ARCHAEOLOGY

U. S. Launches 10 Archaeology Expeditions In Latin America

Goal of Newest Good Neighbor Project Is Rediscovery Of Missing Chapters of New World's Civilizations

LAUNCHING the newest good neighbor project, some of the United States' most notable archaeologists are now scattering through Mexico, Central America, and South America to join hands with Latin American scientists in a large venture. The goal is rediscovery of missing chapters of the New World's earlier civilizations.

No less than 10 archaeological expeditions are taking the field in this project. Stations of the archaeologists range mainly along the backbone ridge of the Andes Mountains, spreading out into adjacent lowlands. Along this important line flourished the highest native civilizations of the New World before white men came. Archaeologists emphasize that the white man's era dominating the Western Hemisphere cannot be fully understood without knowing more about what the Indian achieved when he held the land.

Some of the archaeologists will seek more information about what might be called ancient America's Pan-Americanism. North and South American Indians, such as Aztecs in Mexico and Incas in Peru, may have known about one another. Trade and other influences may have been relayed north or south over long routes. Migrants may have brought new ideas to distant peoples. Definite evidence of such events is still sought from sites buried in the earth, in order to build up a clear picture.

Mound-Builder Indians of the Southeastern states may have been an offshoot of tribes "somewhere in Mexico," and efforts to find out whether northeastern Mexico may have been the cradle land of the Mound Builder culture will be made. Northeastern Mexico is still an unexplored field for archaeological work.

Study of artistic and scientific achievements of pre-Columbian Indians will occupy time of some of the scientists. The term pre-Columbian fits these Indian civilizations better than prehistoric. In the Mexican and Central American area many Indian groups had writing, preserved literary and scientific records, kept abstruse computations relating to the calendar and astronomical matter. They properly deserve the adjective "historic."

The archaeological expeditions, which are scheduled to last until June 30, 1942, are an undertaking of the Institute of Andean Research with cooperation of the American Museum of Natural History and the Office of the Coordinator of Commercial and Cultural Relations between the American Republics. The latter, a branch of the Council of National Defense, is financing the project with about $100,000.

Working together to fill in gaps of knowledge in America's background, scientists of the two hemispheres expect to increase mutual understanding. It is also recognized that knowing more about the Indians' achievements and capacities in the past is helpful in solving problems of 30,000,000 Indians who live in the Americas today.

Directing the expeditions are archaeologists already known for discoveries in Latin American excavations. These include:

Dr. Wendell C. Bennett of Yale, who has gone to Colombia; Dr. Samuel Lothrop of Harvard University's Peabody Museum, who is in Peru; Dr. Alfred Kidder II of the same museum, also in Peru; Dr. Cornelius Osgood of Yale, who is in Venezuela; Dr. W. D. Strong, who is at work near the Peruvian-Chilean border.

Other directors who will probably remain in the United States, delegating field work to others of their expeditions, include: Dr. A. L. Kroeber of the University of California; Dr. Fay-Cooper Cole of the University of Chicago; Dr. George Vaillant of the American Museum of Natural History. Dr. Vaillant has taken charge of many arrangements for the expeditions, and recently made a survey trip over a wide area of Latin America.

Altogether about 20 experienced ar-

EXACT

Exact pressure of spot welding machines, used in building airplanes and many other defense jobs, can be measured with these newly developed General Electric gages. Their range is from 0 to 4500 pounds, and they can be used for other measurements of weight and force in addition to that encountered in welding.

chaeologists from the United States will be distributed among the expeditions. To work with them, student and other assistants are being chosen in the Latin American countries. Latin America's archaeologists are cooperating in the work in various ways. Dr. Julio Tello, one of Peru's outstanding archaeologists, is counsellor to an expedition studying racial problems of aboriginal Peru.

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AERONAUTICS

Five American Airplanes To Use "Contra-Prop" System

Experimental Models of Military Airplanes Will Use Two Propellers on Same Shaft Turning Opposite Ways

AT LEAST five experimental models of military airplanes, all cruising at more than 400 miles an hour because of the adoption of the principle of utilizing two airplane propellers turning in opposite directions on the same shaft, will be turned out in the United States within a year.

That is the prediction of Robert J. Woods, chief design engineer of the Bell Aircraft Corporation in Buffalo and designer of the radical Bell Airacobra pursuit ship.

"The dual rotation principle, first employed on an Italian racing ship about 12 years ago, has been studied by practically every designer in the country," he declared. "Now the study is coming to fruition. And the propeller companies all are making the new type props."

It has been said that the Curtiss Airplane Division in Buffalo had experimented with the principle in the P-36 about three years ago but abandoned the idea for the time. Aviation circles said that since both Bell and Curtiss were leaders in aeronautical design, both Buffalo factories probably would turn out models using the twin prop.

Mr. Woods said the twin propeller may be used on the pusher-type plane, with the prop behind the engine.

"Twin props will be used only on ships carrying 2000 or more horsepower but they'll soon be standard on those ships. When horsepower increases, the plane requires either a longer prop or more blades. Twelve feet is pretty much the limit for prop diameter and when you get more than four blades on a propeller they begin to interfere with each other. So the next thing for the engineer to do is get two propellers.

"The second advantage of the dual rotation principle is that it eliminates torque, the tendency of the airplane to move in the direction in which the single propeller is rotating. With two propellers revolving in opposite directions, they counterbalance each other and keep the plane on more of a straight line. Since torque is proportional to the square of the revolutions per minute and not to air speed, two propellers are practically a necessity with 2000-horsepower engines."

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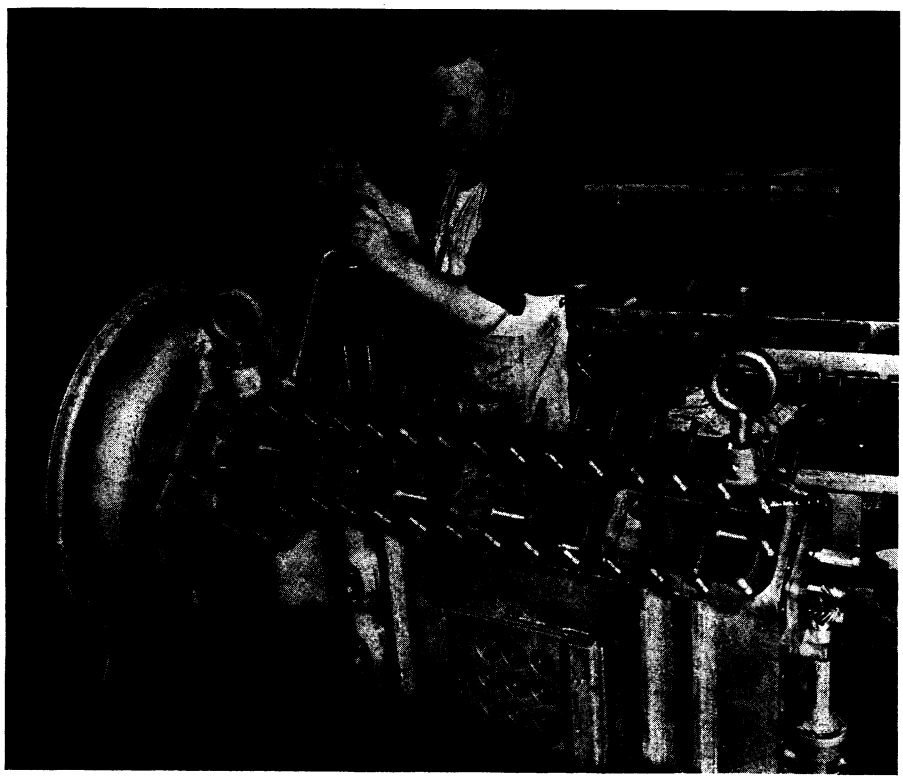

FOR FRESH AIR IN BLACKOUT

Every minute 56 tons of air will be forced through the windowless buildings of the new Douglas airplane factory. The 100 hp compressor above is part of one of the 35 complete Westinghouse air conditioning systems that will maintain comfortable conditions. The workman is setting the crankcase studs in preparation for mounting the cylinder blocks.

ENGINEERING

23,000 Lamps and 35 Air Conditioners in Factory

See Front Cover

WITH 35 complete air conditioning plants to maintain comfortable conditions and sufficient illumination to provide for a city of 83,000—the size of Lincoln, Nebraska—workers in the 11 new buildings of the "blackout" factory of the Douglas Aircraft Co. at Long Beach, Calif., will not mind the absence of windows. The plant was designed in this way to make for complete invisibility at night from any possible enemy raiders.

A few of the 8,000 mercury vapor lamps, 400 watts each, to be used in the factory areas, are shown in the cover illustration as they were undergoing tests recently at the Westinghouse Lamp Division, Bloomfield, N. J. In addition nearly 15,000 fluorescent lamps will be used in drafting rooms and offices.

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