

## PREHISTORIC INDIAN TRADE COVERED LONG DISTANCES

The Indians who once roamed the vast plains and forests of western America maintained complex trade relations with distant tribes, according to evidence just brought back from the northwest by Herbert W. Krieger, curator of ethnology of the U. S. National Museum.

In his expedition he examined graves of prehistoric Indians at numerous locations along the Columbia River, and he has found from 80 to 100 different types of articles used, from pipes, pottery, and headdresses to stone clubs and arrow points.

To the ethnologist, these long buried objects indicate the work of various groups of Indians, and show that articles were exchanged throughout the west, from the Pueblos of the south, to the California coast tribes, the Haida of Alaska, and the Eskimo and Chuckee of the Arctic, and even tribes as far east as Minnesota.

"The Columbia River was the center of much trading, because it was the direct route of entrance from the north into the American continent," Mr. Krieger told a representative of Science Service. "Horses were not yet known in that part of the country, and the Indians depended on rivers as their chief routes of travel. They lived near the water, and used the back country only for hunting game in the mountains and for portage in getting from one water-course to another. They traveled along the rivers to seek food and to barter articles that they had for different kinds of things made by other tribes."

The objects found by Mr. Krieger are all from a period before the white man's coming, he says, because no glass beads or other indications of the white man's presence are found among the relics. The articles unearthed were burial offerings which were placed with the remains of their former owners.

So many of the weapons and jars are broken that Mr. Krieger believes that this must have been done deliberately by the Indians who placed them in the graves, so that no one else would ever use them.

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## SCRAPPED FORDS AND TIN CANS SALVAGEABLE BY ELECTRICITY

Discarded tin cans and automobile bodies, as well as other forms of iron which now go to waste on dump heaps, may be an important source of a very pure form of iron in the future, according to the Engineering Foundation, of New York City.

Twenty million tons of iron are said to go to waste annually because of rust, but this can be greatly reduced by the use of this iron, which scores even higher than a popular brand of soap, for the iron obtained by these electric methods is 99.96 per cent. pure.

It is called electrolytic iron, and a plant has just been established at Niagara Falls to produce it, says the Foundation, as a result of cooperation between French and American inventors. While the first electrolytic iron was produced half a century ago in America, the original product was so rough and brittle that nothing much could

be done with it. Scientists in many countries had been working on it, the greatest success being attained in France and the United States. Then it was found that the firms in each of these countries had knowledge and patents which were valuable to the other, so they combined forces.

The method consists in using bars of cast iron as anodes of huge wet batteries, the liquid being a solution of iron chloride. The cathode, the other terminal of the battery, consists of a bar of steel, and when the current is passed through, the iron dissolves from the cast iron bar into the liquid, and at the same time is deposited from the solution onto the steel bar.

The iron deposited on the steel bar forms a cylinder, up to a quarter of an inch thick. The metal, on the inside, next to the steel, which is deposited first, is full of hydrogen, which makes the iron brittle, but this gas is removed by passing the cylinder through an oil-heated furnace. A stripping machine is used which enlarges the diameter of the iron tube, so that it may be slipped off the steel cathode, which is used over and over again. The tubes may be used as they come from the machine for some purposes, or they may be flattened, or slit and made into plates from which other iron objects may be made.

Since only iron is deposited by this process, it is suggested that waste iron from dump heaps might be reclaimed by dissolving in the iron chloride solution and recovering it electrolytically.

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#### PIKE, "PRESIDENT'S FISH", HAS HAD NOTABLE HISTORY

The pike, the big, hard-fighting game fish that has received much publicity lately through falling victim to the Waltonian prowess of President Coolidge, is a creature of high historic traditions, according to Lewis Radcliffe, U. S. Deputy Commissioner of Fisheries. His fame goes back to Roman times at least, for Mr. Radcliffe has found a verse about him in the works of the Latin writer Ansonius, which translated reads:

"The wary pike, 'midst wrack and rushes hid,  
The scourge and terror of the scaly brood  
Unknown at friendship's hospitable board,  
Smokes midst the smoking tavern's coarsest food."

According to Mr. Radcliffe the high esteem in which it was held is revealed in that during the reign of Edward I, the King fixed the price at double that of the salmon and over ten times that of the cod. As late as the Reformation a large pike equalled in value a lamb and a small one more than a fat capon. The pike was introduced into England about 1532. An old couplet ran -

"Turkies, Carps, Hops, Pickerel, and Beer  
Came into England all in one year."

"Izaak Walton devotes an entire chapter to observations and directions for fishing for the Luce, or Pike, recounting the antipathy between the pike and some frogs," says Mr. Radcliffe. "Of a method of cooking the pike he states: "This dish of meat