

EXPLORATION-GENERAL SCIENCE

Scientists Begin Occupying Stations for Polar Year Work

SCIENTISTS of thirty-three nations are taking their posts at more than 100 observing stations scattered over the earth to begin 13 months of the most intensive scientific work ever attempted.

About half of the 100 stations are permanent and have been in operation for years; the other half are being set up for this Second International Polar Year and many of them are on sites of First Polar Year Stations operated fifty years ago.

But for the coming work, Polar Year is a misnomer. Roughly 40 of the 100 stations will be in the Arctic, above the 55th parallel, and a few will be in the Antarctic, while the rest will be scattered over the warmer parts of the earth.

Participation of the United States will be manifest in the establishment of an important observing point at the village of College, near Fairbanks, Alaska. Scientists had hoped that Fort Conger on Ellesmere Island, northeast of Canada, could be occupied again through private subscription, but the lack of funds prevented the carrying out of this project. Observations were made from Fort Conger by the ill-fated Greely expedition during the First Polar Year. The station near Fairbanks, however, will be an important one at which special observations are to be made.

Among the latest expeditions to take to the field are one from France and another from Denmark, which will set up stations in Greenland. University of Michigan scientists under Prof. Ralph L. Belknap have also left for Greenland. On this, their fifth expedition to the continent of ice, they will continue studies of air currents and ice.

A Danish scientist, who has reached Cape Town, is carrying instruments with which he will set up stations in South Africa and Madagascar, according to information received by Director J. A. Fleming of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. Additional observations will be made in the far south from an Argentine station in the

Orkney Islands and from a post which Chile has promised to put up in the southern part of South America.

Polar Year officials hope to cooperate with the second Byrd Antarctic Expedition which, it is expected, will occupy stations in the Antarctic continent during 1933.

While the northern stations are scheduled to begin operations in August of this year, those in the far south will wait until summer comes to that part of the world, and January has been set as their opening month.

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PHYSIOLOGY

Stomach Ulcers Produced By Protein Starvation

ULCERS of the stomach are caused by a lack of protein in the diet. This is indicated by experiments on rats performed by Frederick Hoelzel and Esther da Costa at the University of Chicago.

The experimenters kept large numbers of rats on alternate "foodless days" and days when they got food. They gave different groups of the animals a wide variety of diets, with a range from no protein at all to a comparatively high protein ration. In addition, they kept one good-sized group of rats on a normally balanced ration, as "controls."

None of the controls developed stom-

ach ulcers, but all of the rats without protein did, and many of those on the lower protein diets as well. In general, there was a correlation between protein starvation and incidence of ulcers.

Some of the rat groups received various other articles along with their measured protein rations. These included spices, antacid salts, alcohol, salt and hydrochloric acid. None of these made any difference, so long as the rats got enough protein.

Neither did bulk of food make any difference. Some of the rats were given almost nothing to eat but bran. They practically starved to death; but because bran contains sufficient protein, when taken in large quantities, they did not develop stomach ulcers. Furthermore, when rats with ulcerated stomachs were put on a nearly exclusive bran diet they got well, in spite of the supposedly irritating effect of the "scratchy" flakes.

As a result of these and other experiments, Mr. Hoelzel recommends a high-protein diet for human sufferers from stomach ulcers. However, he cautions, it will not do to increase the protein intake too suddenly, because other experiments have indicated that ill effects can follow immoderate indulgence in proteins in the early stages of ulcer healing.

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