancient individual in 2010. "Ten years ago, I would never have imagined sequencing complete genomes from ancient individuals," Malhi says. "But now we're doing it."

Ancient DNA comes from a variety of sources—generally museums, universities and other institutions that house excavated remains. It is essential to obtain permission from the indigenous communities associated with the remains. The bone sample required is extremely small, and the results of the analysis may be used in multiple studies.

NATIVE TRUST

Strong relationships with native communities are vital to collecting living DNA samples. Community members frequently view genetic research as one more form of cultural and racial exploitation, of no benefit to them. The long, tragic history of cultural artifact removal—including human remains—to the research institutions of colonial powers substantiates such suspicions. Government regulations, both in the U.S. and Canada, now acknowledge and protect the rights of indigenous people to their heritage, including sacred sites and language, as well as human remains and archaeological artifacts.

Malhi's field work with DNA began in 2001, when he was a doctoral candidate in molecular anthropology at the University of California, Davis. "A lot of the samples I analyzed as a graduate student were already in the lab," he recalls. "I could have just gone to the freezer, never left the lab, never interacted with any indigenous people at all. But toward the end of my graduate career, I decided that didn't seem quite right." He started contacting indigenous groups in California and visited Round Valley Reservation, which is on the edge of Mendocino National Forest, north of San Francisco. People there were openly skeptical of his request to collect DNA sam-ples (typ-ically from saliva, swab-bed from the inside of an individual's mouth).

Malhi helped establish the Summer Internship for Indigenous Peoples in Genomics, which brings together indigenous students to study the cultural, legal, ethical and scientific aspects of genomic research. The program has drawn participants throughout the U.S., Canada and Mexico. (Image by Kathryn Flynn, Source: Ripan Malhi)

"There were community members who asked, 'Why should we trust you?'" Malhi recalls. "They relayed stories of researchers who had collected samples, left and never came back. I realized I didn't want to do that. But I really didn't know the best way to proceed with research until I met Jerry." That was in 2004. Jerry Cybulski, a curator at the Canadian Museum of History in Gatineau, Quebec, contacted Malhi who, by that time, had co-founded Trace Genetics, a startup that specialized in analyzing indigenous North American DNA. Cybulski had obtained samples from two 5,000-year-old skeletons found in China Lake in central British Columbia, and he believed the pair to be brothers—a hypothesis that Malhi's testing proved to be true. Cybulski then arranged for Malhi to join him in giving a talk to residents of Canoe Creek, the indigenous stakeholder community where the skeletons were discovered.

"Ripan was amazing. He presented his information in a really interesting way, and it just grabbed everybody's attention," Cybulski says, noting that Malhi went on to keep community members involved in the project, reporting on findings and returning to give updates. "One has to be willing to visit communities and talk. And listen," Cybulski says. "That's what I've been doing my whole career. And Ripan just fits right in." The work initiated a collaboration between the two men that lasted until Cybulski retired in 2013.

Involvement in genetic research gives indigenous community members new information about themselves and their heritage. An especially fascinating aspect of this interaction is the affirmation of time-honored creation myths. "What we've been finding is support for oral history," Cybulski says. "First Nations native people have longstanding tales about their origins and where they have been at different times in their existence. 'Since time immemorial' may be a worn expression, but it's true. The DNA work has been supporting that."

Figure 1Harold Harry (left), community member and collaborator on the Stswecem'c Xgat'tem First Nation, and Jerry Cybulski, curator of the Canadian Museum of History in Gatineau, Quebec. Malhi met Cybulski in 2004, and the two collaborated on research until Cybulski's retirement in 2013. (Image courtesy of Ripan Malhi)

EUROPEAN CONTACT

Another study led by Malhi, published in 2014, traces a significant genomic change in Northwest Native American communities. The change took place in the mid-19th century, with the arrival of European explorers and settlers. "When Europeans brought over diseases like smallpox, it altered the genomes of indigenous peoples," says Malhi. "Variants that may have been adaptive to the previous environment before Europeans came were no longer adaptive and may actually have been detrimental. Those variants were wiped out of the population."

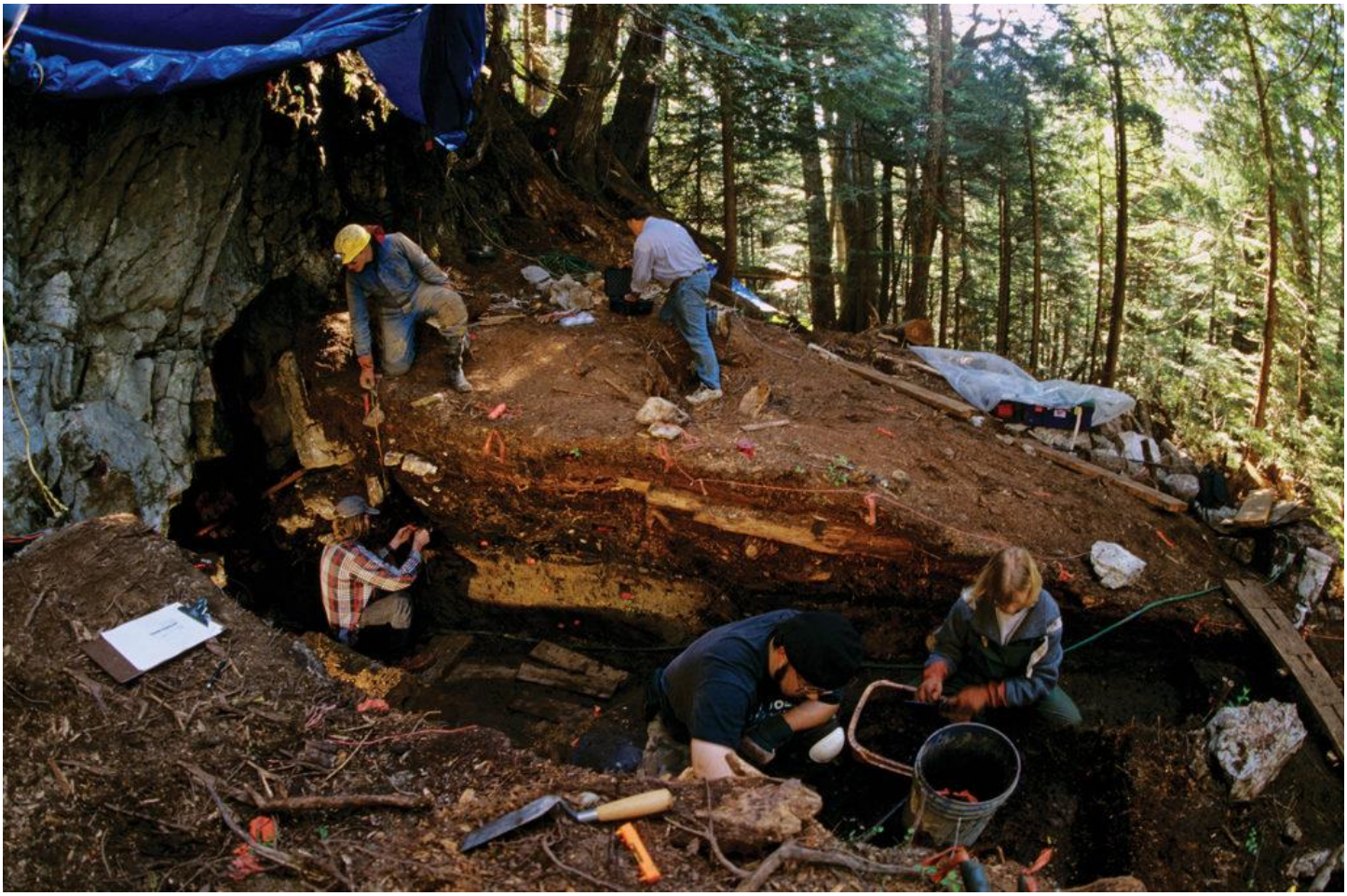
Malhi and his team also modeled demographic history using the same genomic information. "There was a huge reduction in the genetic diversity of the indigenous population—close to a 60 percent bottleneck in diversity—as a result of the European contact and colonization," he says, noting that this reduction may have been due to warfare and forced changes to a more Westernized culture as well as disease.

Malhi's cultural sensitivity developed along with his scientific skills. At Trace, "I started really thinking about what it means to have DNA from a certain population and how that contributes to your identity," he says. "Over the years, I've come to the conclusion that, yes, biology contributes to your identity. But so do history, language and culture." He sold the company in 2005 and moved to Illinois the following year, taking a joint post in anthropology and animal biology at the University. He has since added an affiliation with the Carl R. Woese Institute for Genomic Biology, an interdisciplinary UI research center at the forefront of the field.

If Malhi is good with people, he's superb at the bench. His molecular anthropology lab on campus, one of only a dozen such facilities in the world, is designed to prevent contamination of precious ancient samples. "Human DNA," Malhi says, "is everywhere," and hence the lab is, "forensic on the extreme end." Positive air pressure repels contaminants from the outside world, and there's room inside for just two researchers at a time, clad in sterile white coveralls known as "bunny suits."

The bone sample required for ancient DNA analysis is astoundingly small—one-fifth of a gram, approximately the size of a tooth cavity. The sample is drilled to a powder and decalcified, separating DNA from protein. Chemical reagents break up the cells and the DNA, which is negatively charged, and then binds with a column of silica. Other materials are then washed away. The resultant gene sequences are so tiny they're measured in trillionths of a gram. Analyses extend beyond the bone samples to dental calculus and coprolites ("poop," Malhi explains with a grin) from the ancient individual, creating an extract that "includes not only the DNA of the person but also of all the plants and animals that person may have eaten," he says.

The work then moves to the supercomputer. Computational and statistical analysis, using sophisticated bioinformatics software, contextualizes the DNA sequences by comparing them with complete genomes. The sequences are used to build a "genetic library" of an individual's life and genetic heritage.



The bones of Shuká Káa were discovered in 1996 in the On Your Knees Cave on Alaska's Prince of Wales Island. They date back more than 10,000 years. (Image by Kenneth Garrett)

"Most of the bottleneck in doing this type of analysis used to be in the wet lab," says Malhi. "Now, getting the data is a lot easier. The intensive part comes from analyzing the hundreds of thousands to millions of DNA sequences you get once you do the sequencing." Malhi works with the Carver Biotechnology Center on campus "to adapt what I need to generate sequences from these ancient individuals," he says. "Once we have the data, the Institute for Genomic Biology has a biocluster [a high-performance computing resource] where we can do intensive analyses and computational processes."

Beyond involving stakeholder communities in the study of their genetic heritage, Malhi is recruiting members of indigenous groups to his field. The annual Summer INternship for Indigenous Peoples in Genomics, which he helped launch in 2011, brings together indigenous students to study the cultural, legal, ethical and scientific aspects of genomic research. During the week-long program, participants analyze their own DNA. Some of the students have gone far beyond this relatively brief opportunity, which is intended to recruit talented young Native Americans to STEM fields.

"The internship was an incredible experience for me," says Nathan Nakatsuka, a Kanaka Maoli (native Hawaiian) who attended the first workshop, held on the Illinois campus in 2011. "The experience was one of the major influences that caused me to switch to population genetics research." Now a fourth-year MD/PhD student at Harvard, Nakatsuka studies population history and medical genetics of Native Americans and the native peoples of India.

So the generations arc across the millennia, from a time when glaciers ruled the Earth to the day a hunter met his end in Alaska, to the future of a young medical student who wants to know more about what makes us

human. This is the story of genomic research, and important parts of it are being written by University of Illinois Professor Ripan Malhi.

The Story of Shuká Káa

Some 10,300 years after his death, Shuká Káa lives on in DNA linking him to the Tlingit people who named him "Man Ahead of Us."

Discovered in 1996 in the On Your Knees Cave on Prince of Wales Island in Alaska, the bones of this ancient individual are the oldest human remains found in North America. Undertaken with approval of Tlingit tribal elders, who conferred Shuká Káa with his name, DNA testing revealed that he was approximately 20 years of age, had lived on seafood and was likely a mariner killed by a bear.

In 2008, his remains were ceremonially interred on Prince of Wales Island by the Tlingit. His headstone states: "We Have Lived in Southeast Alaska Since Time Immemorial. Shuká Káa Is a Testimony to Our Ancient Occupancy of This Land." In 2017, UI genomic anthropologist Ripan Malhi (see main story) analyzed nuclear DNA from Shuká Káa and found genomic markers shared by the Tlingit and other indigenous inhabitants of the Pacific Northwest.