

## How The American Indians Came Across From China

**Princeton University Scientists Searching for the Sunken Remains of the Ancient Bridge Which Connected Europe and America Thousands of Years Ago**

By W. H. Ballou, Sc. D.

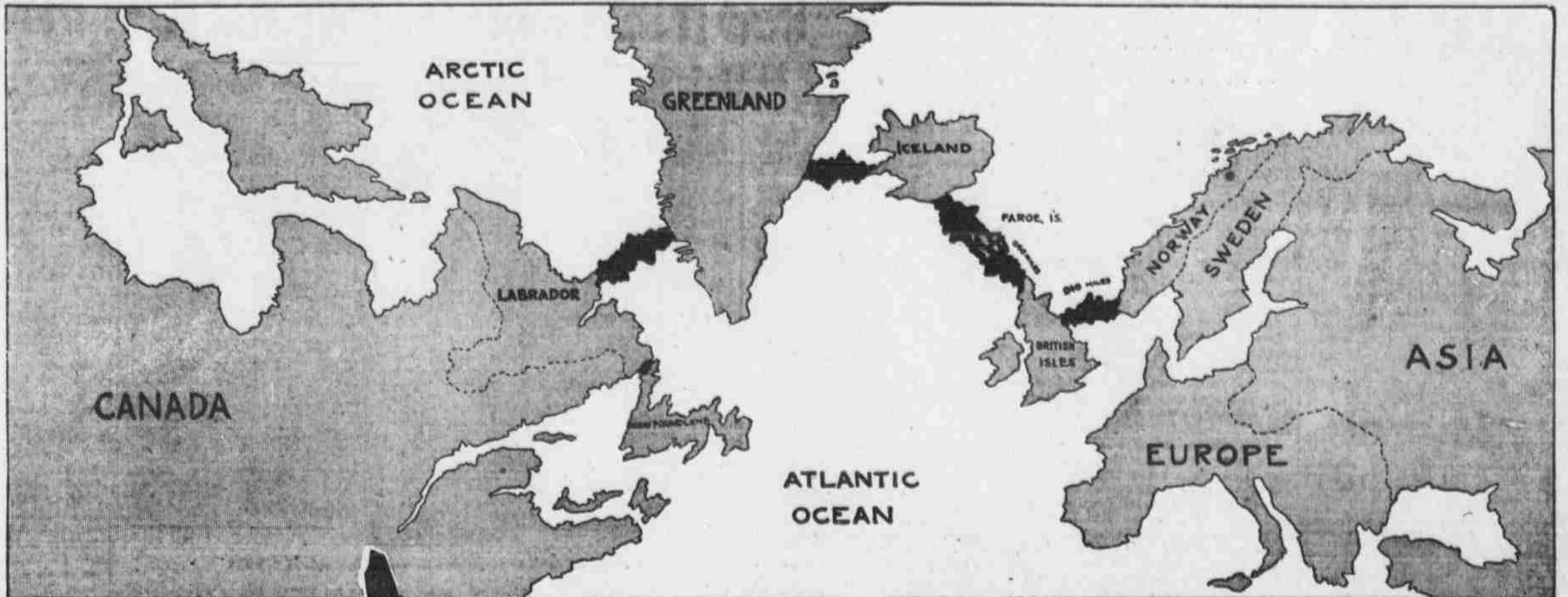


Diagram Showing the Probable Location and Shape of the Ancient Bridge That Connected America with Europe. The Black Portions Are Those Now Submerged.

SET your clock back to a period extending from several hundred thousand years to 70,000 years ago; to the time of the evolution of the human race and of other mammals. Let your imagination roam from that period as far back as you like. It should not be difficult for any one to set up a mental image of a world at that time considerably different in its natural conformations to those which exist to-day. We know this tentatively because of the discovery of animal and plant remains in places which they could only have reached on land bridges.

Where were these land bridges and what crossed them? Many men of science for several hundred years have given much attention to the subject and assembled vast collections and data and specimens in proof of the general hypothesis. Not a single man of science has thrown doubt on the existence of land bridges extending entirely around the region of the Arctic Circle in ancient times. The exact contours of such bridges, however, remain more or less of a mystery.

At the present moment, the third expedition of Princeton University, under Professor Gilbert Van Ingen, one of the greatest invertebrate paleontologists, is investigating in Newfoundland and collecting fossils to establish such a bridge and its location, connecting that province with Scotland and Scandinavia. It may well be doubted if Professor Van Ingen will accept as such bridge the apparent ridge of rock on which the Atlantic cables are laid. The water over this ridge ranges to 5,000 feet depths and lies too far south of the Continental Shelf, the line around continents where the ocean abyss jumps from 800 feet to precipitous depths. All that he will attempt to do will be to prepare a map of curvatures in lesser depths, which conservative investigators can accept. This latter class accept as conclusive the hypothesis of Matthew

Admitting tentatively, then, former land bridges that connected Asia and Alaska on one side of the world, and Scandinavia, Scotland, Europe, Iceland, Faroe and other islands, Greenland and Labrador on the other side, there remains to show Misourians and others what people, animals and plants made use of these bridges for their migrations, using legs in place of Pullman cars.

America was peopled before the last ice age set in. By whom and how? Mat-

thew has shown that all life, animal and vegetable, was dispersed from a Holarctic-Asiatic region, of which Tibet was the centre, migrating in successive waves until the uttermost parts of the earth were reached. Boas has demonstrated that the Mongoloid type of men, from their habitat in northern and central Asia, reached Europe and the new world.

As to the use of the natural bridge between northeastern Asia and Alaska, Boas finds that the only people that patronized it prior to the last ice age, were the Ainus of Japan and the Pacific north western tribes. No culture of these peoples, who intermingled at will, has ever been found existing among other American tribes. Boas says: "Pottery neither reached the Pacific Northwest nor the extreme of South America, and the art forms of the North Pacific coast and of the Arctic coast, show no affiliation with those of the middle portions of the continent." Our New York State Indians are regarded as still primitive Aryans.

What is the answer? Mongolians could not have passed through Siberia and Alaska to Middle North America without leaving traces of their own culture and carrying along some of the culture of the Ainus or other northerners. Further, Asiatics were cut off from northeastern migrations both by the terrible Mongolian steppes and the vast ranges of east and west running snow-clad mountains. They could have reached America in two ways only. They could have used some form of craft or they could have travelled across the prehistoric land bridge from Europe to Labrador!

Matthew well remarks that if a canoe full of Asiatics got blown across the Atlantic once in a century or once in ten centuries, it would be ample to populate the world during the thousands of years man has existed on earth. These canoes, however, could not well contain domestic animals, and there is ample evidence that the prehistoric Americans either brought



An American Indian in Aboriginal Costume, and the Same Indian in Chinese Costume. In the Latter Costume He Would Pass Anywhere as a Chinaman.

domestic animals and food plants with them across the land bridge or tamed the animals and plants they found here. The idea of the Atlantic bridge fits best as the domestic animal and plant looms up on the historic horizon with first brainy men. If any Misourian still remains to be shown, he has only to try the experiment that has so often been adopted to make good the hypothesis. Let him attempt to separate Chinamen or Indians when a dozen or more of them are dressed alike. And then, there is that early Mexican culture identical with that of Egypt.

There were vast populations of mankind, enormously increasing, 250,000 years and more ago. Why sit in your easy chair, puff up like a cobra, and imagine that you have a monopoly on brains, mind and invention? In some respects you haven't even advanced in civilization up to the age of the lost arts of 6,000 to 8,000 years ago. You haven't been able to reinvent those lost arts. Your brain case is even smaller than was that of prehistoric man.

I doubt if any of us living in this latitude have brains enough to withstand a sudden descent of an ice age such as confronted first men, side step it and survive it.

I doubt if there is a man living who can whip a gorilla with his hands or chimpanzee, orang or gibbon or other huge primate as prehistoric men did and had to do in order to exist.

Professor Van Ingen's land bridge around the Arctic Circle region must have been good travelling, according to Geikie, Nansen, Knowlton, Stejneger, Ewart and other noted investigators. The Arctic world was sub-tropical in those days before the formation of ice caps. The prehistoric Westons or nomads perhaps on horseback must have delighted in polar travels as much as you or I in a hike in Central Park on a balmy day in June. Some of those same trees our prehistoric friends encountered, the ginkgos, have been liberally transplanted in our parks, brought hither yea-a ago from Japan and transplanted. I regret to note that one of them is now being attacked in Central Park by the terrible saprophytic fungus, *Fomes leucophaeus*. Just one of the brackets of which will shed spores enough to destroy many other park trees. Knowlton says of the climate in those times, based on fossil flora, that it seems safe to assume a moist, warm, possibly sub-tropical condition. More than 100 species of fossil flora unearthed in England, have been found in the rocks entirely around the Arctic Circle.

Leonard Stejneger, perhaps, did the most stupendous work in compiling the faunas and floras, which he assumed could only have travelled across the land bridge between Scotland and Norway. In so doing, he had to admit similar bridges which others had set up between Scotland, Faroe Islands, Iceland, Greenland and Labrador. No scientist can assert positively that such bridges existed, no matter how much data he collects. What he can prove is that no other known method existed, former times by which a belt entirely around the northern part of the globe was peopled with identical animals and plants, vertebrates and invertebrates. The fossil forms in collections tell very near exactly where each

genus originated. How did these genera or their successors disperse? If they could not fly or were not transported, then he insists, they must have dispersed by means of existing land bridges and occasionally by natural marine grass rafts.

The distance between Faroe Islands and Scotland and between the latter and western Norway is 240 miles in each case. The water depths existing between them to-day and in the other spaces was caused, geologists assert, by the weight of successive ice caps, depressing the earth crust. Some geologists figure as many as six successive ice caps. The number has little bearing on the matter since the last one was sufficiently appalling to make off perfect navigation at the present time, where walking had formerly been good. I say appalling because there is no doubt that the last ice cap, still receding, northward, pounded the earth crust down to stay where it is, while the first ice caps did no such stunt. One or several times, it is assumed, the earth arose several hundred or more feet after the first ice cap receded.

Archibald Geikie accumulated a lot of data on the subject which remains in his still authoritative work on "The Great Ice Age." So, the geologist's data is used by paleontologists to support hypothetical land bridges in order to account for migrations of men, other mammals, flightless birds, reptiles, crustaceans, invertebrates, trees, and plants which had seeds too heavy to be borne by winds and which sank in water rather than swim for it.

Just how invertebrates migrate long distances is a matter which it is to be hoped Professor Ingen or others will clear up. I have seen claims travel by suction, but only on the bottom of water areas. Stejneger sets up such Atlantic and Arctalian biota as world girdlers on the land bridges, but without describing the process. Among these he mentions terrestrial molluscs, earthworms, isopod crustaceans, noctuid moths, humble bees and an entire series of insects of the orders of lepidoptera, hemiptera and coleoptera.

Some of these are essentially slow travellers and probably required hundreds, perhaps thousands of years to disperse the tremendous distances across those land bridges and over the mountains and plains of the mainland. Give a pair of snails several millions of years and they and their descendants could no doubt populate the entire earth with their kind, however slow a cartoonist might depict them.

Among the mammals common to the whole sectional circle are the variable hare, the lemming, the red-backed field mouse, the wild reindeer, the red deer, very primitive horses and the extinct mammoth.

When one considers the several types of men, other animals and plants that have apparently endured continuously since early Pleistocene times, and some of them much longer, in the cold storage section of the world, there cannot be the slightest doubt that if land bridges existed, there was ample travelling done over them in both directions. The Princeton expedition will at least have the satisfaction that all of the evidence collected supports the hypothesis of a Labrador-Scotland land bridge. Even a Misourian cannot deny that it may have been.

### Why Singing Is Such An Excellent Physical Exercise

By Dr. Leonard Keene Hirschberg, A.B., M.A., M.D., (Johns Hopkins University.)

A PERSON'S physical virtues often form the magic of his song. Singing is music married to a man's muscles. The melodious sounds which issue from the throat require as much muscular exertion as you might apply to pump an organ.

Singing is a mosaic of stimulant and physical training. Every instant that you lift up your voice in song there occur heaves and contractions in the muscles of the chest, the abdomen, the throat, the cheeks, and even inside the abdomen and thorax.

These muscles, as well as the liver, stomach, spleen and diaphragm all move in perfect harmony to the song. Othello says Desdemona could sing the savagery out of a bear. Scientific experiments show the vibrations of vocal music soothe

both the singer and the listener by the athletic movements stirred up in the fibres and elastic elements of the muscles.

Even where tuberculosis and some kinds of heart disease exist, the sufferer must needs exercise. Medical research shows that the absence of all exercise, except where fever is present, is by no means desirable.

On the other hand, unless some gentle sort of muscular exertion is systematically carried out, the tissues of the victim become soft, flabby and not adapted to strain and tension.

Singing is thus a most praiseworthy kind of calisthenics. It takes the place of violent athletics and strenuous physical culture. It is harmless, always available, and can be made to serve the purpose at any proper time and place.

The very breathing exercises which a vocal teacher institutes go a great way in training the muscles of the throat, neck, back, chest and belly.

Furthermore, those same exercises cause the muscles of the stomach and other interior structures to squeeze together and expand. This alternate expansion and contraction in their turn empty out the waste, useless and accumulated materials. Thus constipation and its attendant ills are to a large extent relieved by singing.

In brief, therefore, the sweet concourse of vocal sounds, called singing, undoubtedly acts in a fashion as a substitute for dumbbells, Indian clubs, pitching quoits, playing golf, baseball and swimming.

Like dancing, the exercise received in

singing is more enjoyable, soothing to the physical fabric than are gymnastics, which a man does merely from sheer duty. You sing with spirit and pleasure; often you will take the prescribed course of physical training or gymnasium work simply because your will dictates and demands it; because your better knowledge calls for it.

If the encaged canary bird imprisoned in my lady's chamber did not trill his brilliant songs, he would die of inactivity.

If the snarling, growling tigress in the circus or zoo did not emit her rumbling monotonous her muscles would waste away until she could not spring for her food.



Photographs of a Chinese Baby and an American Indian Baby, Showing the Marked Similarity Between the Two.