

## ENGINEERING

# Model Typhoon Defense

## See Front Cover

► NEARING completion in an airplane hangar is a huge model that will help engineers plan a scientific defense for the Navy's new harbor at Guam against the ravages of Pacific typhoons.

Built on a scale of 1 to 300, the model is 120 feet square and will accurately reproduce waves, surges and other hydraulic conditions in the Guam harbor. The model is being built by the California Institute of Technology and the Navy's Bureau of Yards and Docks. It is shown in the hangar on the front cover of this SCIENCE NEWS LETTER.

Apra harbor at Guam is to be a permanent naval base, probably the first harbor of its size to be so completely planned. Covering nearly seven square miles, the new installation will replace wartime construction and be built on the basis of studies made of the model.

The \$275,000 study that includes the model began a year ago with a 40-foot-square model on the campus of the California Institute of Technology. This earlier laboratory structure was large enough to give an accurate picture of the harbor for placing buildings and the

breakwater, but it was not adequate for studies of the inner harbor and defense against the destructive typhoons.

A huge basin with a concrete bottom and two-foot steel sides, the new model will even have beaches of real sand when finished. Pneumatic wave machines simulate the harbor's water motion, while an oscillograph records the movements of the miniature waves. A strong light beamed on floating button reflectors permits time photograph records of currents in the model harbor.

Special data are being collected at Guam to insure the accurate reproduction of the harbor site.

From studies of the model will come the placement of slips, docks and dry-docks in the Navy's Apra harbor so as to best protect ships of the fleet and the harbor installations from the ocean's movements.

The model studies are being directed by Prof. Robert T. Knapp, of the California Institute of Technology, under the supervision of Rear Adm. John J. Manning, chief of the Bureau of Yards and Docks.

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## ASTRONOMY

# New Comet Jones Discovered in Puppis

► A NINTH magnitude comet has been discovered in the southern constellation of Puppis, the ship's stern.

Too faint to be seen with the naked eye, but visible with high-powered binoculars, the comet was spotted at 1:20 p.m., EST, on Aug. 6 by A. Jones of Timaru, New Zealand. I. L. Thomson of the New Zealand Astronomical Society cabled news of the discovery to Harvard Observatory, clearing house for astronomical information in the Western Hemisphere.

When found, Comet Jones had a right ascension of 7 hours, 56 minutes, and a declination of minus 13 degrees, 15 minutes. Its daily motion is three minutes of time eastward and fifteen minutes of arc southward.

Mr. Jones, after whom the comet will be named, is one of the most skillful observers of variable stars in the Southern Hemisphere. His variable star observations are regularly contributed to the international headquarters at the observatory at Cambridge, Mass.

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## PSYCHOLOGY

# National Sovereignty Not Greater Than Security

► THE REACTIONS in human minds all over the world are more important just at the moment than what happens within the atomic bomb.

Psychologists have just offered the expert opinion that the idea of national sovereignty does not have such a strong hold on the American people that it would stand in the way of international control of atomic energy.

It is true, a committee of the Society for the Psychological Study of Social Issues reports, that "national sovereignty" is a cliché, a pat phrase or a stereotype. But it can be changed when, as in the case of atomic energy and its possibilities for destruction, it no longer gives assurance of strength and security.

The psychologists argue that international friendship and understanding can be cultivated, that neither war nor peacefulness is inborn in man, that liking and trusting of other peoples as well as hatred can be learned.

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## SEISMOLOGY

# Earthquake's Epicenter

► THE EARTHQUAKE that shook the Dominican Republic and deluged its coastal towns with a sea wave on Sunday, Aug. 4, had its epicenter under the sea off the island's northeast coast. Seismologists of the U. S. Coast and Geodetic Survey, who used data assembled telegraphically by Science Service from nine observatories all the way from Alaska to Puerto Rico, said that a submarine fault in the rocks of the sea bottom off the Gulf of Samana was the apparent cause of the disturbance.

The quake began at 12:51.1 p.m., EST, on Sunday, and there were two heavy aftershocks on Thursday, Aug. 8, besides many lighter ones throughout the week. The epicenter was in latitude 19.3 degrees north, longitude 69 degrees west. This is a spot on the sea bottom nine miles off the eastern end of the Samana peninsula.

The Coast and Geodetic Survey seis-

mologists also traced the epicenter of the earthquake that caused some damage and loss of life in northern Chile on Friday, Aug. 2, to a spot near the town of Copaiapo. This shock occurred at 2:18.7 p.m., EST.

Data on both earthquakes were furnished by observatories of the Jesuit Seismological Association at St. Louis; Georgetown, Xavier and John Carroll Universities and Weston College; Pennsylvania State College; the Seismological Observatory at Pasadena, Calif., and the stations of the U. S. Coast and Geodetic Survey at College, Alaska; San Juan, P. R.; Honolulu, Tucson, Ariz.; and Ukiah, Calif.

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*Benzedrine*, used in treatment of certain depressive conditions such as alcoholism, has been successfully used as an antidote for sleeping pill poisoning.