

REVIEW ARTICLE

TWO SUMMER EXPEDITIONS TO NORTHEAST GREENLAND

THE COAST OF NORTHEAST GREENLAND, with hydrographic studies in the Greenland Sea. By LOUISE A. BOYD. New York: American Geographical Society (Special Publication No. 30), 1948. 10 x 6½ inches; xl + 340 pages; illustrations and maps. \$6.00.

Another important volume on the East Greenland expeditions carried out by Louise A. Boyd has recently been issued by the American Geographical Society. At government request publication was withheld during the war. It now appears as Special Publication No. 30 and, in keeping with the other volumes in the series, is beautifully produced.

Miss Boyd, who visited the Arctic for the first time in 1924, has now taken seven summer expeditions to northern regions. Ladies are not generally represented in the exploration of polar countries, but Louise Boyd has proved herself to be a most capable leader. She has throughout shown a very real respect for Danish authority and has always offered assistance to other expeditions if required. Her personal contribution to northern work lies in the thousands of fine photographs she has taken from Zemlya Frantsa-Iosifa (Franz Josef Land), Spitsbergen, Jan Mayen, and East Greenland.

It is, no doubt, not just a matter of chance that Miss Boyd has been specially attracted by the East Greenland coast, for in no other place in the Arctic are there such long fjords and such high mountain walls, which provide particularly beautiful subjects for a photographer. She mentions in her book that she would like to take some colour photographs in East Greenland. It is questionable however, whether colour photographs in these regions should not be taken either in the fall, when the brilliant sunsets, especially before and after a gale, are of unique beauty; or perhaps in the month of May, shortly after the first appearance of the mid-night sun, when unusual colour effects may be observed. The writer, who has visited these regions both in the spring and in the fall, has a clear remembrance of unforgettable colour effects in the fjords at these seasons.

Although Louise A. Boyd has worked out the scientific programs for her summer expeditions with great forethought, on reading the various chapters of the book one deplores that the scientists had not more time at their disposal. It may be asked whether summer expeditions to the fjords of central East Greenland are not now out of date. The working time of such expeditions is too short and too much depends on the ice conditions, which may interfere considerably with the planned scientific work. A number of Danish expeditions have already wintered in East Greenland, and since 1931 Danish expeditions have established winter stations for scientists, who thus obtained a much longer working period.

The book under review deals especially with the 1937 and 1938 expeditions. Neither of these was a favourable ice year, but in spite of this Miss Boyd and the members of her expeditions obtained good results. In 1938 the expedition pushed as far north as Ile de France, which is very difficult to reach by ship. On p. 63 Miss Boyd puts forward the conjecture that their landing there at 77°48N. "was at that time the farthest north landing ever made from a ship on the east coast of Greenland". In fact in August 1933 the Danish ship *Gustav Holm* pushed as far north as Norske Øer (Norske Islands), a little north of 79°N., where a landing was made; if time had permitted, she might even have proceeded in ice-free water to some distance north of Nordostrundingen in lat. 81°30N. (For the ice conditions along the coast of Northeast Greenland in August 1933, see *Medd. om Grønland* Vol. 130, No. 3 (1945) fig. 138).

The chapter on "Glacial geology and geomorphology" by Dr. R. F. Flint, who was assisted by Dr. A. L. Washburn, is outstanding. So far there has been very little research on glacial geology in these parts of the Arctic, and although the two scientists had only a short time for their work in 1937, they secured much information on the glaciers of East Greenland. We know now that during the last two centuries the Icelandic glaciers have advanced, and that for some of the glaciers it may be the greatest advance in post-glacial time. From observations made in Iceland, we further learn that nothing similar to the vast extension and frequent blockings of the coast of Iceland by the East Greenland ice during the three centuries from c. 1600 to c. 1900 is known to have occurred in the period from c. 800 to c. 1600. During this period, with the possible exception of the 13th century, Iceland was practically untouched by the East Greenland ice, as is the case today. It would seem from this evidence that both Iceland and East Greenland have experienced a small "ice-age". Probably this recent glacier advance can be mapped in East Greenland. At present, however, the glaciers of East Greenland are retreating. Dr. Flint's account of the East Greenland glaciers is an excellent introduction to continued investigations in this field.

The 1938 expedition was joined by Mr. F. Eyolf Bronner as geologist. After a few hours on Île de France, Mr. Bronner visited the Orienteringsøer (Orientering Islands) and Store Koldewey (Great Koldewey Island). On p. 217 he gives an excellent table of the probable geological history in the region visited. It is to be regretted that he was not able to make more comprehensive observations in these geologically little-known regions, but he has given us many interesting details.

Dr. Henry J. Oosting, Miss Alice Eastwood, and Miss Boyd all write on botanical subjects. It is, of course, always valuable to have a large Arctic herbarium secured during a number of years. Their observations on ecology, I have been told by a Danish botanist who has been at work in East Greenland for several years, are somewhat one-sided, as they were chiefly made in the interior of the fjords. These chapters therefore do not contain much new information, particularly since in recent years the central part of East Greenland has been thoroughly investigated by both Danish and Norwegian botanists.

The most valuable results of Miss Boyd's 1937 and 1938 expeditions, in the writer's opinion, are hydrographical. This work is described by Mr. James M. LeRoy. At a fairly early date the Boyd expeditions began taking echo soundings in the East Greenland fjords, and this work was subsequently extended to the whole sea area between East Greenland, Jan Mayen, Spitsbergen, and Norway. Here the so-called Louise A. Boyd Bank was discovered between Jan Mayen and Bjørnøya (Bear Island), which caused an alteration of the existing bathymetrical charts on essential points. On p. 297 some details in the Danish bathymetrical chart of 1932 by R. Spärck (*Medd. om Grønland* Vol. 100, No. 1 (1933)) are criticised. LeRoy is probably correct in his criticism, for the echo sounder at the disposal of Professor Spärck in 1932 was very primitive.

Finally the book contains chapters on Topographical Surveys, Current Observations, Tide Observations, and Magnetic Observations. The topographical surveys, in particular, have provided the basis of a number of good detail maps, which will be of importance for future research work, especially in the measurement of glacier oscillations. The chapters by Flint and LeRoy on their glacial and hydrographical observations are those parts of the book which carry the greatest weight.

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