

RECENT ARCHAEOLOGICAL INVESTIGATIONS IN GREENLAND

[Review of the following papers in *Meddelelser om Grønland*: (1) "Farms and Churches in the Mediaeval Norse Settlements of Greenland", by Aage Roussell (Bd. 89, Nr. 1, 1941, 355 pp.); (2) "The Mediaeval Norse Settlements in Greenland. Anthropological Investigations", by K. Fischer-Møller (Bd. 89, Nr. 2, 1942, 82 pp.); (3) "The Mediaeval Norsemen at Gardar. Anthropological Investigation", by K. Broste and K. Fischer-Møller (Bd. 89, Nr. 3, 1944, 62 pp.); (4) "Inland Farms in the Norse East Settlement. Archaeological Investigations in the Julianehaab District Summer 1939", by Christen Leif Veþæk (Bd. 90, Nr. 1, 1943, 120 pp.).]

These reports in *Meddelelser om Grønland* are very important and reopen questions which we believed had already been settled by earlier investigations.

The first, written by Aage Roussell, who has been continuing with equal energy and skill the excellent work begun by Paul Norlund, is a clear and complete survey of the actual remains of the Norse Settlements in Greenland. It classifies the farms and assesses the probable stock that they once carried. It makes a detailed survey of the ruins of the churches and discusses their construction. Finally, it contains a complete list of all the small objects which had been unearthed up to the time of publication in 1941. It is an admirable work and most necessary to any student of the Norse Settlements in Greenland.

We learn from it that there was contact with Europe as late as the fifteenth century. We knew of this already, but potsherds of Rhenish stoneware are unshakeable evidence, and it is as well to know that they have been found. Roussell sees Norwegian, rather than Icelandic, influence in the form and size of the churches. He feels, too, that a certain type of dwelling house, known as a "passage house", may have been invented in Greenland itself. I am not sure that he is right in this particular conclusion. The plans of the passage houses have some affinities with those of late Provincial Roman buildings, and we must not exclude the possibility that the idea came from farther south at the same time as the church architecture.

The two reports which deal with the skeletal material from Gardar and the Western Settlement are of remarkable interest. The earlier excavation, carried out by Norlund at Herjolfsness in the south of the Eastern Settlement, had disclosed a lamentable picture of degeneracy and decay in the last days of the Settlement in Greenland.

Now, however, a new factor has to be considered. Whatever may have happened in the Eastern Settlement, and the evidence from Herjolfsness may have been a little overstated, there was no degeneracy in the Western one. Fischer-Møller makes it clear that malnutrition and disease had no part in the extinction of the Western colony. At the same time, he shows that, though there was some admixture of blood between Eskimo and Norseman, yet the Norse population was not absorbed by the Eskimo. There is no evidence that the Norsemen were killed or their farms burnt. Yet we know that when Ivar Bardson went with the relief expedition from the Eastern Settlement, about the year 1370, there was no sign of the people who had farmed the land in the Western Settlement. The cattle were wild in the fields, but the people had gone. Fischer-Møller hints cautiously at a mass migration by sea.

Here we have something which is of interest to the whole Northern world. If these people left West Greenland by sea and did not return to the Eastern Settlement, to Iceland or Norway, it is inconceivable that they went anywhere but to America. It is in America that we must search for the remains of their later settlements. Whether these were in Newfoundland, Labrador, or by the Great Lakes, time alone will show, but students in America can no longer be so sceptical about Norse remains being found in their country. After all, it is only what one would expect of such an obviously hardy race as the Greenland Norsemen. They knew of a better country, and so they would surely go to it when relations with the Eskimos became impossible.

Everyone who has read *Meddelelser* and so learnt of the missing foot of Bishop Jan Smyril buried in the Cathedral at Gardar will be relieved to hear that he is no longer thought to have died of gangrene following the loss of his foot from frostbite. The foot was apparently dug off by later grave-diggers. We frequently find similar instances in Britain.

The Neanderthaloid man of mediaeval Greenland is also removed from the scope of anthropological studies. The authors of these reports consider him to have been no more than a pituitary abnormality.

The last report, by Christen Leif Vebæk, gives a clear account of the excavation of inland farms in the Julianehaab district. While the general picture is much the same as that from similar farms in Greenland, it should be noted that some typical Eskimo objects were found together with objects of Norse manufacture.

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HYDROPONICS IN LABRADOR

[Review of a paper by H. Hill and J. Gilbey: "Soilless Culture, Production of Vegetables in Labrador", n.d. [1944], Mimeograph sent by the Experimental Farms Service of the Department of Agriculture, Ottawa.]

In recent years, a considerable amount of experimental work has been directed, particularly in America, towards the cultivation of plants without soil, on an amateur and also on a commercial scale, a study to which the name "hydroponics" has been given. Details of the methods employed and results obtained, together with a discussion of the potentialities of this technique, may be found in the works of Gericke (*Soilless Gardening*, 1940), of Ellis and Swaney (*Soilless Growth of Plants*, 1938), and Turner and Henry (*Growing Plants in Nutrient Solutions*, 1939). In general, two methods of culture are in use; in one, the water-culture method proper, the plants are supported with their roots growing in the nutrient solution; in the other, sand, gravel or cinders form the rooting medium to which the nutrients are supplied as solid fertiliser or as solution. The first method has the disadvantage of requiring artificial aeration of the solution to support root growth.

The particular applicability of the hydroponic method of cultivation to Arctic conditions is shown by the paper of Hill and Gilbey here reviewed. They describe experiments at Goose Bay in Labrador, where the dominant vegetation is dwarf spruce and Ericaceous shrubs, and the soil is an acid "podsol"