

ANCIENT CULTURE TRACED IN ALASKA

Excavations of Settlements
on Beaches Yielding Clues
Spanning 6,000 Years

MIGRATIONS RULED OUT

But Diggers Find Evidence
of Northern Entry Route
for New Ways of Life

By WALTER SULLIVAN

In the region where the Americas and Eurasia almost touch, a "guest book" has been found whose record seems to extend some 6,000 years into the past.

It shows that radically new ways of life appeared in North America during that period, but there is no evidence of great migrations from Asia.

Furthermore, the record indicates that, since the building of the Egyptian pyramids, there has been no period when the world was significantly warmer than today. Such warmth would have melted enough polar ice to raise ocean levels substantially, whereas the evidence on the Alaskan coast points to little change in the sea level.

The record there consists of a series of 114 parallel beaches, extending inland from the ocean at Cape Krusenstern, near the Bering Strait. Upon these beaches are the remains of a succession of civilizations that extend back thousands of years. As one walks the mile and a half from the ocean to an in-shore lagoon, each beach represents a more ancient period.

Unexpectedly, it has been found that the oldest of these cultures, the Denbigh flint complex, is the most sophisticated in workmanship and artistic freedom. Its flint arrowheads and knives are chipped so meticulously that one needs a magnifying glass to appreciate the technique.

Dr. J. Louis Giddings, professor of anthropology at the university, who has been in



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Cape Krusenstern (cross)

charge of the excavation of some 300 sites at Cape Krusenstern, believes the Denbigh workmanship to be the most detailed of that found in any prehistoric flints. He puts the age of the culture at 5,000 to 7,000 years ago.

No satisfactory dating of its remains has been achieved by the radiocarbon technique. However, charcoal and wood found with the remains of a whaling culture on the fifty-third beach from that presently washed by the sea has been analyzed for radiocarbon. It was found to be about 3,700 years old. The Denbigh remains are on beaches 78 through 194 and presumably are from a culture proportionately older.

Beaches 105 through 114 are too swampy and too deep in sod for surface examination. None of the beaches is more than about five feet higher than the present one, indicating no great changes in sea level. This, Dr. Giddings believes, may pro-

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vide the long-sought "world standard" for determining sea levels during all periods up to 6,000 years ago.

While ancient beaches have been found in many other areas, either their dates cannot be determined or the land level is thought to have changed. A primary cause of such changes have been the ice ages. Land heavily laden with ice may sink hundreds of feet, only to rise, century by century, after the ice has melted.

Effect of Glaciation,

During the last great period of glaciation, the East Coast of the United States from the vicinity of New York northward was depressed by an ice load, but the coast of Alaska, near Cape Krusenstern, apparently was not.

Its oldest beach probably represents the ocean level at the end of the last ice age when melting had come to an end. All earlier beaches were wiped out by wave action as the oceans rose. Their total rise during the melting period is thought to have been more than 200 feet.

The excavation of sites on the Krusenstern beaches was described a few days ago by Dr. Giddings at the Haffenreffer Museum of the American Indian, in Bristol, R. I., of which he is director. The museum is affiliated with Brown, in near-by Providence.

Much of Dr. Giddings' life has been spent on the beaches of Alaska. It was he, a few years ago, who first identified the Denbigh culture at Cape Denbigh and the more recent Choris culture on the peninsula of that name. Last summer he went some 200 miles up the Kobuk River to a point where an Eskimo friend, many years ago, told him a story.

Strange Flints Described

The Eskimo said his father had described strange flints, on high ground near Onion Portage. When it rained, he said, they "rose up out of the ground." When the rain stopped, they went back down again.

Dr. Giddings and his colleagues found what he believes

to be the first good stratified site in the Alaskan interior. The layers have already revealed ten culture phases and the excavation is far from complete. Many of the tools are made of obsidian, a black, glass-like stone.

The orderliness of the historical record at Cape Krusenstern derives from the fact that its residents, like the eskimos of today, always lived directly on the water. The ocean was their source of food and their only highway, winter or summer.

However a succession of beaches was formed, each a little further to seaward. Some beaches are fifteen miles long. Dr. Giddings believes they were built by the combined effect of wave action and small, cyclic changes in sea level. Each of the 114 beaches has probably supported human habitation, he thinks, although beaches 54 through 77 are comparatively thin in sites.

Food Scarce

This may have been because food, in that period, was scarce along this part of the coast. On the other hand the whaling culture apparently sprang up when whales became frequent visitors; then died out when they left. It was typified by large, multiple-room, deep houses made of upright poles. Whale bones and harpoon heads abound.

Altogether eight distinct cultures have been identified in the beach sequence, plus an even more ancient one atop palisade-like cliffs further inland. The latter, Dr. Giddings thinks, may have flourished during the last ice age, when so much water had been removed from the oceans that an isthmus 800 miles wide linked Alaska and Siberia.

The Krusenstern site was discovered in 1958 and has been dug the past three summers. While the discoveries show no evidence of migrations, they suggest that ideas flowed into North America via this route. Thus the Denbigh culture used bows and arrows, whereas such weapons reportedly were not adopted in the land of the Algonquins for another 4,000 years or more.

Presumably the Americas were populated when the land bridge across Bering Strait was broad and livable. Dr. Giddings objects to the idea of "migration." He believes the spread of population was by a diffusion process that took thousands of years and involved no willful movements of substantial distances.

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Y, OCTOBER 30, 1961.

A Grim Fight for Life Is Shown in Old Ruins

The grim remains of a desperate fight for life 2,000 years ago have been found on an Alaskan beach.

In the charred ruins of a prehistoric house were the skeletons of a woman and two children. Near them were three bone-hafted adzes and it was evident that the three had been trying to burrow out of a hut whose overhead exit was impassable.

According to Eskimo legend, ancient raiding parties sometimes poured oil through the smoke hole in the roof, thus causing the cook-fire to flare up. The enemy would then club the occupants as they dashed out.

In this case, according to Dr. J. Louis Giddings of Brown University, the family apparently tried to dig another exit but suffocated in the attempt. The site was found at Cape Krusenstern last summer.