

# NOTES ON DANISH SCIENTIFIC WORK SINCE 1939

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## GEOLOGICAL WORK AND THE FOUNDING OF THE GEOLOGICAL SURVEY OF GREENLAND

**I**N THE 'seventies the late Professor F. Johnstrup advocated founding a Geological Survey of Greenland and a Geological Survey of Denmark. While the latter was formed in 1888, it was not until 1946 that a permanent Geological Survey of Greenland was established.

Professor Johnstrup, the founder of *Meddelelser om Grønland*, was the moving spirit of the geological work carried out in Greenland in the last decades of the nineteenth century. At this time a reconnaissance mapping, both topographic and geological, was carried out; the geological work was undertaken by K. J. V. Steenstrup, J. Lorenzen, A. Kornerup, N. V. Ussing, and others. Unfortunately, both Lorenzen and Kornerup died at a very early age, and when Ussing became Professor of Mineralogy in Copenhagen, the first attempt to establish a permanent Geological Survey of Greenland was given up. Since then much geological work has been carried out on numerous expeditions under the auspices of the "Kommissionen for videnskabelige Undersøgelser i Grønland".

Shortly before the Second World War a new attempt to form a Geological Survey of Greenland was made by O. B. Bøggild, K. Jessen, and M. Vahl, professors in the University of Copenhagen, and V. Madsen, then Director of the Geological Survey of Denmark. It was not until 1946 that the matter was raised again and success attained—the new institution was established. During the first five-year period the Survey has been directed by a four-man committee, consisting of Alfred Rosenkrantz, Professor of Geology at the Royal Technical High School in Copenhagen, Arne Noe-Nygaard, Professor of Mineralogy in the University of Copenhagen, Hilmar Ødum, Director of the Geological Survey of Denmark, and the Director of Grønlands Styrelse, at first Knud Oldendow, later Eske Brun.

From 1946-50 the Geological Survey of Greenland (abbreviated to G.G.U.) has worked in the following four regions: northwestern Greenland; southwestern Greenland; south Greenland, and east Greenland. The areas of work are shown on the map on page 53, and the following lists give the members of the G.G.U. field parties. In south Greenland Richard Bøgvad, chief geologist of the Cryolite Company, and his assistants have collaborated with the G.G.U.

<i>Northwestern Greenland</i>	1946	1947	1948	1949	1950
Alfred Rosenkrantz	x	x	x	x	x
Sole Munck	x	x			
Me Mouritzen	x				
Helge Gry	x		x		
Bruno Thomsen	x	x		x	
Dan Laursen	x				
Knud Eriksen	x				
Kristian Skou	x			x	x
Bent Søndergaard	x				
Hilmar Ødum		x			
Viggo Münther		x	x	x	
Inger Margrethe Rasmussen		x	x	x	
Eske Koch		x		x	
Erik Heller		x			
Knud Jakobsen		x	x		x
Sven A. Jensen		x			
Alf Kiilerich			x		
R. P. Sørensen			x		
Sonja A. Hansen			x	x	x
Joannes Rasmussen			x		
Knud Storgaard			x		
Christian Poulsen				x	
Hans Pauly				x	
Tove Birkelund				x	
Arne Buch				x	x
Søren Floris				x	
Valdemar Poulsen				x	x
Lars Jørgen Andersen					x
Stig Bak Jensen					x
Gudrun Thomsen					x
<i>Southwestern Greenland</i>					
Arne Noe-Nygaard	x			x	
Hans Ramberg	x	x	x	x	
Me Mouritzen	x	x			
Hans Pauly	x				
Maagens Maag	x	x			
Eva la Cour	x				
K. Ellitsgaard Rasmussen	x	x	x		
K. Milthers		x			
P. Graff-Petersen		x			
M. L. Ramberg		x	x	x	
Asger Berthelsen		x		x	
Henning Sørensen			x	x	
Mogens Walther				x	

<i>South Greenland</i>	1946	1947	1948	1949	1950
The Cryolite Company:					
Richard Bøgvad	x	x	x	x	x
Henning Sørensen	x	x			
P. Graff-Petersen			x		x
Aage Jensen					x
G.G.U.:					
Arne Noe-Nygaard	x			x	
K. Ellitsgaard Rasmussen	x				
Henning Sørensen				x	
Asger Berthelsen				x	
Mogens Walther				x	
<i>East Greenland</i>					
Christian Poulsen	x				
Eigil Nielsen	x				
H. Wienberg Rasmussen	x				
Eske Koch	x				
Valdemar Poulsen	x				
Johannes Troelsen					x
Gudrun Troelsen					x

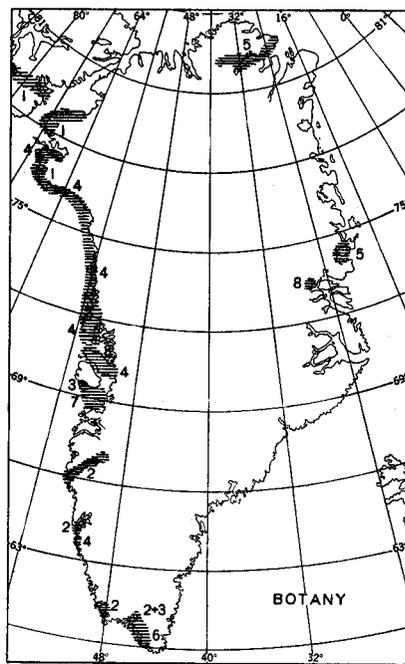
In addition to the field parties of the G.G.U. the following geological work has been carried out:

- 1939-41 Johannes Troelsen, as geologist on the Danish Thule and Ellesmere Land Expedition, studied the geology of northwestern Greenland and Ellesmere and Axel Heiberg islands in the Canadian Arctic.
- 1945 Alfred Rosenkrantz and Sole Munck worked in east Greenland between 70° and 75°N.
- 1945 Richard Bøgvad carried out investigations for the Cryolite Company in south Greenland.
- 1947-50 Eigil Nielsen, Johannes Troelsen, and K. Ellitsgaard Rasmussen participated in the geological program of the Danish Pearyland Expedition.
- 1947-8-9 Lauge Koch led expeditions to the Franz Joseph Fjord region of east Greenland in which Swedish, British, and Swiss geologists took part.
- 1949 Hilmar Ødum and Bent Søndergaard, accompanied by a group of civil engineers under K. B. Larsen, spent the summer months making a special study of ground water and permafrost problems near Egedesminde, Godthaab, and Narssaq.

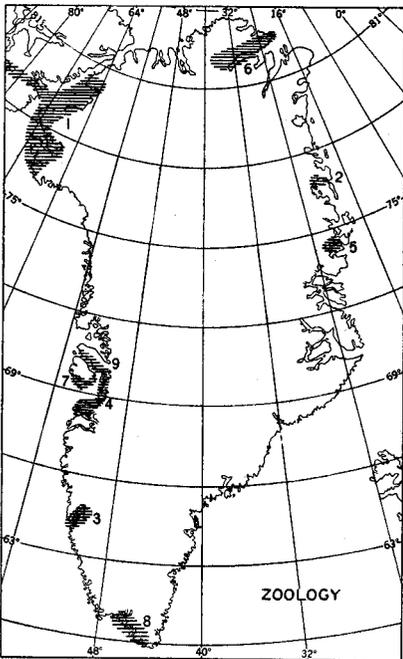
ARNE NOE-NYGAARD



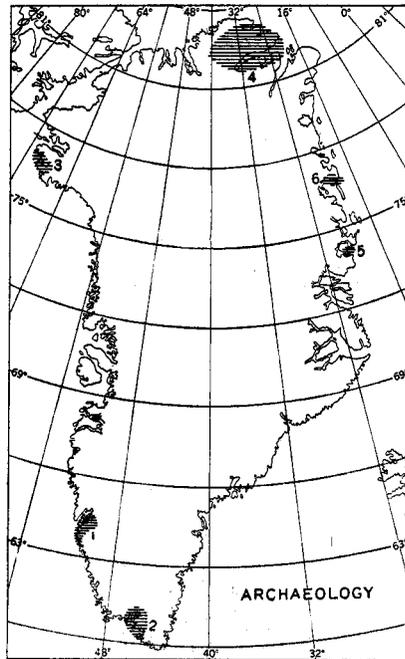
- 1) J. Troelsen 1939-41; 2) G.G.U. 1946-50; 3) G.G.U. 1946-9; 4) Cryolite Company 1945-50; G.G.U. 1946, 1949; 5) A. Rosenkrantz 1945; G.G.U. 1946; L. Koch 1947-9; Pearyland Exped. 1947-50; 6) Pearyland Exped. 1947-50.



- 1) G. Thorlaksson 1939-40; 2) Botanical Exped. 1946; 3) Cytogenetic Exped. 1947; 4) K. Jakobsen 1947-8; 5) Pearyland Exped. 1947-50; 6) C. A. Jørgensen, C. H. Bornebush 1948; 7) E. S. Nielsen 1948; 8) F. Schwarzenbach 1949.



- 1) C. Vibe 1939-41; 2) N. Haarløv 1939-40; 3) C. Vibe 1942-5; 4) F. Salomonsen 1946; 5) and 6) Pearyland Exped. 1947-9; 7) H. Madsen 1948-9; 8) and 9) Zootopographical Investigation 1948-50.



- 1) E. Knuth 1945; 2) L. Vebæk 1945-6, 1948-50; 3) E. Holtved 1946-7; 4) E. Knuth 1947-50; 5) J. Melgaard 1948; 6) E. Knuth 1950.

## ZOOLOGICAL WORK

- 1939-41 Christian Vibe, as zoologist on the Danish Thule and Ellesmere Land Expedition, studied the fauna and made collections in the Thule district, Inglefield Land, and Washington Land and in Ellesmere and Axel Heiberg islands in the Canadian Arctic. Land and sea mammals, birds, insects, and the bottom fauna of both fresh water lakes and of the sea were examined.
- 1939-40 Niels Haarløv, as a member of the Danish Northeast Greenland Expedition, studied the microfauna of Mørkefjord, Dove Bugt.
- 1942-5 Christian Vibe collected insects and freshwater fauna in the Godthaab district.
- 1946 Finn Salomonsen travelled along the west coast of Greenland to organize an extensive program of bird banding. This work is still being carried on.
- 1947 Palle Johnsen and Møhl-Hansen carried out zoological work on the reconnoitering party of the Danish Pearyland Expedition.
- 1948-9 Palle Johnsen, as zoologist, took part in the first wintering of the Danish Pearyland Expedition.
- 1948-9 Harry Madsen wintered on Disko Ø to carry out ornithological studies, particularly on the adaptation of birds to low temperatures.
- 1948-50 Grønlands Styrelse began the "Zootopographical investigation of Greenland". This investigation, which is led by Christian Vibe, aims to map the land and freshwater fauna of Greenland, concentrating particularly on the insects and other invertebrates. In 1948 work was started in the Julianehaab district; in 1949 the Nugssuaq Halvø was examined, and in 1950 it was planned that the investigations would be continued in the Godthaab Fjord region. Students from Greenland high schools have been participating in the collecting work.
- 1949 Finn Salomonsen travelled along the entire coast of West Greenland to supervise the program of bird banding begun in 1946 and to continue mapping the bird colonies.
- 1949 E. Ursin made zoological collections in Clavering Ø, in north-east Greenland on the Danish Pearyland Expedition.

In addition to these zoological expeditions, annual marine-biological investigations have been carried out by Paul Hansen and Erik Smidt in the fisheries research vessel *Adolph Jensen*, which is permanently stationed in Greenland. Working along the coast of west Greenland Hansen has carried out fisheries investigations and has made a special study of the areas where shrimps are found and the possibilities for developing this fishery.

The Arctic Biological Station on Disko Ø, founded by M. P. Porsild, has been continued. Paul Gelting, who is now responsible for the station, has made a special study of the feeding habits of sea mammals and of protection problems.

CHRISTIAN VIBE

#### BOTANICAL WORK

- 1939-40 G. Thorlaksson, a member of the Danish Thule and Ellesmere Land Expedition, made collections and observations of the vegetation in the Thule district.
- 1946 The Botanical Expedition to West Greenland studied the vegetation of the Søndre Strømfjord region in detail and worked along the coast range of southwest Greenland from 61° to 67°N. The members were: T. W. Böcher (vascular plants, fresh water algae, ecology), M. Skytte Christiansen (lichens), K. Holmen (bryophytes), and M. Lange (fungi). (For further details see the paper by T. W. Böcher in this number of *Arctic*, p. 46).
- 1947 A cytogenetic expedition, led by C. A. Jørgensen, travelled along the west Greenland coast as far north as the Nugssuaq Halvø during the summer to collect vascular plants for chromosome investigations. The other members of the expedition were T. Sørensen, Inger Juhl, and the late Gudni Gudjonsson.
- 1947-8, and 1950 Knud Jakobsen, a member of the G.G.U. expeditions to north-west Greenland, made large collections of plants and vegetation analyses in the region between the Nugssuaq Halvø and Orlriks Fjord.
- 1947-50 The Danish Pearyland Expedition: K. Holmen wintered in Peary Land in 1948-9 and collected all groups of plants and studied the ecology; M. Westergaard and Hans Mathiesen visited the Zackenberg area in northeast Greenland during the summer expeditions.
- 1948 C. A. Jørgensen and C. H. Bornebush studied the Greenland birch to obtain data useful for experimental planting of trees.
- 1948 E. Steeman Nielsen made quantitative examinations of the plankton in Disko Bugt between Disko Ø and the mainland.
- 1949 F. Schwarzenbach, the Swiss botanist studied the botany of the Franz Joseph Fjord region on the expedition to east Greenland led by Lauge Koch.

Besides the investigations carried out on expeditions much botanical work has been done by the leaders of the Arctic Biological Station on Disko Ø, M. P. Porsild and Paul Gelting.

TYGE W. BÖCHER

## ARCHAEOLOGICAL WORK CARRIED OUT BY THE NATIONAL MUSEUM

- 1945 Eigil Knuth carried out archaeological investigations in the vicinity of Godthaab.
- 1945-6 L. Vebæk excavated Norse ruins in southwest Greenland in 1945. The following year he was joined in this work by O. Voss, as assistant.
- 1946 J. Troels-Smith, of the bog laboratory of the National Museum, investigated shoreline movements throughout west Greenland.
- 1946-7 Erik Holtved studied the folklore and archaeological sites in the Thule district.
- 1947-50 Eigil Knuth, the leader of the Danish Pearyland Expedition, studied the Eskimo sites discovered by this expedition.
- 1948 J. Melgaard, a member of the Danish Pearyland Expedition, examined Eskimo sites on Clavering Ø, east Greenland.
- 1948-52 L. Vebæk began a four-year program of work in 1948 during which he hopes to complete his investigations of Norse ruins in southwest Greenland. In 1949 he was joined by J. Melgaard and Sverri Dahl as assistants.

ERIK HOLTVED