

A. VISCHER:
GEOLOGICAL MAPPING OF THE AREA
BETWEEN 74° AND 75° N. LAT.

After numerous special investigations within this area had been made in the years since 1929 an actual geological investigation of these extremely interesting districts could at last be commenced in 1936. The manuscript maps on a scale of 1:333,333 which were most kindly placed at our disposal by the Geodetic Institute were of great importance in this work. The maps were later on published on a scale of 1:250,000. —The Eskimonæs station, which in 1936 was repaired and adequately equipped, was to serve as a base for the geological mapping, and it was decided in the first instance to concentrate on the Permian and Meozoic deposits, the stratification, tectonic disturbances, and faunas of which were to be studied.

Three geologists were sent out, viz. A. VISCHER, who was in charge of the geological mapping and the studies of the tectonics. Further, W. MAYNC, who was the leader of the stratigraphic investigation and in addition collected fossils. Finally EIGIL NIELSEN, who from his previous stays at Eskimonæs both in summer and winter was familiar with the area to be investigated. He was to continue his stratigraphic-palæontological work in the vicinity of Kap Stosch and on the basis of the new topographic maps to undertake a detailed geological mapping of these districts. His attention was especially to be directed towards the contact between the crystalline rocks and the sediment areas, and it was to be investigated whether this contact was a result of faulting or erosion and what age it had. It goes without saying that a complete collaboration between the three geologists was a condition for a successful result of the investigations, and it should be said at once that the collaboration passed off excellently.

On account of the war it has not been possible to get into touch with Dr. W. MAYNC. This report is therefore worked out on the basis of particulars supplied by Dr. VISCHER supplemented by information received from Dr. NIELSEN.

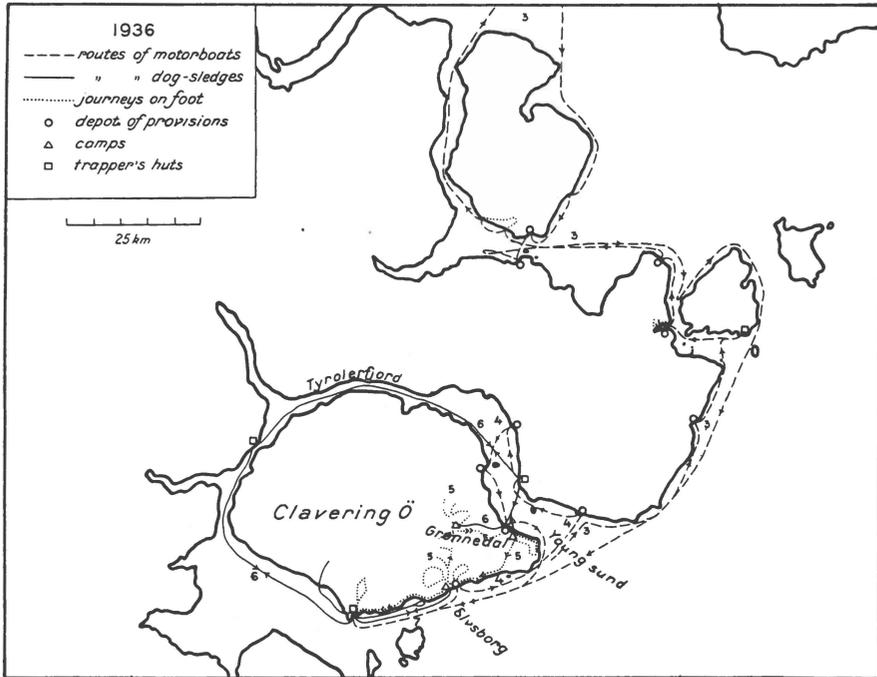


Fig. 238. VISCHER'S and MAYNC'S journeys in the late summer and autumn 1936.

Participation in Different Works in Order to gain Experience in Travelling Technique.

July 25th.—The “Gustav Holm” arrived at Ella Ø, and immediately on her arrival a camp party was sent out by the motor-boat “Imara” to a camp on the south side of the mountain Kongeborgen in Kong Oscars Fjord under the leadership of EIGIL NIELSEN with MAYNC and VISCHER as geological assistants. The motor-boat was sailed by N. O. JENSEN, telegrapher, and HARDER JENSEN, assistant. The purpose of this voyage was stratigraphical studies and collecting of fossils in the continental Carboniferous (see NIELSEN'S report).

Aug. 5th.—The camp was fetched by the “Gustav Holm”.

Aug. 8th—11th.—NIELSEN, MAYNC, VISCHER and HARDER JENSEN camped near a large valley mouth on the north coast of Duséns Fjord in order to make stratigraphic investigations and collecting of fossils in Devonian formations (see NIELSEN'S report).

Aug. 13th.—The “Gustav Holm” arrived at Eskimonæs, and the two following days preparations of depots were made which were to be laid out by motor-boat for the spring journeys.

Laying out of Depots by Motor-boat.

First Voyage by Motor-boat to Hochstetters Forland.

Members: VISCHER and MAYNC with N. O. JENSEN as motor-man. Besides, the films operator LEO HANSEN, who was to fetch some films taken during an expedition in 1935 and left at Kap Berlin. On August 16th the motor-boat started from Eskimonæs and continued in fog, but in water nearly free of ice, along the coast of Wollaston Forland. Owing to the heavy swell the party did not succeed in laying out the planned depot in Flakkebugt. The boat continued to Germania Havn, but here, also, landing was dangerous owing to the surf. As will be known, there was no ice off the coast of East Greenland in the late summer and autumn of 1936 and a heavy swell made the landing and laying out of depots very difficult during the whole of this period.

Aug. 17th.—The party succeeded in landing in Falskebugt. The weather was clear. After having laid out provisions they tried to reach Kap Berlin in order to lay out another depot there, but a large floe barred the whole of Claveringstrædet. They therefore had to sail back to Falskebugt, where VISCHER and MAYNC camped in order to make preliminary geological investigations on the west side of the Falkebjerg. Here *Rhynchonella* and Belemnites were found, which later on proved to be derived from strata belonging to the Valanginian. In the meantime JENSEN and LEO HANSEN had paid a visit to Germania Havn, where they succeeded in getting the films onboard the boat assisted by two Danish trappers. A few days earlier the two trappers had lost their motor-boat and had only small provisions left. One of them went onboard the motor-boat, and the party now succeeded, though with some difficulty, in laying out a depot near Flakkebugt. Next year only few remains of this depot were however found since it had been completely destroyed by the strong surf.

On Aug. 18th the party succeeded in passing Claveringstrædet at highwater and laid out the depot near Kap Berlin. On their return to the camp in Falskebugt a motor-boat belonging to the trappers arrived. As a high southerly wind prevailed, the party decided, instead of proceeding against this wind, to travel to Hochstetters Forland in order to meet the "Gustav Holm" there. They started about midnight.

Aug. 19th.—The party succeeded in reaching Kap Berlin at highwater and go farther into Lindemans Fjord, dropping anchor off the south coast of Kuhn Ø. The weather was bad, but nevertheless Kingofjeldet was climbed to an altitude of 600 m. Sandstone rich in fossils and belonging to the Argovian-Calloviaian was discovered. In the evening the party proceeded to the middle of Fligelys Fjord.

Aug. 20th.—At noon the party proceeded through this fjord to Hoch-

stetters Forland, hoping to be able to return to Eskimonæs by the "Gustav Holm". This was, however, not feasible since the boat, owing to the great swell, could not be towed by the ship and on account of missing ballast could not be taken on to the deck. It was decided, therefore, to lay out a depot near Kuhn Ø on the way back by motor boat. In the evening they started by the motor boat to the scientific station "Kulhuse", now abandoned, west of the head-quarters of the Hunting Company "Nanok" on Hochstetters Forland. Several of the members of the expedition followed them to this place.

Aug. 21st.—The scientific station, abolished a few years ago, was already in a rather poor state. There were, however, some provisions and different gear which could be used. The party took it with them and then returned to the "Gustav Holm" early in the morning, whereupon they started southwards to Kuhn Ø, where several preliminary examinations were made along the east coast. Two old musk-oxen were killed and a large depot with dog pemmican was laid out 3km west of Kap Hamburg. Then the party proceeded across Lindemans Fjord; a smaller depot was laid out in the bay west of Kap Schumacher, and in the night of August 22nd they continued towards Kap Berlin. Since it was ebb tide, it was impossible to pass through Claveringstrædet owing to the ice, for which reason the boat continued through Pendulumstrædet and onwards to Eskimonæs, where the party arrived in the evening.

Aug. 23rd.—The Sunday was observed at the station without work. The geologists and Dr. KOCH climbed the mountain near Eskimonæs in order to discuss the experience gained in the vicinity of Clavering Ø by the earlier expeditions.

Aug. 24th.—The "Gustav Holm" arrived from Hochstetters Forland, and next day at noon left Eskimonæs after having bid adieu to the three wintering geologists, the radio-telegrapher N. O. JENSEN, the Danish assistant HARDER JENSEN, who was familiar with travelling conditions in East Greenland from his previous stays at the station, and the two Eskimo assistants. At the station were found the travelling boat "Imara", a solid boat with an outboard motor, about 30 adult sledge dogs and a fairly great number of pups. After the ship had left the station preparations of further laying out of provisions were made immediately.

Aug. 27th.—The catastrophic discovery was made that the motor-boat "Imara" had broken loose from its moorings and drifted away after a westerly wind had prevailed during the night. At that time EIGIL NIELSEN and HARDER JENSEN had already started onboard the boat with the outboard motor for Kap Stosch, and N. O. JENSEN left in the evening by a small jolly-boat with sail in order to try and find the motor-boat if it had drifted ashore on Store Finsch.

Aug. 28th.—The wind shifted again to the east and JENSEN returned safely. He supposed to have found a few pieces of the wrecked motor-boat. He at once wired the "Gustav Holm", which was at Ella Ø, informing her of the accident, and got the promise of another motor-boat.

Sept. 2nd.—The first snow fell.

Sept. 5th.—The "Gustav Holm" paid a short visit to the Eskimonæs station early in the morning and let the station have the motor-boat "Buldog". This boat, it is true, was somewhat smaller and with a smaller cabin, but in a heavy sea it was a better sea boat and fully able to answer to the claims placed on it.

Second Motor-boat Voyage to Young Sund.

In the meantime EIGIL NIELSEN had returned, and already in the afternoon VISCHER, MAYNC, NIELSEN and N. O. JENSEN started by the motor-boat "Buldog" and a jolly-boat in tow in order to lay out depots on the eastern part of Clavering Ø and on Wollaston Forland. After having laid out a depot in the evening near Elvsborg on the south coast of Clavering Ø, they proceeded to the mouth of Blæsedalen on Wollaston Forland, where another depot was laid out with great difficulty owing to the swell. They proceeded in the dark to Sandodden.

Sept. 6th.—In the morning VISCHER, NIELSEN, and JENSEN travelled into Young Sund, where a large depot was laid out at the mouth of Permdal intended partly for sledge travels to the north, partly for camping purposes. In the afternoon provisions were laid out near Djævelkløften and the mouth of Grønnedal, and in the evening the party returned to Eskimonæs.

Autumn Work in the Eastern Part of Clavering Ø.

VISCHER and MAYNC were now ready to commence the geological investigations here and the work was to be continued so long the weather permitted.

Sept. 8th.—The two geologists travelled by the motor-boat to Elvsborg at the foot of Brinkley Bjerg. The landing was difficult owing to the heavy surf. A dog was brought along as a companion on the excursions. The next day the camp was arranged and on September 10th, they made a climb along Fiskeelv to the plateau at 680 m altitude. The descent took place along the Fossilelv. The stratigraphy, faults and flexures of the Permian and Trias were studied.

Sept. 11th.—An ascent was made near Rundetaarn to 640 m in order to explore strata with *Inoceramus* (Abtian-Albian) and to map sediments and basalt sills.

Sept. 12th.—Climbed Brinkley Bjerg (about 900 m). Mapped crystalline, Permian, and Eotriassic rocks, Basalt and faults.

Sept. 13th.—Geological mapping and stratigraphic investigations between Fiskeelv and Fossilelv.

Sept. 14th.—The two geologists climbed Söderberghs Plateau, where MAYNC measured stratigraphic profiles in the Permian and the Trias and collected fossils. VISCHER climbed Brinkley Bjerg to an altitude of 900 m and discovered a breccia of Permian blocks in the Eotrias. He continued round Brinkley Bjerg for the sake of the geological mapping. The weather was very fine and on the north side of the mountain there was already much snow.

Sept. 15th.—Measuring of profiles in the Moskusokseelv valley. Rain and snowfall.

Sept. 16th.—Hurricane-like northerly gale with driving snow.

Sept. 17th.—During the night at spring-tide the surf reached to the tent and the trapper's hut was completely surrounded by water.

Sept. 18th.—The bad weather continued with fog and snowfall, and they decided to give up further work for the present. The two geologists went on foot back to Eskimonæs in the course of eight hours. Next day,

Sept. 22nd, they were again brought to the camp by the motor-boat.

Sept. 23rd.—Climbed again the Brinkley Plateau to an altitude of about 800 m. VISCHER made geological mapping along the south border of the plateau. MAYNC ascended the Brinkley Bjerg (1075 m). The snow impeded the geological work in some degree.

Sept. 24th and 25th.—MAYNC collected fossils near Fiskeelv and Fossilelv. VISCHER worked on the north side of Brinkley Bjerg, but was hindered by the snow.

Sept. 26th, and 27th.—Remained in camp owing to bad weather.

Sept. 28th.—Despite the advanced season it was decided to make geological investigations in the inner part of Grønnedal. Camping material and provisions had to be brought partly from Elvsborg and partly from the depot at the mouth of Grønnedal. The walk through Baesdalen and Grønnedal was extremely difficult, and not until late in the evening did they reach the hut at the mouth of Henningelv.

Sept. 29th.—Part of the depot from Grønnedal was brought to the hut.

Sept. 30th.—Excursion to the western plateau of Brisbane Bjerg. Though there was some snow, it was easy to map the steep basalt sills and in several places the underlying Cretaceous layers could be studied.

Oct. 1st.—Excursion into Grønnedal with tent and provisions. Camped near the lake in the inner part of Grønnedal. The lake was already completely frozen over.

Oct. 2nd.—Excursion to the fault area southwest of the lake at

the foot of Trinucleus. At an altitude of 700 m Permian *Productus* limestone rich in fossils. It was a fine day with no wind, but there was a fog below the camp.

Oct. 3rd.—VISCHEr made an excursion towards the south in order to map the faults at the foot of the Trinucleus, Binucleus, and Monucleus mountains. MAYNC collected more fossils from the locality which was discovered the day before.

Oct. 4th.—Climbed Langelinie (802 m) and walked from here to the west in order to study faults.

Oct. 5th.—As it now froze up to 10° C. at night and the geologists were only provided with summer sleeping bags, it was difficult to keep warm during the night. Excursions were again made towards the north-east. VISCHEr worked on the southern plateau of the mountain "Forposten" at an altitude of about 1100 m where crystalline rocks, Permian rocks, and plateau basalt occur, and he here succeeded in ascertaining pre- and postbasaltic transverse faults. MAYNC worked with the Cretaceous stratigraphy.

Oct. 6th.—VISCHEr ascended the main top of the Forposten (1303 m) for geological mapping purposes. MAYNC worked on the southern plateau of the Forposten and formed the supposition that the Permian *Productus* limestones found *in situ* here were the same as that found in the so-called white blocks on Kap Stosch. This supposition later on proved to be right and became of great importance. Both the geologists were very satisfied with their studies in Grønnedal.

Oct. 7th.—The camp equipment and collections were deposited and a few days after fetched by a dog sledge, and the party walked on foot through Grønnedal, doing geological mapping along the way to the hut near Henningelv.

Oct. 8th.—A gale prevented all excursions.

Oct. 9th.—Brisbane Bjerg was climbed (486 m) and the whole of this area mapped. The walk back went over Kap Breusing and along the coast.

Oct. 10th—11th.—Were spent in the hut and the observations gained were worked up.

Oct. 11th.—The party walked over the pass near Henningelv to Elvsborg, geological mapping being made during the walk. Near Basaltkap a Polar bear was seen.

Oct. 12th.—Was spent in the camp near Elvsborg. Not until this day was the first very thin ice seen on the sea, which is unusually late and due to the fact that there was still no drift ice off the east coast of Greenland. After a short gale on October 13th the party walked to Eskimonæs, arriving there in the evening half an hour after NIELSEN and HARDER JENSEN had arrived by boat from Kap Stosch; they had been much hindered by young ice.

Travel by Sledge in Order to Fetch the Depots on Eastern Clavering Ø.

Oct. 23rd.—VISCHER went along with a Greenlander with a dog sledge in the direction of Elvsborg, as new ice had now formed along the coast. When they approached Dødemandsbugten, the wind blew up to a gale and they had to return since there was danger of the ice drifting away.

Oct. 27th.—The weather was fine and cold (-12° C.) and another attempt was made with dog sledge, but already near Dødemandsbugten there was open water, as the gale had driven away the whole ice cover in Gael Hamkes Bugt.

Oct. 31st.—EIGIL NIELSEN and a Greenlander went to Scoresbysund, whence they did not return to Eskimonæs till Feb. 22nd (see NIELSEN's report).

Nov. 2nd.—VISCHER and MAYNC from Eskimonæs climbed the adjacent eastern peak (1282 m). On the top basalt and a little continental Carboniferous deposited on crystalline rocks are found.

Nov. 7th.—VISCHER decided to go round the Clavering Ø accompanied by a Greenlander in order to fetch the depots in Grønnedal. Owing to the open water round the southwestern side of Clavering Ø it might not be possible to reach these depots before the great snowfalls of the winter. The night was to be spent with a Norwegian trapper on Revet on the western side of Clavering Ø.

Nov. 8th.—The journey was continued through Tyrolerfjord and Young Sund to the Danish trappers' station "Sandodden". They succeeded in covering 80 km in the course of eight hours.

Nov. 10th.—They travelled by dog sledge near the depot at the lake in Grønnedal and brought it back to Sandodden.

Nov. 12th.—Travelled back to Revet around the north of Clavering Ø—again during eight hours on smooth ice, and on November 13th arrived at Eskimonæs after the lapse of five hours. A few geological observations were made in the area with continental Carboniferous in the western part of Clavering Ø during this journey.

Nov. 13th.—MAYNC and a Greenlander fetched the last depot near Elvsborg and thus all the geological collections made during the autumn had been brought to Eskimonæs.

1937.

Feb. 2nd.—The sun again shone on the Eskimonæs station.

Feb. 22nd.—EIGIL NIELSEN and the Greenlander returned from Scoresbysund. — In March it was again possible to begin the geological work — though to a limited extent.

March 4th.—VISCHER made a skiing trip in -35° C., which took him to an altitude of 1401 m. Observations of high-lying penneplains etc. could be made.

From March 13th to 17th.—NIELSEN, VISCHER and a Greenlander undertook a journey to Home Forland by two sledges in order to lay out a depot between the pass between Gulelv and Tobias Dal. The depot was laid out on March 3rd, at an altitude of 600 m above sea-level. The weather being fine, the journey was prolonged, and VISCHER investigated one of the remarkable volcano-shaped hills (presumably mud volcanos) at the bottom of Tobias Dal which was previously considered to be a small crater. He ascertained that the hill consisted exclusively of morainic material. He camped at the entrance to Tobias Dal. After having travelled round Kap Krauss and Kap James and spent the night in Gael Hamkes Bugt, Eskimonæs was reached on March 17th.

Sledge Journeys in the Spring of 1937.

Journey to Kuhn Ø and northwestern Wollaston Forland.

According to the plan VISCHER and MAYNC were to map Kuhn Ø and the area round Fligelys Fjord and Lindemans Fjord which were the most distant areas within their district of operation. The first journey was to last about one month. The number of the members was fixed at five, since besides VISCHER and MAYNC as geologists EIGIL NIELSEN was to assist during the fairly long sledge journey owing to his experience from previous sledge journeys; both the Greenlanders as well as EIGIL NIELSEN had each a sledge with a team of eight dogs.

The equipment consisted, besides of the sledges, of two tents, winter sleeping-bags and the usual winter garments of furskin. For foot wear the ordinary kamiks of canvas with soles of rubber and lambskin stockings of the expedition were used. All had skies and VISCHER had with him the usual skiing boots of leather for skiing trips in the mountains. It proved, however, that these had to be used with great caution owing to the risk of frostbites in the feet.

The men started on March 29th. It had frozen 41° during the night. The "Sandodden" was reached after a day's travel of more than 60 km and Kap Mary had been passed on smooth young ice.

March 30th.—Very cold, but clear weather with no wind. They travelled to the large depot in Young Sund. The whole of the depot, which was nearly hidden by snow, had to be dug out and placed on a higher terrace free of snow. When this had been done, they passed Kuppelpasset and after having lowered the sledges over a large heap of snow which barred the valley they camped on Storsletten in about $73^{\circ}30'$ N. and 20° W.

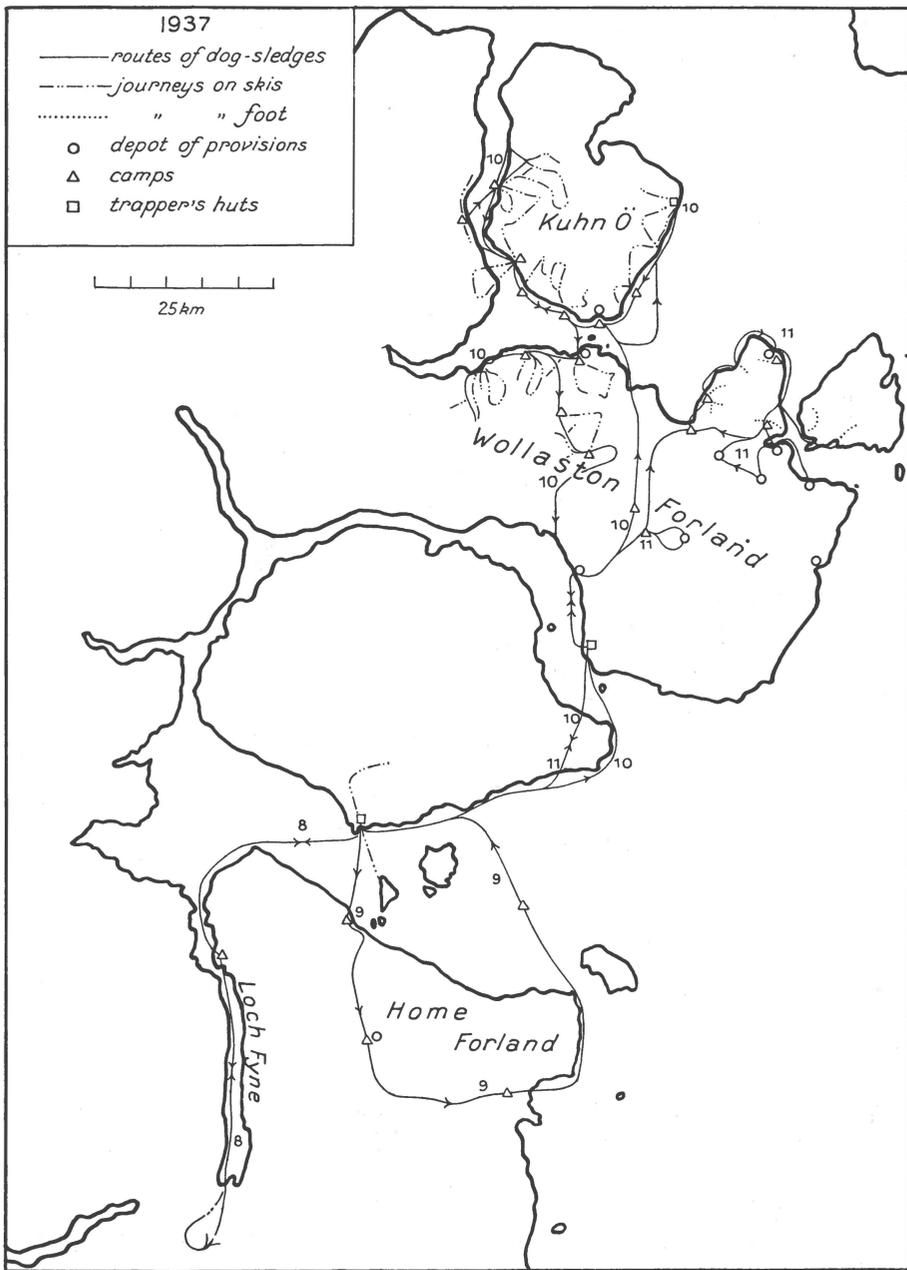


Fig. 239. Winter and spring journeys undertaken by MAYNC, E. NIELSEN, and VISCHER.



Fig. 240. A well-loaded sledge.

During the journey a few observations on Permian and Jurassic deposits had been made. When they camped it froze 43° and during the night the temperature fell almost to 50° C. below zero. The Greenlanders maintained that they had heard a wolf in the course of the day.

March 31st.—The party continued direct towards Kap Hamburg. At the south coast of Kuhn Ø, which is sheltered against the northerly gales, the snow was very deep and everybody had to go skiing. The depot west of Kap Hamburg was deeply buried in snow, and only after some time did they succeed in finding it. Camped here.

April 1st.—Dense fog and a little snow. The temperature had risen to -15° C. The whole depot was dug out and placed in a more suitable place. Since there was much snow in Lindemans Fjord the party first



Fig. 241. Start of a sledge journey.

went to Kap Maurer. Owing to deep snow they had first to travel away from the coast by compass and then later on again approach it. In the vicinity of Kap Maurer they succeeded in shooting four old musk-oxen for the dogs. In the evening they took quarters in an old abandoned trappers' hut.

April 2nd.—Clear and comparatively warm weather. Temperature 18° C. below zero. VISCHER and MAYNC made geological investigations round Kap Maurer up to an altitude of 240 m. The snow conditions here were relatively favourable since large snow drifts were only found in the deep ravines. Large areas were blown free of snow. Investigations and mapping of the distribution of the Aptian-Albian were made. NIELSEN and the Greenlanders fetched musk-ox meat.

The two following days VISCHER, MAYNC and NIELSEN made geological work in the vicinity of Kap Maurer. NIELSEN had previously collected here.

April 5th.—MAYNC and NIELSEN continued their work on the profiles near Kap Maurer. VISCHER and a Greenlander travelled 7 km south of Kap Maurer and here climbed the plateau to an altitude of 300 m. There were here very interesting tectonic conditions.

April 6th.—Cold wind (28° C. below zero). The whole party travelled to the Danish hut 7 km south of Kap Maurer. MAYNC and NIELSEN

measured stratigraphic profiles in the ravines round this place. They found Valanginian rich in fossils, and MAYNC ascertained that the strata below the Valanginian could not be Portlandian, as previously supposed, more probably they belonged to the Kimmeridgian. VISCHER travelled 4 km farther to the south, in the first place to investigate the coast profiles, thereupon to go back on skis across the plateau in order to explore the tectonics. Here he passed a large flock of musk-oxen (more than 30).

April 7th.—VISCHER studied the tectonic conditions and the Jurassic and Cretaceous strata.

April 8th.—MAYNC, NIELSEN and JACOB made collections in the localities explored by VISCHER and got a rich material from the Valanginian and Upper Jurassic. VISCHER made a long skiing trip over the plateau towards the northwest, where he found Aptian in the immediate vicinity of the crystalline contact.

April 9th.—As the weather conditions were not the very best, the party remained near the camp. VISCHER, however, went by sledge to an iceberg 5 km northeast of Kap Maurer in order to sketch and photograph a panorama on Kuhn Ø. In the afternoon he met a Danish trapper.

April 10th and 11th.—There was a strong gale, and they made themselves comfortable in the hut.

April 12th.—The weather was fine again with a temperature of 22° C. below zero. The sledges were rather heavy owing to the geological collections and the musk-ox meat. They travelled along the coast to the mouth of a valley, Romeydalen, at the foot of Schwarze Wand. To the north of the valley mouth Jurassic and Valanginian beds were found. To the south there was a small plateau with Jurassic strata which had been carried along with the great fault.

April 13th.—The journey continued round Kap Hamburg into Lindemans Fjord. Here there was deep snow. Trail had first to be broken with skis and an empty sledge, and at last the party reached the depot 3 km west of Kap Hamburg.

April 14th.—Owing to the deep snow trail had constantly to be broken in order to get farther to the west. The party camped at a delta in Payers Dal, and VISCHER and MAYNC made preliminary investigations up to an altitude of 400 m east of the valley mouth. Investigations and mapping of a large basalt dyke which penetrated a great part of the island were made.

April 15th.—The mountain-chain which forms the central part of Kuhn Ø in a northern and southern direction consists of Caledonian crystalline rocks, which form the substratum of younger sediments. These cover the western and southwestern parts of the island and consist of two characteristic series of strata—a lower series of yellow sandstone,

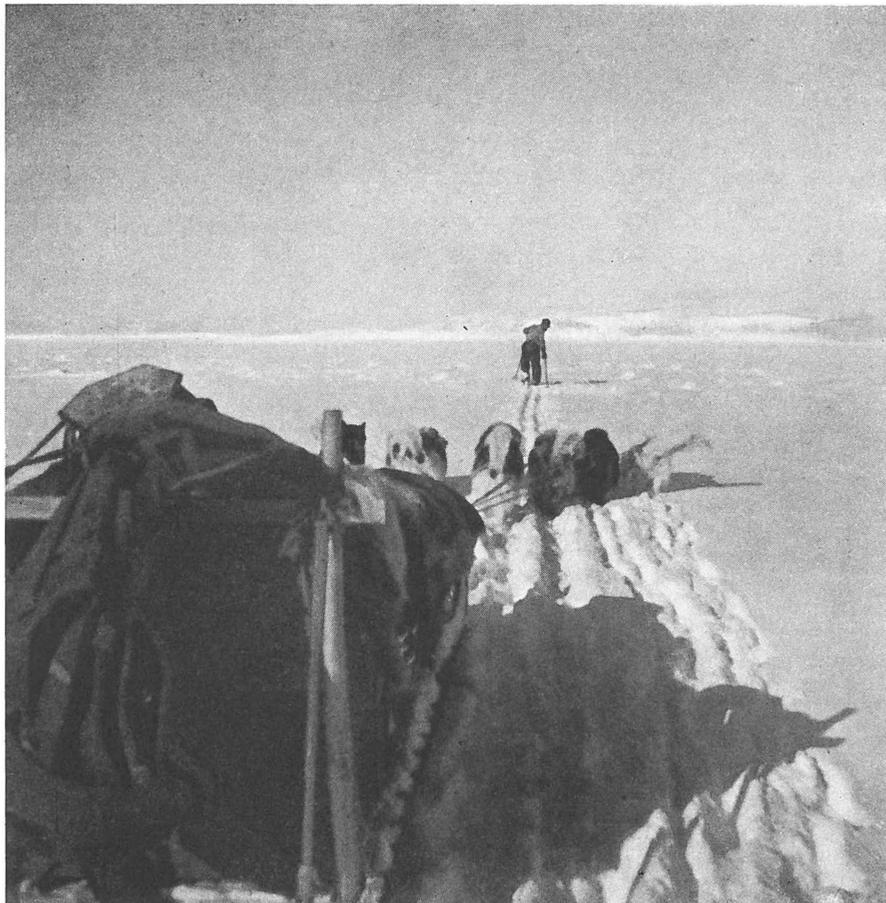


Fig. 242. Breaking trail in deep snow.

which was later determined as Callovian-Argovian, and an upper series of black clay shales which belongs to the Séquanian-Kimmeridgian. Owing to the great difference of colour the mapping could be made after lithological principles. VISCHER and MAYNC went on skis about 3 km into Payers Dal in order to study these strata in the west side of the valley. While MAYNC measured an exact profile through the uppermost layers of the yellow series, VISCHER went still farther up the Payers Dal in order to find a more complete profile on its western side. Conditions did not prove to be so unfavourable for geological observations as first supposed, since all the mountain sides facing north proved to be blown completely bare of snow by the northerly gales.

April 16th.—VISCHER and MAYNC climbed the western peak of Kingofjeldet to an altitude of 1034 m. The ascent took place over Jurassic sediments to a plateau at an altitude of 600 m above Kap

Hamburg. From here a panorama of Wollaston Forland south of Lindemans Fjord was photographed. They ascended on skis to 800 m. Thereupon they had to climb. On the peak the temperature was sufficiently high for a stay long enough for photographing and mapping. During the ascent and the descent MAYNC investigated especially the uppermost beds of the yellow sandstone series, which were well preserved beneath the plateau basalt, while VISCHER especially investigated the superposition of the sediments. The basalt rested horizontally on an erosion surface above the westward dipping Jurassic beds. From this it can be inferred that tectonic movements and erosion have taken place before the eruption of the basalt. The westward dip of the sediments is probably due to faulting. As MAYNC had only carried out stratigraphic investigations of the lower yellow sandstone series, VISCHER decided to measure some stratigraphic sections in the favourable places at the western side of Payers Dal. Thus a section was first measured through the series of clay shales, which contained numerous ammonites 3 km north of the mouth of the valley. Some kilometres farther northward an even more complete section was met with and measured. Subsequently they climbed the mountain P. 620, whence they had an excellent view of the western part of the island and Fligelys Fjord, along which extensive terraces were observed. They had an easy descent on skis to the shore of Fligelys Fjord, where they met the sledges, and camped.

April 18th.—Proceeded northward along the west coast of Kuhn Ø. Along the coast they observed terraces with young, finely stratified clay beds containing subfossil mussels. These clay beds were at times difficult to distinguish from the Jurassic clay shales, being made up of material from these latter. Near a trapper's hut (HÅKON's hut) a grey sandstone with conglomerates, mussels, and ammonites occurred, suggestive of the presence of Portlandian here. (On April 24th MAYNC found ammonites here which were later determined by L. F. SPATH, London, as belonging to the uppermost Jurassic. The locality at HÅKON's hut is the only one within the area investigated where Portlandian seems to have been observed.)

The party travelled across Fligelys Fjord to a coast cliff made up of Jurassic rocks, investigated in 1932 by K. TEICHERT and described in 1933 by H. FRÉBOLD. Camped at Blaabærdalen.

April 19th.—The temperature had now risen to -2° C., but there was an unpleasant wind and it was foggy. MAYNC travelled south to Teichert's rock, VISCHER to an occurrence of sediments which was discovered by H. G. BACKLUND and described by FRÉBOLD in 1933. Owing to deep snow the locality was not found, however. The first seal on the ice was killed.



Fig. 243. Deep snow.

April 20th.—The camp was moved to the west coast of Kuhn Ø near the foot of the mountain P. 750. In the coast there were black clay shales (Séquanien-Kimmeridgian) with fossils and large basalt dykes. VISCHER went on skis up towards the mountain, but in the diffuse light without shadows he tumbled down a high snow wall but without being hurt in any noteworthy degree. In the evening conglomerates with blocks of crystalline rocks as big as a head and large Belemnites in the cement were found resting transgressively on the Jurassic strata. It was supposed to be Valanginian.

April 21st.—The weather was not particularly fine, for which reason the ascent of Baselbjerget was given up. Sections were measured and several occurrences of Valanginian conglomerate were found. The Greenlanders killed an old musk-ox.

April 22nd.—At last a fine day (16° C. below zero). VISCHER went along on skis north of Baselbjerget to Sadlen east of the mountain where he again met with the series of yellow sandstones (Callovian-Argovian). Geological mapping. Thereupon he travelled north to the valley which extends through Kuhn Ø from Bastians Bugt. For the first time the lowermost beds of the yellow series were found *in situ* here, formed as fine conglomerates. In the meantime MAYNC collected fine ammonites in different sections in the highland north of Bastians Dal. NIELSEN made preliminary investigations in Bastians Dal.

April 23rd.—VISCHER penetrated with KARL's sledge into the area north of Bastians Dal investigated by NIELSEN the previous day. He ascended to an altitude of 200 m by sledge. Thereupon he continued on skis to the sandstone layers at an altitude of 400 m, in order to find the northernmost occurrences of sediments in the western part of Kuhn Ø. An important locality of basalt for demonstrating the prebasaltic relief is of special importance. After geological mapping was made, they continued by sledge to the mouth of Bastians Dal, where the northernmost point within the area of investigation was reached. NIELSEN travelled to the west coast of Fligelys Fjord, where he found the sediment area discovered by BACKLUND, which consisted of conglomerates with belemnites and much resembled the Valanginian conglomerate on the eastern side of the fjord.

April 24th.—VISCHER climbed Baselbjerget (750 m), while the four men travelled southwards along the coast. The weather was fine (20° C. below zero). The peak of the mountain consisted of Jurassic sediments but was surrounded by basalt, which indicates a pronounced prebasaltic relief. Already in prebasaltic time there must have been a mountain of a similar altitude as now. He went rapidly on skis down to Håkon's hut where the sledges were found. The Valanginian conglomerate, which north of the hut occurs within large areas, was mapped. MAYNC once more investigated the sections near Håkon's hut and found ammonites.

April 25th.—VISCHER travelled across the Fligelys Fjord and climbed the plateau with P. 508 in order to find possible occurrences of sediment, but found none. He discovered, however, a breccia near the steep coast of the plateau towards Fligelys Fjord. According to later finds of the same kind this breccia seemed to be a coast breccia (Valanginian), deposited along a fault. The rest of the members carried part of the load southwards.

Northwestern Wollaston Forland.

April 26th.—The work on Kuhn Ø and in Fligelys Fjord had now been completed, but it had taken longer time than planned. Now the work in the northern and western parts of Wollaston Forland was to be commenced. Since now only small quantities of provisions and kerosene were left, it was decided that EIGIL NIELSEN and a Greenlander were to travel over Kuppelpasset with the collections and then return with fresh provisions and fuel from the main depot in Young Sund. Owing to deep snow the journey across Lindemans Fjord proceeded very slowly, and only half load was carried. They camped near a small trapper's hut "Holmset Huset" west of Kap Schumacher, whereupon the sledges returned to Kuhn Ø in order to fetch the remaining provisions.



Fig. 244. Sledge in Lindemans Fjord.

After searching for a long time VISCHER and MAYNC found the small depot, completely covered with snow, which had been laid out in this place by motor-boat in August.

April 27th.—On account of snow the sledges did not start until the afternoon.

April 28th.—VISCHER climbed the mountain P. 658 over Kap Schumacher. From a point a little to the north of the peak Kuhn Ø was photographed and sketched; seen from this place the view of the island was very instructive (panorama No.1 on plate 5 in VISCHER 1940). Having made investigations towards the west, the party descended in a side valley to Sillerendal, which ended in Lindemans Fjord and from here headed towards the camp. MAYNC used the day to take a stratigraphic section through the yellow series (Callovian-Argovian) in a ravine and collected numerous fossils.

April 29th.—There was a fog and snow had fallen. VISCHER travelled with the Greenlander westwards in order to take food for the dogs to the next camping place and to make preliminary investigations. Strata with ammonites were found in the black series (Séquanian-Kimmeridgian) near the coast. Two musk-oxen were shot. VISCHER went on skis westwards into the big Sillerendal to 300 m above sea level and found to his surprise a conglomerate transgressing across Jurassic beds and composed of big rounded blocks and huge angular blocks of crystalline rocks, proving to be the basal conglomerate of the Valanginian. The boundary between the yellow and the black series was found in the interior of the valley.

April 30th.—The camp was removed 8 km to the west to the foot of the Niesen. The geologists visited the localities discovered the day before, and the Greenlander, owing to deep snow, had to travel twice.

May 1st.—Both geologists worked in the newly discovered section near Niesen (P. 686) and took a profile from the coast to the peak. A layer with ammonites was discovered at the base of the conglomeratic series of Valanginian beds (later by Dr. SPATH determined as Infra-valanginian). Evidence was procured that the Cretaceous ocean had transgressed across an uneven surface of the land. On the eastern side of the mountain there was an excellent skiing slope down to the camp.

May 2nd.—VISCHER walked 7 km southward on the western side of Sillerendal in order to study the Valanginian conglomerates and their superposition on the Jurassic clay shales. The alternation of conglomerates of varying grain size indicates an overlapping of several delta cones. From the eastern side of Niesen it could be seen that NIELSEN and the Greenlander had come back to "Holmset Huset". MAYNC had collected fossils in the vicinity of the camp.

May 3rd.—Towards noon NIELSEN and JACOB came with fresh provisions from the Young Sund depot, and the journey towards the west was continued. Near the coast the going was good.

May 4th.—Fog and snow.

May 5th.—During the night and in the morning stormy weather; in the afternoon abating wind so that VISCHER could make an ascent to the base of the basalt sill which was situated at an altitude of 700 m near the mountain P. 869. Here the Valanginian was studied. As the conglomerate here was much more fine-grained than near Niesen, this seemed to indicate deltas formed from the north. On the heights there was no wind and an agreeable temperature, while down in camp near the fjord there was a constant wind.

May 6th.—Foehn wind from the west. Temperature at zero. NIELSEN and a Greenlander travelled to the pass point in Lindemansdalen (P. 201) in order to examine the route for a possible return journey. VISCHER made the geological mapping north of the pass and studied the contact between sediments and crystalline rocks near the great fault which follows the foot of the high mountains west of the valley. Here conglomerates and breccias with Valanginian fossils were found, the large blocks of which indicate that they were deposited near a steep coast. MAYNC investigated the highland east of the mouth of Lindemansdalen. Here there was for the first time midnight sun; the temperature was 2° C. below zero.

May 7th.—The work in Lindemans Fjord was now completed, and it was considered to return to Young Sund across the pass but it appeared that this route did not bring anything new from a geological

point of view. It was determined, therefore, to go south through the Sillerendal between Hohgant (P. 658) and Niesen (P. 686). Having loaded collections and food for the dogs on to the sledge this became rather heavy. Camped 170 m above sea level (16° C. below zero).

May 8th.—VISCHEr and MAYNC made an excursion east of the pass to a hill which was formed by transitional beds between the yellow and the black series. Besides numerous other fossils MAYNC found a vertebra of a Saurian. The pass was therefore called Sauruspasset. It was seen that the district south of the pass consisted of a system of deeply eroded creeks which they gave the name of Kanyon valleys. VISCHEr at once went back in order to warn the sledges against travelling this way, as they had first to go southeast to proceed. Thereupon he went to the west of Sauruspasset in order to map the boundary between the black Jurassic series and the conglomerates of the Valanginian which could here be followed even at a great distance.—Snow melting had now commenced.

May 9th.—The sledges travelled over the pass towards the south and as agreed upon, they were to camp where Pasdalen and the Aucella-passet meet. MAYNC travelled with the sledges and made geological work on the way. He had now been able to ascertain the unconformity between the Cretaceous and the Jurassic. VISCHEr went eastwards from the pass across Storsletten to the edge of the mountain P. 420. In the meantime it became foggy and warm, but they succeeded in reaching the camping place agreed upon through the labyrinthine district traversed by valleys. In the evening the temperature was for a short time —7° C. with snowfall.

May 10th.—VISCHEr went into the valley towards Sauruspasset in order to study the Cretaceous transgression but had to return owing to fog. Near the camping place MAYNC discovered that the Valanginian conglomerate rests directly on the yellow series. The observations of the last few days showed that the Cretaceous transgresses over a pronounced relief and that the transgression surface cuts across the Jurassic series dipping west so that the black series completely disappears. At that time they had got a general survey of the Cretaceous and Jurassic strata in the northern Wollaston Forland, as pointed out by VISCHEr in 1942.—During the travel it became foggy and they lost their way in an unknown pass, whereupon they had to go back trying to find the *Cardioceras* pass.

May 11th.—The visibility was somewhat better. After having passed a locality in which there were great numbers of ammonites, they travelled through a valley which they guessed was in the vicinity of the *Cardioceras* pass. They succeeded in penetrating through a narrow canyon-like valley down into Kuhnpasset. It was now very difficult to go on skis, whereas the sledges managed better. On the top of the Kuhnpasset

(310 m) the weather cleared up and it suddenly became cold again (15° C. below zero). A small depot for the summer work was placed in the pass, and the party then travelled down to the main depot in Young Sund at a rapid rate. In the evening they arrived at Sandodden.

May 12th.—Spent the day here and not until the night to the thirteenth did they travel on. They covered the stretch across Henningelv in four hours to Elvsborg and in 3½ hours to Eskimonæs.

From May 13th to 19th they wrote reports on the collections, and in the night between the 14th and 15th EIGIL NIELSEN and HARDER JENSEN were taken to the Kap Stosch coast, where they were to remain until they could be fetched by motor-boat.

Second Sledge Journey to Northeastern Wollaston Forland.

So long as it was possible to proceed by dog sledge, VISCHER and MAYNC were to work in the most distant areas. This time Brorsons Halvø and Sabine Ø were to be investigated. Furthermore some small depots of food for the dogs were to be laid out in the interior of Wollaston Forland. Not later than June 1st the sledges had to be sent back to the station, as they would otherwise be cut off by the rivers. On this journey VISCHER and MAYNC were accompanied by two Greenlanders each with a sledge and 21 dogs in all.

May 20th.—Started at midnight. The cold was now severe again (18° C. below zero). Arrived at Sandodden via Elvsborg and Henningelv. In the afternoon the Greenlanders killed 5 seals.

May 21st.—In the evening the party travelled to the large depot in Young Sund and farther on to Kuppelpasset.

May 22nd.—A camp was built on Storsletten near the mouth of a valley issuing from the pass in the centre of eastern Wollaston Forland (Pasdalen). They then travelled into this valley with the sledges and laid out the depot near the pass leading to Dronning Augustadalen whereupon they returned to the camp.

May 23rd.—On the quite level plain 16 km from the nearest coast they found a young seal which had gone astray. After having laid out a small depot they camped near the basalt plateau on Brorsons Halvø. The 500 m high basalt plateau was ascended and they found the black Jurassic series (Séquanian-Kimmeridgian with ammonites) overlain by dark shaly clay from the uppermost lower Cretaceous. On the southern side of the plateau the snow melting was in full progress, but it commenced unusually late this year and luckily for the travellers the rivers carried practically no water.

May 24th.—While the Greenlanders tried to hunt seals, VISCHER and MAYNC continued their geological investigations on the western



Fig. 245. Fine going.

side of Brorsons Halvø. During the night they travelled on along the coast to the north, but now the snow did not freeze during the night so they only proceeded slowly.

May 25th.—A geological excursion was made to the western side of the northern plateau on the peninsula, whereupon they travelled on round Kap Berlin to the depot 3 km southeast of the depot which had been laid out by boat the previous year. The depot was only partially intact since it had been visited by a bear. Geese were seen for the first time flying north. In the evening they found fossiliferous Aptian overlain by basalt on the Kap Berlin plateau. A northerly wind with fog and frost suddenly sprang up.

May 26th.—One of the Greenlanders succeeded in shooting a seal.

The fog now covered only the highest mountain peaks. It was cold and the snow hard so that the party could easily travel into Claveringstrædet. Camped near Falskebugt, near the crystalline beds, at the Falkebjerg. —For the first time it was possible to camp on dry field. An excursion was made to Falkebjerg where Valanginian was found in coast facies deposited on the crystalline beds.

May 27th.—During the night and in the forenoon there was a strong northerly wind and the mountains were concealed by fog. The party travelled to the large depot near Falskebugt which had, however, to be dug out of the snow and be distributed into smaller depots. At first a depot was laid out at the mouth of Gaasedal, then one west of Hühnerbjerg.

May 28th.—The northerly wind and the fog continued. The Greenlanders succeeded in killing 3 seals.

May 29th.—At last fine weather (6° C. below zero). Travelled across Claveringstrædet and ascended Kronebjerg on Sabine Ø (544 m). One of the Greenlanders was the first to find fossils (ammonites from Aptian). The Tertiary strata with plant fossils near the top of the mountain proved to be a disappointment, as the fossils were poor. VISCHER then travelled with one of the Greenlanders to the western foot of Harebjerg and ascended to the lowermost beds of the basalt sill (350 m) and thereupon travelled to Falskebugt.

May 30th.—Travelled from Falskebugt to Albrechts Bugt. The snow was soft and they only proceeded slowly. In the southwestern part of Brorsons Halvø there were good sections showing the boundary between the Jurassic and the Cretaceous beds. There was Kimmeridgian rich in fossils and Valanginian with many fossils and ammonites. The Valanginian was here, as everywhere in the vicinity of Albrechts Bugt, of deep red and yellow colours. Camped south of Albrechts Bugt near one of the small depots. For the first time the party could use water from a river for boiling.

May 31st.—Now the time had come when the Greenlanders had to return with the dog sledges. The two geologists were now to travel through Wollaston Forland on skis and therefore kept only a light summer equipment, consisting of a light tent, sleeping bags of down, reindeer skin as underlayer, guns, cooking utensils of aluminium, and some provisions. The principal nutrition was to be provided from depots or hunting of small game. At a trapper's hut called "Slette Huset" they took leave of the Greenlanders.

Investigation of Wollaston Forland.

On Skis in the Snow Melting Period.

VISCHER and MAYNC had planned, by means of depots laid out previously, to make a geological investigation of that part of Wollaston Forland which was situated east of the large depression "Storsletten" and south of the depression "Sumpdalen". The investigation was carried through on skis with a light equipment.

June 1st.—From Albrechts Bugt an excursion was made southwards through landscapes with intensively red and yellow coloured beds belonging to the Valanginian. The ridge here got the name "Rødryggen" and owing to the strongly coloured strata the geological mapping was easy to carry through.

June 2nd.—With heavy rucksacks they walked along the border of the big plain Sumpdalen towards the southeast to a depot right between Albrechts Bugt and Falskebugt. Fossils were collected on the way and in the evening photographs were taken and a panorama of Brorsons Halvø was drawn.

June 3rd.—Climbed an isolated mountain peak about 700 m called "Gyldenspids", west of Murbjerg in the mountain range between Sumpdalen and Dronning Augustadalen. The lowermost part of the mountain consisted of dark shales of the Lower Cretaceous, but the peak proper was formed of Tertiary sandstone and clay shales which were rich in plant remains, notably impressions of leaves. From the mountain peak VISCHER proceeded to the districts south of Albrechts Bugt, and since the snow melting was now in full progress and soil affected by solifluction was found in several places, it was very difficult to proceed. Camped in the vicinity of Gyldenspids.

June 4th.—Northerly wind with fog. Walked by means of the compass 7 km towards the southeast to a depot near the western foot of Hühnerbjerg. In the afternoon VISCHER discovered crystalline beds near Hühnerbjerg overlain by a breccia full of fossils (brachiopods). It was a coastal formation belonging to the Valanginian. During the Valanginian time the crystalline nucleus of Hühnerbjerg probably formed an island with steep coastal cliffs.—Thereupon an ascent of Hühnerbjerg was tried in order to get up over the fog. This was possible to an altitude of about 500 m, but owing to the fog filling the valleys this place was not suitable for geological mapping.

June 6th.—The fog which had been embarrassing the last two days now at last disappeared. They first walked northwards to Falskebugt, thereupon round Hühnerbjerg and finally camped near a depot at the mouth of Gaasedal. The snow which was frozen made walking easy. Provisions were procured by hunting ptarmigans.

June 7th.—In the forenoon fog, later clear. VISCHER climbed Hühnerbjerg on skis over the small Kar glacier east of P. 630. The peak proper consisted of plateau basalt resting on crystalline rocks. On the top there was a big cairn presumably deriving from the Koldewey Expedition in 1869—70. The mountain answered to its name since there were many ptarmigans (Hühner). Having made geological mapping from the peak, VISCHER walked southwards on skis over the firn areas down towards Gaasedal. The descent was easy. Another Tertiary locality was discovered. MAYNC made investigations in the Lower Cretaceous in the vicinity of the camp.

June 8th.—Again low fog over the country, it seemed to be very characteristic of this part of the coast. Through Gaasedal they walked over a 200 m high plateau between Claveringstrædet and Dronning Augustadalen to the south. Did not succeed in reaching the valley proper, had to camp before.

June 9th.—In the afternoon the fog lay so low that they could thread the way above it across the plateau to Dronning Augustadalen. As the fog was still covering the lowland, they had to walk with heavy rucksacks over soft snow, through moving soil and large areas with large boulders. Camped down in the valley near a big lake of thaw water near which there were many ducks and geese. From this place they tried to find the depot in Flakkebugt which depot had been laid out by the motor-boat near the shore with great difficulty in August last. After having searched for a long time it was found at last, but it had been damaged by the heavy surf last autumn. A few tins were still usable, but kerosene, sugar and coffee had disappeared. A little later a Norwegian trapper's hut was found in the fog, whereupon they went back to the tent after having killed a hare. During the night it became quite clear.

June 10th.—A fine warm spring day. A few flowers had now come out. In the dark basalt on the back of the north side of the valley MAYNC found a locality of Tertiary sandstones completely imbedded in basalt. VISCHER made geological mapping to the south round the pass between Dronning Augustadalen and Haredal. The mapping was difficult here, there being a great amount of débris along the rock sides and large areas of moving soil.

June 11th.—In the forenoon VISCHER passed with some hesitation the dry river bed in Dronning Augustadalen at the foot of a large snow drift which had dammed up the water into a lake. Here a Tertiary locality imbedded in the basalt was studied, and in the afternoon investigations were made of the not very thick Tertiary deposits near the lowermost beds of the overthrust basalt in Clark Bjerg. MAYNC studied the Lower Cretaceous and Tertiary north of this mountain. In Flakke-

bugt two Polar bears were seen. Towards the evening the water from the dammed-up lake had broken through the snow drift and thereby the connection to the north had been interrupted. As they had foreseen that this would happen a camp had been arranged with sufficient provisions south of the river.

June 12th.—They took a walk into Dronning Augustadalen. Walked on skis through a rather rapid tributary river. Were greatly embarrassed by thaw water. About 5 km from the mouth of the valley a volcano-like ring wall about 50 m in diameter appeared. As this ring wall consisted of morainic material, there was no possibility of any volcanic activity. The “crater” resembled the previously investigated “crater” in Tobias Dal on Hold with Hope. How these ring walls are formed has not yet been cleared up. They camped about 12.5 km from the mouth of the valley. Fog again drifted into the valley.

June 13th.—Early in the morning a foehn gale suddenly arose which, however, immediately drove away the fog. It was seen that the surroundings did not bring anything new. The Lower Cretaceous was underlain by basalt everywhere. They therefore travelled on through the valley to the pass, which from Dronning Augustadalen leads to Storsletten at an altitude of about 300 m, where a small depot had been laid out by sledge.

June 14th.—There was fog on the mountain peaks. VISCHER walked in the direction of Storsletten in order to follow the Jurassic-Cretaceous boundary to the north. After a long walk he finally reached the peak about 300 m high at the south end of Rødryggen. The ridge was exclusively built up of strongly coloured red and yellow Valanginian strata and pierced by basalt dykes. It proved that the strata wedged out to the east, the uppermost Lower Cretaceous resting directly on the Jurassic. On this day both VISCHER and MAYNC, independently of each other, again discovered that the Cretaceous transgressed over a pronounced relief. In the Valanginian there had in these districts been islands. In the course of the uppermost Lower Cretaceous larger and larger areas became submerged and covered by thick beds of sediments. MAYNC spent the day in studying Séquanian-Kimmeridgian and Aptian-Albian at the foot of Hammeren.

June 15th.—Fine weather. VISCHER went on skis over the pass to Blæsedalen. After having for a long period of time seen only the monotonous dark basalts of the Jurassic and Cretaceous, a ridge of Caledonian crystalline rocks overlain by Permian dolomite and *Productus* limestone was suddenly discovered. The pass was therefore called Permpasset. MAYNC ascended Hammeren (992 m).

June 16th.—While MAYNC made stratigraphical investigations in Permpasset, VISCHER climbed Naalene. At an altitude of 600 m the

skis were deposited whereupon he climbed on to the peak (1142 m). A small cairn was built and a report deposited there.

June 17th.—Foehn gale with a temperature of 10°. The geological mapping of eastern Wollaston Forland had now in the main been completed. A route was chosen to Sandodden through the districts which were least known geologically, viz. the pass P. 220 west of Løgtoppene. The coast from “Herschell Huset” over Kap Borlase Warren to Haredal was to be investigated later on. The river flowing down from the Permpasset was traversed with some difficulty. During the ascent to the pass P. 220 geological mapping was made. Camped at the highest point of the pass.

June 18th.—There was a strong gale blowing during the night, and it began to snow in the morning. Through a creek they came down into the broad Grænsedalen, and had for the first time to carry the skis over large stretches free of snow. Hitherto they had been much favoured by the unusually late snow melting. After passing some gneiss hills they reached the Danish hunting station Sandodden, at which 3 trappers stayed.

June 19th to 20th.—After the last days' hardships the two geologists stayed here. Already the day after their arrival a Greenlander came by sledge from Eskimonæs with a wire from the leader of the expedition in which the latest plans which would concern the members of the expedition were outlined.

June 21st.—VISCHEr made an excursion on foot into Grænsedalen. This valley was formed by a large fault between crystalline rocks towards the west and a deeply down-thrust area in the east built up of Lower Cretaceous beds and basalt. Along the fault Permian with dolomites and brachiopod limestones were found. In the following days MAYNC investigated the Permian. The Greenlanders returned on skis to Eskimonæs on June 25th, carrying with them wires and a short report on the work.

June 22nd.—A northerly gale commenced to blow with snow and rain and it continued till June 27th, for which reason the geologists had to stay for such a long time at the trapper's hut.

Summer Work in Young Sund.

Investigation of Western Wollaston Forland and the Northeastern Corner of Clavering Ø.

VISCHEr and MAYNC camped near the coast in Young Sund in order to explore these districts.

June 27th.—At last after 5 days' gale it cleared. There was already open water between Kap Berghaus and Kap Breusing. One of the trap-

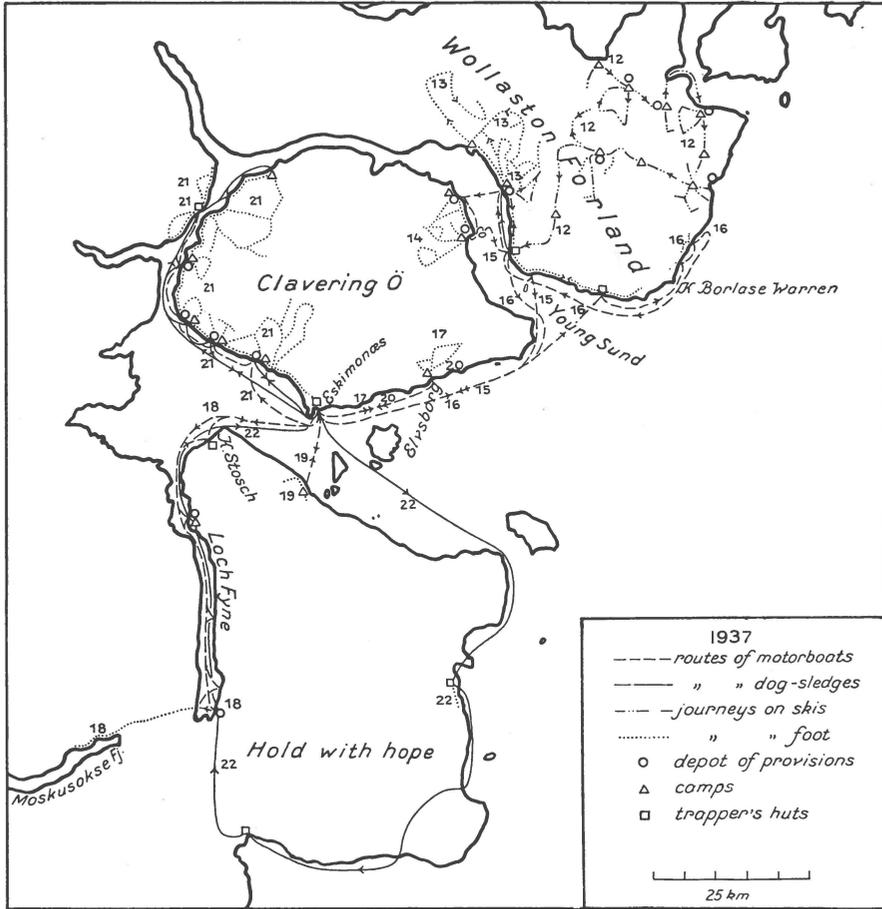


Fig. 246. VISCHER'S and MAYNC'S travels in 1937.

pers took the two geologists to the large depot on the coast between Isdal and Brachiopoddal. The slopes down to Young Sund were now nearly free of ice so that most of the excursions could be made on foot.

June 28th.—MAYNC found work for several days in the immediate vicinity of the large depot. Particularly good Permian localities which had been treated by H. FREBOLD in several works were found here. As other views on the Permian stratigraphy and tectonics had been arrived at since FREBOLD'S investigations, a great revising work had to be done. VISCHER had to take long walks from the main camp in order to carry through the geological mapping. Thus his first excursion took 15 hours and carried him up to a basalt peak P.657 which was later called the Stratumbjerget owing to its interesting stratigraphic conditions. The way back went over the summit of Kuppelpasset (P.450) where a small depot had been laid out during the sledge journeys.

June 29th.—From here VISCHER went across a flat mountain ridge to Brachiopoddal. The weather now became foggy again, but in the evening short excursions were made into Brachiopoddal and Sandstensdal.

June 30th.—A northerly gale suddenly arose, which in the course of the night tore the big tent of the camp to pieces, for which reason the party had to move into a smaller one. Part of the equipment was destroyed by water. The weather had not been particularly good in June. In the first half there was much fog, in the latter half one gale succeeded the other.

July 1st.—The gale and the rain ceased, but there was still fog among the mountains, and the rest of them were covered with snow. The day was used to investigate the interesting sections in the immediate vicinity of the camp. Small excursions were made into Isdal and northwards to Cardiocerasdal. On the slopes round the camp about 50 musk-oxen were seen.

July 2nd.—There was still fog among the rocks. Despite the bad weather VISCHER carried the light summer tent, a Primus stove and some provisions to the small peninsula north of Young Sund in order to later investigate the Kuhnpasset and Lindemansdalen from this place. On his way back he made geological mapping at a height of 300 m on the slope of Cardiocerasbjerg.—MAYNC worked in Sandstensdal.

July 3rd.—The fog had now lowered to a height of 150 m and did not allow any excursions. Worked in Cardiocerasdal.

July 4th.—Clearing weather. VISCHER and MAYNC together made an ascent towards the southern point of the peak of the Cardiocerasbjerg, but later on the fog again lowered on the peak. Interesting alternation of facies could, however, be ascertained in the Valanginian. East of the basalt bed VISCHER found the deeply red-coloured strata rich in fossils as in Albrechts Bugt. A little to the west MAYNC met with conglomeratic strata of the Valanginian, as in Lindemans Fjord. VISCHER went up through Cardiocerasdal, and even at a great distance he could distinguish an angular unconformity between Jurassic and Cretaceous strata. These conditions were more closely investigated. The bad weather with damp cold of the last few days made writing and drawing nearly as unpleasant as in winter.

July 5th.—The sun shone through a thin mist, for which reason the party believed that it would be possible to get above the fog. It proved, however, to be futile, all excursions had to be given up.

July 6th.—At length a day with fine weather. VISCHER made up his mind to make a big excursion round Cardiocerasbjerg and took with him, therefore, sleeping bag, provisions, and cooking utensils. He walked across the Stratumbjerget (P. 657) and kept in the open east of the Cardiocerasbjerg.

July 7th.—Here Valanginian was found in different facies, e. g. conglomerates with conglomeratic boulders as large as houses. The Cretaceous was lying on either side of the fault at different series of the Jurassic. It appeared from this that the fault had arisen already before the deposition of the Cretaceous beds and later on moved again. After these investigations had been made VISCHER went to Kuhnpasset and walked down to the peninsula, where a few days ago a tent and provisions had been deposited. VISCHER here found a letter from MAYNC, in which he wrote that during the last two days he had visited the southwestern slope of the Stratumbjerget, the Cardiocerasbjerg and Aucellabjerg, principally to follow the Valanginian strata. Although conditions were not ideal, the transitions between the different facies were clearly seen. MAYNC had returned to the main camp.

July 8th.—VISCHER went over the large plain east of Zackenberg in order to enter Lindemansdalen. East of Dombjerg he walked towards Palnatokes Bjerg across a remarkable area of boulder formation belonging to the Valanginian. Boulders of crystalline rocks as high as houses were packed densely on each other. It was the débris from a high steep rock wall which had presumably been formed by a pre-Cretaceous fault. Under the basalt a locality with Tertiary strata was found. Thereupon the slopes of the Palnatokes Bjerg, the Aucellapasset and the Aucellabjerg were examined. Here the Valanginian formed huge clayey limestone strata. The Tertiary layers could constantly be followed eastwards below the basalt.

July 9th.—The march was continued during the night to Kuhnpasset, where the strata were particularly well developed. VISCHER climbed towards the southeastern ridge of the Aucellabjerg and discovered strata of Aptian rich in fossils, the best ones which had hitherto been found. Whole beds of bivalves and particularly well preserved ammonites were found. Early in the morning he returned to the camp on the peninsula after 18 hours' march. After a rest of a few hours he returned to the main camp near Brachiopoddal and learned through a letter that MAYNC had terminated his work here after having arranged his collections and on July 8th, early in the morning returned to Sandodden.

July 10th.—VISCHER's work was, however, not yet finished. Round Kuppelpasset and north hereof a great geological mapping work had to be done. While the slopes down towards Young Sund were now in a complete summer stage, the passes and big valleys in the interior of the country were still filled with snow, for which reason VISCHER took skis with him. He reached over Kuppelpasset to the Engpasset (P. 450), where the skis were deposited. Then he went northwards in among the hills west of Storsletten. To the south these hills consisted completely

of Lower Cretaceous clay shales to the north of the black Jurassic clay and between them there was a red band of Valanginian. He went back to Kuppelpasset and up a small valley between Kuplen and P. 703, visiting several small Permian localities. He climbed the mountain P. 366 twice, which on account of interesting tectonic conditions was called Tektonbjerget.

July 11th.—About midnight a panorama of Clavering Ø and Kuplen was sketched and photographed from the top of Tektonbjerget. After 16 hours he again returned to the camp. In the afternoon he made a four hours' excursion in order to examine the basal conglomerate of the Valanginian resting on the Jurassic in Skiferdal. Then he climbed Stratumbjerget to an altitude of 400 m, where the Valanginian strata showed a transition to the uppermost Lower Cretaceous. In the evening he packed the rock samples and the tent and in the night to July 12th, he went on skis along the shore to Sandodden. On the way he mapped some isolated localities of Permian and Jurassic rocks south of Isdal. Three trappers stayed at the Sandodden, a Greenlander from Eskimonæs, the Norwegian captain SCHJELDERUP and the French count MICARD. Captain SCHJELDERUP collected walrus fat in barrels and the dogs got the meat. VISCHER had hoped to be able to walk across the ice of Young Sund to Clavering Ø, but this proved to be too dangerous, for which reason he had to stay on the shore.

July 13th.—VISCHER availed himself of the opportunity to make geological mapping round Kap Borlase Warren. With some difficulty he got over the rivers from Grænsedalen and Blæsedalen and settled for the time being in the Herschell house, which was vacant. The whole coast round this house, the house proper and the numerous Eskimo house ruins and tent rings on this coast were influenced by the strong surf last autumn. VISCHER tried to reach Haredal, but had to return owing to a strong northerly gale. The geological conditions were very uniform.

July 14th.—VISCHER returned to "Sandodden".

July 15th to 25th.—The geologists had to stay at "Sandodden". The time was used for writing reports.

July 17th.—Open water was observed in the interior of Young Sund.

July 20th.—The ice went adrift off the shore.

July 21st.—MAYNC walked still another time to Kuhnpasset in order to find the localities rich in fossils discovered by VISCHER.

July 23rd.—He was fetched by two trappers with a boat which could be rowed along the coast.

July 25th.—An excursion was made by boat to Kap Berghaus in order to fetch food for the dogs, and just before midnight JENSEN, the telegrapher, and a Greenlander came by the motor-boat "Buldog" from Eskimonæs.

Exploration of the Northeastern Corner of Clavering Ø.

July 26th.—Since they could not let the motor-boat lie at the “Sandodden” owing to the drift ice, the party had to start at once. At first they fetched the remains of the large depot near Brachiopoddal and laid out another big depot at the mouth of Dolomitdal on Clavering Ø. Thereupon they travelled to the mouth of Djævlekløften, where a depot was also landed and where the two geologists settled in the small trapper’s hut situated there. JENSEN then went back to “Sandodden” by the motor-boat with two Greenlanders and the dogs on board; he had a difficult journey back, as the boat was exposed to a strong pressure by the ice between Dødemandsbugten and Eskimonæs. Most of the dogs ran ashore over the ice floes. One of them perished on that occasion. They succeeded, however, in getting the boat home in good condition.

After having crossed the river in Djævlekløften VISCHER and MAYNC in the afternoon commenced an ascent, but on that occasion VISCHER had the misfortune to sprain his foot. Soon afterwards a Norwegian ship was sighted, and as they believed that she would touch near the camp, the mountain trip was interrupted and they went back. The ship, however, disappeared in the fog.

July 27th.—On account of his sprained foot VISCHER had to keep quiet. MAYNC climbed the rocks south of Djævlekløften and in the clay shales, which belonged to the Aptian, found large Permian boulders, which shows that the large fault along the central zone of Clavering Ø also in the Aptian formed a steep cliff.

July 28th.—Both the geologists made an excursion in common to the hills formerly examined by SÄVE-SÖDERBERGH and NOE-NYGAARD called “Første Hvide” and “Anden Hvide”. The examination showed that the hill “Første Hvide” did not consist of Cretaceous beds, which had hitherto been supposed, but of the yellow series (Callovian-Argovian). In a small valley between the two white hills extremely interesting conditions were found to occur. Aptian was deposited on a steep slope consisting of Jurassic strata. At the bottom of the depression even some Valanginian was found. The hill “Anden Hvide” consisted of crystalline and Permian rocks. The reconstruction of the conditions showed that subsequent to a pre-Cretaceous fracture a relief arose by erosion upon which the Cretaceous was later deposited. Upon this a basalt plateau was deposited which owing to its peculiar shape owing to weathering was called “Trolldmarkerne”.

July 29th.—VISCHER now made a big excursion in the northern part of Forposten (1303 m). Here huge beds of dolomite and brachiopod limestone were found which belonged to the Permian. At a distance he

saw the ship "Quest" which called at "Sandodden". In the evening there was a fog with light snowfall.

July 30th.—There had been heavy rain during the night but it cleared in the morning. The last ice on the fjord had now disappeared. VISCHER started in the afternoon in order to utilise the favourable light during the night for photographing in the direction of Forposten. Unfortunately the sky became overcast and it began to snow and rain. He continued, however, to the Koralbjerget and went back over "Troldmarkerne". The constant absence of the sun much impeded the work. It must be an abnormally bad summer. MAYNC visited the high-lying Permian localities near the mountain P.1238 between Djævlekløften and Dolomitdal. He there found Permian limestone with a large number of corals, for which reason the mountain was called "Koralbjerget".

July 31st.—Storm, rain and fog. Stayed in the hut.

Aug. 1st.—At last fine weather. Walked along the steep rock wall northwards to the mouth of Dolomitdal, where a camp was built. VISCHER went into Dolomitdal and especially directed his attention towards the conditions in the so-called contact ravine, where a pre-Cretaceous fault and pre-Cretaceous erosion were particularly distinct. That day he succeeded in mapping the whole Dolomitdal. On the other side of the sound in the vicinity of Zackenberg a Norwegian ship was seen, presumably the "Polarbjørnen". MAYNC measured a section of the steep coast 300 m high which consisted exclusively of the yellow series. The Jurassic strata here contained a few Permian boulders.

Aug. 2nd.—MAYNC went into the Dolomitdal and VISCHER up the steep coast cliff to "Troldmarkerne". Sections were drawn and photographed in the midnight light.

Aug. 3rd.—The day was used for drawing and photographing of a great panorama of Wollaston Forland from the camp near Dolomitdal (see VISCHER 1942 pl. 5). Thereby the work in Greenland was in the main regarded as completed. A few small revisions could be made from the motor-boat, but now the two geologists waited for the motor-boat to take them to Eskimonæs. At Zackenberg two ships could be seen, viz. the "Polarbjørnen" with a Norwegian expedition and the "Vesle Kari" with an American expedition.

Aug. 4th and 5th.—Waited for the motor-boat.

Aug. 6th.—In order to utilise the waiting time VISCHER by midnight went up to Troldmarkerne at an altitude of 660 m in order to draw and with his last films to photograph the panorama over the Forposten (VISCHER 1942, pl. 5). In the meantime JENSEN, the telegrapher, and a Greenlander had arrived by the motor-boat. The depots in Brachiopoddal and Dolomitdal were used up, and the party left

the coast. On the north side of Basaltø they made a short landing in order to study the Aptian profiles. At "Sandodden" some goods were taken onboard. At Kap Berghaus some walrus meat was taken onboard for the dogs. At Kap Mary there was a heavy sea and the heavily loaded boat and the just as heavily loaded jolly boat had for some time to lie on the lee-side of an ice floe. But at last after a long voyage they reached Eskimonæs on August 7th. The two geologists had been absent from the station for three months in all.

The Late Summer of 1937.

Aug. 8th—22nd.—Stayed at the station, engaged in making a fair copy of the geological map. Wireless messages were received almost daily from the "Gustav Holm" which kept the two geologists in constant anxiety since it looked more and more as if the "Gustav Holm" on account of the difficult ice conditions would not reach Eskimonæs.

Aug. 22nd.—VISCHER and HARDER JENSEN went by the motor-boat to the Herschell coast in order to make the final geological mapping of the area round Kap Borlase Warren.

Aug. 23rd.—After having worked for a short time along the coast up towards Haredal, they had to return to Kap Borlase Warren owing to a beginning northerly gale. On the Herschell coast it was completely calm but towards Blæsedalen there was a strong gale. After having fetched a small collection at "Sandodden" they continued in spite of the gale past Kap Mary and on August 24th, returned to Eskimonæs. As on the Herschell coast it was absolutely calm during the northerly gale westwards from Dødemandsbugten.

From Aug. 26th to 28th VISCHER made a small trip by the motor boat to the Malmqvists and Söderberghs Plateaus and climbed the Rundetaarn.

Aug. 28th.—A wire was received at Eskimonæs stating that the "Gustav Holm" was unable to go north on account of the ice but that there was a possibility of reaching the ship travelling by motor boat into Loch Fyne, from here on foot to Moskusoksefjord, whence the motor boat from the station on Ella Ø might take the geologists to Antarcics Havn, from which place they were to continue with horses down to Gurreholm and here go onboard the ship.

Aug. 29th.—While they were making preparations for this journey a message was received from the "Gustav Holm" to the effect that the ship now could not go to Gurreholm either, for which reason the geologists staying at Eskimonæs and Ella Ø had to spend another winter there. Although they were of course disappointed, they at once began to make plans for the coming year. The leader of the expedition

asked VISCHER and MAYNC to continue the geological work southwards to Hold with Hope and the eastern part of Gauss Halvø. As the motor boat from Ella Ø had already started, it was resolved to travel into Loch Fyne, so VISCHER, HARDER JENSEN, and the two Greenlanders started by the motor boat in the afternoon. They took the opportunity of laying out a large depot in the interior of Loch Fyne for the coming spring journeys.

Aug. 30th.—While JACOB was left back with the motor boat, the others walked over land to Moskusoksefjord and in the evening met the motor boat from Ella Ø near the Anker valley. After having made different agreements they walked back and on September 1st dropped anchor near the hunting station “Krogenæs” at Kap Stosch and the next day reached Eskimonæs.

In the days from September 3rd to 10th a plan was prepared for the coming year. VISCHER was going to use the month of September for mapping the western part of Clavering Ø, which principally consists of continental Carboniferous. As the supply of coal at Eskimonæs was not particularly large, a quantity of coal which had been taken over from the trappers at “Sandodden”, had to be fetched by motor boat and a quantity of pit-props from the deserted mine in Granatdal.

Sept. 11th.—VISCHER and EIGIL NIELSEN were taken to Blaaelv near the Kap Stosch coast by motor boat.

Sept. 12th.—In order that VISCHER might be well prepared for the work in Giesecke Bjerger next year NIELSEN, who is a specialist of Permian and Triassic stratigraphy, here demonstrated the stratigraphical conditions before VISCHER in the following days. During this journey they met two trappers and an English ornithologist who with a motor boat had been enclosed by pack ice between Finsch Øer and Kap James. In order to drag the boat across the ice the upper part of it had been sawn off and the motor taken out. In spite of this it proved impossible to row to Home Forland and they now tried to row along the coast down into Loch Fyne in order to reach Myggbukta. The three shipwrecked men were taken to Eskimonæs. The weather was now bad for several days and not until September 18th, could MAYNC, who had for some days collected Permian fossils near Elvsborg, be fetched. The three men from Myggbukta were then sailed to the head of Loch Fyne.

VISCHER's Autumn Work in the Western Part of Clavering Ø.

The aim of the work here was a geological mapping of the western part of Clavering Ø and the east coast of Payers Land. VISCHER generally travelled alone.

Sept. 19th.—HARDER JENSEN and a Greenlander took VISCHER by

motor boat to the Norwegian hunting station "Revet". The young snow in the vicinity had for the greater part been blown away or formed hard drifts. On the way four depots were laid out, two at small trapper's huts, and the remaining two were provided with tents and winter sleeping bags.

Sept. 20th.—The Norwegian trapper at "Revet" took VISCHER over the narrow strip of water in a row boat, and VISCHER made an excursion on P.900 south of the delta in order to measure a stratigraphic section of the Carboniferous.

Sept. 21st.—A section was measured to P.397 up through the valley with the Eigils Elv.

Sept. 22nd.—Travelled along the coast of Payers Land to Kap Ehrenberg, where Namurian arkose and a great fault were found. The travel back was made over land.

Sept. 23rd.—Ascended the Theodolitplateau (700 m). Mapping.

Sept. 24th.—In the forenoon VISCHER collected Carboniferous plant fossils near Moskusheim. In the afternoon along the coast southwards to the mouth of Grantafjord. Travelled back over land.

Sept. 25th.—Proceeded along the west coast of Clavinger Ø to the first depot near Copelands Fjord. Camped here. Incipient formation of ice on the fjord.

Sept. 26th.—Measured a stratigraphical section from Tørelv to P.900. Ascended the isolated basalt peak Dunken (1000 m). At the base of the basalt Tertiary strata were discovered containing basalt fragments, tuffs and siliceous tree trunks.

Sept. 27th.—Travelled along the coast to Kap Oetker. Took quarters in a small trapper's hut.

Sept. 28th.—Ascended to the western corner of Hallebjergene above Kap Oetker (about 1100 m). A section was measured through Carboniferous and Tertiary strata near the lowermost beds of the basalt.

Sept. 29th.—After a long period of fine weather with warm sunshine in the day it was now stormy and foggy. Stayed in the hut.

Sept. 30th.—The gale continued. As the hut was far from being tight VISCHER went to the little hut in Granatdal and arrived there without difficulty, and decided to continue another ten kilometres to Eskimonæs. During the last part of the excursion the going was very bad and he did not reach there until late in the night.

Oct. 1st to 3rd.—Stayed at Eskimonæs waiting for the gale to cease.

Oct. 4th.—Returned to the trapper's hut at the mouth of Granatdal.

Oct. 5th.—He went up to an altitude of 400 m in foggy weather and back on the western slope of the valley. Geological mapping was impossible owing to the fog.

Oct. 6th.—VISCHER went to the glacier in the interior of Granatdal and to the pass which east of Bramsens Bjerg leads to Eigils Elv. From here he went into the Vildbækdalen and finally up on to the plateau at a height of 700 m in the eastern part of Hallebjergene.

Oct. 7th.—Ascended the Rustplateau. From here to the basalt peak (1162 m—Vestmars Bjerg). Went for a long walk round this peak and visited the glacier to the east.

Oct. 8th.—Went along the coast to a depot between Granatdal and Kap Oetker. Arranged a camp here.

Oct. 9th to 11th.—From this camp detailed stratigraphic sections were measured daily in the Hallebjergene from the coast to the lowermost beds of the basalt, which is situated 900 m above sea level. The strata consisted of continental Carboniferous with layers of plants, and uppermost there were thin Tertiary beds. Regularly every afternoon there came a wind from the west which impeded the work, more particularly as sand-drift arose, the strata being formed by sandstone.

Oct. 12th.—Ascended to 600 m in the pass between the peaks (1176 m and 1196 m) in order to make geological mapping here.

Oct. 13th.—Ascended to the plateau in the eastern part of the Hallebjergene (700 m). Then returned to Eskimonæs across the now solid smooth young ice along the coast. Of the mapping of the western part of Clavering Ø now only the northern part near Tyrolerfjord was left.

Oct. 14th to 21st.—VISCHER and MAYNC prepared a report each of 100 words which were wired to Copenhagen. This telegraphic report was prepared for publication by Dr. C. E. WEGMANN and appeared together with more detailed reports by H. STAUBER and H. P. SCHAUB in *Medd. om Grønland* (Vol. 114, No. 1, Copenhagen 1938). These two reports had the following titles: "Tektonik der postdevonischen Formationen der Clavering Insel und des Wollaston Forlandes" and "Stratigraphie der postdevonischen Ablagerungen der Clavering Insel und des Wollaston Vorlandes". As EIGIL NIELSEN was to travel to Scoresbysund in the near future with the only Greenlander who stayed at the station, HARDER JENSEN had to prepare himself to accompany VISCHER on a sledge journey into Tyrolerfjord.

Oct. 22nd.—VISCHER and HARDER JENSEN started with a sledge and 8 dogs on fine ice to Revet.

Oct. 23rd.—They continued to the mouth of Louises Elv in Tyrolerfjord after having shot a musk-ox on the way.

Oct. 24th.—VISCHER ascended the Theodolitplateau (700 m) in order to complete the geological mapping. Sketches were made from here and some large fault ravines were studied.

Oct. 25th.—VISCHER measured a section of the coast cliff from Louises Elv to Rudis Bugt. They spent the night at Revet.

Oct. 26th.—Returned to Eskimonæs.

Oct. 28th.—VISCHER fetched the last depot west of Granatdal by dog sledge, and thereby the geological work in the western part of Clavering Ø was considered as finished.

In order to fill out gaps in the geological map "Jernhatten" and the slope between Rustplateau and Østtinden (1282 m) were ascended in the summer of 1938, on June 15th and 29th, respectively.

Winter 1937—38.

At the station Eskimonæs wintered, besides VISCHER and MAYNC, N. O. JENSEN, telegrapher, HARDER JENSEN, and two Greenlanders, one from Angmagssalik; he came up with the sledges from the south on Nov. 19th, carrying with him the mail and other necessary things.

During the wintering the original map of the Geodetic Institute was drawn on a larger scale, viz. from 1:333,000 to 1:100,000, a work which took long time. Besides small hunting excursions were made.

The winter of 1937/38 was very unsettled. At the end of December 1937 much snow fell. In January 1938 two periods of severe cold occurred with ensuing advance of warm air and strong gales. In the night between January 17th and 18th, 51° C. below zero were registered, but already on the 21st, there was a barometer minimum of 720 mm and 15° below zero, and later on even a temperature of 4° below zero was registered at Eskimonæs. Almost simultaneously the barometer registered a remarkably low minimum on the Faroes (—715 mm), and there were strong magnetic gales for several days, so that all telegraphing by radio was impossible. February and March were cold, but in contrast to the previous winter the numerous gales had the advantage that excellent going with hard snow was found everywhere.

Winter Travelling in 1938.

Before the geological mapping of Hold with Hope was commenced on the eastern Gauss Halvø in the spring some smaller travels were, however, made to complete the mapping of the area between 74° and 75° N. lat.

The winter and spring travels were not undertaken by the two geologists in common, only during the investigation of the Gauss Halvø were they together. The results gained were, however, compared and discussed.

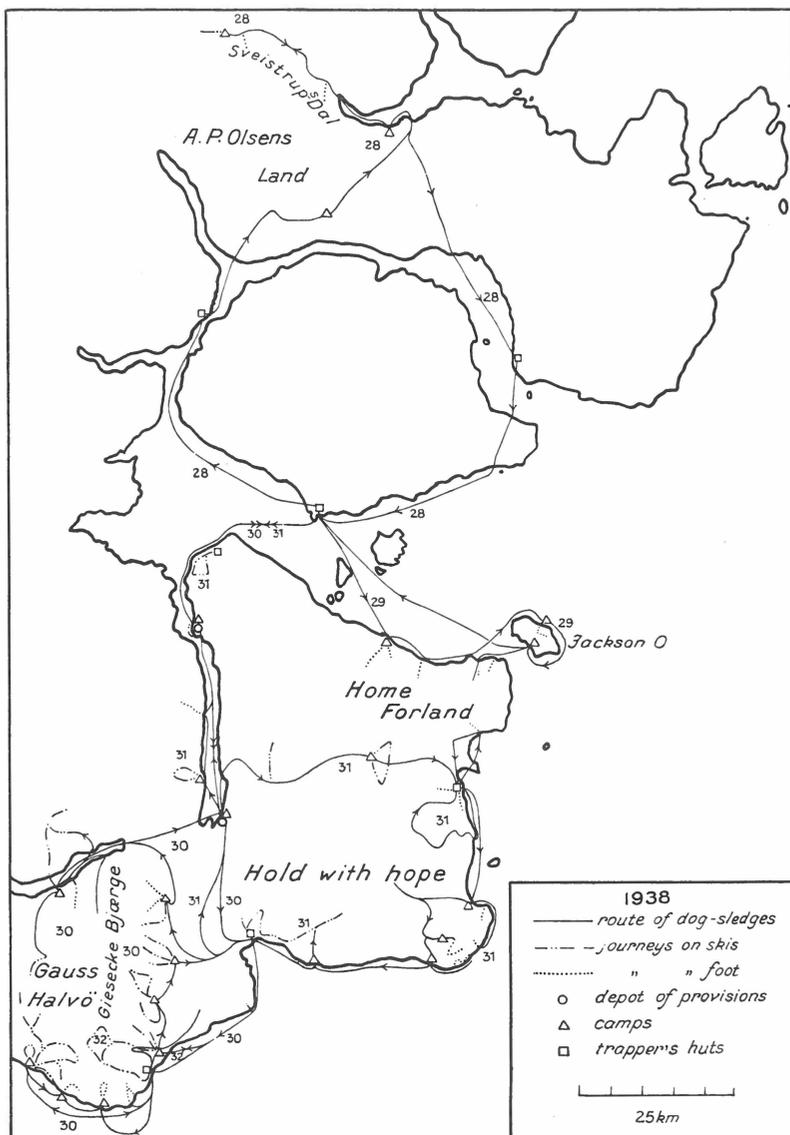


Fig. 247. VISCHER'S journeys in the winter and spring of 1938.

MAYNC'S Journey to the Pendulum Øer.

Febr. 21st to March 14th.

During the journey the collections deposited in western Wollaston Forland in June 1937 had first and foremost to be fetched. In addition the geological mapping of the Pendulum Øer had to be completed. MAYNC was accompanied by a Greenlander with a sledge and 9 dogs.

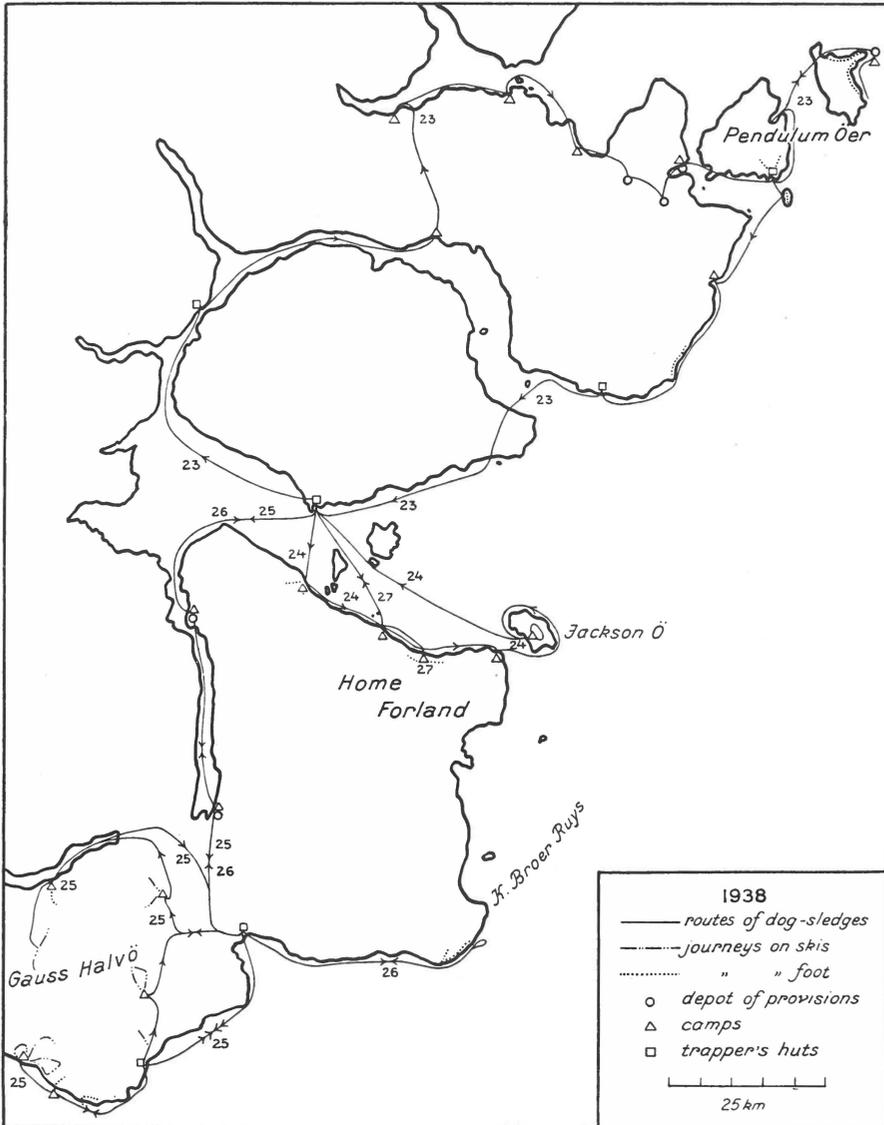


Fig. 248. MAIRNC'S sledge journeys in the winter and spring of 1938.

The journey started on February 21st, across Revet through Tyrolerfjord to the foot of Zackenberg. From here they proceeded on February 24th, through Lindemansdalen and Lindemans Fjord. On the way the block formation in the Valanginian was studied. On account of the gale they reached with some difficulty the trapper's hut at Kap Schumacher. Here they had to wait for several days before they could continue across Albrechts Bugt through Sumpdalen to Falskebugt. In

Sumpdalen a very important depot with Tertiary plant fossils from the top of the rock "Gyldenspids" had been cached. This depot could not be found now. Another depot from Hühnerbjerg and a third one from the mouth of Gaasedal were fetched. They then continued to Germania Havn and from here sections in Harebjerg (579 m) and Germania Bjerg (302 m) were measured. Found strata partly from the uppermost Lower Cretaceous and partly from the Tertiary overlain by basalt. The journey was continued through Pendulumstrædet to Hansa Bugt and north of Lille Pendulum to Bass Rock. Here also Lower Cretaceous, Tertiary, and basalt were found. Of special importance was the discovery of Tertiary with marine fossils and fragments of basalt on the northern side of Lille Pendulum. Hitherto only continental Tertiary was known from these districts, and fragments of basalt in Tertiary were hitherto only known from Dunken in the western part of Clavering Ø.

From Bass Rock the investigation was continued along the western and northern sides of Lille Pendulum. An attempt was made to reach Shannon, but owing to a gale this plan had to be abandoned. The land-ice extended from Shannon to Bass Rock, and thence from the southern point of Lille Pendulum to Hvalrosø and along the outer coast of Wollaston Forland to Jackson Ø. Outside this ice edge there were considerable areas of open water.

The return journey took place through Pendulumstrædet to Hvalrosø across Flakkebugt and along the coast to Kap Borlase Warren, where Tertiary plants were collected, and finally on March 14th they got over Henningelv to Eskimonæs.

VISCHER'S Journey through A. P. Olsens Land into Sveistrups Dal.

March 10th to 19th.

West of the sediment areas on Wollaston Forland and Kuhn Ø mapped the year before large areas of crystalline rocks extended right in to the inland ice, called A. P. Olsens Land and Th. Thomsens Land separated by the large Sveistrups Dal.

As it must be supposed that post-Devonian faults with a similar course as in the sediment areas were to be found in these purely crystalline areas, VISCHER made a travel into these districts which had never before been visited by man. VISCHER was accompanied by the two Greenlanders each with a sledge and 12 and 11 dogs respectively.

March 10th.—Travelled from Eskimonæs to Revet.

March 11th.—Went through Rudis Bugt to Kap Giesecke and from there through the so-called Giesecke Dal, across the pass (360 m above sea level), and through Store Sødal where they camped.

March 12th.—Across the broad Slettedalen to the trapper's hut in Lindemans Fjord. The route through Giesecke Dal, Store Sødal and Slettedalen proved to be an excellent travelling route, at any rate when the snow was hard.

March 13th.—Strong gale.

March 14th.—Penetrated 23 km into Sveistrups Dal, where they camped. The valley was nearly free of snow.

March 15th.—VISCHEr ascended a peak 600 m high in fine weather and ascertained a great fault line, which was later called "Postdevonische Hauptverwerfung".

March 16th.—VISCHEr went up to 320 m in order to study an amphibolite complex and collect some samples. Then they travelled back to Lindemans Fjord and found a great fault extending through Odins Dal to the bend of Grandjeans Fjord. The fault appeared with a mylonite zone and a fault breccia in the crystalline complex. Spent the night in the Lindeman hut.

March 17th.—Travelled through Lindemansdalen to Young Sund and further on to Sandodden. On the way huge crystalline boulders were studied in the Valanginian from a steep slope formed by a Late Jurassic fault.

March 18th.—Day of rest at "Sandodden".

March 19th.—Returned to Eskimonæs.

Sledge Journey in the Spring of 1938.

The two geologists travelled, each by himself, accompanied by a Greenlander with a sledge. VISCHEr had 11 dogs, MAYNC 9.

1. Travel to Home Foreland and Jackson Ø.

March 20th.—MAYNC went to the Kap Stosch coast, where he spent the night in the hut "Ørnereden".

March 21st.—The slope of the Stensiös Plateau was examined. Continued eastwards to Kap James.

March 23rd.—VISCHEr travelled among the Finsch Øer to the trapper's hut at the mouth of Rødelv. The tectonic conditions at Stendysse Bjerg and Dieners Bjerg were studied up to an altitude of 230 m.

March 24th.—VISCHEr made investigations at an altitude of 550 m on Dieners Bjerg. They continued eastwards and at River 25 made an ascent to an altitude of 260 m for geological mapping. Travelled to Kap James and the Jackson Ø. The ice edge extended from Kap Mary to the eastern point of Jackson Ø. Near the ice edge a swell was traceable.

March 26th.—VISCHEr measured a section on the northeast coast

to a height of 200 m. The temperature was 23° C. below zero, and the work was difficult on account of the nearness of the open water and some wind. A little to the south he met MAYNC, who was on his way back, and all four now travelled round the island in order to map it. They spent the night in the trapper's hut on the island.

March 27th.—MAYNC worked in the vicinity of the hut. VISCHER went to Kap James and from here to the west. At first he measured a section to an altitude of 260 m. He then travelled into a valley 9 km west of Kap James and measured a section up to a height of 300 m. Then he returned to Jackson Ø, and next day, on March 28th, they all went back to Eskimonæs.

2. Investigation of Eastern Gauss Halvø.

April 1st.—VISCHER travelled to Strømmen in Loch Fyne after having investigated the coast from Kap Stosch to this place.

April 2nd.—Then they travelled to the head of Loch Fyne, where a large depot was cached. MAYNC and JAKOB travelled to Strømmen.

April 3rd.—VISCHER went to Myggbukta with a large depot. MAYNC and JAKOB to the head of Loch Fyne.

April 4th.—VISCHER made an excursion into the valley called "Wood Valley" and back across the plateau. MAYNC arrived at Myggbukta.

April 5th.—All four travelled together to the Franklin hut a little north of Kap Franklin. The geologists made preliminary investigations.

April 6th.—Warm spring weather. Travelled to Kap Franklin, where NATHORST's cairn was visited. Geological examinations were made along the coast, and in the evening they camped in a small hut at the mouth of Margrethedal.

April 7th.—The Greenlanders travelled via Kap Humboldt to Ella Ø, where several things were to be fetched which had been carried there by sledges from Scoresbysund. VISCHER and MAYNC went up through the Koralkløft on the western plateau and here studied Permian and Triassic beds and the tectonic conditions near a great fault. While in this spring the snow had everywhere been blown hard, there was in the vicinity round Margrethedal deep soft snow which highly impeded the geological work.

April 8th.—VISCHER worked near the coast east of the valley mouth. MAYNC worked near the western plateau.

April 9th.—VISCHER took a long walk into the great side valley (Inderdalen) which to the north leads across Gästisdal. From here he walked up on to the so-called plain to 660 m above sea level. Lowermost in the valley red Devonian beds were found. MAYNC worked at the mouth of the valley.

April 10th.—Ascended across the slopes of the east plateau, which, however, was not reached owing to fog and beginning snowfall.

April 11th.—A fine clear day. VISCHER and MAYNC together climbed the plateau (about 600 m). VISCHER went 300 m down the south side, then again back and continued by a circuitous route into the valley north of the plateau where he found good Permian profiles.

April 12th.—Small excursions in the vicinity. The Greenlanders returned from Ella Ø.

April 13th.—Had to remain in camp on account of a gale. Later on the Greenlanders travelled with the provisions determined for Eskimonæs to Myggbukta.

April 14th.—The gale continued.

April 15th.—The weather was not good, but VISCHER again started into the Inderdalen to the pass which leads to Gästisdal. Returned after 11½ hours.

April 16th.—In the afternoon the gale ceased at last. VISCHER remained near the camp. MAYNC went out in order to collect fossils near the eastern plateau. The Greenlanders returned from Myggbukta.

April 17th.—Travelled eastwards, but already 5 km east of Margrethedal the geological conditions were so interesting that they camped. While the geologists worked till late in the evening, the Greenlanders fetched the depot of food for the dogs which had been laid out near Kap Franklin.

April 18th.—MAYNC travelled to the Franklin hut. VISCHER made geological mapping along the coast to a large ravine 5 km west of Kap Franklin, where he camped. In the evening he climbed 900 m up the Franklin mountain.

April 19th.—Fog and heavy snowfall. As there was not more food for the dogs, VISCHER had to go to the Franklin hut. MAYNC had gone to Myggbukta.

April 20th.—The gale abated during the night. The going was good again and the weather fine, and VISCHER availed himself of the opportunity to make an excursion into the first of the valleys north of Kap Franklin, the so-called Vilddalen. There was not much food for the dogs left now.

April 21st.—The mountain peaks were covered by fog. An excursion was made into Randbøldalen, the other of the two big valleys in the Giesecke Bjerge. They then travelled eastwards and near Kap Bennet an old musk-ox was killed.

April 22nd.—VISCHER on skis ascended the southeastern corner of Huitfeldts Bjerg.

April 23rd.—VISCHER travelled by sledge to Kap Franklin and some kilometres out on to the sea ice to the southwest in order to get

a view of the coast cliffs near Kap Franklin. Thereupon an excursion was made into the country about 7 km west of the cape and from here back to the Franklin hut, where they met MAYNC.

April 24th.—It snowed and the temperature was -8° C.

April 25th.—VISCHER ascended the mountain (840 m) from Kap Franklin. The ascent was difficult as skis could not be used, and there was deep newly fallen snow.

April 26th.—Dense fog.

April 27th.—The weather was still bad. However, as they had to proceed, they camped at an altitude of 140 m at the entrance of Folddalen.

April 28th.—Fine weather. VISCHER and MAYNC went on skis into Folddalen, ascended Suhms Bjerg (1250 m) and from there went into the valley between the main peak P.1250 and the plateau in front of P.818, where the geological conditions were especially interesting.

April 29th.—Fog and light snowfall. VISCHER climbed Svannings Bjerg to a height of 700 m. MAYNC studied the Permian in the small side valley which was discovered the day before.

April 30th.—VISCHER travelled by GUSTAV's sledge into the third valley in the Giesecke Bjerge and from here over a huge conglomerate consisting of enormous boulders. In the evening the camp from Folddalen was removed to the plain between the 5th and the 6th valley. The 5th valley was called Gustavs Dal and the 6th Jakobs Dal after the Greenlanders. MAYNC had gone to Myggbukta with one of the Greenlanders.

May 1st.—VISCHER went into Gustavs Dal and from the plateau in front of P.818 climbed the 5th Giesecke mountain.

May 2nd.—VISCHER ascended the 6th Giesecke mountain, then returned to the camp, at which MAYNC had arrived and thereupon on skis ascended the back of the 6th mountain to an altitude of more than 600 m, whence he had a good view of the 5th and 6th valleys. (The vicinity round Troels-Lunds Bjerg). The equipment of the geologists was now rather damaged. In order to avoid a journey to Eskimonæs before the investigation of the eastern Gauss Halvø had been finished, VISCHER decided to go to Myggbukta and from here wire to Eskimonæs. Unfortunately, it was impossible to establish a wireless communication with Eskimonæs, since JENSEN had left for Hochstetters Forland. VISCHER borrowed several things from the Norwegians. There was now midnight sun.

May 3rd.—In the afternoon VISCHER went back to the Giesecke Bjerge, where he found MAYNC's track and followed this up across the 8th valley. MAYNC had camped in a pass at the southeast foot of Ladderbjerg and here had examined the Permian.

May 4th.—VISCHER and MAYNC together made an excursion up the slopes of Ladderbjerg (1161 m) and here found Permian with the basal conglomerate and Eotriassic beds. One of the Greenlanders travelled with VISCHER's collections to the head of Loch Fyne. The other Greenlander fetched food for the dogs from a depot south of the camp.

May 5th.—VISCHER at first went south to the foot of the mountain Skarven and climbed to an altitude of 900 m. MAYNC made stratigraphical investigations in the vicinity of the camp.

May 6th.—Thereby the investigation of the Giesecke Bjerge had been finished for the present. A revision made during a more favourable season, was, however, desirable. The whole party travelled round Ladderbjerg into Moskusoksefjord and camped at the northern foot of La Cours Bjerg.

May 7th.—VISCHER climbed a basalt peak 960 m high east of La Cours Bjerg for geological mapping. MAYNC examined the slopes of La Cours Bjerg. The first seal on the ice was killed.

May 8th.—While MAYNC went into Prospektal north of the fjord, VISCHER travelled by sledge 8 hours into Gästisdal and into a side valley to the east up to an altitude of 300 m. Thereupon on skis over a glacier to a height of 980 m, where he found Permian which with a basal conglomerate transgressed over crystalline, Devonian, and Carboniferous beds. The Permian strata were followed southwards round the Agassiz Bjerg to a point where the whole hindmost part of Gästisdal could be seen and mapped.

May 9th.—VISCHER made an excursion by sledge round Ankerbjerg and then into Ankerdalen on skis. Here he ascended a mountain 400 m high north of the valley at the foot of Salèvebjerg. Through Prospektal they travelled back to Moskusoksefjord where two seals were killed. MAYNC examined the Permian locality in Gästisdal.

May 10th.—VISCHER went with a Greenlander into the long Ulvedal, where huge lavas, scoriae, and volcanic breccias were found.

May 11th.—The investigation of the eastern part of Gauss Halvø had now been temporarily finished. Travelled into Badlanddal and here they parted company, since Hold with Hope, consisting for the greater part of eruptives, gave less work to MAYNC than to VISCHER. MAYNC went for the present to Myggbukta, while VISCHER returned to Eskimonæs in order to make preparations for a longer journey into the interior of the country.

May 13th.—VISCHER arrived at Eskimonæs. Communication was established with LAUGE KOCH's expedition vessel which lay in King's Bay, Spitsbergen, provided with a large seaplane for the exploration of the interior of Peary Land. VISCHER prepared a brief report, which was wired to the leader of the expedition and to his question whether it

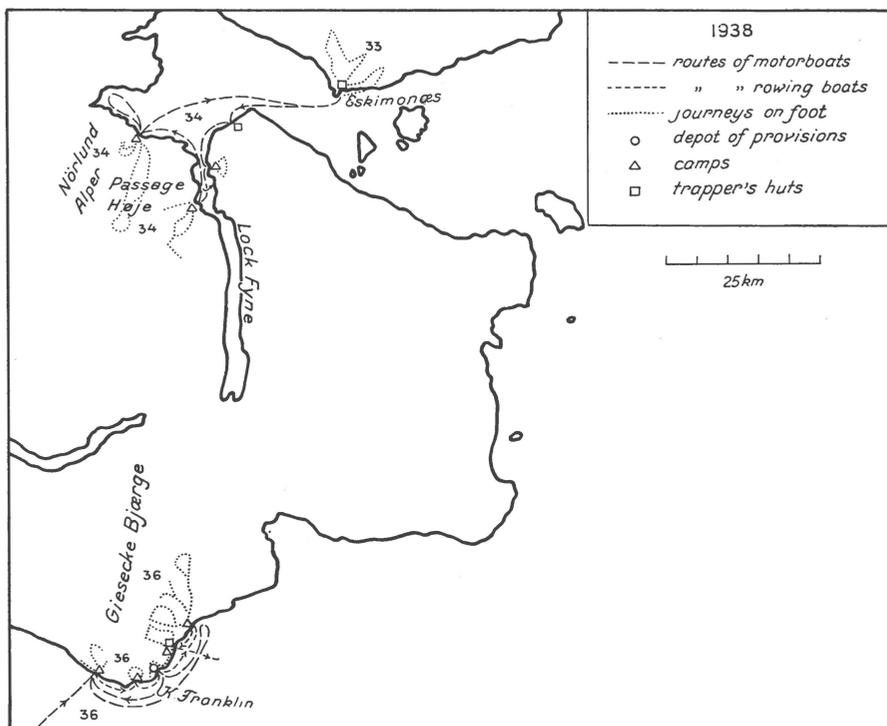


Fig. 249. VISCHER'S travels in the summer of 1938.

would be possible in the summer to make a revision at Kap Franklin and in Giesecke Bjærg VISCHER got the answer that there might be good prospects of such an investigation as a seaplane would follow with the ship of the expedition in the summer and that measures would be taken for this investigation to be made.

VISCHER'S Journey to Hold with Hope.

May 15th.—Shortly before midnight VISCHER and a Greenlander left for Kap Stosch. In order to lighten the sledge only summer equipment had been taken. Thus they carried a light summer tent and sleeping bags of down. In the course of the day they succeeded in reaching the trapper's hut at the head of Loch Fyne.

May 16th.—The weather being foggy, they decided to procure food for the dogs; as the seal hunting failed, an old musk-ox was shot.

May 17th.—Travelled up to the pass which led to Tobias Dal. From here VISCHER made an excursion to the basalt mountain P.1265 to the north.

May 18th.—Travelled during the night through Tobias Dal. On

the way VISCHER examined one of the mysterious crater-like formations (cf. VISCHER 1942 p. 22). Camped in Tobias Dal off the big side valley through which EIGIL NIELSEN and VISCHER in March 1937 travelled down into Tobias Dal from Gulelv. Excursions were made from the camp.

May 19th.—Travelled during the night through Tobias Dal and examined again one of the remarkable ring walls consisting of Quaternary formations. Camped at the trapper's hut "Knudshoved". At this time there were often fogs, which, however, sometimes disappeared in the afternoon. VISCHER examined the coast cliffs with deposits from the Upper Cretaceous and climbed the basalt plateau behind the house (276 m).

May 20th.—Travelled northwards to Carlshavn, where VISCHER went inland up Tobias Dal and back across the delta, which was already turning into a swamp on account of the snow melting.

May 21st.—Travelled by sledge along the coast cliffs to "Knudshoved", found at first Upper Cretaceous, which later on appeared to rest unconformably on Lower Cretaceous beds. Continued to the mouth of a river 10 km south of "Knudshoved", up the bed of which they travelled to an altitude of 130 m. Here a few sediment localities were found. They then travelled back to "Knudshoved" across the plain called "Østersletten", which is entirely made up of Quaternary rocks.

May 22nd.—Travelled along the coast southwards to the bay west of Kap Broer Ruys.

May 23rd.—During the last few days there had been a fog over the mountain peaks. Now the fog had lowered somewhat and they travelled in deep snow to Kap Broer Ruys proper, where, despite the fog, a small ascent was made. Here Tertiary conglomerate was found between Cretaceous and the overlying basalt. Then they continued along the coast southwards. The route was difficult, since they had to pass heavy ice hummocks along the coast. About 200 m from the coast there was open water, on which a number of natatorial birds occurred, and now and then a walrus appeared. Investigations of the acid postbasaltic eruptive rocks along the coast cliffs were made. The party continued to the old Danish hunting station which was still found there in the summer of 1936. Now the house is lying in ruins. At an altitude of 100 m a signpost with the inscription "For Sverdrup" erected by NATHORST in 1898 was found in the vicinity. It referred to a depot which NATHORST had laid out on Hvalrosø. They then returned to Kap Broer Ruys, and as the weather had become fine, VISCHER climbed a small mountain (205 m).

May 24th.—Travelled on the river bed of Glommen 12 km westward to map the Cretaceous, which was exposed in a few places. The

outlook from a hill showed that Østersletten did not offer any chance of finding denuded sediment strata. The party therefore returned again in the direction of the pass in the western part of the Broer Ruys group. Camped at a small lake. The dogs had now been without food for two days.

May 25th.—A fine day. Climbed Vardefjeld (P. 798), whence detailed profiles were measured. Lower Cretaceous and a Tertiary quartzitic conglomerate were found, which were both penetrated by and partly metamorphosed by young acid eruptives. Overlying beds of basalt. There was a fine view from the peak partly of the land, partly of the sea. The edge of the fast ice ran in a straight line from Jackson Ø to Kap Broer Ruys and onwards to Bontekoe Ø. The Greenlander killed a musk-ox.

May 26th.—Again a foggy day. The planned ascent of the mountain P. 752 therefore had to be given up. Travelled southwards down to the coast and followed this—sometimes through hummocky ice—out to the ruin of the Danish house. The coast was mapped and several small ascents were made. The party then went back to the coast west of the rock where they camped near an old Eskimo tent ring.

May 27th.—Travelled along the south coast to a point 9 km east of Myggbukta.

May 28th.—Went by sledge 5 km inland to a height of 140 m at the foot of a basalt mountain. The Greenlander went back. Broke up the camp and continued to Myggbukta. VISCHER climbed a peak P. 1071 in Taagefjeldene in order to study basalt formations and continued in a western bend down to Myggbukta.

May 29th.—Thereby the journeys in the interior of Hold with Hope had been finished and the time came when the sledge journeys had to cease.

The last few days had brought cold weather and the snow generally had been hard. VISCHER hoped to spend still a few days on Giesecke Bjerge where there were various gaps in the mapping.

May 30th.—VISCHER and the Greenlander with a very light equipment travelled past Kap Bennet towards Kap Franklin. They camped near Huitfeldts Bjerg after having tried to penetrate into Randbøldalen with dog sledge. This had, however, to be given up, since there was much thaw water in the valley. VISCHER then went on skis on the eastern side of the Huitfeldts Bjerg to an altitude of 500 m and on foot further on to a height of 870 m. During the night he made an attempt to penetrate into the valley, but snow melting and fog prevented his going.

May 31st.—In the afternoon VISCHER succeeded in penetrating into the big Randbøldalen on skis and made an ascent to Firkanten and the pass which leads to Margrethedal. Here he mapped the Devonian beds with eruptives, Permian, Triassic, basalt sills and traps. Then an

ascent of Saxos Bjerg (1050 m) was made and towards midnight he went down through the valley north of this mountain.

June 1st.—During the night various examinations were made in the valley, but rapid rivers preventing large excursions very soon formed.

June 2nd.—Travelled back to Myggbukta, and in the afternoon an excursion was made near the station. It was very warm and impossible to travel northwards.

June 3rd.—Next day the weather was colder and a last excursion was made from Myggbukta. The wading birds had now arrived and there were several flowers. Started in the evening.

June 4th.—They lost their way in the fog into the Badlanddal and got out into a swamp and lost time in order to get round it. Later they met frozen snow. Arrived at Loch Fyne, where they camped at the southeast foot of Nordhoeks Bjerg. In the evening VISCHER walked up on the slope of this mountain to the basalt plateau (643 m) in order to study the contact between the basalt and the crystalline beds.

June 5th.—Still another excursion was made at the slope of Nordhoeks Bjerg. Subsequently they continued up towards "Strømmen". They succeeded with some difficulty in getting over the eastern river which was not completely free of its snow cover. VISCHER made various geological observations along the coast, whereupon he took quarters in a small trapper's hut.

June 6th.—Travelled to the trapper's hut "Krognæs" near Kap Stosch, and VISCHER made a big excursion in order to map the districts southwest of this cape. The country here was nearly completely free of snow and the ice in the inner part of Godthaabs Golf was now for the greater part covered with thaw water.

June 7th.—Travelled to Eskimonæs, and thereby the sledge journeys of the spring were finished.

MAYNC's Travel to Hold with Hope.

No report has been given of the individual day journeys, but the journey is known in its broad features.

After having arrived, on May 12th, to Myggbukta a journey was made along the south coast to Kap Broer Ruys. This stretch was, however, not very interesting to MAYNC since it showed principally eruptives. Only in a few places did sediments occur. Owing to the find of *Inoceramus* the strata could be determined as uppermost Lower Cretaceous. These strata were overlain by a conglomerate, presumably of Tertiary age.

MAYNC travelled across Myggbukta through Loch Fyne to Eskimonæs where he arrived on May 20th.

June 2nd.—MAYNC started with a Greenlander and a sledge to

Home Forland in order to visit Tobias Dal and "Knudshoved". He stayed for some days on the north coast of Home Forland and ascertained that the sediments there consisted of uppermost Lower Cretaceous and not of Upper Cretaceous, as had been supposed by previous authors. Owing to snow melting MAYNC returned to Eskimonæs on June 8th. On this day brief reports from VISCHER and MAYNC were wired to the leader of the expedition in Copenhagen.

The Summer of 1938.

1. The Time until the Breaking up of the Ice.

In this spring the geologists spent the snow melting period at the station Eskimonæs. While the inner fjords generally have fine weather with sunshine in the snow melting period, the outer coast generally has 3 or 4 days of fog for every fine day. The time was used for making fair copies of the geological maps, drawing of profiles, and collation of the results gained. During the preparation of the geological maps there proved to be a gap in the mapping in an adjacent area, and VISCHER therefore went across the sea ice to the trapper's hut "Brevik" about 5 km east of Eskimonæs and climbed "Jernhatten" (900 m).

June 29th.—VISCHER made a 14 hours' excursion from Eskimonæs northwards to the Rustplateau. Then at an altitude of about 900 m towards the southeast to the eastern peak (1282 m) in order to map some few relict-like localities of Carboniferous rocks and basalt overlying the crystalline rocks in the central part of Clavering Ø. The snow melting was waited for with impatience. At first open water formed only at the river mouths. Then a fissure formed across the entire fjord from Eskimonæs to Lille Finsch Ø.

July 6th.—This fissure broadened and then the ice melted rapidly.

July 11th.—Nearly the whole of Godthaabs Golf was free of ice.

2. Passagehøje and Nørlunds Alper (Hudson Land).

In order to round off the geological mapping VISCHER resolved to make a journey to the northeastern part of Hudson Land to make a short revision there of the previous geological mapping made by G. SÄVE-SÖDERBERGH, and towards the west and south to personally examine the geological mapping done by H. BÜTLER.

Not until July 19th, did he succeed in getting the small boat with the Penta outboard motor into the water and VISCHER and HARDER JENSEN then started. Owing to contrary wind they had to go ashore on the coast halfway between Kap Stosch and Strømmen and from here VISCHER made an excursion inland.

July 20th.—Camped on the western shore of Strømmen and from here VISCHER made a long excursion into the valley of Suselv between Nordhoeks Bjerg and Passagehøje.

July 21st.—The excursion was prolonged during the night to an altitude of 760 m in Passagehøje, and the plan was to reach Grænseskammen, but this had to be given up owing to fog.

July 22nd.—During the night they travelled by boat to a trapper's hut at the foot of Toretinde in Nørlunds Alper, and in the afternoon VISCHER walked between Flexurebjerg and Nørlunds Alper over a pass at an altitude of 900 m leading to Stordal in the interior of Hudson Land. On this excursion there was good opportunity to study the great fault between Nørlunds Alper and the Carboniferous of the Passagehøje. In order to get a good light for the photographing VISCHER had to wait a long time up in the pass.

July 23rd.—The mapping was continued after midnight and the return route was laid over Flexurebjerg (800 m), and after the lapse of 18 hours VISCHER returned to the hut.

July 24th.—Shortly after midnight VISCHER started in order to climb Toretinde (1700 m) in Nørlunds Alper. Crystalline rocks were collected and from the top there was an unusually splendid view over Nørlunds Alper and over the Wordies Gl. A report was left on the top. During the night a journey was made by the boat towards Wordies Gl. and then they headed for Eskimonæs where they arrived on July 25th.

3. Arrival of the Ship.

In the early morning of July 20th the expedition vessel "Godthaab" reached the mouth of Moskusoksefjord and in the evening the seaplane of the expedition fetched MAYNC and took him to the "Godthaab". The next day VISCHER was fetched and on August 2nd, the ship dropped anchor at the station on Ella Ø.

4. Summer Work.

At the beginning of August MAYNC had an opportunity together with the geologists W. BIERATHER and M. ANDERSSON who had found Permian beds south of Kong Oscars Fjord to examine these Permian localities and compare them with the northern ones. An especially good profile was obtained in the Permian 770 m above sea level near Mesters Vig. Later on the "Godthaab" visited Eskimonæs, where the collections were taken on board. At the beginning of the month HARDER JENSEN had fetched the collections from the spring journeys deposited in Loch Fyne by motor boat.

VISCHER'S summer work at Kap Franklin.

As VISCHER was of the opinion that it was necessary to undertake a revision of the geological mapping in the vicinity round Kap Franklin and the Giesecke Bjerge he was put ashore by motor boat from Ella Ø on the coast east of Kap Franklin accompanied by the assistants JOHAN STEGLICH-PETERSEN and NIELS KORST. In order to constantly be informed of the ice situation the camp was provided with a radio transmitting station. The motor boat started on August 5th, but on account of fog it did not reach Kap Franklin until the 6th. In the course of the forenoon an easterly gale arose. The plan was to lay out a depot 10 km north of Kap Franklin, but owing to the gale the depot had to be placed only 2 km north of the cape. VISCHER succeeded with difficulty in landing at the camp, whereupon the motor boat at once returned, having a very rough crossing over Kejser Franz Josephs Fjord.

Aug. 7th.—All three members made an excursion above the western ridge of the Franklin mountain to a height of 860 m.

Aug. 8th.—Sections were measured in the vicinity of Kap Franklin and Devonian eruptive minerals were collected.

Aug. 9th.—Only short excursions were made owing to the easterly gale which prevented voyage along the coast by a row boat which had been placed at the disposal of the camp.

Aug. 10th.—The wind had now shifted to the west and an excursion was made to a point a few kilometres west of Kap Franklin. As the geological conditions were highly interesting here, it was decided to remove the camp to this place.

Aug. 11th.—Removal of the camp.

Aug. 12th.—VISCHER went into the middle of Randbøldalen and here climbed Huitfeldts Bjerg to P.1170 and P.1197. After a 13 hours' walk he returned to the camp.

Aug. 13th.—Rain and fog.

Aug. 14th.—Despite continuous rain VISCHER went into Sindalen and ascended the plateau 800 m high near Svannings Bjerg. The geological conditions were intricate, but he obtained good results. After the lapse of 14 hours he returned to the camp.

Aug. 15th.—Fine weather. Excursion into Sindalen and to the foot of Huitfeldts Bjerg in order to collect eruptive rocks. Large collections were brought home by the assistants.

Aug. 16th.—Low fog. VISCHER went with compass to the entrance of Randbøldalen and then ascended to an altitude of 400 m near Huitfeldts Bjerg. The fog only reached to an altitude of 200 m. Here Devonian sediments and eruptives were studied.

Aug. 17th.—VISCHER and one of the assistants went in light fog

across Vestersletten to the mouth of Folddalen and walked to an altitude of 650 m near Holbergs Fjeld. This place was completely free of fog. Here they ascertained Caledonian crystalline beds which had been thrust across a Palæozoic conglomerate. By the find of an ammonite it could be demonstrated that the sediments near Holbergs Fjeld belonged to the Eotrias.

Aug. 18th.—The camp was removed to a small trapper's hut 6 km north of Kap Franklin.

Aug. 19th.—Fog. The collections at the depot 2 km north of Kap Franklin were fetched by a row boat.

Aug. 20th.—VISCER and the two assistants went into Randbøldalen and from here through a steep creek up to Saxos Bjerg (P.1050). From this place Huitfeldts Bjerg was photographed and sketches drawn. It was ascertained that there was much drift ice in Foster Bugt.

Aug. 21st.—The seaplane tried to land near the camp but it was impossible on account of the ice. An excursion was made by the row boat to a little north of Kap Franklin. A message was received stating that the "Godthaab" would be at the camp next morning.

Aug. 22nd.—Not until the evening did the ship appear, as she had been delayed near Kap Broer Ruys on account of strong pack-ice. The camp was taken on board and the ship continued into Kejser Franz Josephs Fjord. There was close-packed drift-ice round Kap Franklin.

Aug. 23rd.—Arrived at Ella Ø.

5. Flights of the Geologists over their Working Areas.

Already on August 23rd H. STAUBER made a long flight over Jameson Land. Now it was VISCER's turn to make a planned flight along the great fault line up to Ardencaple Fjord.

Aug. 25th.—The weather was fairly good and they started, but on arrival at Margrethedal the entire Gauss Halvø proved to be covered with clouds. A few flights were made in the vicinity of Kap Franklin in order that VISCER might photograph some special geological localities here. After 1½ hours' flight he returned to Ella Ø. To the south the weather seemed to be better, and in the afternoon W. BIERTHER took a flight over Scoresby Land.

Aug. 26th.—In the course of the night a foehn wind with clear weather had arisen, and in the forenoon VISCER started for the second time to the north. Owing to the foehn wind the visibility was extremely good. Flew in a nearly straight line from Margrethedal over Gauss Halvø along the eastern side of Nørlunds Alper over A. P. Olsens Land to Grandjeans Fjord and from here to the interior of Ardencaple Fjord. In the valleys of A. P. Olsens Land and Th. Thomsens Land the great

fault was seen very distinctly. Also north of Grandjeans Fjord could it be followed, and at the north coast of the interior of Ardencape Fjord it continued into a flexure. The aeroplane continued out through Ardencape Fjord where observations were made of the great fault at the foot of Barths Bjerger; they then flew through Fligelys Fjord and across Wollaston Forland and the Cardioceras pass. Then the great complicated fault lines on the eastern side of Clavering Ø were followed and they landed near Eskimonæs after a flight of 3 hours and 10 minutes. After a stay for a couple of hours they started again and passing Kap Stosch they entered Loch Fyne, where there were very good possibilities towards the west to photograph certain fault lines. Along the eastern slope of Giesecke Bjerger the last photographs were taken and the seaplane then continued to Ella Ø. The aggregate flying time had been 4½ hours and more than 700 km had been covered which had been of the greatest use to get a survey of the working field.

Aug. 28th.—The geologists A. MITTELHOLZER and BACHMANN were flown from Moskusoksefjord to Eskimonæs, where they were to winter.

Aug. 29th.—MAYNC flew from the mouth of Moskusoksefjord along the eastern slope of Giesecke Bjerger where there was a specially good light for photographing, and over Kap Franklin to Ella Ø.

Aug. 29th.—The ship left Ella Ø.

Aug. 30th.—One of the Greenlanders, who had accompanied VISCHER on most of his sledge journeys, was flown to Scoresbysund.

Aug. 31st.—Early in the morning the ship reached open water off the mouth of Davy Sund.
