First Americans

Not long ago we thought the first humans in the New World were mammoth hunters from Siberia who crossed the Bering Strait at the end of the Ice Age. Now, we are learning, none of that may be true—not the who, not the where, not the how, and certainly not the when.

by Karen Wright

You don’t expect someone who has been dead for more than 9,000 years to have any odor left—let alone a strong one. But you don’t expect him to have any hair or skin or clothes left, either, and Spirit Cave Man has all of those: long, soft brown hair, gray skin the texture of parchment, shoes crafted from animal hide and lined with bulrushes. Though little of his flesh remains, his smell—a musty, thick sweetness that clings to the back of your throat—is wholly intact.

On the day I visited Spirit Cave Man, in a museum laboratory on the outskirts of Carson City, Nevada, that smell served as a pungent reminder that I was not inspecting just another Paleo-Indian artifact, a spearpoint or a pendant or a stone-flaking tool. I was in the presence of a human being whose story, along with that of his ancestors, is as intriguing as his mummified remains—and so far, just as incomplete.

Spirit Cave Man is one of a dozen or so early Americans who are helping rewrite the prehistory of human habitation in the New World. A small cohort of skeletons and skull fragments up to 11,500 years in age, they are the oldest human remains known in North and South America. While some of these individuals, like Washington State’s notorious Kennewick Man, are new finds, most were discovered decades ago and were preserved in museum collections. Only in the last few years, however, have anthropologists made a systematic effort to determine the antiquity and ancestry of these remains.

When Spirit Cave Man was unearthed in 1940 from a dry rock-shelter in western Nevada, his discoverers assumed that he had been buried a couple of thousand years ago at most. But in 1994 radiocarbon dating of his bones and hair put his age closer to 9,400 years. That was a big surprise, but his way of life—and suspected ancestry—proved even more surprising.

“The traditional textbook interpretation has the first human populations coming over into the New World about 11,500 years ago,” says Doug Owsley, a physical anthropologist at the National Museum of Natural History in Washington, D.C. At that time low sea levels had exposed a land bridge between Siberia and Alaska, where the Bering Strait now lies, and Ice Age glaciers were just beginning to melt. The first Americans, the story goes, trekked across the Bering land bridge from the Old World into the New in search of happier hunting grounds, then made their way south between retreating sheets of ice. “When you think of this time period, you imagine those people running around chasing big game, wearing skins, throwing spears, looking like today’s Siberians,” says Owsley. “That probably isn’t true.”

For Spirit Cave Man, it certainly isn’t true: not the skins, not the spears, and not the modern Siberian looks. He did not wear primitive skin clothing; instead he wore a carefully constructed blanket woven from thin, twisted strips of rabbit pelt and cords of hemp. The contents of his abdominal cavity reveal that he last dined on fish, not game; apparently he gleaned his meals from netting fish in the marshes that once filled desert basins, rather than from grueling hunts on the plains.

And Spirit Cave Man doesn’t look like the Siberians of today, either. From the shape of his skull, it’s clear that he had a longer, narrower head, flatter cheekbones, and a more prominent chin than those typical of both northern Asians and Native Americans today. In fact, in recent analyses of some ten early American skulls, anthropologists have found just two individuals who could pass as kin of either contemporary northern Asians or Native Americans.

But Spirit Cave Man and his contemporaries aren’t the only ones challenging old textbook scenarios. In 1997 a renegade archeologist published convincing evidence of human occupation in southern Chile that predates by a thousand years any well-established site in North
The models that describe the migration into the New World used to be based on relatively simple evidence—sites, spearpoints, and soil layers, like the ones at Clovis. Because of researchers’ respect for the sanctity of human remains, skeletons generally weren’t tampered with. But recent techniques for radiocarbon dating allow researchers to retrieve age estimates from minuscule samples of organic material—like human bones—without doing much damage. And personal computers enable anthropologists to perform mathematically sophisticated quantitative comparisons of skull shapes among different populations. Unlike physical traits such as height and vigor, skull shape is distinctive, highly heritable, and mostly impervious to environmental influences such as diet. Hence these comparisons, known as cranio metric analyses, could be used to trace a population’s ancestry.

A second impetus for dating early American remains was not technological but political. In 1990, Congress enacted the Native American Graves Protection and Repatriation Act in response to longstanding concerns over the treatment of Native American remains and artifacts. This legislation required museums and universities to return to the affiliated Native American tribes any relevant materials—including thousands of poorly identified skeletons—that had been found on federal land.

For remains of recent vintage (which the vast majority are), tribal affiliations can usually be deduced from the locations of burial sites, historical records, and physical examination. If the provenance of a skeleton isn’t clear, museums call in Owsley and his colleague Richard Jantz of the University of Tennessee in Knoxville. Owsley and Jantz have spent 20 years compiling a database of cranio metric profiles of modern Native American tribes in the Great Plains, Great Basin, and Southwest regions of the United States. By comparing the dimensions of a given skull—some 90 measurements per skull—with these profiles, they can often tell which people the departed most resembles, whom, in effect, he is ancestor to.

But when Owsley and Jantz examined some of the oldest North American remains, the skulls didn’t provide the kinship clues they expected. Measurements from Spirit Cave Man and two Minnesota skulls—one 7,900 and the other 8,700 years old—were off the charts. “We were impressed with how different the older skulls are from any of the modern-day groups,” says Owsley. “They do not have the broad faces, they do not have the big, prominent cheekbones that you think of as the more traditional features of the Chinese and American Indians.” Instead they looked more like the inhabitants of, say, Indonesia, or even Europe.

Owsley and Jantz weren’t the first to notice this discrepancy. In the early 1990s anthropologists Gentry Steele of Texas A&M University and Joseph Powell of the University of New Mexico at Albuquerque had collected cranio metric data from four North American skulls between 8,000 and 9,700 years old. They found the same puzzling differences between those subjects and modern Native Americans. One is Buhl Woman, a 10,700-year-old Idaho skeleton that was reburied in 1992. Another is 9,200-year-old Wizards Beach Man, whose remains were found in Nevada less than 100 miles to the northwest of Spirit Cave Man’s rock-shelter. It seems that thousands of years before the arrival of Columbus, America was already something of a melting pot.

Needless to say, the variability among Paleo-Indian remains raises some interesting questions. Where did these people with the distinctively long heads and narrow faces come from? And if they aren’t the ancestors of modern Native Americans, what happened to them? In the past few years, some anthropologists have come up with the following model: The founding populations of first Americans came from somewhere in Asia more than 8,000 years ago. They were small bands of hunter-gatherers, a few dozen strong at most, who followed the Bering land bridge in search of food and established scattered outposts in the New World. The “modern looking” or “roundheaded” northeast Asian face, by contrast, is probably evidence of fairly recent immigration from Korea or China into Siberia around 8,000 years ago. Eventually these populations expanded into the Americas or began infiltrating in greater numbers than they had before. With the waves of new immigrants, some of the earlier arrivals were wiped out, others assimilated.

“They could’ve made war or they could’ve made love,” says Steele. “They probably did both.” Either way, their in-
fluence on subsequent generations waned.

This patchwork colonization would explain some of the discrepancies in skull shapes. Unfortunately, that scenario may account for only the last third or so of the actual human habitation of the New World. There is evidence of far earlier immigration into the Americas, and it doesn’t come from skulls.

Southern Chile is home to an extraordinary archeological site called Monte Verde. Excavated by Tom Dillehay of the University of Kentucky at Lexington, the Monte Verde artifacts include hundreds of stone tools; bone, wood, and ivory implements; food caches of leaves, seeds, nuts, fruits, crayfish bones; the butchered remains of birds, an extinct form of camel, and a mastodon; the remnants of huts and hearths; and even a child’s footprint. Dillehay’s exhaustive documentation of the site has in the past few years convinced most archeologists that humans set up camp in the nether regions of South America some 12,500 years ago. Monte Verde is roughly 10,000 miles from the Bering Strait. “People obviously didn’t walk there overnight,” says Owsley.

Genetic analyses have even provided an estimated time of arrival for pre-Clovis immigrants. Nearly all Native American groups carry one of four distinct DNA lineages in cellular structures called mitochondria. These mtDNA lineages vary somewhat among tribes, and though they are similar to lineages found in the populations of Asia and Siberia, they bear signatures that are unique to the New World natives. Genes diversify at a predictable rate—mtDNA changes between 2 and 3 percent every million years. So genetic differences between populations provide a gauge of how long they have been apart—the theory being that the more variation you find between two groups, the longer they’ve been apart. In the mid-1990s Theodore Schurr, a molecular anthropologist at Emory University in Atlanta, compared the genetic variation among new-world natives with the variation between them and their old-world kin. He calculated that 20,000 to 40,000 years had elapsed since new-world and old-world groups shared a common ancestor.

Schurr’s results support the notion of pre-Clovis settlement of the New World. But they conflict with the melting-pot scenario. Only four mtDNA lineages characterize over 95 percent of all modern Native American populations. That implies a relatively limited number of founding groups from Asia spreading over a vast geographic area. Indeed, some geneticists, including Andrew Merriwether of the University of Michigan, have used the mtDNA data to argue that there was but one founding population for all living Native American tribes after all.

Many different peoples may have colonized the Americas, with only one ethnic subset surviving. It’s also possible, though unlikely, that the diversity in skull shapes conceals an underlying kinship.

But Schurr’s findings do not rule out the possibility of physical diversity among the ancient Americans. It could be that many different peoples colonized the Americas but were winnowed out over time, leaving only one ethnic subset of survivors. Perhaps those with the anomalous longish skulls were vanquished by disease, famine, or pestilence; or perhaps the balance of lovemaking to warmaking was tipped in favor of war, and the broad-faced, rounder-headed group always won. It’s also possible, though unlikely, that the diversity in skull shapes conceals an underlying kinship: perhaps both skull types existed within the same tribe. To resolve this issue, researchers would have to do both cranio metric and genetic analyses on the same ancient remains. So far no one has.

In any event, subsequent mtDNA studies may support the notion that some of the genes of these vanished predecessors worked their way into the Native American bloodlines. In the past few years a fifth mtDNA lineage, called X, has turned up both in living Native American groups and in prehistoric remains. Though variants of the first four mtDNA lineages have been found in Siberian, Mongolian, and Tibetan populations, the origins of the X lineage are downright mysterious. “It doesn’t seem to appear in any East Asian or North Asian populations—which are the putative progenitors, or at least the potential sister groups, of the Native Americans,” says Schurr. “The source area for the X lineage is not clear, but it doesn’t appear to be Asia.” In fact, the first variant of X mtDNA was identified in Europeans. Schurr speculates that the X lineage originated somewhere in Eurasia, with its carriers then going their separate ways: some west in the Old World, some east all the way to the New.

Schurr’s evidence for prolonged human presence in the New World is provocative but lamentably indirect. It would be nice if the data were backed up by some hard physical evidence like tools or human bone. In the Old World, signs of habitation by modern humans go back at least 40,000 and possibly 100,000 years. Why does the New World record stop at a paltry 12,500?

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One reason may be that, before 12,000 years ago, immigrants from Asia arrived in fits and starts. “It probably wasn’t like a continuous highway of people moving in,” Dillehay says. “They were probably very few and far between, leaving tiny little specks of activity on the earth, the equivalent of your going out and having a family picnic somewhere and hauling most of your garbage away.” These transients had what Dillehay calls “low archeological visibility: a fiber-wood-skin-hide kind of material culture. The chances of finding those earliest traces are minimal, I would think.”
Yet Dillehay thinks he may have found such traces in a second excavation at Monte Verde. On a promontory overlooking what used to be a lagoon, 200 feet from his 12,500-year-old village, Dillehay named up what appears to be an even more ancient settlement. He found old charcoal, a suite of stone tools, and clay-lined pits that could be hearths—all buried six feet deep in a soil layer more than 30,000 years old. “In terms of strict empirical evidence, as scant as it is, it’s hard to reject,” he says. Still, Dillehay wants to explore the site more thoroughly before he makes any definitive statements. “It’s very hard to step out there on the plank and say, ‘Here’s the evidence for people in the Americas at 33,000 years ago,’ without anything else in that time range that serves as a strong candidate.”

There are other candidates; they just aren’t strong ones. A few daring archeologists have staked their reputations on sites they believe are considerably older than Clovis. In light of recent developments, skeptics may reconsider these claims. One site sure to be revisited is the immaculately excavated Meadowcroft Rock-shelter in Pennsylvania; its chief proponent, James Adovasio of Mercyhurst College in Erie, has long contended that Meadowcroft is at least 17,000 years old. Richard MacNeish’s Pendejo Cave in New Mexico might also get a closer look. MacNeish, who is at the Andover Foundation for Archeological Research in Massachusetts, has maintained that the artifacts and human fingerprints in the cave are 30,000 years old or more. In the mid-1980s, French-Brazilian archeologist Niede Guidon published evidence that cave paintings at Pedra Furada in Brazil were 17,000 years old and that stone tools from the site were 32,000 years old. Her findings attracted interest but not much credulity.

**One of the biggest barriers to accepting pre-Clovis sites has been geographical.** During the last ice age, the New World was pretty much closed to pedestrian traffic. Some 30,000 years ago, the northwest corridor in Canada would have been filled with glacier, and much of the Bering land bridge would also have been covered with ice. Though ancient humans might have mastered the prehistoric crampon, mastodons almost certainly did not, and finding food and shelter under those circumstances would have been difficult at best. But the latest idea circulating among archeologists and anthropologists has people ditching their crampons and spears for skin-covered boats. Maybe the first Americans came not by land but by sea, hugging the ice-age coast in a wide arc from Fiji to Tierra del Fuego.

As for evidence, the situation isn’t entirely hopeless. Archeological finds in Australia, Melanesia, and Japan suggest that coastal peoples have used boats for at least 25,000 to 40,000 years and maybe much longer. Indeed, humans could hardly have reached Australia—which they did, 55,000 years ago—without trusty watercraft and navigational skills. In the Americas, however, traces of maritime cultures are much younger than the proposed time of arrival from 20,000 to 40,000 years. A cave on San Miguel Island, about 25 miles off the coast of California, was inhabited 13,000 years ago, and artifacts retrieved from a roughly 9,000-year-old site near Miami indicate that its occupants were eating reef fish that could only have been caught from seaworthy vessels. Last year, archeologists announced the discovery of two 12,000-year-old sites in coastal Peru whose residents regularly dined on seabirds, clams, and anchovies.

Like Spirit Cave Man, the early Americans suggested by these sites are forcing experts to revise their model of the spear-chucking Clovis types of textbook lore. The possibility of maritime immigration is also turning the model for new-world settlement upside down. According to the new thinking, anyone who paddled across the northern Pacific during the last ice age could have moseyed south along the coast until reaching balmy climes. The newcomers would have colonized Central and South America first, then expanded north on the heels of the glacial retreat. While the archeological evidence for this pattern is still slim, there is another kind of proof that supports it. Johanna Nichols, a linguist at the University of California at Berkeley, has analyzed the 150 language families of the New World, and her work suggests that North American tongues are a subset of South American ones. The languages seem to have formed around the Gulf Coast, Mexico, or the Caribbean and then moved north on the lips of migrating people.

There’s one more aspect of the seafaring hypothesis, though, that bothersome: if humans came to the Americas by boat rather than foot, then what was to stop them from crossing the Atlantic, a la Columbus? Dennis Stanford, an archeologist at the Smithsonian Institution, didn’t set out to answer that question, but more than two decades of research have led him to pose it. In 1976, Stanford began to look for precursors to the Clovis spearpoints—the weapons that earned early Americans their reputation as mammoth-killing hunters. Named Clovis because of where they were first found, the fluted stone points are in fact
scattered throughout North and South America in soil layers up to 11,500 years in age. Stanford wanted to locate the forerunners to this technology to trace the migration patterns of the Clovis culture. He looked in all the obvious places—Canada, Alaska, Siberia—but found nothing.

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“I came to the conclusion that Clovis is a new-world invention,” he says. Moreover, it seemed that Clovis was an East Coast invention, since many significant—and possibly older—Clovis sites were clustered in the southeastern United States.

Then, several years ago, some unusual spearpoints turned up in a dig 50 miles south of Richmond, Virginia. Preliminary dating suggested that the points could be about 15,000 years old. More intriguing still, they were created using Clovis-like methods but lacked the classic Clovis fluting. Stanford had finally found his Clovis precursors, and they even looked a lot like old-world spearpoints. But the old-world artifacts they most resemble were not from Siberia—they were from Spain. In particular, the Virginia spearpoints resembled stone tools crafted by a people called the Solutreans who lived in western Europe between 24,000 and 16,500 years ago. Stanford has since examined those tools and found striking similarities between them and the stateside ones. The two cultures also share bone-shaping techniques, pebble-decorating artistry, and the unusual habit of burying exquisitely fashioned stone tools in caches filled with red ocher. Last year another pre-Clovis site was discovered on the Savannah River; its artifacts, too, are in the Solutrean vein.

Similarities between Solutrean and Clovis cultures had been noted before but had not been thought worth pursuing. There was simply too much water—and too many centuries—separating the two.

“It’s quite possible that a Clovis-like technology developed in Latin America and then spread up around the Gulf Coast and into the southeastern part of the United States,” says Stanford. “There’s absolutely no evidence to support that, but it’s possible. Then there’s always the possibility that folks may have been going across the Atlantic Ocean. That would explain Madame X in the gene pool. The question is, how the hell did they get across?”

Stanford speculates that ancient ocean currents might have hastened a transatlantic trip. Or Europeans may have rowed along the edge of an ice bridge that extended from England to Nova Scotia in glacial times, much as seafaring Asians followed the coast of the Bering land bridge. It’s not clear that such a journey could succeed, however, without those handy coastal refuges for rest stops. As with so many explanations for the peopling of the Americas, Stanford’s research presents more problems than it solves. The first Americans, whoever they were, left a confounding heritage, one that makes even the most modern analytical techniques look primitive.

“How they got here is up in the air completely. When they got here is up in the air completely. And whether they’re related to modern Native Americans is up in the air completely,” gripes Owsley. The New World may have been settled long ago, but the way it happened is still uncharted territory.

KAREN WRIGHT is a freelance writer and editor. “It seems to me that in archaeology, when you lack direct evidence, whoever tells the best story wins,” she says. “The best story is often the simplest, like the idea that the first Americans all came across the Bering land bridge 11,000 years ago, or the Native American claim that they’ve been here forever. The problem archeologists face now is that none of the new stories are simple. Until the dust settles, this question is going to be surrounded by chaos.” In the October 1998 DISCOVERY, Wright reported on the practice of buying and selling body parts and products.

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The First Americans. At the height of the Ice Age, between 34,000 and 30,000 B.C., much of the world's water was contained in vast continental ice sheets. As a result, the Bering Sea was hundreds of meters below its current level, and a land bridge, known as Beringia, emerged between Asia and North America. Once in Alaska, it would take these first North Americans thousands of years more to work their way through the openings in great glaciers south to what is now the United States. First American Financial Corporation is an American financial services company which provides title insurance and settlement services to the real estate and mortgage industries. The First American Family of Companies™ core business lines include title insurance and closing/settlement services; title plant management services; title and other real property records and images; valuation products and services; home warranty products; property and casualty insurance; and banking, trust and investment. The first americans. At daybreak on the morning of Friday, August 3, 1492, an Italian adventurer named Christopher Columbus set sail from Spain to find a new way from Europe to Asia. His aim was to open up a shorter trade route between the two continents. The lifestyle of the people of North America's northwest coast was different again. They gathered nuts and berries from the forests, but their main food was fish, especially the salmon of the rivers and the ocean. The first face of the first Americans belongs to an unlucky teenage girl who fell to her death in a Yucatán cave some 12,000 to 13,000 years ago. Her bad luck is science’s good fortune. The story of her discovery begins in 2007, when a team of Mexican divers led by Alberto Nava made a startling find: an immense submerged cavern they named Hoyo Negro, the “black hole.”