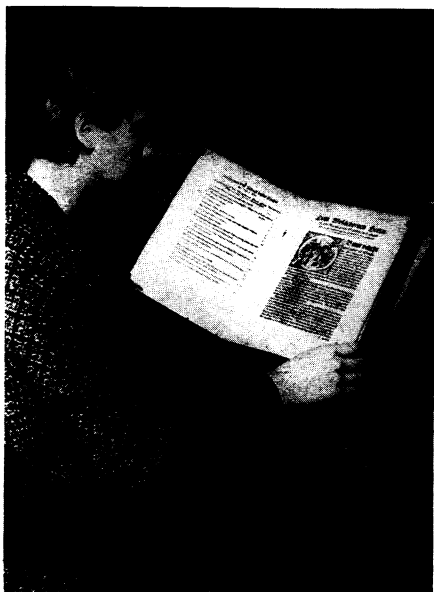


belong to America, to libraries in Providence, R. I., and New York City. The volume, titled "The New World" and printed in Strassburg in 1534, is said to be almost unknown to research scholars.

English translation of the German work has been begun by Herbert Krieger, ethnologist of the Smithsonian staff. The German book is itself a translation of a work by Jean Huttich which appeared first in Latin two years earlier. When this new Latin volume, telling about the voyages of Columbus and other explorers appeared in 1532, it so interested the German, Michael Herr, that he had his friends read the Latin to him on winter evenings, and he wrote a German translation. Herr was a faithful and scholarly writer, with a pleasing German style, Mr. Krieger finds. His account checks well with known authorities on American exploration.

Herr describes Columbus as "a brave, big man with a long, red, freckled face"—not a heroic description, but one with a truthful ring. Herr gave more space than most historians to the cannibals of the New World, and to the island of women, Mr. Krieger has observed. The cannibals that Columbus met were Carib Indians, who were accustomed to swooping down on peaceful Arawak Indian farmers and carrying off victims for a feast. The island of women is thought to be Martinique. It was a sort of prison island where the Caribs held their captives for various purposes.

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**BRAVE, FRECKLED COLUMBUS**  
That is the description given by the rare volume in the young CWA worker's hands.

## ASTRONOMY

## 200-Inch Telescope Mirror To be Coated With Aluminum

### Unique Bombardment With Hearts of Matter Will Clean Quartz to Receive Layer of Best Light Reflecting Metal

**T**HE GREAT 200-inch telescope now being planned at Pasadena will be coated with an aluminum layer of high reflecting power instead of the silver that has been the standard material for many decades. The process for making such high quality mirror surfaces has been sought a long time but satisfactory results have been obtained only recently through experiments of Dr. J. Strong of the California Institute of Technology.

The first important trick involved is to get the surface to be vapor plated really clean. What is clean enough for silver plating is by no means satisfactory for aluminum. Dr. Strong blasts off the final contamination by a bombardment with electrons and ions.

The next puzzle was to find a suitable way of getting the aluminum to go where it was required. This is done by melting the aluminum on a tungsten wire of just the right size and shape. If the wire is too fine the molten aluminum will dissolve it and burn out. The wire in the form of a helix is heated until the aluminum evaporates and deposits on cooler surfaces nearby. This requires that the process take place in a high vacuum.

Dr. Strong has coated many small mirrors for instruments at the Mt. Wilson Observatory with great success. Aluminum has an enormous advantage in reflecting ultraviolet light. Silver and everything else so far used are very poor as reflectors in comparison. Because of silver's shortcomings, the reflecting type telescope was inefficient. Aluminum will reflect well all the light that gets through the atmosphere.

The aluminum coating can be "laundered." The aluminum surface develops an invisible coat of aluminum oxide which protects the metal without tarnishing like silver. It can be washed over and over with soap and water. It is thus not only much better but much more durable than silver which is now commonly used.

The biggest mirror so far coated is the 36-inch reflector of the University

of California's Lick Observatory on Mt. Hamilton, Calif. The coating was applied by Dr. Strong. It required a vacuum chamber big enough for several people to sit in. The chamber for the 200-inch diameter mirror (almost 17 feet across) will be gigantic by comparison but only technical difficulties are involved in its construction.

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## ECONOMIC ZOOLOGY

### Mink and Silver Fox Farms Show Profit

**F**UR-FARMING—domestic cultivation of the silver fox and mink—has been on a fairly profitable basis for the past three years, reports F. G. Ashbrook of the Bureau of Biological Survey, U. S. Department of Agriculture. The Biological Survey is maintaining experimental fur farms, although its appropriations for the purpose are limited.

The stock-promotion phase of the fur-farming industry has now passed into Limbo, Mr. Ashbrook holds.

"It has been, during the last three years," I believe, "the one livestock enterprise that has actually given a profit," he said.

Fur farmers harvested 150,000 silver fox and 50,000 mink skins in 1933. The largest problem is to improve the pelts. Too many of them are inferior.

About thirty to thirty-five million dollars is invested in equipment and animals, buildings and runways.

Rabbit breeding is also conducted to a large extent on small farms, but largely for the purpose of selling the meat.

The fur trade uses more than 100,000,000 rabbit skins annually, but 98 per cent. of these come from Australia, New Zealand, Belgium, France, and other foreign countries.

The Congressional committee on appropriations restored \$51,717, which had been eliminated by the Budget Bureau, in order to have work on experimental fur farms continue.

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