

Graf Zeppelin to Make Soundings of Arctic Ocean and Air

Aviation—Physical Geography

SOUNDINGS of the water below and the air above with automatic radio-equipped balloons will be part of the program of scientific observations to be made by the *Graf Zeppelin* when it flies over the North Polar regions next spring. The flight is to be made under the auspices of the International Society for Arctic Research by Aircraft, generally known as Aeroarctic.

Dr. Walter Bleistein, treasurer of Aeroarctic and secretary of its technical commission, recently left Washington to return to Germany. While in the United States he organized American cooperation. Dr. J. A. Fleming, acting director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington is secretary of the American section of the society.

The first ocean soundings from a dirigible will be made as the *Graf* sails over open lanes in the ice, Dr. Bleistein told Science Service. This will be done with the sonic depth finder, which measures the time taken for a sound to reach the bottom of the ocean and be reflected back to a microphone that is part of the apparatus. The airship will not alight, but will lower the instruments on the end of a cable to the water surface. Electrical connections between airship and the float carrying them will reveal the water depth at any point. While the soundings are being made the Zeppelin will be navigated to follow the lane.

Aerial study will be made by sending up small balloons, equipped with instruments for measuring atmospheric pressure, temperature and humidity. When such balloons are sent up from places in populated regions, the instruments are made to record the data. Usually they are found and returned to their source. As the Eskimos cannot be depended on to return the balloons, this method cannot

be used, so the balloons will be equipped with small radio transmitters. They will automatically radio their observations back to the airship.

According to present plans, the expedition will start on April 1 from Tromsø, Norway, the European base, and is expected to take a total of six weeks. After a preliminary flight to Spitsbergen, to acquaint the scientific staff with life on an airship, the first long flight will be made, skirting Spitsbergen on the southwest, across the Arctic Ocean between Greenland and the pole to Beaufort Sea, thence across Alaska to Fairbanks, where a mooring mast and full equipment for handling an airship will be ready. A mooring mast is also provided at Tromsø.

The next flight will be over the great unexplored area between Alaska and the pole; from Fairbanks northwest, across Wrangell Island, then north to within 200 miles of the pole, and back to Alaska, paralleling part of the first flight. The third flight will be to return to Tromsø by way of Northern Land and Franz Josef Land. As Northern Land represents a large unexplored area, the ship will cruise around over it. If feasible, a party will be landed with sledges and equipment and left to return to civilization over the ice.

In addition to the upper air observations and the oceanographic re-

search, investigations will be made on the electricity of the atmosphere, on the magnetism of the earth, and in meteorology.

Dr. Fridtjof Nansen, veteran Arctic explorer, will be the head of the expedition, while Dr. Harald U. Sverdrup will be second. Capt. E. A. Lehmann, who took the *Graf Zeppelin* back to Germany after its visit to America, will command the ship. The scientific staff will number 12, while a crew of 35 will be carried. As in former trips, the engines of the ship will burn gas, a supply of which is being provided at Tromsø and Fairbanks. This gas consists largely of ethane and propane, two compounds of hydrogen and carbon.

The expedition is really a reconnaissance one, Dr. Bleistein emphasized. It will determine the feasibility of exploration by airship and of landing parties on the ice. Should it prove successful, it will doubtless be the forerunner of future Arctic flights on still larger airships, thus exploring thoroughly all the Arctic regions in a far more complete manner than is possible on the ground.

Science News-Letter, December 21, 1929

Mexico's Name

Archæology—Etymology

That the name "Mexico" comes from "mexictli," the Aztec word for the native maguery or pulque plant, is the conclusion of Enrique Juan Palacios, of the Mexican Direction of Archaeology, who has searched for its origin in native Indian documents, as well as in other sources of information.

Every Mexican school-child knows that his national coat-of-arms is but a modern adaptation of the ancient Aztec hieroglyph or place-name for "Tenochtitlán," as pre-Conquest Mexico City was called. Mexico's shield, therefore, is at least six centuries old.

Science News-Letter, December 21, 1929

In This Issue

Sound ocean and air, p. 378—Christmas greens, p. 379—Toys, p. 380—Carnegie exhibits, p. 382—A variety, p. 384-385—What Homer did not know, p. 386—Another large telescope, p. 388—Discoveries in Texas, p. 389—Mesa House, p. 391—Electrosurgery, p. 391—New Books, p. 392.



SCIENCE NEWS-LETTER, The Weekly Summary of Current Science. Published by Science Service, Inc., the Institution for the Popularization of Science organized under the auspices of the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science.

Edited by Watson Davis.

Publication Office, 1918 Harford Ave., Baltimore, Md. Editorial and Executive Office, 21st and B Sts., N. W., Washington, D. C. Address

all communications to Washington, D. C. Cable address: Scienservc, Washington.

Entered as second class matter October 1, 1926, at the postoffice at Baltimore, Md., under the act of March 3, 1879. Established in mimeographed form March 13, 1922. Title registered as trade-mark, U. S. Patent Office.

Subscription rate—\$5.00 a year postpaid. 15 cent a copy. Ten or more copies to same address, 5 cents a copy. Special reduced subscription rates are available to members of the American Association for the Advancement of Science.

In requesting change of address, please give old as well as new address.

Advertising rates furnished on application.

Copyright, 1929, by Science Service, Inc. Reproduction of any portion of the SCIENCE NEWS-LETTER is strictly prohibited since it is distributed for personal, school, club or library use only. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service, details and samples of which will gladly be sent on request.