

# New Type Cruisers Under-Armored

Naval Architecture

The newest types of 10,000-ton fighting ships, including both the "Treaty" cruisers and the sensational "Ersatz" armored ships of the German navy, are sacrificing essential armor protection for excessive gun power and, in the case of the cruisers, for excessive speed. This is the opinion of William Hovgaard, professor of naval design at the Massachusetts Institute of Technology, as expressed recently before the Institution of Naval Architects in Italy.

Prof. Hovgaard pointed out that neither class carries armor heavy enough to stop shells from 8-inch guns, and it is his thesis that any warship should be heavily enough protected to resist the fire of another ship of her own class. The "Treaty" cruisers all have protective decks of varying thickness—two inches might be given as an average—and their side armor varies from none at all to five or six inches. Only the heaviest of this armor, in Prof. Hovgaard's opinion, is even fairly well able to

cope with the attack of an 8-inch gun at battle ranges. He calls attention to the dangerously light armor carried by the British pre-war battle cruisers, as compared with the more adequate protection of the German ships of the same class, and the significant re-designing of the British battle cruiser type after the battle of Jutland.

He would draw upon the weight now spent on guns and propulsion machinery to remedy this condition. No "Treaty" cruiser now carries less than eight 8-inch guns, and the American ships of this class are to be armed with nine or ten. All of the cruisers are engined to make speeds of from 32 to 36 knots, which the Massachusetts naval designer considers unnecessarily high. The speed of the German "Ersatz" ships is to be lower, 26 knots, but to offset this they will carry six 11-inch and eight 6-inch guns apiece—a tremendous battery for a displacement of only 10,000 tons.

Prof. Hovgaard suggests cutting down the number of 8-inch guns to six, reducing the speed somewhat, and investing the weight thus saved in thicker armor and a more complete torpedo defense. He argues that such a ship could stand up against an 8-inch gun cruiser mounting more artillery, take a good many blows and still be able to continue fighting, while her more thinly armored adversary would feel terrifically the effect of every shell received.

Commenting on the new German ships, Prof. Hovgaard said: "The 'Ersatz-Preussen' must be regarded as a compromise adopted under compelling limitations, but the exceptional circumstances under which it appears are remarkably favorable. In the Baltic she will be supreme, except for the presence of a few relatively slow Russian battleships, and on the ocean she will be either much more powerful or else much faster than any other vessel, with the sole exception of a few battle-cruisers."

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## Animal Mummies Costly

Archæology

Nearly one hundred different mammals, birds, reptiles, and fish were regarded as sacred to various gods in ancient Egypt, and their bodies were mummified by thousands, Prof. Roy L. Moodie has found while investigating this subject for the Field Museum of Chicago.

The cost of this religious procedure was enormous. More than two hundred yards of fine linen cloth, a half yard wide, were needed for the wrapping of a single bull. As bulls were held in extreme veneration by the ancient Egyptians, great numbers of them were preserved. Expensive sarcophagi carvings and statuary show the further care of the African bull.

Birds of the hawk and falcon type were also abundantly preserved, as was the Egyptian kite, a small scavenger seen today perched on house tops and in trees near villages. Packages contain as many as forty birds, each mummified and dipped in pitch before wrapping.

All of the animal species mummified are known to be still living, and the mummies provide evidence that such species have existed for many thousand years.

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## Indians Cremated

Anthropology

Proof that prehistoric Indians of the Mimbres Valley, New Mexico, sometimes cremated their dead has been found beneath the floors of ancient Indian dwellings by Dr. A. E. Jenks, who directed the Mimbres expedition of the University of Minnesota and the Minneapolis Institute of Fine Arts this season. The ways of these departed Indians are of exceptional interest because their pottery was the most beautiful and unusual of any made in the Southwest and yet other objects found in Mimbres ruins show no signs of extraordinary artistry or culture.

One burial found under the floor of an ancient dwelling revealed that the bones of the Indian had been broken into small fragments and burned. They were in a bowl beautifully painted brown and decorated with a slender interlocking scroll sometimes called the "friendship pattern," Dr. Jenks says. With the bones were two shell finger rings, a bracelet, and charred beads. Five other pieces of typical Mimbres pottery accompanied the burial jar, after the Indian custom of placing ornaments and useful articles in a grave.

Another similar cremation burial

was in a red and white water jar six inches high. A unique feature of this burial, Dr. Jenks points out, was that the water jar rested on nine pebbles constituting a base. Four other pieces of the beautiful Mimbres pottery were with the water jar.

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## Sick Crocodiles

Parasitology

African crocodiles can harbor a form of sleeping sickness from the tsetse fly, but this is not the human type. The crocodile gets the disease by sleeping with his mouth open, thus permitting the flies to walk around and bite the soft membranes exposed. The disease is not transferred in the bite, but may be transferred if the beast wakes up irritated and snaps at the flies, thus crushing them and swallowing the parasites or germs carrying the disease. This particular germ requires the crocodile and the fly to complete its life cycle just as a malarial parasite requires man and the mosquito. These facts were determined by Cecil A. Hoare, of the Wellcome Bureau of Scientific Research.

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