

## AERONAUTICS

# Huge Cargo Carrier

The Hermes, a gigantic airplane, is now under construction in England. It transports freight at four miles a minute with 2,000-mile range.

► THE HERMES Cargo Carrier, a gigantic airplane, has been announced by the Society of British Aircraft Constructors. It is under construction by the Handley Page Company, which is also building the 50-passenger Hermes transport, of which the new cargo plane is a version. Like the passenger model, the cargo plane is a low-wing, all-metal, four-engined ship. It will carry a useful load of 16,000 pounds.

The four radial air-cooled engines of this cargo carrier give a total maximum output of 6,600 horsepower. The maximum speed of the airplane is 340 miles an hour, but its economical cruising speed over long distances is 240 miles an hour, or four miles a minute. Its range is 2,000 miles.

British aircraft industry, with the European war over, is converting rapidly to the construction of civilian planes, both by remodeling war planes and by designing new planes which include improvements developed in constructing war planes. The British Minister of Civilian Aviation has announced that British airlines will use British aircraft, thus encouraging the industry.

The new Hermes is not as large as the new British flying boat, Shetland, which is a 70-passenger transoceanic airliner even larger than the Mars, the largest American-built flying boat. The Shetland is a 130,000-pound craft, while the Hermes is rated at 70,000 pounds. The Shetland has a greater wingspan than the famous American B-29 Superfortress.

Another new British plane is the Viking, an airliner with a range of 1,500 miles and constructed to carry 21 to 27 passengers. It is a single-engine plane that promises to play an important part in the development of postwar air routes to the continent of Europe. The Marathon is a new four-engined plane designed to carry 14 passengers and a half-ton of luggage and freight over a distance of 750 miles at a speed up to 200 miles an hour.

The Halifax Civil Transport is a conversion of the well-known Halifax bomber that carried much destruction to German war plants. It can accommodate 11 passengers and 8,000 pounds

of freight. The equally well-known Mosquito, Lancaster and Spitfire are also under conversion for civilian uses.

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## ZOOLOGY-TAXIDERMY

## Miniature Animals of Plastic Look Alive

► THE ZEBRA guarding her young colt, American elk in mortal combat, and the rare bongo antelope of Africa, are but a few of the animals which Louis Paul Jonas, taxidermist and sculptor, has prepared for his Lilliputian Noah's Ark.

The elephant and the field mouse, the giraffe which towers above the hippopotamus—all are one-tenth the size they would be in real life. Although the number of mammals represented but a fraction of those known, the collection is the most extensive of its kind. The individual animals have been made with great accuracy and artistic skill.

Mr. Jonas, who converted an abandoned railroad station at Lake Mahopac, N. Y., into a studio, believes that models should be made so children can handle them. To make this possible he developed a plastic that is practically unbreakable—the delicate horns and long tails will last under handling. He decided to

make the models one-tenth natural size, as he felt this was an easy scale for anyone to comprehend.

In making the models, first the skeleton or armature of the animal is created to exact scale. This is drawn on cardboard, cut out, and lined with wire so that the limbs can be bent into the desired position. The animal is then set upon a base and is ready to receive the clay from which the mold will be made.

"You can well imagine how important it is to have a knowledge of the animal's anatomy when one works from the bones out," states Mr. Jonas. Throughout the process careful measurements are frequently made. About two weeks of hard work, exclusive of watching the animal at the zoo, studying pictures, and reading about it, is usually needed to make a model.

A plaster mold is cast from the clay sculpture, and self-vulcanizing rubber latex, of which the finished animal is made, is forced into the mold by compressed air.

Only a limited number of duplicate animal models are made in the finished mold since the impression eventually wears down. The original clay models, though damaged from casting, are saved and can quickly be put into shape for re-casting.

The latex plastic does not harden until it is removed from the mold and baked for 15 minutes or so. The cast shrinks slightly during baking. After the model is tooled, it is shellacked, mounted on a base and fitted with eyes. Prepared with a ground white, it is ready for the final coating of oils.

A simple animal like a bear, which only requires two or three colors, can be



**ONE-TENTH NORMAL SIZE**—The African black buck pursued by a cheetah is one of the most intricate animal groups in the collection recently exhibited at the Chicago Natural History Museum. Both of the miniature animals are practically in mid-air.