

ROMAN
ROADS

10

INCA
ROADS

BERINGIA

HO
CHI
MINH
TRAIL

ROUTES that Crossed THE World

CHILKOOT

TRAIL

KHYBER
PASS

Gillian Richardson

Art by Kim Rosen



annick press
toronto + berkeley + vancouver

SERENGETI
MIGRATION
TRAIL

ROUTE
66

TRANS-SIBERIAN RAILWAY

CAMINO
DE
SANTIAGO

To the adventurous who blaze trails, and the curious who follow them—G.R.

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Introduction

FROM ANCIENT TIMES TO MODERN DAYS, people have laid trails across the land. If we follow their footsteps along these routes, we find stories of migrations, discoveries, wars, and the settling of new countries. They tell us of tests of faith and dreams for the future. The journeys may be long or short, but you'll be amazed by how far they've reached, the traces they've left, and the lives they've changed.

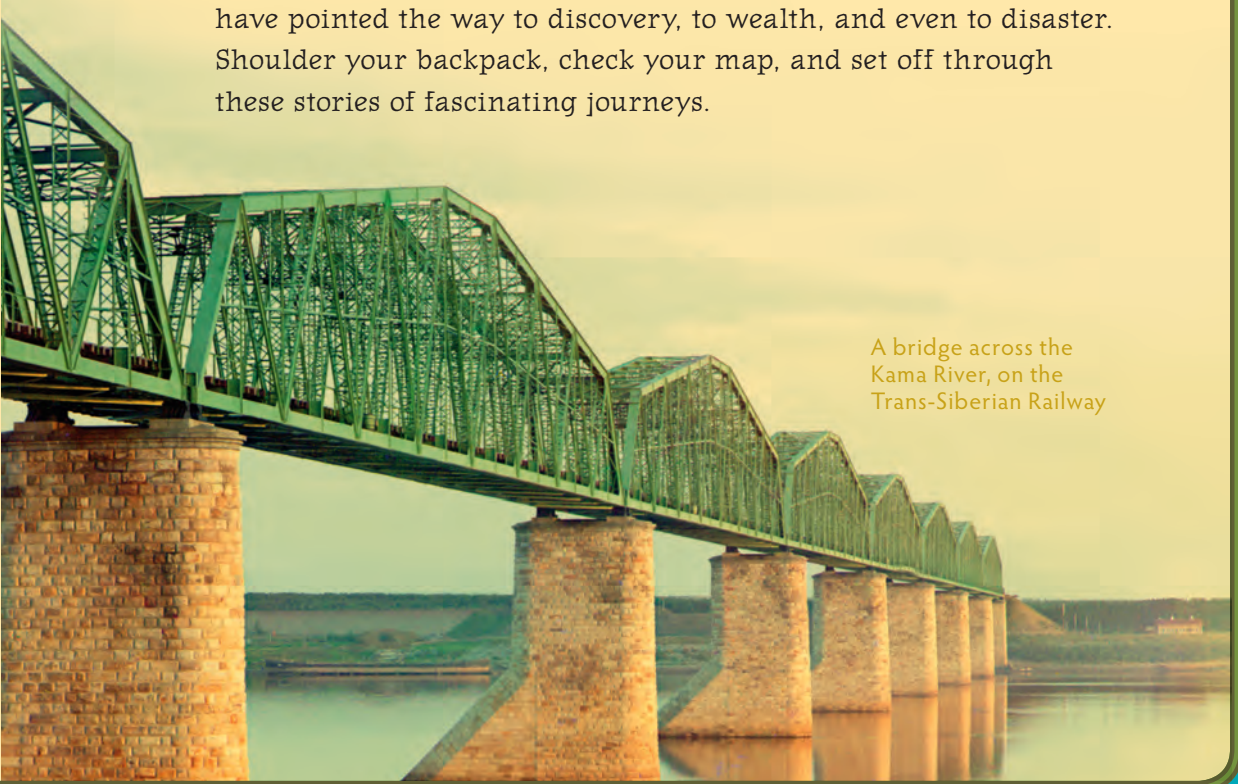
The story of how the first humans reached North America is still uncertain because solid evidence is tough to find. Ice Age melting flooded the earliest possible route from Asia across **BERINGIA**. But other civilizations did leave visible clues in the remains of their roads. The conquering Roman Empire ruled Britain for over 400 years, due chiefly to their well-built road system. You can still travel parts of these **ROMAN ROADS** today. Across the world, in 16th-century South America, an ancient culture left similar proof of a well-organized realm: **INCA ROADS** were a marvel of engineering in a mountainous setting. Another well-used trail needed no construction: the feet of millions of animals blazed a migration route across Tanzania's **SERENGETI** plains, followed closely by aboriginal people whose lives are still linked to this seasonal movement.

Routes have offered promises to people through the ages. Since the ninth century, pilgrims have quietly hiked the **CAMINO DE SANTIAGO** in northern Spain to strengthen their faith. In the late 1800s, thousands rushed to conquer the short but treacherous **CHILKOOT TRAIL** in Alaska in hopes of finding the gold they'd chosen to worship. Around the same time, the **TRANS-SIBERIAN RAILWAY**—the world's

longest railway line—opened Russia's vast undeveloped lands to new settlement and commercial potential. Later, amid tough economic times in the 1930s, Americans flocked west on a new road, **ROUTE 66**, eager for the end of the Great Depression.

Two ancient routes in Asia have seen turmoil with far-reaching impacts. The **KHYBER PASS** between Afghanistan and Pakistan, historically a route for invaders, has a dangerous reputation in today's political scene. The **HO CHI MINH TRAIL**, a series of jungle trading pathways, became known instead for devastation and death during a 20th-century war.

These 10 routes, at different times and in different places, have pointed the way to discovery, to wealth, and even to disaster. Shoulder your backpack, check your map, and set off through these stories of fascinating journeys.



A bridge across the Kama River, on the Trans-Siberian Railway



BERINGIA

Bridge to a New World

NAME

This region was first called *Beringia* in 1937 by Eric Hultén, a Swedish botanist. Named for Vitus Bering, a Danish explorer from the 1700s.

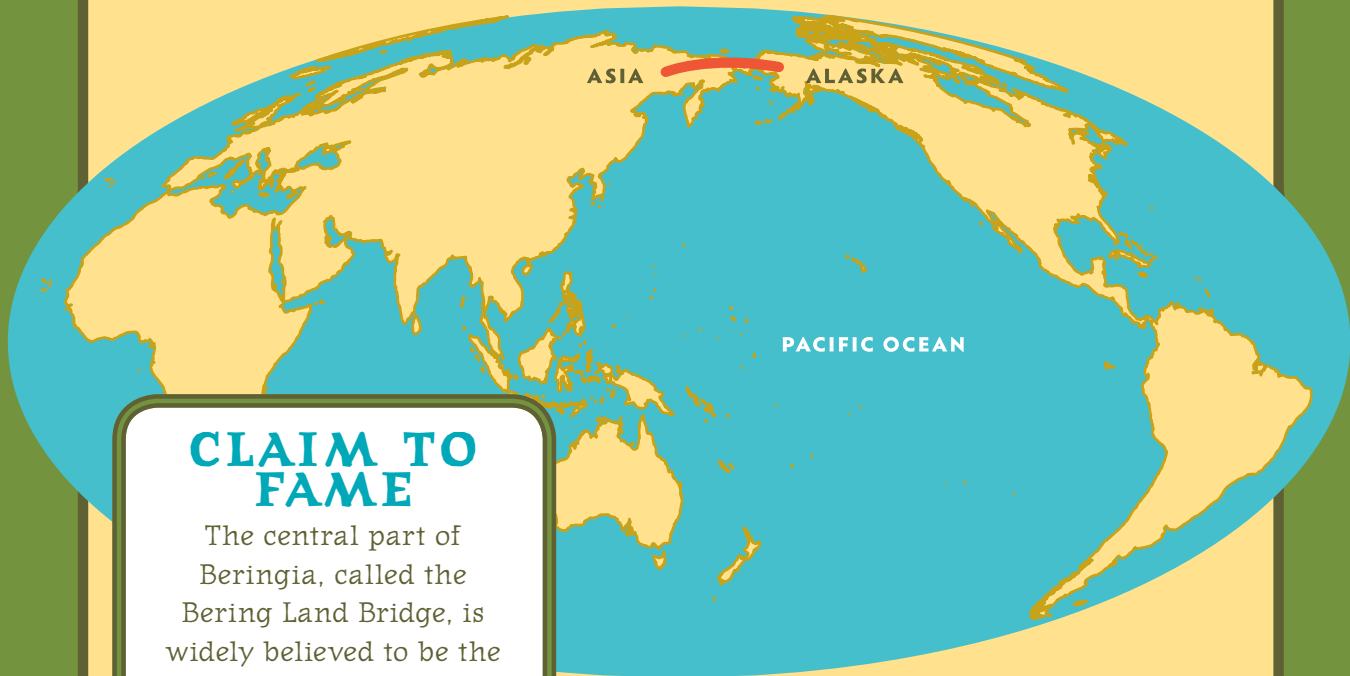
DESCRIPTION

The land mass of Beringia extended up to 1,810 kilometers (1,125 miles) from north to south—the distance from Seattle to Los Angeles. It reached from northeast Siberia all the way to Alaska, and as far east as the Mackenzie River near the Yukon–Northwest Territories border. Think of it as stretching over twice the size of Texas.

AGE

The land bridge appeared 20,000 years ago, at the peak of the Ice Age, when water froze in glaciers, causing sea levels to drop as much as 122 meters (400 feet).

BERING STRAIT



CLAIM TO FAME

The central part of Beringia, called the Bering Land Bridge, is widely believed to be the land route between Asia and Alaska that allowed early people to migrate into North America at least 15,000 years ago.

WHO USES IT NOW?

The land that once linked the continents now lies underwater in the Bering Strait. But land on the Alaska side has been protected as the Bering Land Bridge National Preserve, and it's inhabited by wildlife and used by hunters, fishers, and other visitors.





Alaska, 2016

Leslie stares at the curved, whitish object that an archaeologist is dusting free of sand. He tells the people standing around the edge of the dig site that it is likely a prehistoric mammoth rib. Other bones are lined up on the ground, possibly more pieces of the huge creature that walked here 15,000 years ago during the Ice Age. Even more amazing for Leslie is that she's just stepped along an ancient trail that prehistoric people might have used when they were the first to walk this land. Was this how astronauts felt when they landed on the moon?

Yesterday, Leslie and her dad flew here in a small plane from the city of Nome, Alaska, to visit a remote part of the Bering Land Bridge National Preserve. As they cruised above the coastline, Leslie peered through the clouds across the Bering Strait to Russia—close enough that if there'd been a highway they could have driven there in an hour. Leslie tried hard to imagine what it must have looked like during the Ice Age, when the sea level was much lower, leaving the strait high and dry for humans to cross into North America.

The pilot had then veered east, away from the coast, flying over the tundra, where permafrost never really thaws in the short arctic summer. Leslie saw grasses, brightly colored wildflowers, low-growing shrubs, and small ponds. Her dad said they might spot moose or caribou, or even brown bears and wolves. Before the land bridge got covered by rising water, some of those animals crossed from one continent to another, too.

Leslie and her dad will spend three days in the National Preserve staying in a bunkhouse. She's looking forward to soaking in the Serpentine Hot Springs pool after today's hike back from the dig site, and trying to imagine what treasures the scientists might uncover tomorrow.

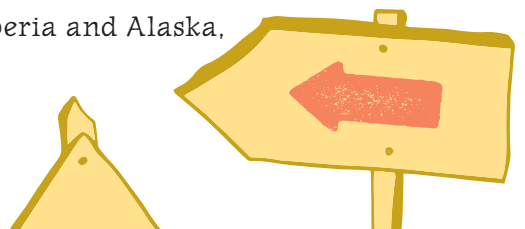


Cape Espenberg, at the edge of what used to be the Bering Land Bridge

The Story of Beringia

THE EARTH'S GLACIERS ARE MELTING! You've probably seen photos comparing the glaciers of years ago with today's much smaller ice sheets. Scientists believe a general warming of Earth's climate is causing this change. They point to rising sea levels—around 20 centimeters (8 inches) in the past 100 years—as evidence. About half of this extra water is coming from melting glaciers. If the trend continues, eventually low-lying shorelines will be flooded or submerged. We can study the problem helped by knowledge of what happened long ago.

If you can imagine it, once, a giant land mass off the northwest coast of North America stretched between Siberia and Alaska,



providing a route for people to cross between the two continents. But around 15,000 years ago, that land began to disappear beneath a sea of melted ice as global temperatures warmed. If you go there now, you can stand on the Alaskan shoreline and look west across the Bering Strait toward Russia. You'd need a boat to cross this channel joining the Arctic and Pacific Oceans, though it is fairly shallow—only about as deep as a 10-story building is high. This was once the Bering Land Bridge, only a small portion of the huge region called Beringia.

The mere existence of Beringia is fascinating to think about, but it's also exceptionally significant for understanding how humans came to settle in the Americas. Why is this particular place so important? Archaeologists believe the first humans to arrive in North America came from Asia by crossing Beringia before water cut off the route. José de Acosta, a Jesuit priest, first suggested this Asian origin theory in 1590, based on his observations while working with indigenous people in Mexico and Peru. It was an astonishing idea at the time, but by the 1930s enough clues had been found on the floor of the Bering Sea to convince scientists to consider it seriously. Decades of studying evidence such as bones and tools, combined with more recent discoveries from analyzing DNA—the material in our cells that carries genetic information about our heritage—are only now providing enlightening details. But the full picture is not yet clear, and the mystery of migration to North America may never be completely solved.

GLOBAL WARMING? BUT WE'RE IN AN ICE AGE!

The Earth has had at least five ice ages, or long-term cold periods. The most recent one began two million years ago, and it isn't over yet, as evidenced by permanent ice covering Antarctica, the Arctic, and Greenland (only a little melts in summer temperatures). But there's no need to rush for warm blankets. Ice ages have irregular warmer and colder spells, and we are in the middle of a warmer, or "interglacial," time right now. It began between 11,500 and 10,000 years ago. And it might last a long time yet because of global warming.



What Did Beringia Look Like?

STANDING IN BERINGIA 20,000 YEARS AGO, you would have been a tiny dot in an enormous land surrounded by ice, but with a climate dry enough to keep snow and ice from covering it. In the extremely cold northern parts of Beringia, few plants grew. Without food, no animals could live there, although they might have crossed the land during seasonal migration journeys. In the central and southern parts, grasses, low shrubs like willow and birch, and mosses once fed grazing animals such as woolly mammoths, Arctic bison, giant ground sloths, and camels, as well as predators like scimitar cats and lions. Later, moose, elk, and sheep inhabited the shrubby tundra.

How do we know what grew and lived there? Scientists have found remains of plant pollen in sediment samples taken from the ocean floor in the Bering Strait and from the Alaskan tundra. They have even found fossils of beetles. The frozen remains of grazing animals have been studied, and scientists have been able to determine what they ate. Even more amazing, the burned remnants of animal bones are a strong clue that people had enough wood to build fires. Such evidence helps support the theory that humans lived in Beringia until the Ice Age waned and a gradual warming encouraged them to move east, then south. As that same warming caused sea levels to rise, water eventually cut off the trail behind them, keeping them from returning to Siberia. Only a few islands are still visible in the Bering Strait, the last traces of the land bridge.



BLUE BABE—NOT A TALL TALE!

Have you read those stories about Paul Bunyan's blue ox, Babe? Well, maybe they weren't such tall tales after all! In 1979, gold miners in Alaska, using high-pressure water hoses to thaw permafrost and free up gold, uncovered a different kind of treasure: a steppe bison—an Ice Age grazing animal of northern lands. They called their well-preserved specimen Blue Babe, because its skin had turned blue from minerals in the soil where it was found. The bison had frozen quickly and remained almost intact, undisturbed by moving glaciers, for 36,000 years. The carcass was so complete, in fact, that researchers saw claw and tooth marks from the Ice Age lion that had killed it, and smelled its rotting flesh as it thawed.

Blue Babe, on display at the Museum of the North in Fairbanks, Alaska





Where Did Everyone Come From?

PEOPLE HAVE LONG WONDERED about the beginnings of the modern human species we call *Homo sapiens*. Studies of DNA show links between people who lived in eastern Africa around 200,000 years ago and every one of us living on Earth today. But how did those early people come to populate the whole world? Archaeologists have found evidence that they began to move from Africa through Europe and Asia about 55,000 years ago. From northeastern Asia, Beringia provided one path to another continent: North America.

Glaciers like this one once covered much of North America

Scientists have developed theories to explain how this journey might have happened. Northeastern Asia is so remote that much remains to be studied, but a few artifacts have been discovered showing that people lived there about 25,000 years ago. It seems unlikely, though, that they could have survived through the worst of the glacial period, when ice sheets 2 kilometers (1.2 miles) thick—think of six Eiffel Towers stacked one atop the other!—lay over much of the northern hemisphere. After all, modern humans originated in tropical lands and needed time to adapt to harsh northern climates, especially to frigid winters.

However, what if people had already found their way to Beringia, an area too dry to be covered by ice? Some scientists now think this could have been the case. They call parts of that region a *refugium* (a refuge or sanctuary)—land exposed while glaciers held so much water in their icy grip that sea levels dropped about the height of a skyscraper. It's possible that plant and animal species survived there for up to 10,000 years. So early people would have had food and fuel, even in a cold climate. But proof has been hard to find because much of that land now lies under the sea.

DISEASES DIDN'T MAKE THE JOURNEY?

Europeans arriving in North America in the 16th century brought momentous changes, some of them disastrous. Diseases like smallpox had been unknown among aboriginal peoples, so they were defenseless, with no immunity. But if the theory is correct that the aboriginal peoples of North America traveled first through Europe and Asia to cross the Bering Land Bridge, why hadn't these diseases been with them from the beginning?

Researchers think the small groups of people who first entered the continent through Beringia were so isolated by time, distance, and the glacial climate that diseases originating in Europe, usually from domesticated animals, were not present in their population.

American Arrival

IF PEOPLE DID ACTUALLY LIVE in Beringia, their descendants appear to have moved into North America beginning around 15,000 years ago. That's when the great ice sheets that still blanketed much of the northern lands began to melt. The change in climate might have prompted people to move on, or perhaps their population had outgrown the food supply. Whatever the reason, while most scientists agree about the time frame, opinions differ widely on what happened next. Some think the gradual melting of the ice may also have opened up an overland passageway on the east side of the Rocky Mountains about 12,500 years ago. If so, early hunter-gatherers could have used

A stamp from around 1991 commemorates the first people to cross into America

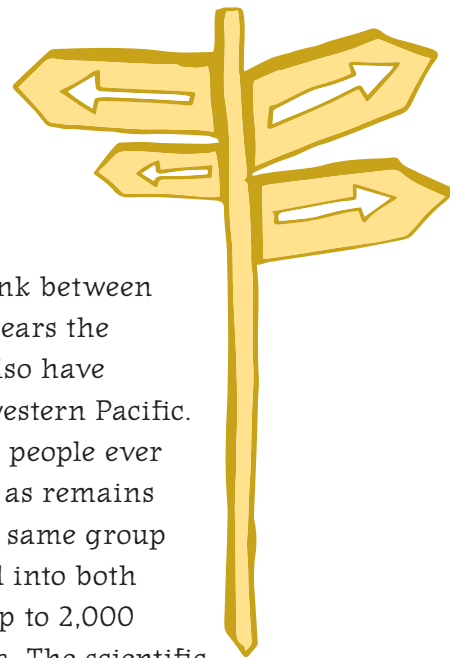


it to reach warmer southern areas. Evidence to support this idea—the discovery of carved spear points in Clovis, New Mexico—turned up in 1932. But wait . . . the “Clovis points” were dated to 13,500 years ago, which suggests human presence 1,000 years or so earlier than anyone would have traveled through that ice-free corridor.

Though we don’t know when the migrations happened, we do know that similar stone spear points turned up in many locations across the continent, and even in South America. That means the people who made them spread out, and eventually became the various indigenous peoples that still populate North and South America.

Going South?

WHILE MORE AND MORE CLUES prove the link between early Asian and North American populations, it appears the earliest people to populate what is now Chile may also have ancestral links to Australia and Melanesia, in the western Pacific. The links aren’t strong enough to suggest that those people ever sailed directly to South America, and no clues, such as remains of watercraft, have been found. Instead, some of the same group that started their journey in Asia might have moved into both areas—the southern Pacific and through Beringia—up to 2,000 years before the group that settled in North America. The scientific world is excited by the possibility that people reached South America by moving down the coast from Beringia, possibly using small boats over a route believed to be ice free during part of the Ice Age. Any traces of early humans there are now buried under the sea, but was that the route they used to reach the southern continent?

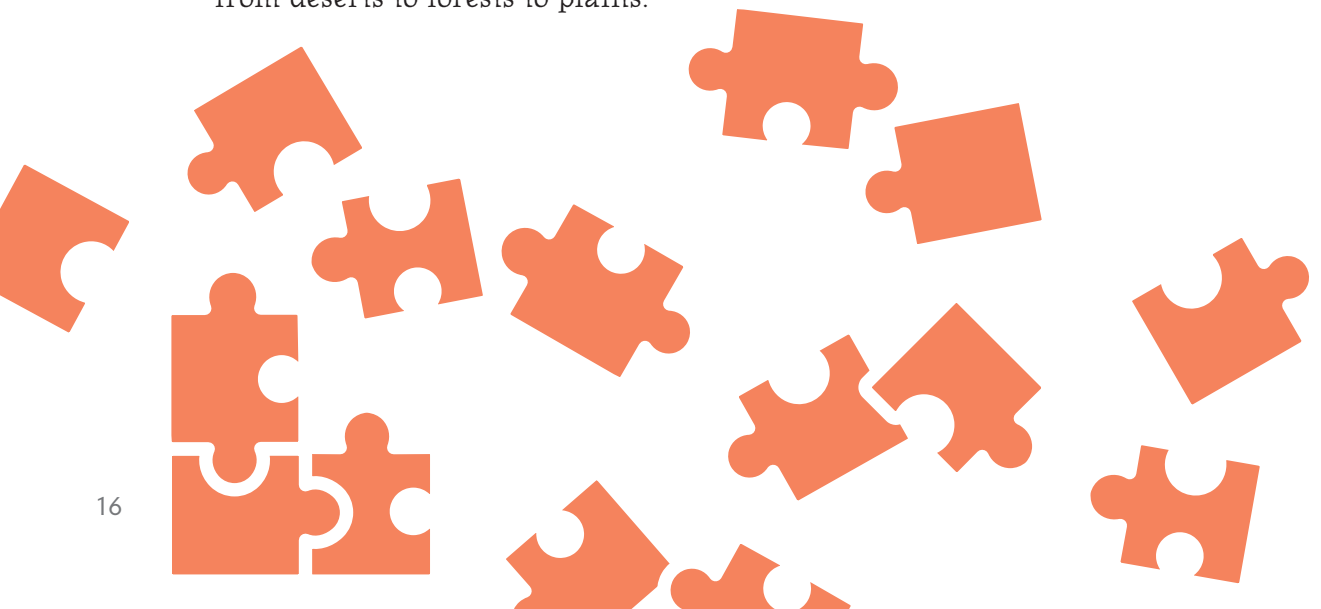


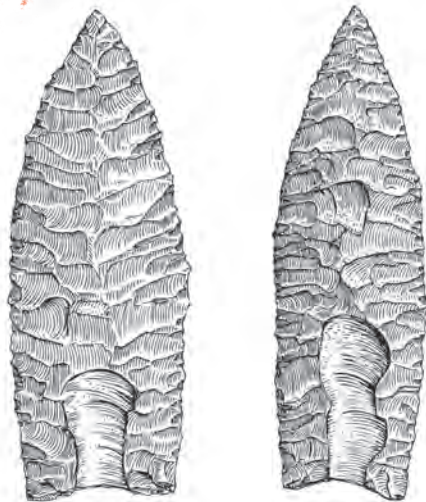
Unraveling the Mysteries

SORTING OUT THESE IDEAS is a bit like trying to put together a jigsaw puzzle with many pieces missing—and no picture on the lid of the box. As new discoveries are made and genetic details are analyzed, fresh theories are proposed. That’s how science works: research may lead to answers, but it always stirs up more questions, too. Of course, not everyone agrees with these theories. The spiritual traditions of aboriginal peoples live in their creation stories, and through these spoken tales, they share their beliefs about their presence in North America. It was only after the first Europeans landed on this continent in the 16th century that any written records of human activities were kept.

In the Bering Land Bridge National Preserve, archaeologists continue to find evidence that humans used this land route so long ago. And they’ve found examples of nearly identical plants and animals that once lived on both sides of the Bering Strait. So the bridge did exist.

While we don’t know for sure where the first North Americans came from, when they arrived, or exactly how they came to live here, it is clear that early people faced enormous challenges to survive and adapt. Over thousands of years, they conquered obstacles to thrive in all sorts of environments across the continent, from deserts to forests to plains.





MORE PIECES OF THE PUZZLE

Tools, bones, and other evidence of humans help archaeologists piece together when and how people migrated to the Americas. Here are some of the most important discoveries.

KENNEWICK MAN, found in 1996 alongside the Columbia River in Washington State and studied using genome sequencing (uncoding a long string of genetic information), has been found to be around 9,000 years old and of Native American ancestry.

ANZICK BOY, found in Montana in 1968, was a young child buried beneath many Clovis points. Genome sequencing links these 12,600-year-old remains to early Asians, but also shows the boy was a direct ancestor of aboriginal people in Central and South America.

PAISLEY FIVE MILE POINT CAVES in southern Oregon is the site of the oldest human DNA found so far in America. Samples of feces (poop!) show humans lived there 14,300 years ago.

BUTTERMILK CREEK, TEXAS, has turned up stone tools dating from 15,500 years ago that were small and light enough for people on the move to carry easily.