Junius Bird must have had a “Eureka!” moment in 1960 when he got radiocarbon data back from his work at Fell’s Cave in southern Chile. Bird, working for the American Museum of Natural History, had excavated Fell’s Cave in 1936 and 1937, prior to the 1947 invention of radiocarbon dating. By 1960, new technology brought him a surprise: the materials he uncovered were dated to 10,720 BP (Before Present, which for scientists is 1950.) Not only did Fell’s Cave have the oldest date for human occupation in South America, but fluted and unfluted fishtail-shaped spear points were in direct contact, or “associated with,” bones of an extinct Ice Age horse. In the history of proving that these animals were hunted and killed by humans, this is an important association.

In North America, spear points associated with extinct animals had been discovered a decade before the first Fell’s Cave excavation. In 1926-1927, Jesse D. Figgins of the Denver Museum of Natural History excavated the Folsom site in New Mexico. This momentous find of a fluted spear point in the rib cage of an extinct bison was the first indisputable evidence that New World hunters and gatherers lived concurrently with Ice Age beasts — proving that hunters were in the Americas at the same time as these now-extinct animals. In 1932, Figgins excavated the Dent site in Colorado where larger fluted spear points were found with butchered mammoths. This was soon followed in 1933 by Edgar Howard’s excavations at Blackwater Draw, near Clovis,
Who Was Here First?
By the 1970s it was clear that the New World had been “filled up” by hunters and gatherers by at least 11,500 years ago, but is there earlier evidence for colonization of the Americas? Over the past 125 years there have been claims that people were in the New World by at least 25,000 to more than 100,000 years ago. But as David Meltzer of Southern Methodist University has observed, these

Fluted spear point used to kill a now-extinct bison discovered by Jesse Figgins near Folsom, New Mexico, in 1927. This was the first definite proof that early hunters were in North America at the end of the Ice Age. Courtesy of the Denver Museum of Nature and Science

New Mexico. This site produced the characteristic Folsom spear points and the larger fluted spear point type found at Dent, now called Clovis points. These points were associated with mammoths that lay below the later Folsom level.³

Clovis sites have been found throughout North America and as far south as Venezuela. These Clovis Ice Age hunters and gatherers are now dated to between 11,500 and 10,500 BP. Fell’s sites, dating to between 11,000 to 10,300 BP, are found throughout southern South America (Uruguay, Argentina, and Chile) and the Central Andes (Peru and Ecuador), with a scattering of surface finds of Fell’s fishtail points in other countries, including Panama.⁴

purported early sites have a limited scientific “shelf life,” being disproved almost as fast as they are discovered. The finding of sites earlier than 11,500 years old is now known as “breaking the Clovis Barrier.”⁵ Two sites have punched through, withstanding repeated attempts to cast them into the scientific rubbish heap: Meadowcroft in Avella, Pennsylvania, and Monte Verde in southern Chile.

J.M. Adovasio, then with the University of Pittsburgh, was attracted to Meadowcroft handed him dates from the lowest cultural level of 16,000 to 13,000 BP. The Clovis barrier had been broken again, and this time the site would “stick.”⁶ In 1977, Tom Dillehay began excavations at the site of Monte Verde. Not only did he find the earliest open-air shelters in the New World, but he also discovered butchered mastodons and a wide range of plant and animal foods left behind by these intrepid hunters and gatherers. Although Monte Verde is clearly dated to 12,500 BP there is an earlier cultural level at the site that dates to 33,000 BP, which remains to be further investigated.⁷

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Monte Verde in southern Chile, excavated by Tom Dillehay, dated to 13,000 years ago. is the strongest evidence for the earliest human occupation of South America. 📸

Mammoth from the Dent site, Colorado, in the Pleistocene Hall of the Carnegie Museum of Natural History. Excavated in 1932 by Jesse Figgins, this site was the first discovery of Clovis fluted spear points with an extinct Ice Age elephant. Malinda McNaugher, courtesy of the Carnegie Museum of Natural History, accession no. CM 10266
Both these sites have withstood every critique skeptics have thrown at them and survived as unshakable proof of the existence of people in the Americas well before the Clovis and Fells' Ice Age hunters and gatherers roamed the Americas. These two sites, separated by 5,600 miles (9,000 km), are the northern and southern "bookends" that support this conclusion. Other sites between Meadowcroft and Monte Verde reinforce that support this conclusion. Other sites between Meadowcroft and Monte Verde reinforce that people were in the Americas far earlier than Clovis.

South America has more credible sites dated between 13,000 and 11,000 BP than North America. One of these is Taima-Taima in Venezuela, discovered by José Cruxent and Alex Kriger in 1962. Further excavations by Alan Bryan and Ruth Gruhn in 1976 produced a butchered mastodon associated with spear points dating to between 13,390 and 12,580 BP. These were similar to the spear points found at Monte Verde. At Tibitó in Colombia a butchered mastodon was dated to 11,740 BP, and in the lower Amazon of Brazil at Caverna da Pedra Pintada (Painted Cave), Anna Roosevelt found extensive evidence of human occupation dating to 11,200 BP.

In North America, recent finds at Cactus Hill in Virginia strongly support the early levels at Meadowcroft Rockshelter. Two spear points found at Cactus Hill, dated to between 16,940 and 15,070 BP, are identical to the Miller Lanceolate point from Meadowcroft (named after Albert Miller and dating to 12,800 and 11,300 BP). These Meadowcroft and Cactus Hill spear points predate Clovis, and it has been proposed that the Clovis fluted points are derived from these earlier lanceolate forms. One other location that is on the scientific "hot seat" is the Topper site in South Carolina with dates of 15,000 to 50,000 BP, but whether it will "stick" as a valid pre-Clovis site is still being debated. The above-mentioned sites, situated in a wide variety of environments ranging from grasslands to mountains to tropical forest to deserts, lead me to conclude that this adaptation to diverse environments and resources suggests a great depth of time.

### One If by Land

The routes of entry by the earliest colonists into the New World are another archaeological "minefield." Obviously, they had to come from the Old World, but from where and when? Who were they, and how did these early migrants get here? Few of the myriad of theories on how the New World was peopled have stood the test of time. While two have gained recent acceptance, one is seen as a "dark horse."

One theory that has fallen out of favor is the Ice Free Corridor model. This theory is based upon the fact that the ocean in the Bering Strait, between Siberia and Alaska, was 400 feet (125 m) lower due to the amount of water locked up in the continental ice sheets of North America, northern Europe, and Asia — exposing dry land called Beringia. Once across the Bering Strait, people could wend their way southward through a 930 mile (1,500 km) ice-free corridor between the Cordilleran and Laurentian ice sheets, into the area that is the western United States. But the date of circa 11,500 BP for the opening of the Ice Free Corridor is too late to allow for the entry of the first people into the Americas. Clovis hunters and gatherers were already spread throughout North America to Venezuela by this time.

A recently proposed route and date for migration into the Americas, called the pre-Late Glacial Maximum model (pre-LGM), is based upon substantial evidence for pre-Clovis people in the Americas and the presence of hunters and gatherers in Siberia by 30,000 years ago. After crossing Beringia, these Arctic peoples would have been able to move southward through the ice-free valleys of Alaska and Canada into what is now the United States.

### Two If by Sea

The other currently favored route of entry was proposed by Charles J. Heusser in 1960, and further developed by Knut R. Fladmark in 1979. They proposed that seafaring peoples came by boat skirting the edge of the exposed continental shelf along the north Pacific rim and down the coast of southern Alaska into Washington. The problem with this hypothesis is not only the lack of evidence for early watercraft, but also the absence of maritime sites in the Americas before 5,000 BP. On the watercraft side of the equation, Australia was inhabited by 50,000 BP and the islands of New Ireland and New Britain off the north coast of New Guinea by 30,000 years ago. With a series of open water barriers then between southeast Asia, Australia, New Britain, and New Ireland, the only mode of transportation had to be by boat. Thirty miles off the coast of Japan, early mariners were quarrying obsidian to make tools more than 21,000 years ago. Thus, it is clear that watercraft were a critical part of the cultural assemblages of coastal peoples making their livelihood from marine resources. Unfortunately, there are few early maritime sites around the world. Since the sea level rose by 400 feet (120 m) when the continental ice sheets melted, the continental shelves and the evidence of most of the earliest maritime sites are now underwater and many miles off the modern coastline.

In 1965, while conducting my dissertation research in the Talara region of northwest Peru, I found a series of campsites I named the Amotape complex. These overlook tar pits, like those of La Brea in Los Angeles, California. The remains of the shellfish these hunters used as food are dated to 11,200 BP, but due to the sketchy nature of the
The Talara Tar Pits of northwest Peru have Ice Age animals dated to 14,000 years ago and evidence of 11,000-year-old exploitation of marine shellfish along the nearby coast. Here, Jim Richardson holds Ice Age bones.

Daniel H. Sandweiss

archaeological deposits, this evidence for early maritime adaptations was not universally accepted. In 1981, I stressed that most of the evidence for early fishing settlements lie submerged on the continental shelf. Later I wrote an article "Looking in the Right Places," which pointed out where to look for the early maritime sites. Jon Erlandson of the University of Oregon labeled this reasoning "Richardson's Rule." I received a call in 1982 from Mike Moseley at the University of Florida. He invited me to come and dig the Ring site near Ilo in far southern, coastal Peru. This coastal fishing village was excavated by Daniel H. Sandweiss of the University of Maine and me in 1983, and we established a basal date of 10,575 BP. Because there was only one date for this site, our claim that the Ring site was the oldest fishing village in the Americas was suspect. However, my colleagues and I kept digging shell middens along the coast of Peru, and in 1997, it was Sandweiss's turn for a "Eureka!" moment.

At Quebrada Jaguay, on the Peruvian south coast near Camaná, Daniel Sandweiss dated a shell midden to 11,200 BP. At the same time, Susan de France of the University of Florida and Dave Keefer of the United States Geological Survey discovered a bird butchering camp south of the Ring site that they dated to 11,000 BP. These sites confirmed for the first time that the use of seafood had been as early as I had claimed in the 1960s, based on the Amotape dates and artifacts. The publication of the Jaguay and Tachuay findings in 1998 fueled speculation that the west coast of South America was colonized by boat and not through the Andean Mountain chain. Once on the coast, it took another 1,000 years for settlement of the high Andes due to the need for appropriate clothing and adaptation to lower oxygen levels above 8,202 feet (2,500 m). The dates for occupation of the Peruvian Andes cluster at 10,000 BP for Guitarrero, Pachamachay, and Telermacay caves and Salar Punta Negra in Chile support this theory.

The Paijan sites (10,500-8,500 BP) of the north coast of Peru are intriguing in that they represent camps of terrestrial hunters five to 20 miles from the modern shoreline. The startling thing here is that ocean fish were also present, leading Claude Chauchat, the French investigator, to speculate that this was part of a seasonal round of hunting and gathering that included the ancient coast, now underwater, 10 or more miles off the modern coast. This brings up the question of why the Amotape, Ring, Jaguay, and Tachuay sites were preserved and not drowned on the continental shelf as sea levels rose. Except for Tachuay, which was a specialized bird hunting camp, all of these sites are located back from the modern, as well as the ancient, submerged coastlines close to the limited freshwater resources in this stark desert region.

In North America there are a few maritime sites on the west coast that also have dates of 11,000 BP. On San Miguel Island, 30 miles off the coast of Santa Barbara, California, Daisy Cave was excavated by Jon Erlandson. This site is dated to 10,700 BP and represents maritime adapted seafaring peoples at the same time as Clovis. Hundreds, if not thousands, of underwater sites await discovery on the submerged continental shelf. Presently, we have only a handful of sites providing us with the critical evidence that the earliest peoples in the Americas did not ignore the bounty of the ocean.

Another major impediment to the maritime hypothesis of the peopling of the Americas was the idea that the continental ice sheet, along the Alaskan and Canadian coast, covered the coast to the Pacific Ocean. It has only been in the last decade that geological, pollen, and faunal studies have demonstrated...
that this coast was ice free, forested, and had wildlife. Thus, these seafaring migrants could have taken advantage of these resources as they skirted the ancient north Pacific coastal margins to move southward into what is now Washington State. It must be stressed that they could not have walked on dry land, for the numerous rivers crosscutting the exposed coast would have necessitated watercraft to move across the rushing water emanating out of the inland glacial front.17

A European Connection?
Who were these early seafarers, and where did they come from? This is an often asked question, which brings us to the newest proposed maritime route of entry into the New World. Dennis Stanford of the Smithsonian Institution and Bruce Bradley of the University of Exeter have startled the scientific community by proposing that the First Americans came by boat from southern France and northern Spain before 17,000 years ago! Although not a new theory, they stress the similarities between the Upper Paleolithic Solutrean (22,000-17,000 BP) culture spear points and the Meadowcroft Miller and Cactus Hill spear points. They propose that Solutrean hunters were early migrants into North America and ancestral to Meadowcroft and Cactus Hill hunters and gatherers, as well as the later Clovis. In addition to the comparison of stone tools, they indicate that sea ice, such as that in the Arctic, covered the North Atlantic. From Europe to the Grand Banks would have only been a 1,550 mile (2,500 km) commute by Solutrean seafarers along an ice shelf that teemed with sea mammals and fish. This theory rests on the archaeological “shoulders” of Meadowcroft and Cactus Hill. Solutrean experts, however, view this theory as more fiction than fact. This model does not preclude later migrants from entering into the New World from Asia, as pointed out by Stanford and Bradley.18

To sort out fact from fiction, what does the DNA, linguistic, and skeletal evidence reveal about where the earliest colonizers into the Americas came from? The DNA evidence points to migrations into the Americas from Asia, beginning as early as 25-35,000 years ago. This is done using the imprecise molecular clock that calculates mutation rates and the diversity of genetic lineages to estimate the timing of the arrival of humans into the New World. DNA specialists have proposed from one to four separate migrations from Asia into the Americas based on their research.19 There were over 6,000 languages spoken on Earth in the recent past. These are grouped into 300 language families, of which half are found in the Americas. Simulating the entry rate and proliferation of New World languages, Johanna Nichols calculates that people came into the Americas from coastal Asia before 20,000 years ago. Nettle, however, believes that language diversity argues for a late entry at circa 12,000 BP. Both the DNA and linguistics methods of dating are imprecise, thus dating of the earliest migrants into the Americas from Asia should be used with caution. Daniel Nettle points out, “The problem of the colonization of the Americas will be definitively answered only by archaeology, because archaeology has the direct methods for dating human presence.” 20

The evidence from human skeletal material is another matter, for bones can be directly dated by the radiocarbon method. There has been a major revelation in the interpretation of human skeletons from the just-published results of research on 81 skeletons from Lagoa Santa, Brazil. These and other recently dated skeletons from the Valley of Mexico point to two separate migrations from Asia. There are two different skull shapes represented: the 11,000-7,500 BP skulls are long and narrow, similar to skulls of modern Australians, Melanesians, and sub-Saharan Africans, while the post-7,500 BP skulls are short and wide, like those of American Indians and northeast Asians. According to these new studies of all known pre-7,500 BP skulls from the Americas, it appears that the earliest population is derived from the same group of people in southeast Asia that initially colonized Australia and Melanesia. The post-7,500 BP peoples reflect a new population coming from northeast Asia. The authors propose that the skull morphology supports the conclusion that two biologically distinct
Meadowcroft and Monte Verde have played a pivotal role in establishing that the First Americans are much older than previously known ...

J.M. Adovasio talking with Richard "Scotty" MacNeish at Meadowcroft Rockshtelter. MacNeish was a major proponent of the early peopling of the Americas through his work in North America, Mesoamerica, and South America.

James B. Richardson, III

groups colonized the Americas at different times. A new study shows that the northern Chinese and Koreans have the same ear wax as American Indians, confirming their northeast Asian ancestry. In the future, new lines of evidence, such as the just-announced ear wax connection, will continue to fuel the debate on who the First Americans were.

As can be surmised from the above discussion, the answer to the questions of "Who were the First Americans?" "Where did they come from?" and "When did they enter the Americas?" is in a constant state of flux as new evidence is brought to bear on this volatile issue. In the past 20 years, the "Clovis First" position of colonization after 11,500 BP has been put to rest by the research at Meadowcroft and Monte Verde and other pre-Clovis sites. New pre-Clovis sites are discovered every year and fuel the debate on the peopling of the New World. This story will continue to unfold as new data and more sophisticated methods of discovery and analysis are developed to wring out the last bit of evidence from the archaeological record. Meadowcroft and Monte Verde have played a pivotal role in establishing that the First Americans were much older than previously known, but, as with any scientific discovery, the proof that Meadowcroft and Monte Verde are as old as Adovasio and Dillehay have said has been a scientific roller coaster of heated debates and acrimony for over 20 years. Through it all, these sites have had "sticking" power. The continuing discussion of issues revolving around the peopling of the Americas are not only aired in scientific journals and at professional meetings, but on the national news, history, and discovery channels, and in National Geographic, Smithsonian Magazine, books, and other popular publications. Thus, these debates on the peopling of the Americas will be argued not only within the scientific community, but also in public forums far into the future.


