zinc out of brass. A more important question is raised by Professor Allen, as to whether, under ordinary working conditions in the laboratory, gold plated weights are preferable to brass weights. J. L. H.

*BEEREN EILAND.**

THE Swedish Arctic Expedition of 1898, under the leadership of Professor A. G. Nathorst, spent a week on Beeren Eiland, mapped it on a scale of 1 : 50,000, and made numerous observations on its natural history. Chief among these were the geological researches which proved a prehistoric local glaciation, and by means of fossils showed the presence of rocks of three systems: Silurian, Middle Carboniferous, and Trias, previously unknown on the island. These discoveries led to another expedition to Beeren Eiland during the past summer. The expenses were borne by the Vega Stipend of the Swedish Geographical Society, the Lars Hierta Memorial Fund, and various private individuals. The leader was the geologist, J. Gunnar Andersson of Upsala, who had accompanied Professor Nathorst; the other scientific members were C. A. Forsberg, cartographer and meteorologist, and G. Swenander, zoologist and botanist. The expedition stayed on Beeren Eiland from June 22d to August 19th, and accomplished the following work:

The whole island was mapped in greater detail, and a special map, on a scale of 1:5000, was made of Ryssham, where the expedition had its headquarters.

From June 25th to August 16th complete meteorological observations were taken twice a day, as well as continuous observations by a self-registering barometer and thermometer. Eight series of observations were made on the tides, each series extending over from 8 to 51 hours, during which time the height of the water at intervals of half an hour was marked off on a section.

The botanist collected all the phanerogams previously found on the island, as well as *Koenigia islandica*, hitherto unrecorded. Exhaustive collections were also made of the lower plants, including the algæ of red and green snow. To investigate the influence on plant-growth of the continuous light of an Arctic summer, three series of cultivation experiments were carried out, as follows: First, in five places of nearly the same longitude, but at a distance of about 3 or 4 degrees of latitude from one another—namely, Svalöf, in Scania, Ultuna, near Upsila, Luleå, Tromsö, and Beeren Eiland—barley taken from the same sample was grown in soil from the same place. Only the climatic conditions, and especially those of light, were different in the different stations; thus there were completely dark nights in Scania, complete light the whole 24 hours on Beeren Eiland, with intermediate conditions at the intervening places. The material from the Scandinavian stations has not yet been brought in, so that the results of this interesting experiment are still awaited. Secondly, on open land at the Beeren Eiland station there were cultivated two precisely similar series of Arctic plants, of which one series stood in continual light, while the other was kept in complete darkness each night (8 p. m. to 8 a. m.). During the period of the experiment the development of these plants did not proceed very far, but the series kept in the light was obviously the more sturdy. The third experiment consisted in the cultivation, on a hot-bed, of a score of common Scandinavian plants. These also were in two similar series, one kept in the light, the other darkened by night. The experiment succeeded with 18, and of these 16 were clearly more sturdy in the light series, some of them yielding examples half as large again as those in the darkened series.

To the list of the island's fauna were added two birds: the Skua (*Lestris pomatorhina*) and the Spitzbergen form of *Mormon articus*. *Salmo alpinus* was found in a lake. Special attention was paid to the insects, which on isolated oceanic islands are of much interest to the student of distribution. Holmgren, the only entomologist who had previously visited Beeren Eiland, found there in 1868 only 9 species of Diptera and 1 Hymenopteron. The Swedish expedition has brought back a large collection of Diptera, not yet worked through, 4 Hymenoptera, 1 Neuropteron and 2 Coleoptera. Holmgren found only 2 Acarids; the present explorers have at least 10.

* From *Natural Science*.

The chief object of the expedition was a detailed geological investigation of the island. This has been successfully carried out with valuable results. A large collection of fossil plants from the coal-bearing series has been made; numerous fossils have been collected from all the marine strata, especially from the Trias. A geological map of the whole island has been constructed. The stratigraphy and tectonic geology of the whole island has been worked out, and there have been discovered in the southern part of the island a series of dislocations of Carboniferous age, which explains the topography of the hilly regions and the varying development of the Carboniferous system at various points.

Mr. Gunnar Andersson and his companions are to be congratulated on the amount of solid work they have accomplished, and we look forward to the publication of the detailed results with much interest. It should be mentioned that the proprietor of Beeren Eiland, Mr. Lerner (who happens to be a German), has helped the expedition, and hopes to welcome it back in some future year.

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*THE STOCKHOLM FISHERIES CONFERENCE.**

IT is too soon yet to say that the International Fisheries Conference, which met at Stockholm this summer, will have any practical outcome; but the report of its proceedings suggests a general plan of investigations as regards hydrographical and biological work which, if properly organized and supported, should certainly be productive of useful and valuable results. The object of her Majesty's Government in deciding to take part in the conference may be best summarized in the language of the instructions given to Sir John Murray, one of the British delegates:

"You should propose that the scientific investigations shall be accompanied by a practical *exposé* of the steps to be taken in order to bring the exercise of sea-fishing more in accord with the natural conditions regulating the growth and increase of the fish, and thus permanently increase the supply of fish in the markets of the countries adjoining the North Sea.

"In making this proposal, which you should do at the outset, you should make it clear that the principal object which her Majesty's Government have in view, in directing you to take part in the conference, is to secure a careful inquiry into the effect of present methods of fishing in the North Sea, and you should give every assistance in promoting a scheme for determining whether protection against overfishing is needed, and, if so, where, when and how such protection should be given."

The countries taking part in the conference were Great Britain, Germany, Russia, Denmark, Norway, Sweden and Holland. The representatives of the United Kingdom were Sir John Murray, of the *Challenger* Expedition, Mr. W. Archer, Chief Inspector of Fisheries, and Professor W. D'Arcy Thompson, of Dundee University, while Dr. Nansen was one of the delegates from Norway.

Most persons who have given a thought to the subject must be convinced that a rational treatment of fishery questions should be based on scientific inquiry; and in the opinion of the conference the best way of arriving at satisfactory results in this direction is by international coöperation. The scheme of investigations, having for its ultimate object the promotion and improvement of fisheries through international agreements, which the conference resolved to recommend to the Governments of the countries concerned, embraces a program for hydrographical and biological work in the northern parts of the Atlantic Ocean, the North Sea, and the Baltic and adjoining seas. These investigations, it is added, should be carried out for a period of at least five years.

Among the hydrographical researches proposed are: The distinction of the different water-strata, according to their geographical distribution, their depths, their temperature, salinity, gas-contents, plankton, and currents, in order to find the fundamental principles not only for the determination of the external conditions of the useful marine animals, but also for weather forecasts for extended periods in the interests of agriculture. The biological work would include the determination of the topographical and bathymetrical distribution of eggs and larvæ of marine economic fishes; the continued investigation of the life, history and conditions of life of young fishes of economic species in their post-larval stages, with special reference to their local dis-

* From the London *Times*.