RED EARTH, WHITE LIES

Native Americans and the Myth of Scientific Fact

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Low Bridge—Everybody Cross

IT MAY APPEAR THAT I HAVE SUFFICIENTLY DISCUSSED the origins of man and thereby eliminated the Bering Strait theory as a possible explanation of the source of the occupancy of the Western Hemisphere by American Indians and that devoting more time to this idea is superfluous. Nothing could be farther from the truth. Most Americans do not see the connection between the different scientific theories, nor do they understand that a shift or collapse of a major scientific doctrine requires a significant adjustment of all subsidiary doctrines that relied on it for their validity. Thus, people accepting the idea that outmoded explanations of human evolution have been modified substantially will continue to hold with the Bering Strait theory even though to do so is a great inconsistency. But another point must be made which requires a chapter of discussion—and that is whether or not the Bering Strait is simply shorthand scientific language for "I don't know, but it sounds good and no one will check."

There are immense contemporary political implications to this theory which make it difficult for many people to surrender. Considerable residual guilt remains over the manner in which the Western Hemisphere was invaded and settled by Europeans. Five centuries of brutality lie uneasily on the conscience, and consequently two beliefs have arisen which are used to explain away this dreadful history. People want to believe that the Western Hemisphere, and more particularly North America, was a vacant,

unexploited, fertile land waiting to be put under cultivation according to God's holy dictates. As Woody Guthrie put it: "This Land is your land, this Land is my land." The hemisphere thus belonged to whoever was able to rescue it from its wilderness state.

Coupled with this belief is the idea that American Indians were not original inhabitants of the Western Hemisphere but latecomers who had barely unpacked before Columbus came knocking on the door. If Indians had arrived only a few centuries earlier, they had no *real* claim to land that could not be swept away by European discovery. Aleš Hrdlička of the Smithsonian devoted his life to the discrediting of any early occupancy of North America and a whole generation of scholars, fearfully following the master, rejected the claims of their peers rather than offend this powerful scholar. Finally, the embarrassing discovery that Clovis and Folsom points abounded in the western states forced the admission that the Indians might have beaten Columbus by quite a few centuries.

These ideas have great impact on how non-Indians view the claims for justice made by Indians. A personal experience may illuminate the impact of the Bering Strait on Indian rights. After Wounded Knee II in 1973, there were a number of trials of the people who had occupied the little village on the Pine Ridge Reservation in South Dakota. Each defendant had as his or her first affirmative defense to the criminal charges filed against them an avowed belief that the 1868 Fort Laramie treaty was still valid and that the protest was justified as a means of forcing the United States to live up to the terms of the treaty. This defense was then taken from every case and consolidated as one hearing in Lincoln, Nebraska, which dealt solely with this argument. Had the Indians prevailed in this contention, all the trials would have been rendered moot.

Much evidence was given at Lincoln concerning the relative state of civilized life at the time the treaty was made. The cultural achievements of the Sioux Indians were recited in an effort to demonstrate that, for many purposes, but chiefly for the trial, the Sioux had a clearly defined culture, government, religion, and economics and

should have been entitled to the respect and benefits which larger nations enjoyed. In legal terminology, the contention was that the Sioux, in making treaties with the United States, had entered into a protectorate relationship comparable in every way to that enjoyed by Monaco and Liechtenstein with larger nations in Europe. This kind of relationship would then void the widely held belief that Indian tribes were mere "wards" of the government, as a confused portion of the John Marshall *Cherokee* cases had said.

Several traditional people did not want evidence on the Bering Strait offered because they preferred to rely on their own view of how the Sioux people had come to be. Some wanted to talk about an origin from an underground world near Wind Cave, South Dakota; others thought that stories about living in or near the Gulf of Mexico would be sufficient; and still others wanted to discuss the stories about living in the Far North, traditions that Werner Muller had used in his new theory of the human occupancy of North America. None of these accounts would have been understood in a Nebraska courtroom no matter how sympathetic the judge because they varied considerably with scientific beliefs about the Bering Strait. So some discussion was presented on the Bering Strait.

I was standing in the hallway of the courthouse smoking a Pall Mall (in those wonderful days when you and not your peers chose your vices) and a lady approached me all agiggle about what had taken place that morning. She gushed over what had been said about the Bering Strait as if she were the chairperson of an anthropology department and left me with the comment: "Well, dearie, we are all immigrants from somewhere." After reflecting on her comment for a moment, I wanted to run down the hallway after her and say, "Yes, indeed, but it makes one helluva difference whether we came 100,000 years ago or just out of boat steerage a generation back."

Her remark was symptomatic of the non-Indian response to the pleas of Indians. By making us immigrants to North America they are able to deny the fact that we were the full, complete, and total

owners of this continent. They are able to see us simply as earlier interlopers and therefore throw back at us the accusation that we had simply *found* North America a little earlier than they had. On that basis, I would suppose, no nation actually *owns* the land its citizens live on, with the exception, if we accept early archaeological findings, of the people of Africa, where human evolution is believed to have begun.

In the 1960s, a group of California Indians protested at an Indian Claims Commission field hearing against a ruling that the California claims would be consolidated into one complaint, instead of allowing the individual tribal groups to file specific claims for their lands. The exchange between the Indian protestors and Chief Claims Commissioner Arthur V. Watkins got very heated at times. Watkins was a former U.S. senator and his anti-Indian sentiments were well known. He had introduced the termination policy in Congress during the 1950s (to dismantle reservations and relocate Indians to cities) and was rewarded, after he had lost his Senate seat, with an appointment to the Indian Claims Commission where he could do further damage to Indians. At one point, Watkins screamed at the Indians: "Go back where you came from," implying that they had recently traversed the Bering land bridge, perhaps during the Great Depression, and should go back to Asia.

Most scholars today simply begin with the *assumption* that the Bering Strait migration doctrine was proved a long time ago and there is no need to plow familiar ground. Jesse D. Jennings and Edward Norbeck's *Prehistoric Man in the New World* provides a compendium of papers discussing the state of research and field investigations dealing with the earliest sites of human occupation in the Americas. The introductory article has a single sentence on the Bering Strait and the essays proceed without the slightest doubt that they are being built on a strong foundation. Since these scholars were so confident of the validity of the land bridge doctrine I assumed that there was, somewhere in scholarly publications, a detailed article which cited evidence and arguments that proved, beyond a reasonable doubt, that Paleo-Indians had at one time

crossed from Asia into the Western Hemisphere. I was unable to find anything of this nature.

I did locate a splendid book entitled *The Bering Land Bridge,* edited by David M. Hopkins, that appeared to be the answer to my inquiry. Alas, most of the articles dealt with technical geological and meteorological theories having nothing to do with human migrations. Only two articles even hinted at a discussion of migrations over the strait. H. Muller-Beck wrote that it had been

> ... established conclusively that glaciers flowing from the Canadian shield coalesced with those originating in the Rocky Mountains during some part of the Wisconsin glaciation: this coalescence may have lasted from as early as 23,000 until as late as 13,000 years ago. During most of this interval, when Alaska was connected with Siberia by a wide Bering land bridge, an ice barrier would have separated Alaska from central North America and contact between Alaska and central North America would have been extremely difficult for land animals and man.[1]

Muller-Beck also stated that what scientists were interested in was

> ... the diffusion of technological traits rather than population migrations in themselves: population movements are difficult to trace and have little relevance to the present problem.[2]

This clarification was another puzzle, since his article was entitled "Migrations of Hunters on the Land Bridge in the Upper Pleistocene" and it seemed likely that population migrations would be important to the topic. Did "traits" migrate without people?

The second article was "Human Migration and Permanent Occupation in the Bering Sea Area" by William Laughlin. Laughlin had graciously come to the Wounded Knee trials in Lincoln to dis cuss migration across the Bering Strait, so I looked forward to reading his article. But this article was devoted largely to a discussion of the Aleutian Islands, whose inhabitants he views as "quite distinct" from American Indians. No evidence was cited to show that schol ars had proven that Paleo-Indians, or any other kind of Indians

had traversed the Bering Strait at any time. Describing the land bridge, Laughlin painted a dismal picture:

> The interior landscape was evidently a low rolling plain, for the most part devoid of relief, studded with bogs and swamps, frozen much of the time, and lacking in trees or even many bushes. Grass-eating herbivores may have been present in fair numbers. The human adaptation to this region must surely have been that of big-game hunters, living by means of scavenging dead mammoths and such bovids as caribou, bison, and musk-ox, and by intentionally hunting live animals.[3]

But even this boggy, swampy land was not conducive to human migration. Laughlin pointed out that:

> Conditions in the interior [of Alaska] were severe, and likely only a few of its inhabitants found their way into North America; these wanderers probably became the ancestors of American Indians.[4]

Notice that Laughlin does not say for certain that any of these inhabitants crossed the Bering Strait—he only says it was "likely" that a few people did. We get no evidence at all that any Paleo-Indians were within a thousand miles of Alaska during this time. No sites, trails, or signs of habitation are cited. And that is it—Laughlin is the acknowledged dean of American Bering Strait scholars, and he offered no concrete evidence whatsoever to cite in support of this theory. I must conclude that generations of scholars, following the so-called scientific method of inquiry, have simply accepted this idea at face value on faith alone. Here is more evidence that science is simply a secular but very powerful religion.

Scholars and popular science writers, in discussing the Bering Strait doctrine, usually do not address the many real difficulties which this idea presents. They reach a point where they must sound intelligent to their peers and readers and promptly spin out a tale of stalwart hunters trekking across frozen tundra or frolicking in suddenly warm Arctic meadows, and continue with their narrative. Looking at a map of the world, the proximity of Asia and Alaska

seems too obvious to reject, but only rarely do scholars look at the map closely enough to see the absurdity of their claim.

We will look at two major geographical factors—the actual topography of eastern Asia and western North America—and the barrier presented by the Ice Age, since scholars insist that the Indian migration occurred during a warm period of one of the Pleistocene ice ages. We will then look outside the topical area of Indian studies to see if and how other scholars use the Bering Strait in their work.

Presumably, the Paleo-Indians are living somewhere in eastern Siberia, having migrated there millennia ago. We will begin their journey with hunting bands living along the Kolyma River, at least half of which lies above the Arctic Circle. Looking eastward they would find two formidable mountain ranges, the Khrebet Gydan and the Chukotskoye Nagor'ye, blocking their migration to the east. If and when they surmount these mountains and find their way to the shores of the eastern tip of Siberia, they must cross over the strait, and here most scholars insist that it was not a strait but a broad plain because the water that would have ordinarily covered it was locked up in the glacial sheet that covers North America in the eastern part of the continent. We will allow them to cross, whatever the conditions.

Reaching the area we know as present-day Alaska, the people encounter a forbidding set of mountains both above and below the Arctic Circle. The Baird, Schawat, Endicott, and Shublik chains face them on the north, the Kaiyuh and Kuskokwim Mountains are to the south, and on reaching the Canadian border they meet the Richardson Mountains and the continental divide of the northernmost chain of the Rocky Mountain group. To the south also are the Ogilvie Mountains and then the massive MacKenzie mountain chain with the smaller Franklin Mountains yet to the east. Finally, the hunters are out on a reasonably flat plain, although one that is not calculated to present a paradise for hunters, since it is, according to many scholars, covered with a thick glacial sheet.

It is theoretically possible for a group of humans, determined to relocate, to push through a seemingly unending set of mountain

ranges to reach another location; the question is whether or not this migration really happened. A good practice in testing a theory is to find out what scholars say about a subject when they are discussing another topic and simply mention it as a peripheral part of their discussion of another area. If we were to ask Bering Strait advocates if there were people in Siberia during the glacial interstadials, a time when it was possible for people to move without freezing to death or falling into glaciers, we might be assured that the shores of Siberia were teeming with impatient hunters. Indeed, didn't 98 percent of the Eskimos move from Siberia to Alaska at some point? But suppose we just ask about life in Siberia at this time. Let us see what scholars say about Siberia when they are not addressing the Bering Strait theory.

Kazimierz Kowalski and N. K. Vereshchagin are two important European scholars specializing in eastern Europe and Russia, including Siberia, in the Pleistocene period. Discussing whether or not Paleo hunters destroyed the mammoth in Siberia, Kowalski wrote that the "... mammoth was probably never the principal game of human groups, and the traces of human colonization of Siberia at that time are very scarce."[5] Thus we are talking about a very small group of people even being in Siberia, let alone making the journey to Alaska. And these little groups were hardly a menace to the mammoth or any other megafauna. These few Paleo hunters were not just wandering around Siberia looking for an isthmus. Vereshchagin describes the kind of human occupation of Siberia that existed at the time when Paleo-Indians were supposed to be migrating:

> In the plains of eastern Europe and Siberia the life of primitive man was connected with river valleys. Large herds of mammoths, rhinoceros, roe, giant deer and reindeer, and boar roamed from south to north and back along the valleys and flood plains of the rivers. The inhabitants of steppe watersheds preferred meadows and forests of flood plains, especially in dry periods or when the ground was covered with ice crust, because then elk, bison, tur, horse, and even saiga and camel fed upon branches of bushes and trees.[6]

The handful of people who lived in Siberia at this time did n have migratory patterns west to east across mountain ranges an high plateaus. Rather, they spent their time moving from south north and back again following game who seasonally grazed whe the weather was decent. Since these people had more than enoug game and so did not hunt any of the species to extinction, the was no good reason for them to pick up their things and begi moving into rugged mountain areas where hunting would be mo difficult and grazing animals a minimal resource.

The Kolyma would be the last good river system into which thes hunters would have moved. There may have been some tempo rary expeditions to see what the eastern lands looked like, but th chances that these people would leave good hunting grounds fo poorer ones are slim. Assuming, for the moment, that groups o hunters were able to get to Alaska, how would they have fared Here we will ask a geologist with no doctrine of migration to sup port. Stephen Taber, writing a geological paper in the *Geologica Society of America Bulletin*, gratuitously commented on migratin Paleo-Indians:

> Early man would have had difficulty surviving in the nonglaciated areas of Alaska through the first period of deep freezing, and he could not have migrated southward across the ice barrier. During the epoch of deep thawing, conditions were more favorable for the existence of man in Alaska and for his migration southward than at any time since the first deep freezing of Pleistocene sediments; but this warm period was also a time of high sea level, when a land connection between Siberia and America is improbable; and the crossing of Bering Strait on ice is unlikely when the climate was warmer than it is now.[7]

We have only traced the most likely route and given scholar the benefit of the doubt by locating the Paleo-Indians on th Kolyma River in eastern Siberia. Jared Diamond, discussing th big-game hunter migration which he believes took place aroun 12,000 years ago, says that "the colonists [of Siberia] probably cam from eastern Europe, where Stone Age hunters in what is now th

Ukraine built their houses out of neatly stacked bones of mammoths."[8]

If we locate the migrating Paleo-Indians in the Ukraine, then it is necessary to add about a dozen more mountain ranges and a goodly number of high desertlike plateaus, a considerable stretch of tundra, and no one knows how many other obstacles. The point that must be understood is that nobody really knows; they just seem to make it up as they go along. To suggest a Ukrainian origin for people who migrated across the Bering Strait in turn suggests that they had something definite in mind in wandering eastward, and that supposition cannot be substantiated at all. Almost every articulation of the Bering Strait theory is woefully deficient in providing a motive for the movement.

Let us now turn to the second great barrier to human migration over the Bering Strait—the Ice Age. In order to move Paleo-Indians across the Bering Strait we must have the water level of the ocean drop significantly so that the isthmus will be dry land across which they pass or, alternatively, wander. The Ice Age of North American glaciation has provided a wonderful explanation for most scholars who deal with this subject. They seem to manipulate the water level to whatever depth they need to support their narrative. I have heard of drops of 50 feet, of nearly 300 feet, and, at the maximum, of 500 feet. It all depends on how much land between Alaska and Siberia the scholar needs to prove the case. The water level must drop a minimum of 60 meters, or 200 feet, to have any kind of isthmus at all.

We do not know the causes of the ice ages. They can range from the sudden cooling of the sun, a shift in the poles, the solar system suddenly traveling through an area of intense cold in space, or even a cometary dump of water. Most scientists seem to believe that glaciation was a prolonged process of cooling that enabled a massive ice sheet to build in the Northern Hemisphere, and that as temperatures varied over a period of a million years, sometimes less, at least four stages of glaciation affected the Northern Hemisphere. Some scholars today are reducing the traditional four

stages to only two, and a few adventurous souls are advocati only one real stage of glaciation with considerable variances climate affecting the thickness and location of the major ice she

The traditional mechanics of glaciation have snow remaini all summer and snow precipitating in increasing volume each wi ter until there is sufficient snow to become ice and produce gl ciers. The actual mechanics of this process are suspect. We ne both warming and cooling to an extent far in excess of what can observe today in order to bring it together. The tempera zones and tropics must evaporate a substantial amount of wat in the summer. Indeed, if we are going to drop the water level ov 200 feet and create the Bering land bridge, we have to evapora an incredible volume of ocean water, an estimated 20.82 milli cubic kilometers, enough water to cover an area of 5 million squa miles with a sheet of ice 1.2 miles thick. All this water must be evap rated in the temperate and tropic zones, either within a very sh time, or a great deal more water, allowing for evaporation, ove considerable period of time, must be evaporated and put in moisture-laden clouds.

Assume that we do get warmer oceans and produce heavy h mid clouds; we then have to move these clouds from the tempe ate and tropical zones in a northerly direction to get them to t latitudes where they can precipitate as snow. Moving moistu north is the most difficult part of the process because there seer to be a kind of natural "dew" line below which cloud humid would fall as rain and above which it would more likely fall as sno I would locate this line around the present border of the Unit States and Canada, although knowledgeable meteorologists mig place it higher or lower. We cannot today conceive of a natural pr cess that would evaporate this amount of water and transport safely from the temperate zones to ensure that it precipitated ice in Canada.

If a massive cometary "dump" did occur, bringing extraterre trial water in massive amounts to the Earth, we might be able trace the fall of the water, torrential rains in the temperate climat

and horrendous cascades of ice in the northern and southern latitudes, making the Ice Age almost instantaneous. This scenario is described by Donald Patten in *The Biblical Flood and the Ice Epoch;* it makes a lot of sense and explains many different phenomena. We have always had the problem of locating the source of water in the freshwater Pleistocene lakes in Nevada, Lahontan, and Bonneville. Speculations suggest they were filled by glacial runoff from the Sierra Nevadas, but the magnitude of these lakes prohibits that explanation. So a quick dump of fresh water on the midcontinent might be a good way to fill those lakes.

An annoying technical problem is that on our planet the winds generally move from west to east and east to west depending on the latitude. Constant and reliable winds do not, as a rule, move from north to south or south to north. In the Great Plains we do have the occasional "Alberta Clipper," which brings freezing Arctic air down the east side of the Rocky Mountains and creates serious snow and blizzard conditions. We do have occasional winds from the south which bring unseasonably warm winds north to melt the snow. And there is the very strange "Chinook," or zephyr, wind that heats cold areas unseasonably for a few hours and vanishes. On the whole, however, our winds and weather do follow a west to east pattern in the geographical regions where we find the big glacial sheets, so we must deal specifically with that fact.

To get the Ice Age under way, then, we must violate almost all the present knowledge we have of how our winds, clouds, and humidity work and create a different scenario that has very warm oceans creating clouds which promptly move north, across the dew line, and dump incredible amounts of snow on the Great Plains, the Hudson Bay area, and western Europe. Strangely, as far as we can tell, the snow clouds do not affect Siberia and no glaciers are found there that remotely resemble what happens in North America and Europe. But there has to be incredible cold in Siberia at this time because we do find frozen mammoths and frozen tundra, and the "deep freeze," of which Stephen Taber wrote, really puts some very cold temperatures into the ground in these areas.

The Ice Age itself, as noted, has been broken up by many scholars into four or more stages, divided by periods called "interstadials," which means that some kind of warming process takes place in the midst of the glacial sheet. The onset of additional cold later then creates more glaciation. No one seems to have a good explanation why or how the weather warms and subsequently cools People are satisfied simply to have these interstadials because they make it possible to explain why we find traces of human occupancy in some remote and obscure sites which should have been covered with hundreds of feet of ice. Scholars are also able to introduce the Cro-Magnon people into Europe during the Ice Age by manipulating the data of the interstadial. The scandal at Sheguiandah, Canada, comes about because much evidence seems to point to interstadial settlement of a location. Here, excavations, although performed under the most excruciating conditions, revealed significantly old human habitations and resulted in the dismissal of Dr. Thomas Lee.

Scholars also have invented strange concepts which they use to explain deposits which puzzle them. Thus, "advances" and "retreats" of glaciers are suggested to account for various kinds of gravels and clays whose presence would raise questions about the validity of a prolonged period of glaciation. A glacier apparently "advances" by moving southward and covering ground where it has not previously been located. By the same token, "retreats" would find the glaciers melting significantly at their southern edge to let a considerable tract of ground dry out and support plant and animal life. It is puzzling just exactly how glaciers do "advance." According to accepted ideas, the snow accumulates to as much as several miles high and, as pressures build, the glacier, or a significant part of it, then begins to stretch out over land which has not previously been affected by glaciation.

This movement of glaciers has always given me problems. It is always presented as if the planet were a Sherwin-Williams paint logo and the glaciers just naturally began to move south, so people have rarely asked how an inert sheet of ice can start to travel.

Present theory would have glacial arms moving away from the Chicago region and traveling southward to the St. Louis, Missouri, area, not an inconsiderable distance. Geologists have primarily studied Alpine, Alaskan, and Greenland glaciers and on that basis have developed the idea of moving glacial ice sheets. But all of these glaciers originate in the mountains. They thus have the assistance of gravity as they move downhill into the flats. It would not seem difficult to move ice downhill in a mountain area, because you would have a solid rock surface underneath the ice, melting waters to lubricate it, and gravity to occasionally coax it along. Melting water would also run downhill, making some movements of the glacier a spectacular leap forward and simply not providing any encouragement during cold seasons.

If we transport this mechanism to the plains and woodlands of Canada, we have a different picture. Ice sheets, no matter how high, are resting on topsoil, so water simply seeps into the ground and finds its way from under the glacier to unglaciated terrain. We have no assistance from gravity at all. Indeed, moving the ice from Hudson Bay to St. Louis would mean moving it uphill for many hundreds of feet of elevation. We can simply surmise that ice can and does go uphill if scientists want it to do so.

I have devoted an inordinate amount of attention to the mechanics of glaciation because it is necessary for the reader to see the magnitude of the problem which glaciation presents for our Ice Age Bering Strait immigrants. While eastern Siberia, mysteriously, is not glaciated, the Alaskan mountain chains are victims of the glaciation. Existing Alaskan glaciers may be remnants of the original Pleistocene glacial sheet. If we are successful in getting any of the Paleo-Indians across the Bering Strait, they will simply have to remain in the central Alaskan marshlands until the glacial age has subsided and it is safe to travel. Or so we would think. But scientists, being an inventive sort, are not content to leave the settlers alone in Alaska.

The mechanism by which we move the Paleo-Indians from Alaska to the interior of the continent and then to the lower

forty-eight is the "ice corridor." Jared Diamond brilliantly arti lates this idea in an article in *Discover* magazine:

> At intervals during the ice age, a narrow ice-free, north-south corrido opened through this wall [the glacial ice sheet], just east of the Rockies One such corridor closed about 18,000 years ago, when apparently ther were not yet any people in Alaska. However, when the corridor nex opened, 12,000 years ago, the hunters must have been ready, for thei telltale stone tools appear soon thereafter, not only at the south end o the corridor near what's now Edmonton, Alberta, but also elsewher south of the ice cap.[9]

We may certainly *need* an ice corridor if we are going to expl how the Paleo-Indians got through the North American gla sheet, but does that make it a geological certainty or reality?

To be really useful, this corridor would have to extend not o along the east slope of the Canadian Rockies. It would have to tend clear into central Alaska so that people then living in th frozen marshlands would be inspired to see where it led. We c not have Paleo-Indians forsaking the few flat areas where ther game and wandering across range after range of glaciated mo tains searching for the corridor that leads them to the south. addition, it would seem that snow clouds, as they do today in Rockies, would hit the high mountains and then dump their sn first on the eastern slopes before transporting all that moist clear across the Canadian plains to deposit it in the Canadian shi region. So we would have heavy snowfall precisely where schol want a corridor.

American Indians, as a general rule, have aggressively oppo the Bering Strait migration doctrine because it does not reflect a of the memories or traditions passed down by the ancestors o many generations. Some tribes speak of transoceanic migrati in boats, the Hopis and Colvilles for example, and others speal the experience of a creation, such as the Yakimas and other Pac Northwest tribes. Some tribes even talk about migrations fr other planets.

The Sioux, Salish, and Cheyenne remember their life in the Far North, which featured entirely different climatic conditions than we find today. The Sioux tradition, related by Thomas Tyon around the turn of the century, states:

> The seven council fires burned in a land where the trees were small and the leaves fell before the coming of each winter.
>
> The seven fires were lighted in a circle (the nations were camped together) and *Waziya* appeared in the council. He was a large man and clothed in heavy furs. He said, "Why do you stay here where the trees are small and the leaves fall? Come with me and I will show you where the trees grow tall and the leaves are green all winter."[10]

The Salish account has certain similarities. Ella Clark reports a tradition given to an interpreter in 1923 by four elderly Salish concerning Flathead Lake. To the question of origins, these old people said: "... the first Salish were driven down from the country of big ice mountains, where there were strange animals. Fierce people who were not Salish drove them south. So in our stories our people have said: 'The river of life, for us, heads in the north.' "[11] Since the memories of American Indians clash directly with scientific speculation, there is little room for compromise here.

Some tribal traditions do speak of ice and snow, which may be memories of North American glaciation, particularly since ice and snow are normal phenomena in the United States and remembering a really big snow would indicate that it was unusual. Most of these tales begin with the supposition that these groups were already present in North America prior to the onset of glaciation and quite possibly were observers of some of the climatic events of the Ice Age. The simplest ice tradition is that recorded by Julian Steward in a collection of Western Shoshone traditions but actually provided by a Northern Paiute person from Winnemucca, Nevada, concerning a large body of ice on the Snake River. Since it is short, it can be used to illustrate the casual nature of the account. It seems that Coyote took some of the Paiutes north to the Snake River:

> Ice had formed ahead of them, and it reached all the way to the sky. The people could not cross it. It was too thick to break. A Raven flew up and struck the ice and cracked it [when he came down]. Coyote said, "these small people can't get across the ice." Another Raven flew up again and cracked the ice again. Coyote said, "try again, try again." Raven flew up again and broke the ice. The people ran across.[12]

Although there is some involvement with supernaturals, the basic story line is simply that the people went north, saw ice that went to the sky, and tried to cross it.

More complicated is the Chippewa creation story, which says that God tried four times to create the present world but the first three efforts were doomed to failure because there was too much ice. The fourth time the effort was successful. If this tradition is a memory of the four stages of North American glaciation, it implies that the glaciation occurred within a reasonably short period of time so that people remembered the process. Since the Chippewa flood story relates that the flooding was caused by rapidly melting ice, we might suggest that Chippewa traditions are something to be taken seriously.

The Hopi have a tradition that their clans had to make migrations around the Western Hemisphere at the beginning of this present world. Five clans—the Blue Flute, the Ghost or Fire, the Spider, the Snake, and the Sun—all migrated up the western side of the continent until they reached "... a land of perpetual snow and ice." Here they were tempted by Spider Woman to use their special powers to melt the mountains of ice and snow. Sotuknang, nephew of the Creator, then appeared and scolded them, pointing out that if they continued their activities they would melt the ice and snow and destroy the newly created world. They ceased their mischief but Spider Woman and her clan were punished by becoming the source of evil and discontent in the world.[13] It seems unlikely that the Hopi, living on the Colorado Plateau in northern Arizona, would be able to guess that the northern reaches of the

continent were lands of perpetual ice and snow. This tradition must reflect a journey to the north.

The argument over the validity of the Bering Strait doctrine might continue on indefinitely, since most scholars are not inclined to take seriously the kinds of objections that skeptics raise. We need some additional evidence on one side or another to tip the scales and force a genuine reappraisal of the idea and the creation of a reasonable alternative. I did not realize how useful the doctrine was until I went outside the anthropological literature and began to look at how the scientists in other disciplines creatively used the Bering Strait for their own purposes. Pending the publication of all the "new" discoveries which Greenman's critics maintained were being made daily, let us now turn to the Bering Strait as it appears outside the Paleo-Indian context.

I was reading Donald Worster's popular historical study *Dust Bowl* one afternoon when I came across the following passage: "Horses and camels began their existence 45 million years ago in the North American grassland, migrating later across the Bering land-bridge to Asia. Bison followed the same route in reverse during the Ice Age and discovered a domain in which they could thrive."[14] I certainly wouldn't want to question or denigrate Worster's research or scholarly reputation, but it seems incredible to me that two grazing animals, terribly well adjusted to the grasslands of Kansas and Nebraska, could not thrive there and so would suddenly pick up their things and move north into an increasingly cold climate, where grass is at a minimum, looking for a better place to live.

I can't imagine thousands or perhaps millions of horses and camels struggling to get through the MacKenzie Mountains, or perhaps stampeding up Skagway Pass, crossing over the land bridge, and then being confronted with approximately a dozen rugged mountain ranges which they had to traverse before they found a home in the steppes of Asia. Did they suddenly change their diet, for the purposes of migration, from grass to tree bark and tundra or yearn for the Asian steppes in some mystical vision?

The bison migration, as some scientists tell it, has a lot more to offer in the way of credibility. I can imagine the scene. *Bison bison* and Mrs. Bison are peacefully grazing in central Asia without a care in the world when they look up and see horses and camels strolling by—the camels perhaps on their way to Egypt. Quick as a wink *Bison bison* turns to Mrs. Bison and happily exclaims: "Honey, do you realize that there is an ecological niche for grazing animals now open in Kansas and Nebraska?" The whole herd is terribly excited at the prospect in spite of the fact that the monsters *Bison taylori* and *Bison latifrons* already graze most of the central American plains.

Word goes around central Asia and pretty soon the whole *Bison bison* species decides to cross the Bering Strait, knowing full well that a trail has already been made for them by the large herds of horses and camels that have previously made the crossing. The *Bison bison* are very pleased because Indians are also crossing the Bering Strait, and now everything is set for the great American West 12,000 years hence, when the Plains Indians will hunt them and sell their hides and Buffalo Bill will achieve fame by nearly exterminating them.

Worster may have been a little enthusiastic about his date of 45 million years because Stephen Taber, examining Alaskan muck deposits containing animal remains, suggested that "near the beginning of the Pleistocene, elephants, bisons, goats, moose, wapiti, caribou, bears, wolves, foxes, and other mammals migrated from Asia to America, and horses and camels migrated from America to Asia."[15] It was not just the intuitive feeling that an ecological niche was open around North Platte, Nebraska, then, that encouraged the bison migration. It was the mammal fad of the day and any socially responsible species in Asia worth its salt was rushing toward the Bering Strait. We can surmise that horses and camels, watching the menagerie come loping across from Asia, decided to vacate North America while there was still time.

A short time later (in relative scientific terms), I found a book by L. Taylor Hansen entitled *The Ancient Atlantic* which combined

orthodox scientific findings about this ocean with some strange anomalies to give a history of geological and human activities associated with the Atlantic. Hansen confirmed Worster's camel migration and added that "during the Oligocene the Aleutian bridge from Asia to the Americas was dry and functioning as a means for animals and plants to cross."[16] And, she said, "... while the Aleutian bridge was open in the Oligocene, some American species made their way to Asia. Among these was the baluchitherium, a giant rhinoceros measuring eighteen feet tall at the shoulder. He was therefore four feet higher than the Imperial mammoth and the largest land mammal. He crossed the Aleutian bridge into Asia, probably along with palm, oak and walnut forests of Canada."[17]

Now, I can see John Wayne, Rory Calhoun, and even Bob Hope and Bing Crosby struggling up Skagway Pass because they've done so in the movies. I can even, as a loyal admirer of science, try to visualize herds of horses and camels racing through frozen mountain passes in Alaska and Siberia. I cannot, however, imagine the largest land mammal who ever lived, four feet higher than the Imperial mammoth, moving by the thousands through the western Canadian mountains trying desperately to get across the Bering Strait to Asia before the sea level rose again.

Nor can I imagine forests of palm, oak, and walnut moving majestically west from Alaska to Siberia. I have great difficulty conceiving of their means of locomotion—other than the fantasy of scholars. Do you suppose that they "threw" their coconuts, acorns, and walnuts as far west as they could reach each fall and in stately procession marched right across the Bering Strait, putting their roots down in tundra and then continuing to lean westward each generation until the migration was complete? Minimally, this scenario would have required that the palms had previously left the Caribbean and Florida areas and moved into the Northwest Territories or come up the British Columbia shores in order to be in a position to take advantage of the land bridge when it finally appeared.

After I saw *Jurassic Park* and was thrilled to learn that most the dinosaurs featured in the movie were in fact from the Cret ceous period, not the Jurassic, I was determined to learn mo about them. Robert Bakker, who was the movie consultant, liv in Boulder, and so some friends called him to see if we could ha lunch and learn more about the dinosaurs. He was always qui busy doing important dinosaur work and, considering the popu larity of the movie, it was not difficult to see that he could not tal the time to have lunch with fans, no matter how sincere they wer

I eventually did meet him and he is a splendid fellow. But whi we were waiting week after week to meet him, I had a chance t purchase and read his excellent book *The Dinosaur Heresies.* Bakk apparently fancies himself as the enfant terrible of science an the great paleontological heretic, although his beliefs and the ries are quite in line with Stephen Jay Gould and other popul apologists for orthodox science, so the title of the book is a litt misleading. He is pretty much a party-line scholar with great pe sonal energy and charisma.

Reading Bakker's book, however, I found chills running up an down my spine. Bakker knows dinosaurs and, while he identifi literally dozens of great-uncles, uncles, aunts, cousins, and shir tail relatives among the various species of dinosaur, he does n once identify any specific family trees which show evolutiona descent from one species to another. He does know dinosau muscles, energy levels, diets, and environments intimately, so th book is well worth the reading. But what really attracted me abou his discussion on dinosaurs was the fact that they also had crosse the Bering Strait land bridge.

My favorite passages are herewith reproduced. Giving us a elaborate description of *Protoceratops,* Bakker says that not one o these creatures "... has ever been reported from the rich beds o the American Judith and Laramie Deltas. Swampy meadows an broad humid floodplains were evidently not to Protoceratops's lik ing, though Canada and Montana did play host to relatives [see

in late Cretaceous times—the general Leptoceratops and Montanoceratops. Leptoceratops probably was an immigrant from Asia."[18] Bakker elaborates on this tantalizing hint by stating that "there were many advanced mammals and protoceratopsid dinosaurs in the Central Asian Highlands not found in Alberta, Montana, and Wyoming. But very late in the last epoch of the Cretaceous Period, the Asiatic mammals and dinosaurs began appearing in North America. These immigrants could only have passed over the Bering Land Bridge where the northeastern tip of Asia met America."[19]

Fortunately, Robert Bakker does not mince words. He suggests also that South America was once an isolated continent in which mammals and birds evolved into species found nowhere else. Then an isthmus was formed, probably due to the drop in water level of the seas during Pleistocene glaciation, which is now present-day Panama. With this connection made, North American fauna, in particular elephants, jaguars, deer, tapirs, and wolves, rushed into the southern continent. "These North American immigrants devastated the native fauna," Bakker maintains. "Most of the big South American species went extinct, victims of predation and competition from the Northerners, as well as of their diseases."[20]

Bakker is a respected scientist and so we should take his word on this matter, but it is difficult to believe that deer and tapir can eliminate giant ground sloths twenty feet tall, saber-toothed pouch mammals, and flightless killer birds larger than a lion merely by grazing areas occupied by these animals. Species, particularly grazing herbivores, generally can accommodate themselves to other grazers. Moreover, animals do not, as a rule, transmit diseases across species boundaries. The Panama land bridge is here invoked to explain events (the extinction of large mammals) which scientists cannot otherwise explain—and the explanation simply does not hold water.

Bakker is at least consistent with his arguments regarding land bridges. "The late Cretaceous world contained all the prerequisites for this kind of disaster," he writes. "The shallow oceans drained off and a series of extinctions ran through the saltwater

world. A monumental immigration of Asian dinosaurs streamed into North America, while an equally grand migration of North American fauna moved into Asia."[21] From this description it seems likely that every time a narrow body of water was temporarily dry, hundreds if not thousands of species immediately dropped what they were doing and headed for the isthmus before it closed. Even Stephen Jay Gould is not above transporting animals over hypothetical necks of land if the occasion warrants. Witness his description of the Irish elk:

> The giant deer flourished in Ireland for only the briefest of times—during the so-called Allerod interstadial phase at the end of the last glaciation. This period, a minor warm phase between two colder epochs, lasted for about 1,000 years, from 12,000 to 11,000 years before the present. (The Irish Elk had migrated to Ireland during the previous glacial phase when lower sea levels established a connection between Ireland and continental Europe.)[22]

Since the interstadial was only 1,000 years long, or about the time between the fall of Rome and the discovery of America, the Irish elk must have been gathered on the shore waiting for the land bridge to open. It does not seem possible, considering the time that most scientists require for species to pass over a land bridge, for the large deer to make the transfer.

When reading these "scientific" explanations we must always remember that in order to have land bridges at all, or even an occasional isthmus, we are basically committed to moving a great deal of water around to create an ice age, or we are making the continents rise and fall a significant distance, or we are otherwise manipulating a monstrous amount of physical material just to make our theories and speculations seem reasonable. If scientists were required to solve these physical problems prior to their rather offhand remarks about migrations, there would be considerably fewer land bridges in scientific literature. Following orthodox methodology, we should not invoke activities of nature that we do not see operative today.

It occurred to me that I might be able to find an essay devoted solely to the question of the validity of land bridges, written when a scholar had no thesis of migrating species to defend and when the Bering Strait migration did not come to mind. And indeed such an essay exists. George Gaylord Simpson was about as close to a living deity in evolutionary biology as Mother Nature herself, and one day he sat down and penned a little piece entitled "Mammals and Land Bridges." We can assume that what was applicable to mammals might be profitably applied to dinosaurs and perhaps even to Paleo people.

Simpson uses a commonsense approach to the subject and suggests that only representatives of genera cross land bridges. A single genus does not by itself cross into new continents. More important, carnivores generally follow the herbivores they have been feasting on. "Where herbivores go, carnivores can and will accompany them, and carnivores cannot go where there are no herbivores. The postulation of land bridges on the basis of one or a few mammals is thus very uncertain. Unless there is a reasonable possibility that their companions have not been discovered, a theoretical bridge based on such evidence is probably unreal."[23] In other words, if we do want to move horses and camels to Asia and bison to America, we will probably want to ensure that carnivores accompanied them if we wish to make our case.

The objection raised earlier regarding human, and then mammal and dinosaur, expeditions across the Bering Strait—that the route had to traverse a set of rugged mountain ranges on both sides of the Bering Strait—is regarded by Simpson as a major barrier even if a land bridge does exist. "For many of these animals, such as the monkeys, the absence of necessary environmental conditions beyond the bridge is an evident reason for their stopping where they did. Others, like the bison, were evidently kept by analogous environmental barriers from reaching the bridge."[24] In other words, the bison simply would not have begun the tedious trip through the Siberian mountains, nor would horses and camels have tried to scale Skagway.

George Gaylord Simpson's conclusion, apparently unread or unheeded by several decades of scientific writers, is that "in the whole history of mammals there are exceedingly few cases (e.g., Lower Eocene between Europe and North America) where the evidence really warrants the inference of a wide-open corridor between two now distinct continental masses."[25] This conclusion supports Werner Muller's Canada to Scandinavia-England-France thesis and does not give much comfort to the myriad scholars who believe in the Bering Strait—for both animal and human migrations.

Not only does the more recent interpretation of human evolution militate against American Indians being latecomers to the Western Hemisphere, an examination of the Bering Strait doctrine suggests that such a journey would have been nearly impossible even if there had been hordes of Paleo-Indians trying to get across the hypothetical land bridge. It appears that not even animals or plants *really* crossed this mythical connection between Asia and North America. The Bering Strait exists and existed only in the minds of scientists.

Dr. Claude Levi-Strauss, in his article on Brasil, says that "... many archaeologists in the United States still subscribe to the dogma that this was the millennium [tenth] when human beings crossed the Bering Strait and set foot in America for the first time."[26] Levi-Strauss and many European scholars understand that there is no basis for the early dating of the so-called migration. Whether they have discarded the very idea of it is undetermined, but with the admission that various species of hominids coexisted, the way is being cleared for an honest examination of the question of origins on the basis of scientific investigation and not as a dogma that must be uncritically accepted.