CARTOGRAPHY

Army Makes War Maps

Combat fliers are photographing such areas as African desert and Alaskan wilds by a new speedier method. Over 5,000 square miles are covered daily.

➤ ARMY flying photographers have been taking pictures of more than 5,000 square miles of the world's surface per day during the past 10 months. These pictures are worked up into maps by the U. S. Geological Survey to increase efficiency of the nation's air forces over great stretches of African desert, Asian wastes, South American jungle and Alaskan wilds. Many of the areas had been inadequately mapped or not mapped at all.

William Embry Wrather, Director of the U. S. Geological Survey, in a report to Secretary of the Interior Harold L. Ickes, revealed that this accomplishment was possible through use of a new and speedy photographic method called Tri-Metrogon mapping.

Three cameras are set up in a plane so that they snap a set of simultaneous exposures covering an area from horizon to horizon. Flying down a planned course, it is possible for an Army plane to photograph 20,000 square miles in three hours.

Once the pictures are made, they are rushed to Washington for translation into navigation maps for the air and ground forces.

More than 1,600,000 square miles of the world's surface has been photographed to date. This surveyed surface equals the combined prewar area of the United Kingdom, France, Belgium, Germany, Czechoslovakia, Hungary, Italy, Poland, Norway, Rumania, Spain, Sweden and Yugoslavia.

Actual mapping was done by a staff of 250 in the Geological Survey. Under the old field methods of mapping, a staff of the same size would have labored for ten years to cover—although in more detail—the same area.

Science News Letter, July 10, 1943

MILITARY SCIENCE

Study Enemy Weapons

Army experts examining captured weapons for secrets and weak points find no mystery weapons and none superior to American ordnance.

➤ ARMY EXPERTS studying captured enemy weapons have found neither mystery weapons nor ordnance superior to the American standard. But every day brings evidence that the Germans are constantly improving the design and manufacture of their weapons.

Italian weapons, in contrast, are copies of World War I models or of more recent German and French designs. The Breda machine gun is a notable exception. Much of their materiel is actually of World War I vintage; various arms are obtained from Austrians, French, Germans and Czechs.

Japs are the best imitators, copying designs from armament firms throughout the world. These copies tend to be lighter and of inferior fire-power compared with the originals.

Col. Scott B. Ritchie, chief of the Service Branch in the Ordnance Department's Technical Division, (*Army Ordnance,* June 30) comments that the less powerful weapons of the Japs are doubtless designed that way intentionally to give the smaller Jap soldier less weight to carry. In amphibious and jungle operations, the poor visibility and close quarters combat tend to neutralize the advantages of more powerful weapons.

Enemy equipment is collected in battle areas by special units of the Ordnance Department. It is examined on the spot and then some of it shipped to the United States for exhaustive tests and analysis.

"The objective," Col. Ritchie explains, "is to know everything and why about enemy equipment. For example, if the enemy changes the design of a firing pin in a fuse, we not only want to know what change has been made, but also when and why."

So far, 336 German, 102 Italian and 67 Japanese weapons and types of ammunition have been received at the Aberdeen Proving Grounds, Md., where the materiel is cataloged and examined prior to tests by various research organizations.

Science News Letter, July 10, 1943

MEDICINE

Difference Between Sexes Found for Blood Groups

➤ DISCOVERY of a difference between men and women with respect to blood groups is announced by Dr. R. A. Fisher, of the Galton Laboratory, University of London, and Dr. J. A. Fraser Roberts, of Stoke Park Colony, Bristol (*Nature,* June 5).

More women than men belong to Group O, these scientists found, and more men than women belonged to group A. The difference was first noted in Yorkshire, and examination of the records of the British Army Blood Transfusion Service showed the same difference in southwestern England. In a center in the London area, no difference was found but this is believed due to population movements.

Science News Letter, July 10, 1943

AERONAUTICS

Glass Fibers Coating Wings Improve High-Speed Planes

➤ FURRY plane wings, made by covering the surfaces with fine glass fibers, will be especially valuable for high-speed aircraft, claims their inventor, William Harper, Jr., of Montreal.

"It is, so far as I am aware," he states, "the only type of airfoil surface which will avoid turbulence at speeds above six-tenths of the velocity of sound."

A nap of fine, one-eighth-inch glass fibers reduces skin friction which he believes to be the result of turbulence between the outer layer of airfoil surface and the air beyond.

The invention can be applied to propeller blades as well as all airplane surfaces along which the air flows. Glass filaments on the covered surfaces stand at about a 45-degree angle when the plane is not in flight, but after the take-off are flattened out more nearly in line with the surface, especially on the forward parts.

Making the glass nap durable and unaffected by moisture is a feature of Mr. Harper's invention.

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