MEDDELELSER OM GRØNLAND

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UDGIVNE AF

KOMMISSIONEN FOR
LEDELSEN AF DE GEOLOGISKE OG GEOGRAFISKE
UNDERSØGELSER I GRØNLAND

BIND LII

MED 8 TAVLER

KØBENHAVN
I KOMMISSION HOS C. A. REITZEL
BIANCO LUNOS BOGTRYKKERI
1922

ALABAMA-EXPEDITIONEN

TIL GRØNLANDS NORDØSTKYST 1909—1912

UNDER LEDELSE AF

EJNAR MIKKELSEN

UDGIVET MED STØTTE AF CARLSBERGFONDET

INDHOLD

PREFACE

When the "Danmark Expedition" returned in August 1908, it was reported that the leader of the Expedition, Mr. L. Mylius-Erichsen, Lieutenant Høeg-Hagen and the Eskimo Jørgen Brønlund, had lost their lives on the return voyage to the ship, after the successful discovery of the Danmark's Fjord and a complete survey of the north-east coast of Greenland with its large fjords. The expedition had succeeded in reaching the locality discovered and partly surveyed by Robert E. Peary in 1892 and 1895, thereby finishing the survey of the Greenlandic coast, and concluding a brilliant chapter in the discovery of Greenland.

Thus ran the report, brought to the knowledge of the members of the "Danmark Expedition" by Captain J. P. Koch, a member of the expedition, who had held north from the headquarters of the expedition in the spring of 1908, when Mylius-Erichsen and his comrades failed to return. Koch reached Lambert's Land and found the body of Jørgen Brønlund at the depot placed there, as well as some very valuable data concerning the journey of the lost party, consisting of a map sketch over the territory surveyed, some sketches of the new discovered land, and at last the private journal of Jørgen Brønlund written in Greenlandic but containing a final entry in Danish, running — in translation — thus:

> "Perished in 79 Fjord after an attempt to return by way of the "inland-ice in the month of November. I arrived here by waning "moon and can go no further owing to frostbites on the feet and "the darkness. The bodies of the two others lie in the middle of "the fjord in front of the glacier (about 10 miles). Hagen died "on the 15th of November, and Mylius about 10 (2)[1] days later.
>
> Jørgen Brønlund.

As seen from this last entry by Jørgen Brønlund in his diary, the place of disaster, where Mylius-Erichsen and Høegh-Hagen met death after a brave struggle, is very vague, and Koch had really nothing

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[1]) Meddelelser om Grønland, vol. XLI, pag. 219—220.

to guide him in his further search for the bodies of the perished men, particularly as it was springtime and all the country hidden deep in snow, which assuredly would have covered the bodies and made it nearly impossible to locate them, even if the exact place of disaster had been known.

Koch therefore returned to the headquarters of the expedition at Danmark's Havn, bringing with him the maps, sketches of the country and the journal of Jørgen Brønlund, and albeit opinions differed as to the place of disaster when the matter was discussed on board the ship upon Koch's return, no further attempt was made to locate the place as the season was far advanced and the depots nearly emptied along the coast from Schnauder's Island southward.

Referring to Jørgen Brønlund's statement as to the locality of the disaster, which, as stated, is exceedingly vague, namely:

> "the bodies of the two others lie in the middle of the fjord in front of the glacier (about 10 miles)"

there seem to be two places, where the bodies might be found, viz:

1. 10 miles off the front of the big glacier, emptying itself into 79 fjord, and in the middle of this fjord.

The fjord however is 32 miles broad, and according to Koch, the edge of glacier cannot be determinated within 8 miles[1]), and

2. in the middle of the westernmost fjord,[2]) cutting down into Lambert's Land, in which case the 10 miles mentioned by Jørgen Brønlund stands for the distance between the depot on Lambert's Land — where Brønlund perished — and this fjord.

This latter assumption seems the most likely one as a party returning from such a journey across the inland-ice as Mylius Erichsen and his companions had been compelled to make, will be most apt to follow the land when it once is reached for the following reasons:

In darkness it is easier to travel close to land where the undulations in the ice can be seen more clearly than further out.

The ice is a rule better close under a coast than further out, as the squalls, sweeping out from gullies, etc. blow the snow away from the coast-ice.

There would probably be many uncovered cracks and fissures on the glacier so early in the winter, making travelling over it difficult and dangerous, while close in land only few of these dangers exist.

A starving party returning from the inland-ice would decidedly

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[1]) Medd. om Grønland, vol. XLI, pag. 194.
[2]) " " " " " " 219.

follow the coast where possible, as there always is a possibility for obtaining game on land, while none at all out on the glacier.

To search for the lost men and their camp off the glacier — as in the first assumption — must be left entirely out of the question on account of the impossibility to locate a camp after such vague information as was given in JØRGEN BRØNLUND's entry, and in so difficult a country, particularly when conditions are such as stated by KOCH, viz: that the edge of the glacier cannot be determinated within about 8 miles. When adding to this the heavy fall of snow during the preceding fall and winter[1], it is evident that all traces of the camp or the bodies would be obliterated long before KOCH reached the place, even if they had perished there, which seems unlikely.

Then remained the search for the bodies in the middle of the westernmost fjord on Lambert's Land (Assumption 2).

Captain KOCH did not attempt to search there, as the information contained in JØRGEN BRØNLUND's journal was so fragmentary as to make it intelligible, and it was not till later that the theory was brought forth that the bodies should be looked for in the oftnamed fjord on Lambert's Land.

The possibilities for finding the bodies there were however very slight in the spring of the year, when everything was covered by snow, and to search this locality was however — as already stated — unpracticable on account of the lateness of the season and the lacking food facilities along the coast.

When the Danmark Expedition returned home with its splendid results, it was therefore still an open question where MYLIUS-ERICHSEN and HØEG-HAGEN had met their death after the most heroic struggle on record, and where their journals might be found. This fact gave rise to the thought of organizing an expedition with the main purpose to investigate this matter more closely than it had been possible for the members of the Danmark Expedition, albeit the possibilities for success were slight, considering that two summers thaw and one winters frost might have — and most likely would have — obliterated all traces of the missing men, before an expedition could reach this place.

There was however a possibility that additional information could be found in Danmark's Fjord where — according to JØRGEN BRØNLUND's journal — the party had spent the summer preceding the disaster and where also — in accordance with the same source — a depot had been established at Cape Kronborg[2]. It would likely be possible to find the journals of the missing men as well as their collections at this place,

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[1]) Medd. om Grønland, vol. XLI, pag. 193.
[2]) ,, ,, ,, ,, ,, ,, 212.

as the material were too valuable to be taken along on the dangerous cross-country voyage in the worst season for travelling on the inland-ice.

I was just then going to undertake some other exploring project and passed England on my way to this field, when — in consequence of a conversation I had with a prominent publisher and newspaper man upon the subject of the possibility of finding the records of Mylius-Erichsen — it occurred to me, that there ought to be sent an expedition to Greenland in order to find the bodies of the perished men, their records and possibly some other material left behind, when they began the disastrous journey to regain their winterquarter.

An expedition as this should however be a national enterprise, particularly considering what other nations had done to trace their lost explorers, and I gave up my projected trip, returned to Denmark and placed the matter before the Committee of the Danmark Expedition, consisting of Messrs. Captain G. F. Holm, Captain G. C. Amdrup, Consul General V. Glückstadt and Consul Erik S. Henius, at the same time placing myself at disposal for the projected expedition.

These four gentlemen saw my point of view and kindly agreed to form a committee to further the matter, upon which I worked out a plan for the projected expedition. It was sanctioned by the members of the Committee, and ran thus:

"In order to reach the above named object (to trace the lost men and their records) the expedition will leave Copenhagen in the beginning of June 1909 onboard a small motor-vessel of about 45 tons burden, carrying a crew of 6 men besides myself.

The equipment shall consist of full provisions, etc. for the whole crew for 16 months, besides reserve provisions for one year, and about 45 dogs.

As the main purpose is to find the journals and observation material, which Mylius-Erichsen and Høeg-Hagen most likely — accordingly to what is known — have left at Cape Kronborg or Cape Holbæk, we must endeavour to come so far north as possible with the ship in order to place a large depot of provisions at the northermost point reached by the vessel, whereafter this returns so far south, that it can be considered almost certain, that the vessel may be able to leave Greenland in the following summer.

As soon as the ice permits in the fall, the depot will be advanced further north to Lambert's Land and left at the place, where I propose to ascend the inland-ice in the spring.

After this is done, the expedition will return to the winterquarter of the vessel, and during the winter everything will be made ready to the spring journey, and surveying, etc. will be carried on, trending to supplement the results reached by the Danmark Expedition.

In the beginning of the spring 1910, as soon as the weather permits 5 men will leave the winter harbour and endeavour to reach the depot at Lambert's Land as soon as possible.

From there the course will be laid across the inland-ice to Danmarks Fjord, and after the broken up area of the inland-ice is passed, 3 men alone, with 100 days' provision, will continue, while the two others return to the ship.

After reaching the Danmark's Fjord, the Expedition will search the west coast thereof so closely as possible.

If the records should not be found at Cape Holbæk or Cape Kronborg, the return journey will take place along the outer coast of Greenland, around Nordostrundingen and down to Lambert's Land, where a small depot is to be found. The return journey can be facilitated with help from the depots already placed by the Danmark Expedition. The coast will be closely searched, and all depots will be opened and searched for possible records.

The distance from Lamberts Land to Cape Kronborg is about 200 miles, and whith a low calculated average rate of 10 miles per. day only 20 days are needed for this part of the trip.

In case the records are found at Cape Holbæk or Cape Kronborg, the future plans for the expedition will depend on the condition of men and dogs at that time.

If everything goes well, and if we have sufficient provisions left, a journey westward into the Peary Channel can be contemplated, in order to investigate whether this Channel goes through the whole country or not, but sufficient care is to be taken, that the main results of the Expedition are not again exposed to loss.

With light sledges — as all the material not to be used, as well as the provision for the return voyage is to be left at Cape Rigsdagen — a comparatively great distance can be covered in short time, and when the object is attained, or the provision set aside for this purpose is used, the expedition will return to the winter quarter, following the route which offers the best possibilities for a safe and speedy return.

The men left onboard will in the meantime make such observations, or sledgetrips which can be made or safely undertaken with the material at disposal.

When the sledge expedition from Danmark's Fjord returns, the first opportunity for getting out of the ice will be used, and the whole expedition ought to be in Denmark by the fall of 1910".

To this plan the Committee added their remarks, the principal ones were as to the safety of the members while on the different sledge expeditions.

Unavoidable circumstances, viz: the complete loss of the consignment of dogs which Inspector Daugaard-Jensen had taken such great pains to pick out for us on the west-coast of Greenland, but unfortunately contracted some kind of disease and died or had to be killed shortly after we received the batch, compelled us to change our plan, as it became necessary to touch at Angmagsalik to obtain other dogs. This delay caused, that we only reached the north-east coast of Greenland at so late a date, and in so southerly a latitude, that any attempt to push northward with a vessel fitted with a comparatively small motor-power, was deemed altogether too risky, and we therefore had to abandon the plan of laying out a depot at a high latitude, and consequently also the autum journey to advance this depot.

The consequence of these alterations was, that instead of laying out a depot on an island off Duc d'Orlean's Land in lat. n. 78° — on which we had figured — we were compelled to winter with all our outfit at Shannon Island in lat. n. 75° 18′, about 160 miles further south and as it then was out of the question to advance a depot to Lambert's Land, we made instead a sledge journey to this locality in the fall of the year to investigate the place of the final disaster, before the heavy fall of snow during the winter should have obliterated all traces of the dead men.

An additional consequence of the above mentioned delay was, that we had to begin our sledge expedition to Danmark's Fjord from a much lower latitude than reckoned upon and had to carry all our provisions with us, instead of having the valuable support of a depot laid out in the fall.

The more detailed plan, and that which eventually was executed will be found in the following report on the expedition.

To get sufficient funds to carrying out the expedition was then broached and with the help of the Committee, particularly Mr. V. Glückstadt, I succeeded in getting the funds, but not before the Governement, on the Committee's recommendation, had voted a grant of Kr. 25,000. — brought before the Parliament by the then prime minister, Mr. J. C. Christensen, who showed great interest in the undertaking. — The money was granted on the understanding, that an equal amount should be found through private means, and by the kind offices of the Committee, we succeeded in getting this amount so early in the year, that I could go to Norway, where the yacht "Alabama" of 50 tons burden was purchased and sailed to Copenhagen for refitting.

A motor of "Dan" manufacture was placed in the vessel, and proved to be wholly reliable during the severe test it often was exposed to, and after a sheeting of 2 inches oak had been placed all around the vessel, which was further strengthened by crossbeams, etc., the vessel was ready to receive the cargo of provisions and outfit, all in so good time that we could leave by the settled date.

The vessel was equipped with everything needed for ice navigation, the greater part of which material was placed at my disposal by the Committee of the Danmark Expedition and some from the Royal Dockyard, Copenhagen.

The provisions were made for the expedition by the conserves factory "Danica", Messrs. Cornelius Stau & A. Beauvais, who took great personal care and interest in the manufacturing and packing of the goods which all proved to be of the best quality.

Butter, etc. was furnished by the firm of Philip W. Heymann and also proved satisfactory in every respect.

Great interest and kindness was shown the expedition by different manufacturers of goods, who gave their manufacture free of charge, and to these I tender my sincreest thanks — principally to Mr. B Dessau from Tuborg Fabrikker, and Mr. Hansen from Svendborg Bryghus, both of these gentlemen gave us some nourishing beer, Director Mr. Simon Olesen furnished us with blankets and woolen apparel, Mr. C. Commichau of Silkeborg with 6 suits for underwear to each man, and Mr. V. Petersen, Christianshavns Apotek, with drugs.

Different Government Departments also gave us their support, such as Meteorological Institute, from which we received as loan some meteorological instruments, but special mention must be made of Captain T. V. Garde, R. N., then director of the Navy Department, for the kindness and interest he showed us as long as the Expedition was in touch with civilization, not least by letting petty officer, engineer Iver P. Iversen, join the Expedition on Iceland, when the engineer brought with us from Copenhagen fell ill.

Furthermore thanks are due to Commander Bloch H. M. S. "Hekla", and Commander Brockmeyer, H. M. S. "Islands Falk", for all kind assistance rendered us, and to Mr. C. Ryberg, then Director of the Royal Greenland Trading Co. and Director, Mr. Wesche.

In Greenland, at Angmagsalik, Mr. Johan Petersen, then governor there, rendered us some very valuable assistance in securing dogs, which would have been impossible without his help.

The members of the expedition consisted of 6 man besides myself namely:

Vilhelm Laub, Lieutenant in the Navy,
Christian H. Jørgensen, Lieutenant in the Army,
Hans Olsen, Mate,

Georg Paulsen, Mate,

Carl Unger, Carpenter, and

H. Aagaard, Engineer, who however had to leave the Expedition on Iceland, where

Iver P. Iversen, Engineer, volunteered to leave "Islands Falk" and join the expedition, with the full consent of his captain, Mr. Brockmeyer and the Navy department.

These men were all unexperienced in arctic life, but they showed great zeal, interest and daring, and without their plucky courage under adverse circumstances, it would not have been possible to carry the expedition through.

But before turning to the following report, let me tender my thanks and feelings of gratitude to the four members of the Committee, Captains G. F. Holm and G. C. Amdrup, Consul General V. Glückstadt and Consul Erik S. Henius, for the encouragement they gave me in moments of stress, for their interest in the course of the expedition and for all kind and valuable assistance, rendered as well before as after the return of the expedition, without which it would have been impossible to undertake the task.

Ejnar Mikkelsen.

I.

REPORT ON THE EXPEDITION

BY

EJNAR MIKKELSEN

The Outward Journey.

June 20th—August 25th 1909.

Plate IV.

The expedition left Copenhagen on *June 20th 1909* onboard the small motor-sloop the "Alabama". In order to save fuel we only used our sails, so we did not make quick progress, but nevertheless we passed Skagen on *June 22nd* at 4 p. m.

Contrary winds, calms and later on a heavy northern gale delayed our passage across the Northsea and caused us to be set so much to the southward that — in order to avoid too close quarters to the Shetland Islands — we had to jibe and run for Wick, where we anchored on *June 30th.*

The weather abated, and the following day we left Wick and went through Pentland Firth. A brisk and favorable easterly wind sprang up and carried us so fast that we arrived in the roadstead of Thorshavn at 9,30 a. m. *July 3rd.*

As we needed good and plentiful dog-feeding, we proceeded to Kollefjord whaling-station, hoping to get so much whalemeat as we could conveniently carry. The owner, Captain Krobcke, was very kind and presented us with 500 kilo dried whalemeat, while we ourselves cut out and hung up to dry another 1500 kilo. This being done we returned to Thorshavn, where we found the Royal Greenland Trading Co. steamer "Hans Egede" anchored on the roadstead. This steamer was to bring our dogs, and I went onboard at once to meet the captain and see the animals.

The dogs were in a frightful state, and of the fifty, which had been taken onboard, only twenty-three remained, the remainder having died on the voyage.

Inspector Daugaard-Jensen had bought the animals in the northernmost settlement on the west coast of Greenland, and he had been very careful in selecting the dogs, so that when originally shipped on "Hans Egede" those fifty dogs were absolutely the best to be had. In particular he had been careful to avoid buying dogs in places, where there was the slightest possibility of infection, and so it may be taken for granted that the dogs when brought onboard had not been suffering from any kind of infectious disease.

However, on board the ship, the dogs were shut up in the spare-bunkers, and a gale coming on the hatch was battened down. The animals remained in this closed-up room for about three days, or as long as the gale lasted, and during the whole of this period they got no air at all except that which passed through a lower bunker, still full of coals and fumes. When the hatchcovers were removed, seventeen of the dogs were discovered dead, most assuredly from being forced to inhale the poisonous air. In the afternoon six more expired and later on two.

However, the harm being done there was nothing to do but to try and save the rest, so the dogs were taken onboard the "Alabama" and treated with the utmost care. However, they were not to be tempted to eat at once, and the only thing which they desired was water and rest. Later on they began to eat, and they had apparently improved a little, before the day had passed.

We telegraphed at once to the committee stating our case, and in the meantime, before we could get our final orders, several of the dogs had died. Happily we were able to obtain the opinion of an expert, the Danish cruiser, H. M. S. "Hekla", Commander BLOCH, having arrived in Thorshavn, and the ship's surgeon, Mr. ZACHARIAE, kindly consented to dissect the animals. In two cases he found inflammation of the lungs and in two other cases a very extensive bloodpoisoning.

On *July 11th* we received our final instructions from the committee; we were ordered to disinfect the ship according to the directions of the surgeon on the H. M. S. "Hekla" and then proceed to Angmagsalik, where we should buy so many dogs as were absolutely necessary.

The dogs however were in such a plight that Mr. ZACHARIAE did not dare to give us a clean bill of health, and after we had talked the matter over with Commander BLOCH, himself an old Greenland traveller, we decided to shoot all the dogs, to disinfect the ship entirely and then depart for Angmagsalik.

On *July 13th* we left the Faroe Islands for Iceland where we were to touch Reykjavik on our way to Angmagsalik. Calms and contrary winds delayed us so much that we did not reach the Vestmann Islands till *July 19th.* In this place we were so lucky as to meet H. M. S. "Islands Falk", the commander of which, Commander BROCKMEYER, with his officers rendered us several valuable services. They began their kind offices by offering to tow the "Alabama" to Reykjavik, and as the weather was quite calm, the offer was accepted with the greatest pleasure.

While in Reykjavik the engineer AAGAARD was found to be ill, but time being very short we decided to take him as far as Angmagsalik and only discharge him on our return to Iceland, if at that time he had not yet recovered. Meanwhile Commander BROCKMEYER kindly promised to communicate with the Navy Department so as to get permission to substitute one of his men in the place of AAGAARD, if it turned out to be necessary to let him go.

We left Reykjavik, *July 22nd* at noon, and made a very quick passage to the edge of the ice, which we sighted on *July 25th* 2 p.m. (65°29′5 N. Lat. and 33°33′ W. Long). Still under sail we worked our way westwards against a headwind until the following day, when at 6 a.m. the wind died down, and we had to rely entirely on the motor. The fog — the only real hindrance which we met — became so dense that at 10 a.m. we were compelled to make fast to an ice-floe, and it was not till 7 p.m. that we could continue in slack ice, passing openings of more than two miles in extent.

In spite of the fogbanks, which now and again enveloped the ship, we were able to continue till 11,45 p.m. when — on account of the fog — it became quite impossible to proceed before 5 a.m. on the following day, *July 27th.*

We reached the open landwater at 8,50 a.m., having thus crossed the icebelt in little more than 28 hours and without any hindrance from the ice, which consisted of quite small floes and very many icebergs, separated from each other by large water-lanes. Our only stoppages were such as were made necessary by fogs.

The crossing of the Angmagsalik Fjord proved more difficult than expected, as the fog prevented us from getting a clear view, while ice and violent currents made it impossible to keep our course. We reached the settlement at 11,30 p.m., having long been in touch with land by means of kayakmen, whom we had met and sent on to the governor, Mr. JOHAN PETERSEN, with a request to send an umiak to tow us in, our motor having refused to work.

Mr. PETERSEN and his assistant, my old comrade Mr. SØREN NIELSEN, were both very kind and offered us as much help as possible in the matter of dogs. They even gave us their own dogs and induced natives who might otherwise not have been willing to part with their dogs to sell them to us, and their help was so valuable that two days after our arrival, we had secured forty-seven dogs and more than sufficient sealmeat to last us as far as Iceland. All were kind in Angmagsalik, the native minister, Mr. ROSING and his wife no less than the Danes, and it was with regret that we hove our anchor home and proceeded on our voyage, now provided with means to carry it out. We left Angmagsalik in splendid weather at 6 a.m., *July 30th.*

The ice had been very good on our journey towards land, but it was still better going out, and we had no trouble whatsoever in passing the belt of ice, which hedged in the land. At 10 p.m. the last of the ice was left behind, and we set sail for Patrick's Fjord, which we reached on *Aug. 4th* at 11 a.m. after a rather unpleasant voyage with continual rain and headwinds.

Aagaard's health had become still worse during this short trip, and it seemed too risky to take him any further, as a physician on Patrick's Fjord had declared that in his opinion it would be impossible for Aagaard to stand the strain of the voyage, which we were going to undertake. Consequently a telegram was dispatched to Commander Brockmeyer, requesting him to send a substitute for Aagaard, and the reply came at once — assistant engineer Iver P. Iversen was willing, and H. M. S. "Islands Falk" would come to us with the utmost speed possible.

In the meantime we were occupied in trying to get everything into shape for the long journey, and particularly to get enough whale-meat for our forty-seven dogs. The Talknafjord whaling-station was not far away, and its manager gave us all the meat we wanted.

H. M. S. "Islands Falk" arrived on *August 6th* at 2 p.m., and the exchange of engineers was made, before we left Patrick's Fjord, once more towed by the government steamer, the commander of which rendered us such valuable and manifold services that it is impossible to thank him adequately for it all. We were towed till the following day at noon, when we had reached 66°44'5 N. Lat. and 22°44' W. Long. Here we parted company with H. M. S. "Islands Falk", which went back towards Iceland with colours flying and saluting with her guns.

The voyage from here to the place where we entered the ice was of no interest whatsoever. It was long and tedious owing to alternate headwinds and calms, which compelled us to use the motor almost every day, which test the splendid 16 H. P. Dan-Motor stood very well, going continually for six days without stopping once. Now and then we saw the ice, but we kept away to the eastward, whenever we came too close to it, until we finally entered the packice on *August 17th*, at 7 a.m. on 75°13' N. Lat. and 10°43' W. Long. A gale was blowing, and the surf was very strong on the outer edge of the ice, but we thought it advisable to run the risk and headed in between the floes, hoping to be able to reach a large stretch of open water, which we could see beyond the densely packed outer edge.

But the attempt failed, and we had not proceeded more than a few hundred metres, before the swell and the wind stopped the "Alabama", over which we then lost control. Immense masses of ice came down from the north and surrounded the ship so fast that in the course of three hours we could see no water out to sea.

These masses of ice quelled the swell to some extent, but the danger of losing the vessel was still very great. We tried to fend her off from the floes, using all the means at our disposal, but in vain; the large ice-foot projecting from the surrounding floes came underneath the bottom of the "Alabama" and rammed her hard when lifted and sunk by the swell or surf, mostly between three and four feet. However, the "Alabama" withstood the severe strain, and when once more released from the grip of the ice on *Aug. 18th* 5 p. m. she had apparently suffered no other injury than a split rudder-stem.

The ice-floes surrounding the ship were all broken to pieces by the heavy swell of the last twenty-four hours, and it was difficult to extricate the ship. We succeeded however and reached a very large open pool beyond the edge of the packice (about 74°47′ N. Lat. and 13°40′ W. Long.).

We had been beset for thirty-two hours in all and had drifted about 48 miles to the WSW (true), which gives an hourly rate of about 1,5 miles in a direction almost perpendicular on the wind.

Having penetrated this dense outer edge of the packice we got splendid conditions and headed towards N W (true), slightly or not at all hindered by the ice, which still consisted of very small floes, separated from each other by broad water-lanes.

The hard work and severe strain had sapped our strength, and the crew being too small to work the ship by turns, we were compelled to make fast to a floe and get some rest. We went below at 10 p. m. but were called again at 1,30 a. m., when a small sealing sloop, the motorship "Herkules", Captain Olsen from Aalesund, came and made fast alongside our own vessel. The captain reported open water as far towards land as he had been, and we remained together long enough for us to use this last chance of sending letters home. We left each other at 4,30 a. m. (Aug. 19th), after which we headed a general NW course, still through very slack ice.

Shortly after we had left the "Herkules", we saw the high mountains on Pendulum Island at a distance of almost 70 miles.

At 11 a. m. (about 75°07′ N. Lat. and 15°0′ W. Long) we saw from the crow's nest the first extensive floes stretching away to the west as far as the horizon, and we followed the edge of this imposing floe on a straight course for 18 miles, when it trended to the north.

We saw our first and only bear in the packice on this floe, but it escaped by taking to the water and swimming so fast that we could not follow it, the vessel going full speed with the motor. The water was filled with an immense amount of large seals, which continually popped their heads out of the water; I once counted more than twenty at the same time.

The ice was still slack, and at 5 p. m. we entered a lake so large that we could not see any considerable amount of ice from the crow's nest, and it was not till *August 20th* at 6 a. m. that we once more met ice, which compelled us to work carefully.

Shortly afterwards the open water-lane came to an end, and the ice was densely packed towards the north, where Koldewey Island was plainly visible. We were on 75°35′ N. Lat. and 17°05′ W. Long. and had to keep away to the east, hoping to reach the open water which was plainly indicated on the black sky. But a gale sprang up from N E, the ice closed down on us, and the young ice, which was 6 mm thick, prevented our manoeuvring freely. This young ice had been forming for some days and had hindered us very much, as the motor-power of the ship was too small to force the vessel through newly formed ice even less than 1¼ cm thick.

It very soon became impossible to advance against the oncoming gale, the young ice and the densely packed floes, so we were compelled to make fast to an ice-floe after having failed to retrace our steps towards Shannon Island, where open water was visible. The whole night between *Aug. 20th and 21st* was spent in moving about in the continually diminishing waterpond, and in the morning, *August 21st*, we were beset for good, as two floes crashed together just ahead of us. We were forced to make fast in a small bight forming in one of the ice-floes, where we soon became beset by smaller floes drifting down upon us. A gale now was blowing from N E, and all day long we drifted to the south with fair speed (½ mile an hour), but we were not exposed to serious pressures.

On *August 22nd* 6 a.m. the floe to which we had made fast broke in two, and we were exposed to very severe pressure, which however did us no harm. Half an hour later the motion in the ice began afresh, and a large piece of ice was forced underneath the vessel, causing her to list to starboard. Another piece of ice, about 3—6 metres broad, was raised on end and pushed down under our stern, jamming the rudder hard to starboard and snapping the tiller. The slightest additional motion would have broken off the rudder and damaged our stern besides breaking our propeller, but fortunately the pressure stopped at this critical moment leaving the ship wedged into the ice. However, it was impossible to do anything whatsoever to extricate ourselves, as the ship was beset fore as well as aft (Fig. 1).

The belt of ice which separated us from the open water of Shannon Island was only a mile broad, and this made our risk all the greater, as we were drifting towards the south along the line of grounded icebergs, which often set the surrounding ice-floes in motion. A slackening in the ice of short duration rightened the vessel, but otherwise it made no change at all in our position, as the pieces of ice under our stern remained wedged down as hard as ever and could not be moved in spite of all our efforts.

The ice showed signs of slackening in the early morning of *August 23rd*, and everything was ready to go ahead at the first opportunity. It came, and the heavy pressure-ridge astern disappeared in less than five minutes, leaving the ship in comparatively open water. The weather had calmed down, and we could go ahead, but the ice was still packed close, and we

Fig. 1. Alabama beset in the pack-ice. 22/8 1909.

had only advanced a few hundred metres, when once more we were obliged to tie up to a floe. The ship was again exposed to a frightful strain and was lifted out of the water, however without suffering any injuries, but later on, at 6,30 a.m., the ship was bodily lifted 1½ meter out of the water and listed so much to port that the keel became visible. In this position she remained for about 10 minutes, before she slid back into the water with the propeller-shaft bent, the rudder sprained and probably the injury which later on made her a wreck.

Everything had been prepared to leave the ship at short notice, and the sledges were standing ready on the ice; our kerosene had been deposited on a high hummock, and provisions and clothing were stowed on deck, so that we could have left the ship in less than 10 minutes with everything to support ourselves through a whole winter in the packice.

This was the last real danger to which the "Alabama" was exposed, but she had to put up with numerous smaller onsets, before she was finally relieved on *Aug. 24th* 11 a.m. when Iversen, assisted by Unger, had got the shaft straightened and the motor in working order — a truly splendid piece of work. We had been beset in the ice for four days in all, and during this period we had drifted down abreast of Bass Rock thus covering a distance of 60 miles, with an average of 0,6 mile an hour.

After three hours of hard work we got the ship into open water, a broad channel going almost all the way to Shannon Island. However we were stopped once more just south of the island and had a last and rather exciting case of manoeuvring through the ice, but owing to the fact that there was no great force behind the small surrounding ice-floes we ventured to put the ship into a nip and allowed the ice to crush about us, thus using the usual slackening following immediately upon a crush to advance a few metres, and at last, on *August 25th* at 3 a.m., we reached Cape Philip Broke and anchored in a small cove, just north of the cape.

The land surrounding the cove, in which we anchored, was very low, except at the southerly point where a steep basalt coast rose straight from the water's edge. On the low, muddy beach, now frozen but very soft during the summer, we saw numerous tracks of musk-ox and found the horns of a reindeer. The wading birds had not yet left the country in spite of the fact that all water pools were frozen over, and the new breed of eiderducks were not even able to fly.

The waters to the north of Cape Philip Broke are fraught with great dangers for ships trying to anchor there, and we found numerous outlying rocks, which were only visible from the crow's nest. Seaweed however grows on the rocks and may serve as a warning if noticed in time.

After a short stay we proceeded along the coast to the north, passing numerous icebergs grounded on outlying shoals, but we met no hindrance whatsoever save the one caused by the young ice, which during the calm and cold weather of the last two days had obtained a thickness of $2^1/_2$ cm or more.

Cape Sussi was passed in a narrow streak of landwater which disappeared 4 miles to the north of Shannon Island, and we were forced to return on account of impassable ice, in which large flakes of young ice played a prominent part. The current was also a great hindrance, as it ran with a speed of 2 miles an hour and brought about great disturbances in the ice.

About 1 mile to the west of Cape Sussi we found a small, rocky point projecting into the water in a S W direction forming a snug, but very small sheltered harbour, where we anchored to await more favorable conditions. As yet we only considered it a temporary refuge, and no one thought that this cove should be our winterquarters.

The state of the ice was reconnoitred from the highest point on Shannon Island, a mountain 305 metres in height just behind the cove, and the ice was visible almost all the way to Koldewey Island. We noticed that the ice north of Shannon Island appeared unbroken and that no water was visible between it and the packice; also, that further to the north, at a distance of about 15—20 miles, the ice was slack, and there were very large lakes between the floes about the southern point of Koldewey Island, but apparently no way to reach them.

The strait to the west of Shannon Island was open, but a line of grounded icebergs across its northernmost end stemmed the stream of packice, thus packing the floes just north of it very close.

Even a fresh southwesterly wind, which always used to slacken the packice, made no perceptible change, and the last few days being calm, clear and cold the new ice grew in thickness and extent and became quite impassable for a vessel with the small motor-power of the "Alabama".

We therefore decided to winter in the cove where we had anchored on *Aug. 25th*, and on *August 27th* the "Alabama" was moored as close to land as we dared, but nevertheless barely out of the reach of the floating ice (Fig. 2). No change took place in the state of the ice during the coming weeks, so nothing was lost by going into winterquarters so early.

We began at once to unship the stores, fuel, ammunition etc. which were all stowed on a low rocky point, and before long everybody had settled down to the ordinary winter routine, making or arranging sledging outfits, and we began to take regular metereological observations, which were carried on without interruptions until *July 31. 1910*, when the expedition left its winterquarters.

Two men had to spend the greater part of the day in tending and especially preparing food for the dogs, as the hunting had given no results whatsoever — we only saw very few seals and shot one. Being

Fig. 2. Alabama in winter-harbour.

Fig. 4. Sledge on wheels in the level valley on the northern end of Shannon Island.

Fig. 5. The probable elevated ocean-bed on the northern end of Shannon Island.

Fig. 7. The framework of the tent.

prepared for this we had brought 3000 kilo pork-offal and 3000 kilo cornmeal, which mixed together and cooked with water proved a very good dogfeed. We gave each of the dogs $\frac{1}{4}$ kilo pork-offal and $\frac{1}{4}$ kilo cornmeal prepared as a sort of mash, which proved healthy and strengthening; the dogs soon learned to eat it with relish, and even liked it better than the occasional feed of meat.

The only objection to this kind of dogfeed is that it is rather expensive, as it requires considerable heat to cook such a large portion (25 kilo besides water), and we used two litres of kerosene for each cooking.

Constant storms prevented the permanent closing up of the open water, and travelling was impossible, as we could neither move about with boat nor sledge. It was not till *Sept. 16th* that we could think of going by sledge to the southern point of Shannon Island, and even then we had to be ferried across the open water between the ship and the old floes filling Frozen Bay, over which Jørgensen, Iversen and I hauled a sledge with five-days' provisions.

The object of this small excursion was to reach the south-eastern peninsula of Shannon Island, where we wanted to look for game and also to examine the depot of the Ziegler-Expedition. It took us twelve hours of hard work to drag the sledge over the rough ice of Frozen Bay and reach the low land, where we camped.

We were surprised to find quite a plain stretching all the way across the peninsula, bordered on each side by steep basalt cliffs, 75—100 metres in height. Some small basalt hills — likewise quite steep — rose out of the plain, which was otherwise quite smooth, and only in its southern part was intersected by watercourses. This plain gave a strong impression of being an elevated ocean-bed. Wherever we went, we noticed large trunks or pieces of driftwood in the most extraordinary places, far inland and from $1^1/_2$—8 metres above the highest highwater-mark.

On the eastern coast of Freeden Bay we found some very marked benches, the lower one about 3 metres above highwater-mark, the second one almost 10 metres, while still 7 metres up the beach a third one could be traced. The two lower benches had perfectly sharp edges, were flat and covered with coarse gravel. We walked on the middle bench, that is almost 10 metres above highwater-mark, and to our surprise we found a very large amount of driftwood, ranging from large trunks to small pieces. It is impossible to imagine that human beings can have dragged this large amount of wood to the elevated position in which it was found, and just as impossible to think that the water with its present relative position to this middle bench could ever rise as high as this and thus float wood on to it.

Even assuming the ocean to be perfectly open, thus allowing the full sweep of the waves, they could never reach this middle bench, as the benches are on the leeward side of the land, where there could be no question of waves of any importance.

Large trunks were seen in other places far removed from the coast, in one case $1\frac{1}{2}$ mile inland and about 6—10 metres above highwater-mark and at the bottom of the partly sheltered Frozen Bay.

The above-mentioned flat and low valley, which gives the impression of being an elevated ocean-bed, extends in a longitudinal direction across Shannon Island, separating the high parts on the east side of the island from the high part on the western side, thus making a sharp division between these two bodies of land.

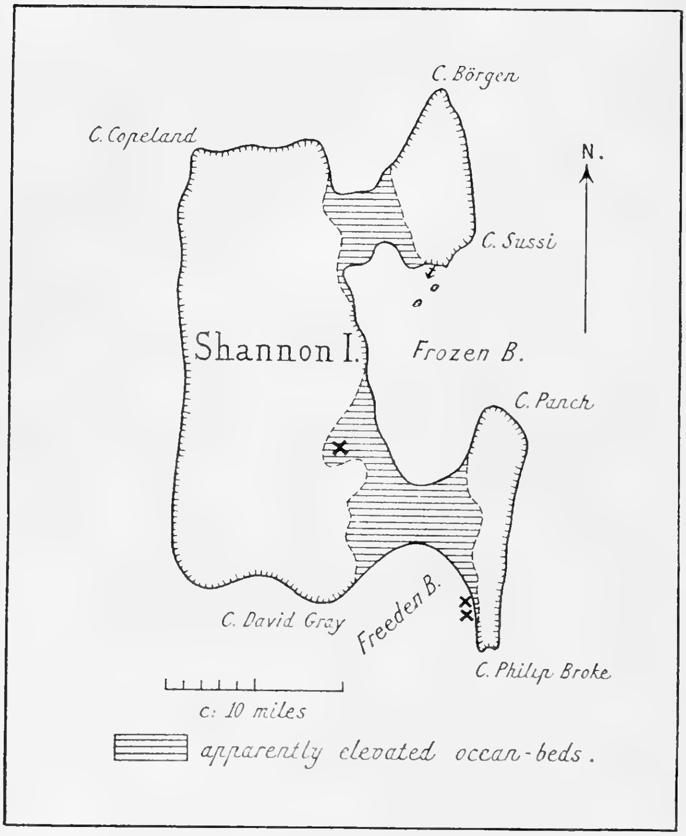


Fig. 3.

The valley extends as shown on the drawing (Fig. 3), where the marked places indicate the apparently raised ocean-bed. The mark x indicates the place, where the above-mentioned driftwood was found far inland, and xx the coast with the raised benches.

The valley was covered with an abundance of grass and mosses, but otherwise marshy, so much so that the footprints of the musk-ox were about 30 cm deep. These footprints were exceedingly abundant, and it seemed incredible that the animals should not have been here last summer, as the edges of the holes were quite sharp and apparently untouched by the flow of water, which would have washed down the edges and rounded them off, if they had been there during the spring. However we looked in vain for places where the muskoxen had gnawed off the tops of the grasses to any extent.

Among other interesting things in this southerly valley we saw a place which must have been an ancient eskimo camping-site. Scattered over the ground we found four craniums of bears and six of musk-oxen;

the craniums were not very old, but Eskimos must assuredly have killed the animals, as the canine teeth in the bear-craniums were missing.

Further we found a curious formation of coal, projecting about 30 cm from the ground and with a diameter of about 60 cm. The coal was rather hard, and its breaks were in flakes and shining. The frozen soil, however, prevented our further investigating this coal-seam, which came so close to the surface.

The depot on Cape Philip Broke was found in comparatively good order.

On *Sept. 19th* at 11 p.m. we got back to the ship after having walked all the way from Cape Philip Broke to the winterquarters at one stretch, save for a two hours' rest. The young ice surrounding the ship was on that day sufficiently strong to carry the weight of a man, though it was still too thin to allow a loaded sledge to pass.

The preparations for the sledge-trip to Lambert's Land were carried on with great energy, and soon everything was ready — some days before it was thought prudent to start on the thin ice, which should be passed, before the old packice and safe ice north of Shannon Island could be reached.

The Sledge-expedition to Lambert's Land.

September 25th—December 17th 1909.

Plate III.

The first object of the expedition was to undertake a sledge-journey to Lambert's Land, with the purpose of investigating all the places where there might be any likelihood of finding the bodies of Mylius-Erichsen and Høeg-Hagen. From the information obtained by Captain Koch through Jørgen Brønlund's journals it was thought likely that the camp of the perished men would be found at the mouth of a small fjord, cutting from the North into Lambert's Land. If we did not find the camp there, we might be able to locate it off the broad glacier spanning 79° Fjorden where some, Koch among others, thought that the party had perished.

But wherever the camp might be, our only chance of finding it would be in the autumn before the great fall of snow, and with this in view we had to begin the attempt as early as possible. However, the new ice was late in forming, and in spite of the fact that all preparations were finished about Sept. 16th, it was not till Sept. 25th that the ice was thought solid enough to risk the attempt.

It was particularly round Cape Sussi — the northeasterly point of Shannon Island — that the coast would be difficult to pass, as shifting currents and winds broke up the young ice, but fortunately we could rather easily pass over the northeastern peninsula of Shannon Island through the flat valley connecting the waters on either side of it.

This valley had the same elevation as the one dividing the south-eastern peninsula, and like this one it gave the impression of being a recently elevated ocean-bed, quite level, of an height not exceeding $4^1/_2$—6 metres and with steep basalt cliffs hedging it in on both sides.

At the foot of these steep cliffs we found large stretches of ice (Fig. 4), which would greatly facilitate our crossing, as we had only to pass about 2000—3000 metres of bare land between these stretches of ice. For this purpose we constructed a crude, two-wheeled waggon, on which we could place the loaded sledges, thus being able to drag them across without unloading. With all hands assisting at this work and using all our dogs we began the sledge-journey to Lambert's Land on *September 25th*, leaving the ship at 9 a.m.

Lieut. JØRGENSEN, Engineer IVERSEN and I formed the Lambert's Land party, and part of the way we were to be helped by Lieut. LAUB and the mate, OLSEN. We took four sledges drawn by twenty-nine dogs in all, divided so that three sledges and twenty-one dogs formed the north-going party, while one sledge drawn by eight dogs was to follow us as far as provisions would allow.

Our plan of crossing the land proved satisfactory, and taking one sledge at a time, with all the dogs hitched on to it (Fig. 5), we could by dint of great exertion take it across without any stoppage, but it was not till 6,30 p.m. that all the four sledges stood on the northern coast.

On *Sept. 26th* we went out on the sea-ice after a rather difficult crossing over the tidal crack, where the ice on the shoreside was frozen on to the bottom of the shallow coastwater, and being high-water this ice was flooded to a depth of about 30 cm. But by using small pieces of floating ice as intermediate stopping places we managed to get the sledges across to the floating ice without having to wait for the ebb.

On the sea-ice we met other difficulties, as the surface was intersected by large channels melted down into it in the course of the summer. These channels and holes had very steep banks, which rose to a height of about 60—75 cm above the glare-ice of the bottom. It was often possible to follow a lead of channels for a considerable distance, but sooner or later we had to come up the steep banks, which proved very difficult with the heavy sledges and the slippery footing on the fresh water-ice.

Our dogs being very fresh and strong we could however make good progress, but a sledge-journey across floating packice at so early a date offers other difficulties, which are considerably larger — i. e. open water, thin ice or crush-ice, consisting of thin ice and small ice-pieces frozen together to a more or less solid mass.

This kind of surface with projecting ice-points gave us much trouble, as the pieces of ice were not large enough to necessitate a deviation from the course, but nevertheless large enough to stop the sledges or catch hold of a dragging trace, thus overthrowing the dogs which were then hauled underneath the sledge and sometimes hurt by being over-run by it.

The new ice covered a considerable extent of water, and from Shannon Island to Koldewey Island more than 60 % of the traversed ground was over thin ice, while from the south point of Koldewey Island to Danmark's Havn, we did not in all pass 10 % of old ice. Those large sheets of new ice ranged in thickness from 50 cm to an absolute minimum, and great care should be exercised in passing, as it would take far too long to ascertain the thickness all the way across a broad pond before taking the sledges over. We used to drive the sledges over the ice, judging its thickness by the sound of our footsteps, and only when the ice sounded very thin, we stopped to investigate, taking good care only to leave the sledges standing in places where two or more layers of ice were pushed underneath each other, so as to make the stopping place as solid as possible.

Salt-water ice is always very tough, and so it was possible to drive over ice, which bent under the sledges and in thickness did not exceed two inches, but care must be exercised and judgement used, as the temperature of the preceeding day makes great difference as regards its strength. Ice formed at a comparatively high temperature has considerably more flexibility than ice formed at a lower one. The former will bend very considerably before breaking, and may at the same time have softer spots of the same thickness, where the sledge cuts through. The ice formed at a low temperature is brittle and does not bend so easily, but still a sledge may be run over a short distance of this kind of ice without much danger — even if the ice in thickness does not exceed 5 cm.

The different kinds of ice may be distinguished through the sound of the footfall, which is muffled on ice formed at comparatively high temperatures, while ice frozen on a single night by a low degree of cold gives a ringing sound.

On *Sept. 29th* we reached the first stretch of thin ice which proved impassable, and we were consequently forced to follow its edge towards the west, as we did not think it prudent to go further out to sea. Luckily we found a place where overlapping sheets of thin ice promised a comparatively safe road, and in a little less than three hours we had passed this first lake. On the *30th* we came to another lake, which was so broad that it took us 5 hours' hard driving to pass it — often over exceedingly thin ice.

On *Oct. 1st* we were stopped by perfectly open water which — from an elevation of 3 metres — we saw reaching to and beyond the horizon, and as we did not know how long we might have to wait before being able to proceed, we thought it most prudent to take all the dog-feed, which Laub and Olsen could spare, and send them back with only 2 days' provisions. We were not above 25 miles north of Shannon Island, when we parted company.

There was a good deal of animal life in the open water, and seals and especially large flocks of narwhals were playing about. We tried to shoot them for dog-feed, but our bullets made no impression whatsoever on the animals, which continued to play about us all the afternoon.

A motion in the packice on *Oct. 2nd* caused a way to be formed across this large lake, and we used it in spite of the fact that the ice was in continuous motion and often formed pressure-ridges under our feet or opened up into wide lanes, which forced us to make long detours.

On account of a fresh NE wind, which sprang up in the afternoon, the ice got into rather violent motion, and large lanes forming all over forced us to retrace our steps as fast as possible. We could not be so careful, as we might have desired, and the result was that one of our sledges cut through the ice. However everything was saved, but our dried fish and hard bread became soaked. Luckily we found a small, old floe on which we could camp, and where we were compelled to remain for a while, as a gale had sprung up.

We reached the south point of Koldewey Island on *Oct. 4th.* Since we left Shannon Island, we had covered a distance of 38 miles in the course of 9 days with 73,7 sledging hours, which only made an average of 0,51 mile an hour. It turned out to be difficult to reach the land, as the tide had caused a violent motion in the ice, over which we had to take the sledges, with the result that our sledges cut through several times, and even our sleeping-bags, lying on top of the loads, became wet.

We decided for the future to keep as close to the shore as possible, hoping thus to escape the open water-lanes, and to this end we kept inside the grounded icebergs, which lined the coast.

The ice was fairly good, but in spite of this we made but very poor progress, as our dogs, which were rather weakened, caused us considerable trouble. It surprised us, as they had quite sufficient to eat, about 3 lbs. of dried fish a day, and every second day some pork-offal. But fish seems to make very poor dogfeed, probably on account of its lacking fat altogether, and there was a very marked difference, according as we used fish or pork feeding, the dogs being in very much better form after the latter feed.

Dried fish seems however to have been used with success on some expeditions, and NANSEN and SVERDRUP strongly recommend this kind of food, but Captain SCOTT had the same trouble with his dogs, which we had with ours — a general weakness followed by death — and he had called the attention to the risk of feeding the dogs on nothing but fish. Following his hint we gave the dogs some extra fat (every second day 1 lb.), but even that was not enough.

Still it must be remembered that salmon furnishes a very good dogfeed, probably on account of the large amount of fat which it contains, at any rate when compared with dried cod.

On *Oct. 7th* we once more went adrift on thin ice, in spite of the fact that we were not above ¼ mile off shore. We drifted to the south, and the whole of the next day we were surrounded by open water, and it was not till *Oct. 9th* that we managed to reach solid land-ice, about 7 miles to the south of the place where we went adrift.

The pressure on the shore-ice had been tremendous, and ice blocks had been piled up to a height of 10 metres during the stormy weather of the preceding days.

At last, on *Oct. 11th*, we reached Danmark's Havn having been sixteen days under way from Shannon Island. We had had 123,6 sledging hours in all, and the distance being only ca. 90 miles it gave an hourly rate of 0,73 miles.

The dogs were all in a very poor state, and one had died the day before, so we were forced to remain in Danmark's Havn for some days to feed the dogs, and give them a much needed rest.

As to our future provisions we had to take the stores left in Danmark's Havn, as we did not dare to keep on feeding the dogs with fish. It was only with regret that we decided on this arrangement, for we did not like to break up the depot left by the Danmark-Expedition, but we took care to leave enough provisions for a party to reach the large depots on Shannon Island, and besides we were absolutely obliged to get new provisions for our dogs, if we wanted to carry on the voyage and keep the dogs alive.

We remained in Danmark's Havn for three days and gave the dogs warm food twice a day. This once more built up their strength, and when on *Oct. 15th* we left the place for Lambert's Land, the dogs were again fit and in good form.

Towards the north the conditions of the ice became quite different from those south of Danmark's Havn, and instead of thin, unsafe ice we found old floes or perfectly safe new ice, over which the going at first was quite good. It took us only twenty-three sledging hours to reach Cape Marie Valdemar, but in crossing Skærfjorden we once more got into trouble, now in the shape of old, hummocky ice with large undulations filled with quite soft snow, in which the sledges floundered about, sometimes sinking in as far as above the crossboards. Heavy weather with storms and a considerable fall of snow forced us to remain in camp for a whole day, and after this time, *Oct. 18th*, the good going had disappeared, and the rest of the journey was performed through more or less deep snow or over ice, where the salt had not yet crystallized, but had only melted the snow, which became wet and sticky and very difficult to pass.

On *Oct. 20th* we had got so far that we could lay out our first depot (135 lbs.) on Bjørneskærene, and this diminishing of the weight eased the work of the dogs. But still their strength waned, and this in spite of the plentiful and good food. On *Oct. 21th* one dog died, and on the following day another, our largest dog.

It may be taken as a common rule that large dogs do not have the endurance of smaller ones and are consequently not so serviceable on a long sledge-journey, as the large dog demands more food to keep his body in good form, and does not work very much more than a smaller dog — at least not in proportion to the size of the necessary rations — and it is difficult to give to each dog the exact amount, which he needs. An ideal team must consist of dogs of very nearly the same size and weight. Each dog was given a ration of a little more than 1 lb. a day, but in the course of a few days they became very hungry.

We passed the north point of Hagen Island *Oct. 23rd* at noon and found new trouble, as the crust on the surface of the snow, which was not strong enough to carry the dogs, was so sharp that it cut their paws and legs. This of course caused them considerable suffering, but the going became worse on *Oct. 24th*, as the surface of the ice was full of larger or smaller holes, where a stone, a mound of sand or some other dark object had lain on the surface of the snow during the summer, which in their turn had caused the snow to melt round them. These holes, ranging from ca. 5 cm. to ca. 1 meter in extent and with a rather uniform depth of ca. ½ meter, were covered with a very thin layer of ice, cat-ice, on which lay the snow. But the very moment when we — or the dogs — stepped on a place like this, the cat-ice would break, and we fell down into the empty space underneath, twisting and hurting our feet, particularly as the bottoms of the holes were very uneven and often had a sharp, pointed cone in the middle. A surface like this is rather a common feature when close to a high and steep coastline, where squalls can tear off the stones or earth and carry it across the ice, thus providing the material for melting the holes.

On *Oct. 27th* the second depot was left on the northernmost of Pariserøerne, and just north of it we got on to the floating glacial ice, where we found good going for the first time since Cape Marie Valdemar. The surface was undulating, and we continually had to ascend and descend quite flat hills with a slope so small that it did not make much difference whether we went up or down, and the conditions became even better close to the east coast of Schnauder Island, where we got glare-ice.

Cape Drygalski was passed on *Oct. 30th*, and from there and on to Lambert's Land the going was as bad as it could be, while the darkness — the sun had disappeared on *Oct. 26th* — helped to make matters worse, as it was impossible to see the large undulations, before it was too late. The glacial ice was intersected by many cracks, where often either we ourselves or the dogs fell in. One dog burst a trace and fell into a crevasse about 10—15 metres deep, and one of us had to be lowered down in order to get hold of him.

On *Oct. 31st* at 11 a.m. we reached Lambert's Land, and at 5 p.m. we were at the depot, thus having used seventeen days with 130,8 sledging hours to cover a distance of 150 miles, making an hourly average of 1,13 miles.

We were helped to find the first trace of the depot by the many fox-tracks all going in one direction, and looking carefully we discovered some empty as well as some full tins of provisions under a few pieces of wood and a Lux-apparatus without any stanchions. It was evident that the grave of Brønlund could not be far off. We went a little further and camped half a mile from the depot, in order to make sure that the dogs would not disturb the body. Afterwards we went to the point and saw a round hole in the snow, which had been dug by foxes, and seeing also a few fragments of reindeer skin we felt certain that this must be the resting place of Jørgen Brønlund, but on account of the darkness further investigations were postponed until the following day, *Nov. 1st*, when the snow round the body was removed and everything carefully examined — the body as well as the surrounding ground.

On the body we found sinews, cartridges, a comb, a small piece of brass chain, a watch and a couple of pencils, and underneath the body a small canvas bag containing a sketchbook, a calendar, some tools and sewing gears. When we were perfectly sure that nothing more was to be found, the body was replaced, a crude coffin was made of various boxes, and stones were piled on so as to make it impossible for the foxes to touch the body.

The two books were frozen together, and it was not till they had been melted in the tent, that we could separate the leaves, which did not contain any writing, but only a sketch made by Brønlund of Danmark's Fjord and a portrait of Mylius-Erichsen and Høeg-Hagen.

On *Nov. 2nd* we left Brønlund's grave, and on the same night we reached the small island NE off Lambert's Land, where we camped with the intention of looking for the camping-site of the perished party, using our own tent as our base of operations.

Splendid clear weather and a moon almost at her full facilitated our search on *Nov. 3rd*, when Jørgensen and I went out, following the routes shown on the sketch (Fig. 6). We investigated the point marked I where the party must have passed, and I followed the quite fresh traces of a bear, hoping that it might have got the scent of the bodies. The trace disappeared on the land at the place marked II, and we followed the coast towards the south to the small fjord, which was most likely the one mentioned in Brønlund's last message, where he writes:

The bodies of the two others lie in the middle of the fjord in front of the glacier (about 10 miles)[1].

This small fjord might well be said to be "in front of the glacier", as it was the first one that the party reached, after it had left the

[1] Amdrup, Medd. om Grønland, Vol. XLI, pag. 192.

glacier in "Nioghalvfjersfjorden", and the distance (about 10 miles) will then be the distance which BRØNLUND must have walked, until he reached the place, where he perished.

This fits in very well with everything that is known, and it is also most likely that the perishing men would follow the coast, where the going is always better with less and harder snow than further out, and where in the semi-darkness it is much more easy to know ones whereabouts than it would be further out to sea, i. e. in the middle of the fjord. The shore has another advantage, as the party might get a stray hare or ptarmigan when following it. It certainly seems most likely that this route has been followed, and that the fjord mentioned by BRØNLUND is the one marked III.

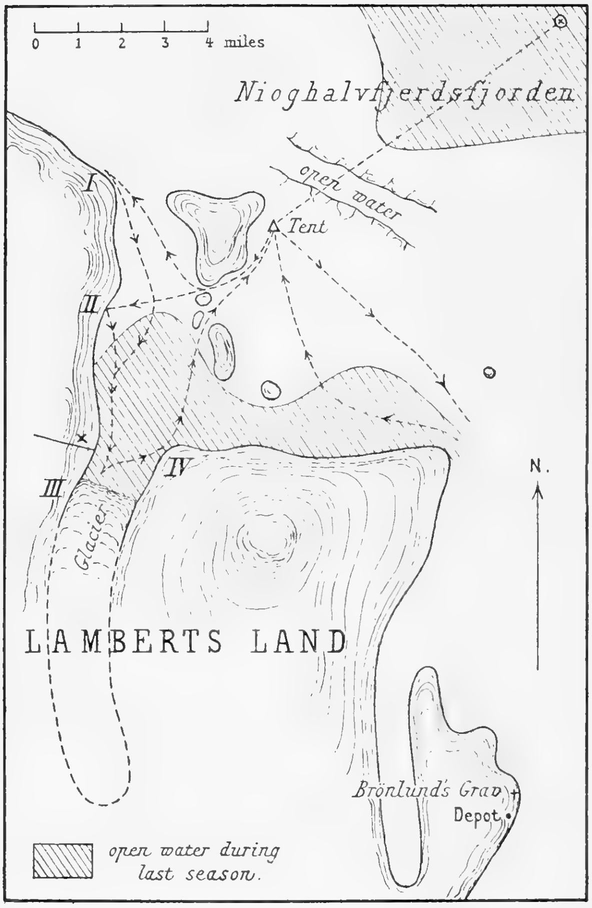


Fig. 6.

The coast and later on the mouth of the fjord as well as the cape marked IV were all examined very carefully without however finding the slightest trace, and the search had to be given up in this quarter.

It is most likely that the tent has been raised on the sea-ice, as it must have been difficult to find suitable snow on land so early in the winter (middle of November), and in this case the tent and bodies must have disappeared, as we to our surprise found evidence of a very extensive melting of the sea-ice. A large rivulet runs out in the place marked x, and this must cause the melting of the ice. The place hatched on the sketchmap was all covered with new ice, and the old ice surrounding it must have been in motion last summer, as it was broken up in small pieces with edges so sharp that they cannot have been exposed to the rays of a summer sun.

As the camping site could thus in all probability not have been on land, it was evident that wherever it might have been in this locality, it must have melted through the ice or drifted away out to sea.

There was, however, another possibility viz. that Brønlund's "— — — lie in the middle of the fjord in front of the glacier (about 10 miles)" might be understood like this, that the middle of the fjord was meant to be in the middle of "Nioghalvfjersfjorden", in which case the distance (about 10 miles) would be the distance between the glacier front and the camping site.

This however would locate the camping site far out towards the mouth of the fjord in a line from Cape Anna Bistrup to the island off Lambert's Land, and that would seem impossible when assuming that the party came down over the glacier spanning Nioghalvfjersfjorden.

To investigate this possibility we went NE from our tent on *Nov. 4th*, but here we found the same conditions as south of our tent, new ice or old floes broken into pieces and churned about. We even passed a crack about 7 metres wide, and were surprised to see that the thin ice covering the water was barely 5 cm thick, thus showing that the crack had been formed within the last twelve hours, a good evidence of the motion of the ice in this rather deep bay, in which the ice was not yet quite stationary.

The extent of new ice grew larger, as we advanced towards the northeast; the floes became more scattered, and we thought it unnecessary to go more than 4 miles in this direction, as it was evident that we would very soon have reached extensive sheets of ice, and that at any rate only thin ice could be found at the place, where the camp of the perished men should have been, assuming that the above was the real interpretation of Brønlund's last message. We then gave up the search, being confident that the bodies of Mylius-Erichsen and Høeg-Hagen must have disappeared, either — which is the most likely — by melting through the ice or by having drifted to sea on a piece of ice.

We did not see the glacier-front, but it must be remembered that darkness prevented an extensive view, while all near objects were quite visible.

Everything which could be done in this locality, was now performed, save a cut out over the ice from our tent towards SE, and this we did at the beginning of our return journey on *Nov. 5th* at 7,30 a. m. The ice was of the same kind here as in the other places, which we had already investigated — old floes with a good deal of new ice in between. None of the old floes were more than a mile in extension, and the further we got out, the more scattered they became, giving thus an additional proof to our theory that the whole of Nioghalvfjersfjorden had been broken up, and that a great part of the ice had drifted away.

In the evening we camped on our old camping site, not far from BRØNLUND's grave, on which we laid a flower-offering from the parents of HØEG-HAGEN and a winding sheet from Mrs. MYLIUS-ERICHSEN, feeling certain that this use of the two tokens of remembrance from the near relatives of the two perished men would be in accordance with their wishes, as the bodies of those for whom it was intended could not be found, and BRØNLUND had been the best of comrades to the very last.

We left Lambert's Land early on *Nov. 6th* having only four days' provisions on the sledges (half rations) and kerosene for two days. The sledges were drawn by sixteen dogs, as five had died on the outward journey, and of these sixteen several were in a very pitiful state and might die at any moment.

We headed a little further out to sea than when going north, and fortunately we found a little better ice, as progress would otherwise have been impossible on account of the darkness, the snow and the fog.

Nov. 7 and 8th were spent in our tent, as it blew a perfect hurricane, and though on the following day the weather was good and the ice tolerable, we only made very little progress, as the dogs caused us as yet unheard-of troubles. During the preceding night one had been torn to pieces and devoured by the others, and at 11 a.m. our largest and strongest dog gave out, possibly poisoned by eating the liver of the killed dog. At 1 p.m. a third dog died from sheer exhaustion, and the fourth fell at 2,30, perfectly worn-out, and it also died in spite of the fact that we camped and did everything to save the animal.

Thus only twelve dogs remained, and as it was now impossible to haul 3 sledges, one was left behind. This facilitated our sledging a little, but in spite of that we did not reach our depot on Pariserøerne before *Nov. 12th* at 5 p. m, when we had absolutely no provisions left.

We escaped the rough and difficult going from the northern journey by following another route, a little more to the west and down between the islands, where we actually found splendid going along the east coast of the Islands, so good in fact that we reached our depot on Bjørneskærene *Nov. 16th* at 5 p. m.

From there and southward, where we had expected to do some fast driving, our progress became poor, as the salt-water ice had been covered by a foot of soft snow, which made the hauling of the sledges very heavy.

In passing Skærfjorden on *Nov. 18th* we went further into the fjord than on our northward journey, thus escaping the old, hummocky ice with its soft snow.

On *Nov. 19th*, shortly after we had passed Cape Marie Valdemar, we lost another dog, but this was the last accident on this part of the trip, and we reached Danmark's Havn on *Nov. 22nd* at noon.

In spite of the darkness we had made better time going south than north, where we had an hourly average of 1,13 miles against 1,31 miles on our southward journey with only 114 sledging hours.

We decided to remain in Danmark's Havn for three days in order to give the dogs the much needed rest, hoping to get the animals so fit that we could reckon on bringing them all back to "Alabama". But the weather kept on being bad, and we had continuous storms with snow until *Dec. 2.*, when at last we resumed our journey, hoping in spite of the darkness to reach the "Alabama" in ten days.

This proved a false hope, as the going was very hard in consequence of the heavy snowfall, which had left a deep layer on the ice. The snow was quite soft underneath a thin crust, which could neither carry men, dogs nor sledges. Already on the first day from Danmark's Havn Lieut. Jørgensen was so unfortunate as to freeze his feet very severely and could not do much work, but luckily he was able to walk all the way in spite of the fact that his feet became blistered and later on inflamed. They froze repeatedly, as our footgear was too small to allow room for the large bandages in which they were wrapped, and he suffered extremely. But he kept on marching with unparrralled courage.

Two days, *Dec. 3rd and 4th*, we spent in camp, being compelled to do so by a violent storm, and the layer of snow had increased, when once more on *Dec. 5th* we were able to proceed. The darkness prevented our seeing anything whatsoever, and when we struck a small pressure-ridge, it took us 2½ hours to pass it, although its width did not exceed 300 metres. One dog died, and the rest became rapidly weaker. It was impossible to proceed with the weights, which we had on our sledges, and everything not absolutely necessary was left in a depot on the top of an iceberg on *Dec. 6th.* To illustrate the darkness it may be mentioned that starting on this day at 9,30 a.m., we could not see the face of a watch without the aid of a match. We were heading towards Teufelkap, and the going was so hard that we had to rest every 10 minutes; were the dogs being perfectly played out and one died towards evening.

At last, on *Dec. 8th*, we reached the snow-bare ice in Roon Bay, in which connection it may be stated that sledging on the east coast of Greenland is always better along a coast facing east or south than a coast facing north or west. The same conditions will be found, wherever the direction of the land is such that the prevailing winds blow across it at an angle, and the higher and steeper the coast, the less snow on the ice. The influence of a steep coast may be felt far out to sea, for instance we passed Teufelkap at a distance of 6 miles and found the snow quite hard in spite of its softness further out to sea, and about 4 miles off the cape we met the first snow-bare spots.

On *Dec. 9th* we camped off the mouth of Bessel Bay and became once more weatherbound for a period of two days, provisions now running very low.

The journey was continued on *Dec. 12th*, and sledging under rather a steep coast we had very good ice. One dog fell at noon and had to be lashed on top of the loads, until we camped, but it died during the night.

We were of course surprised to lose so many dogs, all the more as there was nothing to account for their death, save a general weakness. This however ought not be the case, as we fed the dogs very well, and the short working-day gave them more than sufficient time to rest. One definite cause may perhaps be mentioned — with what right I dare not say — viz. the fact that there is no evaporation during the autumn or winter. The consequence is that all the moisture penetrating into the furs of the dogs must be dried by the heat of the body, which however is not sufficient to do it altogether. On sledge-trips at this time of the year the dogs are consequently always wet, and they suffer much from this continuous state of wetness, which will very likely lower their bodily temperature and weaken their vitality,

This explanation, such as it is, seems the only reasonable one, as the dogs were fed about 1½ lbs. a day and had only to work as much as about six hours a day.

The Haystack was passed on *Dec. 13th*, and we were compelled to leave the coast and go across the ice, direct for Shannon Island. The going was very rough and difficult and became still more so, as in the darkness it was impossible to see the state of the ice even a few metres ahead. We had to work blindfold and often fell into deep holes, or we were stopped by a wall of ice, neither of which things were visible beforehand. The dogs were so exhausted that they could hardly stand, and so our progress was exceedingly slow.

We reached Shannon Island on *Dec. 16th*, but we did not reach the "Alabama" before the *17th* 4 p. m., as in the darkness we had taken too westerly a course, thus striking land at a place where it was too steep to climb. To cover the distance from Danmark's Havn to Shannon Island, a stretch of 90 miles, we had used sixteen days with in all 78,3 sledging hours, an hourly average of 1,14 miles.

We had all in all been eighty-four days on the trail, nine of which were spent in the house in Danmark's Havn. We had had eleven stormbound days, and our investigations at Lambert's Land had taken four days, so that in reality we had been fifty-eight days on the trail with 446,7 sledging hours, giving an hourly average of 1,07 miles.

Of the twenty-one dogs, which we took north, only seven remained, and two of the seven died on the day after our arrival.

The Sledge-expedition to Danmark's Fjord.

Plate I and III.

The plan and outfitting.

The journey from Shannon Island, via the Inlandice to Danmark's Fjord, along the outer coast, round Nordostrundingen and back to Shannon Island covers a distance of about 1020 miles, and this journey was to be performed without the aid of depots, save one laid out in Feb.

1910 in Bessel Bay and the stores left in Danmark Havn. The distance between these depots is about 900 miles.

It was absolutely necessary to make use of a support-party in order to perform the voyage, and all available men and dogs had to be taken from the ship.

The plan was as follows: The two parties were to travel together along the coast to Cape Peschel and on their way to lay out some small depots for the main-party; then they were to go in between the islands in Dove Bay, until they could find a convenient ascent to the Inlandice on Brede Bræ, and finally along northward over Storstrømmen, until the provisions of the support-party were consumed. We had calculated to be able to take the support-party as far as about 78° or possibly 78°30′ N. Lat.

When lack of provisions forced the two parties to separate, the support-party was to return southward, to go north of Dronning Louise's Land, follow its western coast for surveying purposes and either return to the sea-ice over L. Bistrups Bræ or through Ardencaple Inlet.

The main-party would proceed northward over the Inlandice from the place of separation, and its further plans would partly be dependent upon the length of the journey — in days — over the Inlandice.

If the journey over the Inlandice could be performed before April 20th, and if the conditions for returning this way during the latter half of the summer were thought favourable, a depot would be left at the place of descent, and an attempt would then be made to reach the western entrance of Peary Channel, after the west coast of Danmark's Fjord had been searched for remains of the lost Mylius-Erichsen party.

The return-journey would then take place along the old trail, considerably helped by the depots laid out by the north- and west-going parties.

However, in case the trip across the Inlandice should take longer than expected, or in case the conditions for returning along the outward trail were considered bad at the more advanced season, then all the provisions would be taken along to Danmark's Fjord, and the return-journey to Shannon Island would take place along the outer coast of northeast Greenland.

It was this latter part of the plan, which was eventually adopted.

The basis for the calculation of provisions after the separation of the parties was a distance of 10 miles a day, with one stormbound day each week.

The amount of days for which provisions were taken along was calculated as follows:

100 days' provisions for 2 men, weighing	180,32 kilo	(main-party)
32 - — - 3 - —	94,08 -	(support-party)
26 - — - 5 - —	145,04 -	(main & supp.-party)
Stormprovisions	25,00 -	
Of dogpemmican we carried in all	575,00 -	
Total provisions (men & dogs)	1019,44 kilo	

Of permanent weight we had to transport for 2 men	191,26 kilo
- — — - - - — - 3 -	200,00 -
Petroleum for 2 mens party including depot-petroleum	58,13 -
— - 3 - - for 32 days	19,20 -
— - 5 - - - 26 -	30,00 -
Depots to be laid out for return journey	102,21 -
Permanent weight, petroleum & depot	600,80 -
Provisions for men & dogs	1019,44 -
Total	1620,24 kilo

These 1620,24 kilo was the total weight to be transported, when the party left Bessel Bay, but in leaving the "Alabama" we had to transport almost 1900 kilo.

It was necessary to resort to double-banking, when such a large weight had to be transported by five men and twenty-one dogs, and it was not till April 9th, the last day when the parties travelled together, that the weight had been so greatly reduced that it was possible to transport it all at one haul.

In order to ensure the safety of the main-party on its return-journey depots were laid out in the following places:

I	Haystack, provisions for 2 men and 3 dogs in 6 days	21,08 kilo
II	Cape Peschel — - - - - - -	21,08 -
III	The place of ascent to the Inlandice - - - with petroleum	30,25 -
IV	Off the NE point of Dronning Louise's Land — —	44,03 -

Nos. I and II of these depots would be used in any case, provided the main-party returned to Shannon Island, but the depots Nos. III and IV would only be used, if the return-journey was undertaken along the outward trail. Means for floating across open water were also left at depot No. III as well as one sledge, which had become superfluous because of the diminishing of the supplies.

As very bad weather and rough ice prevented our journeying as fast as calculated, the depot No. IV was left on the ice off Cape Bellevue, and a little to the north of that the provisions for the support-party.

The plan which was eventually adopted and carried into effect was then this:

A depot-journey under the command of Lieut. LAUB was performed during the latter half of February 1910, with the result that 550 kilo dog-pemmican was left on the ice off Bessel Bay.

The main-party consisting of Iversen and Mikkelsen, and the support-party consisting of Olsen, Poulsen and Laub (leader) left Shannon Island on March 3d with all our dogs — twenty-one in all. The parties journeyed together to Haystack, where depot I was left, then to Cape Peschel (double-banking from Bessel Bay) where depot II was left, in between the islands off Brede Bræ, where depot III as well as a sledge was left close to the Inlandice on a island at 76°42′. The parties went from there over Storstrømmen, where depot IV was left about 6 miles off land and on 77°16′ N. Lat. and further north to 77°26′, where the support-party returned.

This party returned to the depot on 77°16′ and from there went north of Dronning Louise's Land and along its west coast to 77°10′, where the party returned and followed the outward track to Dove Bay, and from there went to Shannon Island via Danmark's Havn.

The main-party proceeded northward, and did not get down to land till at such a late period that returning over the Inlandice was out of the question, and all the provisions were consequently taken along on the continued journey — along the west coast of Danmark's Fjord to Cape Rigsdagen, from where the return-journey was commenced. The outer coast of northeast Greenland, around Nordostrundingen, was followed until Danmark's Havn and back to Shannon Island, the party more or less supporting itself on the depots left along the coast by the Danmark-Expedition.

The outfits carried by the two parties were quite similar, and mention is therefore only made of that of the main-party, as it was the most carefully selected.

The outfit may be divided in:

I. permanent weights (every thing which is not eatable)
II. diminishing weights (provisions, fuel etc.).

List of permanent weights.

Articles of outfit	Number	Weight of articles	Total weight of articles
		Kilo	Kilo
Sledging outfit:			
Sledges	2	60,00	
Sledgemast	2	1,90	
— sail	2	1,67	
Ropeyarns	30 meter	1,18	
Thongs	5,5 meter	0,42	
Spare harnesses	5	1,59	
Alpine rope	25 meter	4,63	
Snowshoes	2	3,92	
Canvas for making boat	1	7,95	
Dog kamicks	10	0,57	
		83,83	83,83

Articles of outfit	Number	Weight	Total weight
	of articles		
		Kilo	Kilo
Camping outfit:			83,83
Outer tent-covering	1	5,00	
Inner tent-covering (sewn on to total Canvas)	1	1,65	
Tentpoles	4	5,90	
Sleepingbags	2	9,00	
Cover for sleepingbags	2	3,00	
Fur-underlayers	2	4,80	
Brush	1	0,17	
Kamiut stick	1	0,50	
		30,02	30,02
Cooking utensils:			
Box of cooking utensils	1	3,15	
Primus filled with kerosene	1	1,46	
Spare parts for Primus		0,30	
Tunnel to fill Primus	1	0,04	
Cooking pots of aluminium	2	0,98	
Frying pan of aluminium	1	0,21	
Eating bowls	2	0,38	
Spoons	3	0,10	
Matches		0,33	
Tank with spirits	1	0,22	
Can-openers	3	0,21	
		7,38	7,38
Spare clothing for 1 man:			
Suits of underwear	1	0,60	
Stockings (pairs)	5	0,83	
Mittens & woolgloves	3	0,50	
Calico overalls for mittens	5	0,27	
Fur mittens	1	0,25	
Sealskin mittens	1	0,25	
Fur stockings	1	0,37	
Kamicks	5	4,40	
Finnesko	1	0,60	
Sennegras with sack		0,70	
Laupardshoes	1	0,75	
Overall-trowsers	1	0,83	
Snowglasses	2	0,06	
W. C. Paper		0,37	
Spare-diary	1	0,22	
Pencils	2	0,02	
Sack for spare clothing	1	0,35	
		11,37	22,74
			143,97

Articles of outfit	Number	Weight	Total weight
	of articles		
		Kilo	Kilo
Instruments etc.:			143,97
Sextant	1	2,29	
Theodolite with trepod	1	8,28	
Nautical almanac etc.		0,22	
Glasses	1	0,99	
Compasses	1	0,12	
Barometer	1	0,28	
Thermometers	4	0,14	
Pocketbooks	4	1,12	
Pencils	6	0,03	
India-rubber, dividers etc.	1	0,08	
Maps		0,43	
Camera	1	1,55	
Films with box	200	2,48	
Anemometer	1	0,50	
Box for Instruments	1	1,03	
		19,54	19,54
Tools etc.:			
Spade	1	2,25	
Icespear	1	1,63	
Axe	1	1,22	
Yankey toolchest	1	0,32	
Marlinespike	1	0,38	
Pincers	1	0,08	
Sail-needles	6	0,05	
Twine		0,26	
Tarred Twine		0,12	
Saw with spare blade	1	0,21	
Sack for tools	1	0,06	
		6,58	6,58
Guns and ammunition:			
Rifle	1	7,00	
Büchsflindt	1		
Cartridges for rifle	200	8,18	
Cartridges for shotgun	50	2,71	
Spare parts for guns		0,30	
		18,19	18,19
Sewing material in box		0,60	0,60
Medicine etc.:			
Different medicines		0,54	
Bandages & dressings		0,38	
		0,92	0,92
Total of Permanent Weights			189,80

	Number	Weight
		Kilo
Clothing worn by each man:		
Wool underwear	1	0,60
Fur anorak (outer)	1	2,20
- — (inner)	1	0,82
Calico anorak	1	0,67
Fur trowsers	1	0,85
Snow-overalls	1	0,42
Pair of stockings	2	0,33
Fur stockings	1	0,39
Finnesko	1	0,60
Wearing sole for finnesko	1	1,00
Pair of woollen mittens	1	0,09
— - fur —	1	0,22
— - woollen half gloves	1	0,10
Scarf	1	0,15
Woollen cap	1	0,10
Weight of 1 man's clothing		8,54

Remarks to the list of permanent weights.

Sledging outfit.

The sledges were rather heavy and were made so on purpose, as we expected to find a very rough surface, and subsequent events showed that the sledges were in no respect too heavy in build.

We used two different types of sledges, one of the ordinary Eskimo pattern made of ashwood and with iron-shod runners, and the other a combination of a Nansen and a Yukon sledge, that is a long, narrow sledge with broad runners and the uprights prolonged above the body of the sledge and connected on top by a thick cane, lashed firmly to them and to either end of the sledge. This sledge proved very serviceable on snow or rough ice, as the broad wooden runners made hauling easy on snow, and it likewise was very strong and flexible when travelling over rough ice.

The boat-canvas was an ordinary sheet of waterproof canvas 6 × 4 metres with holes along its edges.

The idea was to wrap it round one of the sledges and lash it, by means of the holes, to the railings of the sledge, thus making a raft on which men and outfit could be ferried across short stretches of open water. It proved very serviceable, but not in the intended manner, as the sledge for which it was constructed was left behind in Danmark Fjord. Instead of wrapping it round the sledge a very large bundle was made of all our camping outfit; the piece of canvas was wrapped all round this bundle, which was then lashed on our sledge, giving to it buoyancy enough to carry the outfit and as a rule our two selves across short stretches of water.

Fig. 8. The tent.

Fig. 9. Tentcloth thrown back, showing inside of tent.

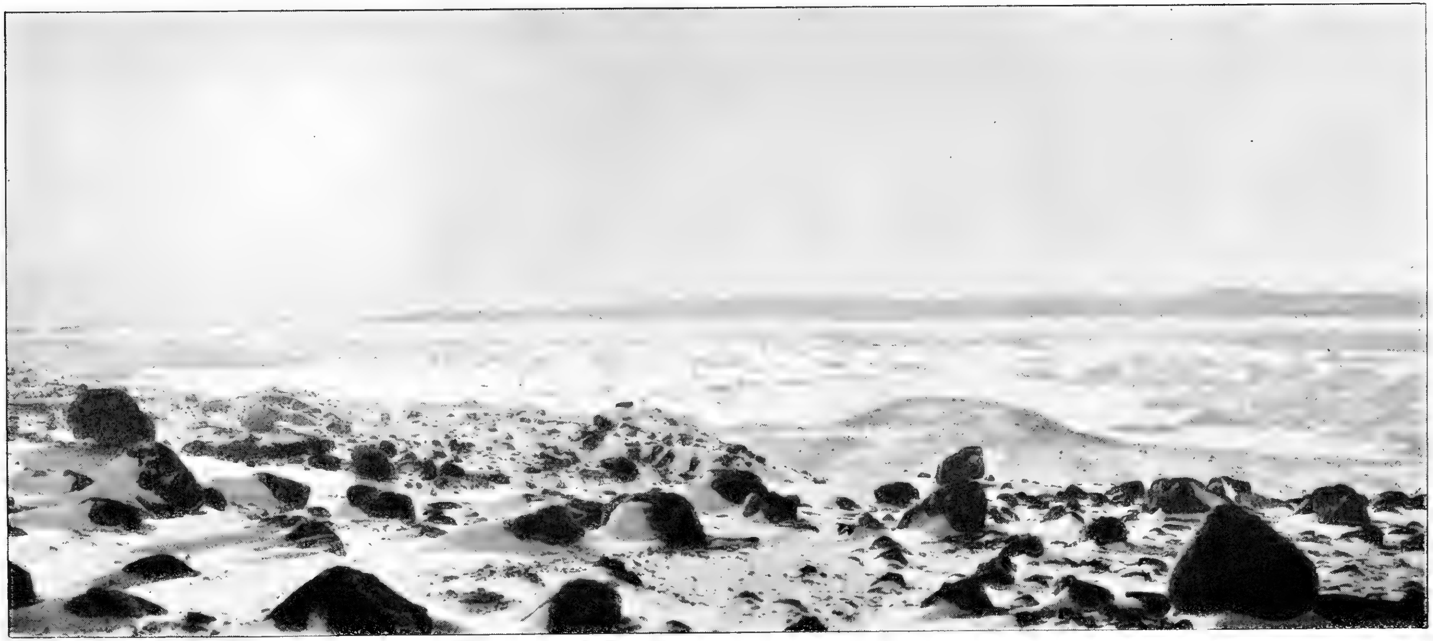


Fig. 10. A lake on the Inlandice, just south of the place of ascent. (Later-on called Bagfjorden by Capt. Koch.)

The dog kamicks

did not prove very serviceable, as the dogs will wear holes in them within a very short time. Small pieces of calico fastened with strings are better and last longer than the kamicks, as they can be shifted a little, when they are worn through.

The camping outfit.

The tent which is of such vital importance on arctic expeditions, was of a new pattern, hitherto only used by the Alasca Eskimo. I had simplified the pattern a little, substituting cane-rods for willow-branches, and thus we had got an exceedingly good tent, which cannot be recommended too strongly.

The framework of the tent consisted of 4 canes, with both ends stuck into the snow, thus forming arches, two and two together, crossing each other and tied together with a thong in the four crossing places. A halfround frame-work is thus formed (Fig. 7), and a square sheet of thin calico is spread over it. The flaps are weightened down by snow.

It is an exceedingly simple tent, easy to erect in all kinds of weather and very safe, as the spherical surface makes it possible for the wind to blow from every direction without meeting a square side (Fig. 8). The tent is very roomy and warm, particularly when an inner cloth is used, and this is likewise very commendable, as it saves fuel and prevents moisture from forming on the sides of the tent.

There was no bottom to this tent, which must also be considered an advantage, as the bottom in an ordinary tent will become very heavy after quite a short period. Two reindeer-skins were used instead of the tentfloor as an underlayer for the sleeping-bags (Fig. 9); they are warmer than the ordinary tentfloor and can be dried in a short time while hanging over the sledge on a fine day.

The diameter of the canes was $2\frac{1}{2}$ cm. but may be made smaller (probably 2 cm); their length was 5 metres, and the calico cover was $5\frac{1}{2} \times 4\frac{1}{2}$ metres. The only disavantage of this tent is that it is rather heavy.

The spare clothing:

We carried more spare clothing than is usually done on expeditions, as everything had to be planned in such a manner that we might have a good and suitable outfit for a summer spent on the coast. We therefore had to take some overalls, which we could use, when it was too warm for the fur, but the question of foot-wear was far more important, as we would have to use a good deal, if we had to ramble over land looking for game. The laupardshoes were particularly calculated for use in the summer, but were very quickly worn to pieces and worthless, so kamicks were practically used the whole time. We had each 5 pair of spare kamicks, and it was quite sufficient, as one pair of kamicks when properly handled will last almost a month, and the soles are easily repaired or even renewed. The woollen gloves were also intended for summer use.

Arms and ammunition.

The amount of arms and ammunition was also larger on account of the summer, which we would possibly have to spent on the coast, but the two hundred rifle-cartridges were too many, and we left a hundred on Schnauder Island. More shotgun-cartridges would however have been very desirable.

Medicines etc.

We only carried the smallest possible weight, but we had been too economical as regards this item, and future explorers must particularly be warned against doing as we did, i. e. excluding lime-juice from the outfit. It is very important indeed, and the lack of it may prove fatal to the members of the party.

As will appear from the list of clothing worn by each man, we almost exclusively used fur clothing, with thin calico overalls. It is strongly to be recommended, as it is both lighter and warmer than woollen clothing, but one must be very careful in selecting the skins for the clothing, as the skins of old animals are too stiff to be warm. The inner anorak weighing but 0,82 kg. was made of new-born calves, and we wore the furry side nearest the body.

These few remarks attached to the list of permanent weights do not pretend to give anything like a complete description of the outfit, but their object is simply to call attention to a few items on the list, which may not be so well known, and to explain and appraise articles of outfit, which were used for the first time by this expedition.

Diminishing weigths.

The provisions for the men on the sledge-expedition were calculated as follows on the basis of the daily ration for one man:

Kinds of food	Kilo
Pemmican	0,320
Butter	0,125
Biscuits	0,300
Chocolate	0,110
Dried peas & pork	0,070
Dried vegetables	0,020
Tea	0,0025
Sugar	0,025
Salt	0,007
Total weight of daily ration	0,9795

This daily ration served very well and was quite sufficient, so that we could even save a little every day.

The drawback of this daily ration was that the amount of biscuits was a little too small, and I am inclined to think that it would be far better if the ration of pemmican was slightly reduced and the difference made up by biscuits.

The dried peas and pork we used to mix with the pemmican, and the outcome was a very good thick stew, as the dried peas absorbed the grease in the boiling pemmican.

The chocolate was our daily lunch and was always eaten dry while travelling.

The total amount of provisions transported by the sledge-party was:

Kinds of food.	Provisions for				
	2 men in 92 days	3 men in 32 days	5 men in 26 days	3 men in 6 days	Total
Pemmican	58,88	30,72	41,60	5,76	136,96
Butter	23,00	12,00	16,25	2,25	53,50
Biscuits	55,20	28,80	39,00	5,40	128,40
Chocolate	20,24	10,56	14,30	1,98	47,08
Dried peas & pork	12,88	6,72	9,10	1,26	29,96
Dried vegetables	3,68	1,92	2,60	0,36	8,56
Tea	0,46	0,24	0,325	0,045	1,07
Sugar	4,60	2,40	3,25	0,45	10,70
Salt	1,38	0,72	0,975	0,135	3,21
Total weight for each party..	180,32	94,08	127,40	17,64	419,44

The amount of 419,44 kilo is the weight of all men-provisions, with the exception of the provisions meant for the eight days of storm. The weight of packing is not included in the above mentioned weight.

The provisions taken northward from the place, where the support-party left the main party, were packed in six different boxes with the object of laying depots for the return-journey in convenient places, as explained in plan.

The food was packed as follows:

In order to reduce the weight of the packing as much as possible, all superfluous tins were removed; then the different kinds of food were wrapped up in paper, and it was all packed in a tinbox of the required size. These large tinboxes were carefully soldered, and the provisions were quite safe. However we did not gain so much in weight, as we might have done, if it had not been necessary — with the trip westward into the Peary Channel in view — to pack the provisions in boxes for 10, 8 & 6 days, but we managed to get the total percentage of tins, in proportion to provisions carried, reduced to 9,0 %.

Kinds of Food	Provisions for 46 days		Provisions for 20 days		Provisions for 10 days		Provisions for 8 days		Provisions for 6 days		Total of Provisions	
	Weight	Packing	Weight	Packing	Weight	Packing	Weight	Packing	Weight	Packing	Weight	Packing
Pemmican	30.720	3.48	22.800	..	6.410	..	5.135	..	3.840	..	58.905	3.48
Butter	11.935	2.15	4.550	..	2.465	..	2.040	..	1.500	..	22.510	2.15
Biscuits	27.600	..	11.950	..	7.500	..	4.300	..	3.600	..	54.950	
Chocolate	10.135	0.26	4.400	..	2.200	..	1.760	..	1.320	..	19.815	0.26
Peas & Pork	6.440	..	2.800	..	1.375	..	1.135	..	0.845	..	12.595	
Dried Vegetables	1.840	..	0.815	..	0.410	..	0.320	..	0.250	..	3.635	
Tea	0.230	0.20	0.100	0.09	0.050	0.03	0.040	0.03	0.030	0.02	0.450	0.35
Sugar	2.300	0.68	1.000	0.18	0.500	0.08	0.400	0.10	0.300	0.11	4.500	1.16
Salt	0.695	0.08	0.300	0.09	0.145	0.02	0.125	0.02	0.090	0.01	1.855	0.22
Matches	0.140	..	0.140	..	0.140	..	0.140	..	0.140	..	0.700	
Dogpemmican	165.500	9.75	15.750	0.88	15.000	..	7.500	..	4.500	..	208.250	10.63
Box for packing men's food	..	5.50	..	2.75	..	2.75	..	1.75	..	1.75	..	14.50
Total of provision & packing	257.565	22.10	54.855	3.99	36.195	2.88	22.895	1.90	16.415	1.89	388.065	32.75
Total weight transported	279.665		58.845		39.075		24.795		18.305		420.815	
Packing in percentage of food	8.2 %		7.3 %		7.7 %		8.3 %		11.5 %		9.0 %	
Packing in percentage of total weight	7.8 %		6.8 %		7.1 %		7.9 %		10.4 %		7.8 %	

Besides the provisions included in the above list we carried as formerly mentioned some food to be used during storm days, so that on those days we could get a complete change of diet. The storm-provisions consisted of

Bacon	4,5 kg.
Dried apples	5,0 -
Sugar	1,0 -
Brown beans	5,5 kg.
	16,0 kg.

The necessary amount of biscuits and tea was saved out of the ordinary ration. This change of diet was particularly welcome and may be strongly recommended, but the brown beans, although very good when cooked, did not fulfil our expectations, as we could not afford to use fuel enough to get them properly cooked.

Another important item of diminishing weight is the kerosene, of which we carried 34,13 kg. — 100 days' consumption. The daily allowance pr. man was 0,17 kg. which was quite sufficient, though on the other hand it could not be further reduced, as long as the party consisted of two men. A party of three men however can easily get along on less. It may here be stated that we did not use the NANSEN cooker, which is so much used nowadays, as we wanted to heat our tent a little. In spite of this the kerosene was ample to allow us to cook pemmican and tea twice a day and to give us as much water to drink as we wanted.

The sledge-journey was as mentioned calculated to last for a hundred days without our getting new supplies, and supposing that the dogs were fed with 0,5 kilo we would need 50 kg. food for each dog within this span of time. The eskimo-dogs on an average can not be reckoned on for hauling more than 50 kg., and in fact it amounts to this that on a hundred days' journey the dogs can only haul their own provisions — continually assuming that the dogs shall be kept alive.

The only way to make the dogs valuable on such a long sledge-journey is to kill them, as the load diminishes, and feed them to the survivors, so that the weight hauled by each dog is nearly constant on the whole journey, in other words, to kill a dog whenever 50 kg. is eaten.

The following scale will show the way in which this was planned for the main-party.

This table explains itself, and it is only necessary to call attention to the fact that two dogs were killed simultaneously at the end of 30 days of sledging in order to raise the average weight hauled by each dog to more than 40 kg. The average pr. dog increases rapidly from here and downward, but it must be born in mind: firstly, that the weakest dogs were of course killed first, secondly, that on this smaller

Number of sledging days from basis	Number of dogs for hauling	Number of dogs killed for food	Rations obtained from each dog killed	Number of days in which dogs are fed on		Consumption of		Total consumption of	Weight of provisions on sledges	Permanent weight + weight of provisions	Total pulled by dogs at the beginning of each term
				Dog-meat	Pemmican	Dog	Man[1])				
						Provisions					
0.............	15		..	..	..	..	..	..	457.48	647.48	43.2
10.............	14	1	14	1	9	50.25	23.60	73.85	383.78	573.68	41.0
20.............	13	1	15	1	9	46.87	23.60	70.47	313.30	503.20	38.6
30.............	12	1	20	2	8	38.63	23.60	62.23	251.07	440.97	36.7
35.............	10	2	40	4	1	4.50	11.80	16.30	234.78	424.68	42.4
40.............	9	1	18	2	3	10.50	11.80	22.30	212.47	402.37	44.7
50.............	8	1	16	2	8	28.50	23.60	52.10	160.38	350.28	43.7
55.............	6	2	36	6	..	..	11.80	11.80	148.57	338.47	56.3
60.............	5	1	20	4	1	2.25	11.80	14.05	134.52	324.42	64.8
70.............	4	1	20	5	5	9.37	23.60	32.97	101.55	201.45	72.8
80.............	4	..	..	..	10	15.00	23.60	38.60	62.95	252.85	63.2
90.............	3	1	18	6	4	4.50	23.60	28.10	34.85	224.75	75.0
100.............	3	..	..	..	10	11.10	23.60	34.70			
	..	12	217	33	67	221.47	236.00	457.47			

[1]) including petroleum.

weight the personal work in hauling done by the men would amount to much more than formerly — that is, the men could almost pull the sledge themselves — and finally, that the permanent weight will decrease a little in course of time and that one sledge would be left behind, when it was possible to drag all that remained on one sledge. All this would count so much that the apparent larger average pr. dog after 55 days' of sledging would, in spite of everything, be proportionally smaller.

This list was worked out onboard the ship and used on the trail with very little alteration.

The Journey from Shannon Island via the Inlandice to Danmark's Fjord.

March 3rd—May 12th 1910.

It was not till *March 3rd* that everything was ready for the final departure of the sledge-expedition to Danmark's Fjord, and we were off at 9 a. m. with four sledges drawn by all our dogs, twenty-one in all. Laub, Iversen, Olsen, Poulsen and myself formed the party, which was later on to be divided in the following manner: Laub, Olsen and Poulsen were to go along the west coast of Dronning Louise's Land, while Iversen and myself were to go all the way to Danmark's Fjord.

At first the going was rather hard, as the low temperature of the preceding day had crystallized the snow, which made the sledges drag very heavily, and this in spite of the fact that the sledges were rather light, weighing on an average not more than 220 kilo. At any rate we made but poor progress, which may however be caused by some of the dogs becoming unserviceable, as their pads were quickly worn through by the sharp snow.

It took us 36 sledging hours to cover the distance between Shannon Island and the Haystack, which we reached on *March 7th* after having crossed a very bad stretch of ice covered with very large hummocks, some of which were so high and steep that all hands had to help to take each sledge across.

In this connection it may be of interest to state that sledging is very much easier when going over the ground on a course cutting the general direction of the wind at so small an angle as possible. Wherever there are hummocks, the wind will cut away the snow from its windward side, leaving it steep and bare, while it deposits the snow to the leeward of the same hummock, thus forming a long and even snowbank, over which it is fairly easy to drive the sledges, even to a rather considerable height. The same holds good on level ground, but in a much smaller degree, as the end of a snow-wave pointing towards the wind is steep and may stop the sledge, while its other end is so even and slanting that it can hardly be felt.

Under land the going became much better, as the ice was comparatively smooth, and from the Haystack northward to Cape Peschel, we even found large stretches of glare-ice. The depot laid out by LAUB at the mouth of Bessel Bay was passed on *March 9th* at 11 a. m., and having convinced ourselves that it was in good order we proceeded at once towards Cape Peschel, which we passed on *March 10th*, after which we unloaded the sledges on a little island just north of it. We had now to begin double-banking, and LAUB, assisted by OLSEN and POULSEN, returned for the depot in Bessel Bay, while IVERSEN and myself went across towards Cape Helgoland in order to try to find the depot left on a iceberg during the autumn of last year. We met very bad going and had to plough through snow more than $^1/_3$ meter deep. This kind of going continued all the way across Dove Bay, and it was not till *March 12th* at 10,30 a. m. that we had reached a place somewhere in the neighbourhood of the depot. We left the tent on the ice and drove out with an empty sledge, zig-zagging along, thus hoping to get near the depot.

We had nearly given it up as lost, when a stick was seen, sticking out of the snow far away, and driving close we found that it was one of the sledge-runners which we had raised on end to mark the depot. Our surprise was great when we reached the iceberg, which had been rather imposing in the autumn, and found it quite buried in the snow; the snow must in this place have been almost five metres high, as we could drive right over the iceberg without noticing anything but a small undulation.

Bears and foxes had disturbed the depot, but all necessary articles were intact, and our mission ended we returned to Cape Peschel, which we reached on *March 14th*, laying out our second depot for the return-journey on the cape itself.

LAUB arrived in camp in the course of the afternoon, having succeeded in bringing up the depot from Bessel Bay and advancing it about 10 miles to the west, where it was unloaded on the ice between Tvillingerne, and on *March 15th* we advanced the rest of our stores, once more working together.

Thus far we had not had a single rest since leaving Shannon Island, and the dogs were very tired and needed a day off, so we were quite pleased, when a gale sprang up compelling us to remain in camp all of *March 16th*, in which manner we got the much needed rest.

To our infinite surprise our dogs had become very much weakened, probably not, however, so much on account of the work as on account of immoderate sexual intercourse. More than half of our dogs were bitches, and as they were all in heat at the same time, the male dogs could not be kept within bonds. This sapped the strength of males as well as females, and great care ought to be taken to avoid an occurrence of this kind, as in particular the male dogs became quite worn out. If we had not been so fortunate as to get a bear on *March 17th*, I am sure that some of our dogs would have died of exhaustion, the primary reason of which was the weakness arising from continual intercourse with the bitches.

We found a surprising amount of bear traces in this vicinity and saw no less than nine different lairs. In the case of four of the nine lairs it was quite plain that the bear had gone into a cave in an iceberg and allowed the entrance to be snowed up, and that it had later on broken out through as much as four feet of snow. In two other cases it was evident that the bear had dug down into the snow to a very considerable depth and slept there, but in the remainder of the cases the holes were probably dug in order to get hold of a seal, as we noticed a place just near it, where the snow was dyed with blood.

On *March 18th* we had advanced as far as Carl Heger Island, where our progress was stopped by apparently floating inlandice, which filled up the sound between the island and the main land and all along the coast of Edward Island. We looked down upon it from an elevation of 175 metres and could not detect a single level spot. Farther on, beyond this floating inlandice or — and this was more likely — icebergs stopped on a shoal and drifted together, we detected a perfectly level stretch of bay-ice without a single iceberg, going all the way to the glacier front. The Inlandice was also in plain view, and there seemed to be quite a level and smooth stretch of ice reaching from the middle of Bredebræ towards the WNW (true). To the north and south of this level ice, which appeared as a broad road, the ice was very rugged, full of hummocks and intersected by crevasses.

On *March 19th* Laub and I went out to try to find a passable road through this belt of icebergs, leaving the three others to bring up the rest of our provisions. We found a road, which was if not good then at least passable, and over which we took our stores in two turns on *March 20th.*

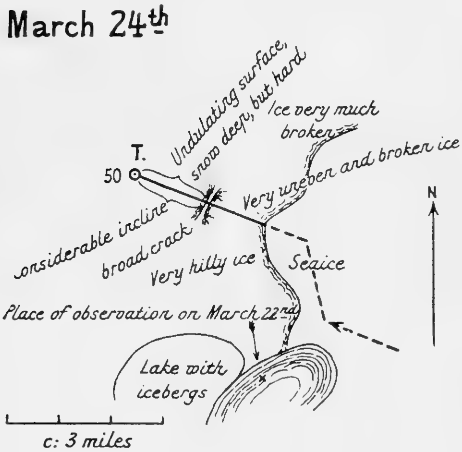
We found a very narrow streak of good, level ice close under the main land and made good progress over it, and on *March 22nd* we reached a place just in front of the glacier, where we stopped in order to find the best place to ascend.

We climbed a rocky point on the main land projecting into the Inlandice, and from the height of 125 metres the conditions of the surface of the Inlandice could be seen far toward Dronning Louise's Land and to the north.

We noticed a rather level stretch of Inlandice connecting Dronning Louise's Land with the coast, and this level ice followed the east coast of the land as far as the northern horizon, apparently with a very small rise. This level ice was sharply bordered on either side by extremely rough ice, which was also intersected by cracks, and it almost had the appearance of a broad river, winding its way between the rough ice to the coast.

At our feet, between the land on which we stood and the Inlandice, there was a rather large lake, which had an extent of about five miles (Fig. 10). Its surface was perfectly level, but studded with small icebergs.

March 23rd we spent in trying to find a passable road over the rough outer edge of the glacier, and we succeeded, but not till we had worked through an exceedingly difficult icebelt, with hills so high and valleys so filled with soft snow that it would be impossible to pass it with sledges. It took us 3½ hours hard walk to cover a distance of 2 miles and reach the level ice, which we had seen the day before. By following the edge of the rough ice towards the coast we found the place where the level ice came nearest to the bay-ice, and further on we succeeded in finding a rather good way through the rough outer edge and a river-course, through which we could gain the surface of the Inlandice with the sledges without much trouble (Fig. 11).



On *March 24th* we brought the sledges on to the Inlandice and camped about 3 miles from its edge on quite level ice and about 50 metres above sea-level.

At first our progress over the Inlandice was very slow, as we had to transport such a large weight that it was quite out of the question to think of moving it all at the same time, and so we were compelled to resort to double-banking until *April 7th*, when the stores belonging to LAUB's party were left behind. This way of travelling of course took us a good deal of time, all the more as we did not dare to go too far from our stores, particularly in bad weather, as we were compelled to reckon with the possibility of being able to find them only by following our old track. This became difficult, whenever it snowed or stormed, or even when the snow began to drift. We used to take half our outfit on the sledges, to travel with it as far as we dared from the stores we had left behind, camp, and then, if time permitted, return at once for that which was left on the ice. As a rule, however, we did not return till the following day, when the stores were brought up to camp and then driven so far beyond it as we could, before bad weather or darkness compelled us to return to our tents. The tents were then moved to the stores and beyond on the following day. By adopting this way of travelling we saved considerable work, as we had only to allow time for breaking and making camp every second day, while every other day could be used to its full extent, weather of course permitting, to advance our stores to the north.

Fig. 11. The place of ascent to the Inlandice.

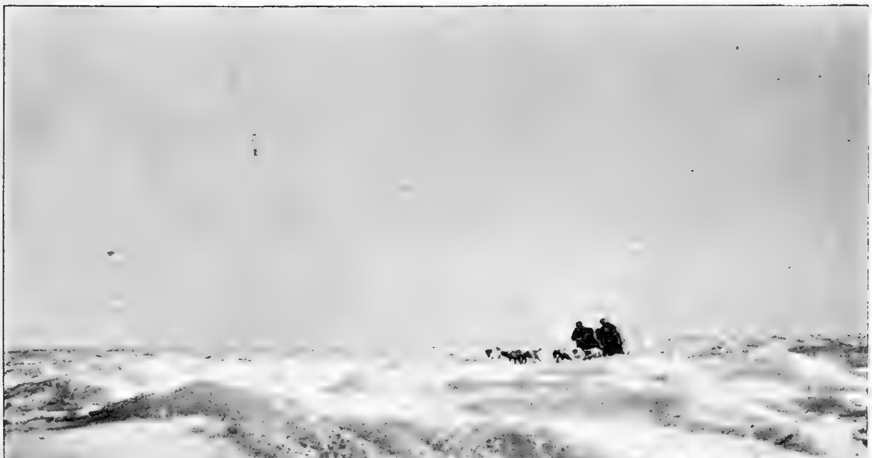


Fig. 12. Passing small hummocky ice. 28/3 1910.

Fig. 13. Tents on small hummocky ice. 28/3 1910.

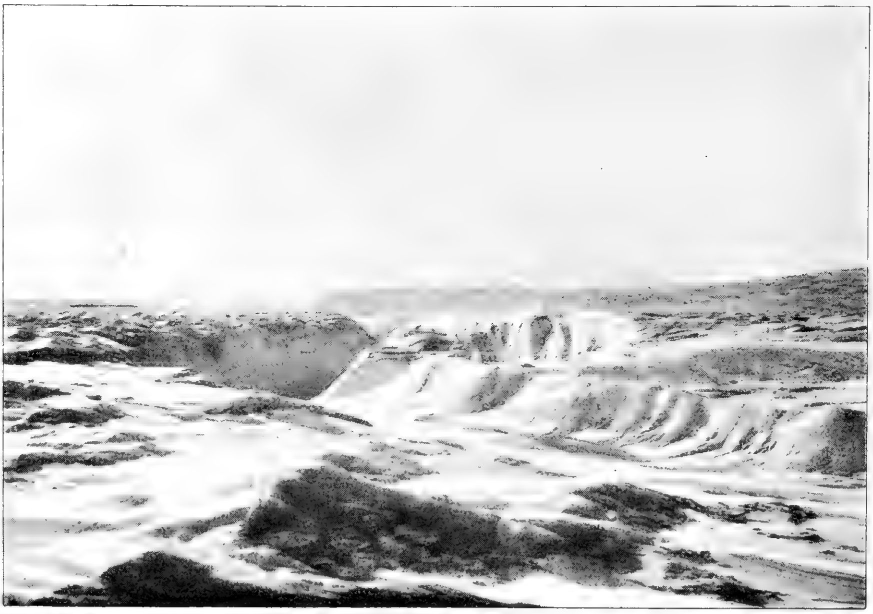
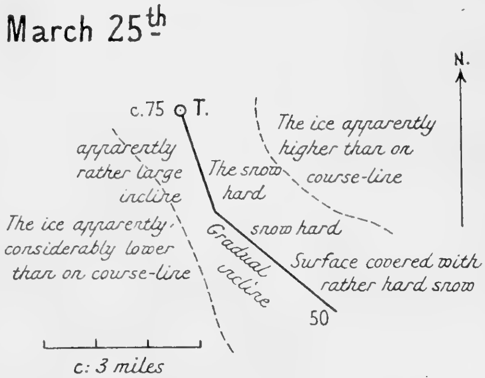


Fig. 14. Snow-bare rivercourse on the Inlandice. 30/3 1910.

The distance covered on *March 25th* was but small (4—5 miles), as owing to an accident to the dogs we could only sledge a few hours. Also the going was heavy, as it had been snowing rather much during the preceding night, and the ice had consequently become covered with soft snow, about 1/3 meter deep. The rise of the Inlandice was though even rather noticeable, the total rise of the day being 25 metres, thus giving us an elevation of 75 metres above sea-level when camping.



The whole of *March 26th* was used to advance our stores, half of which were left 4 miles to the north of our tents. There had been a heavy snowfall during the night, and the surface was covered with 4—5 inches of quite soft snow, which hindered the sledging so much that we wished for a gale to blow it off.

The gale came at 10 p. m., and on *March 27th* it was blowing violently until 4 p. m., when it suddenly calmed down and cleared off at the same time.

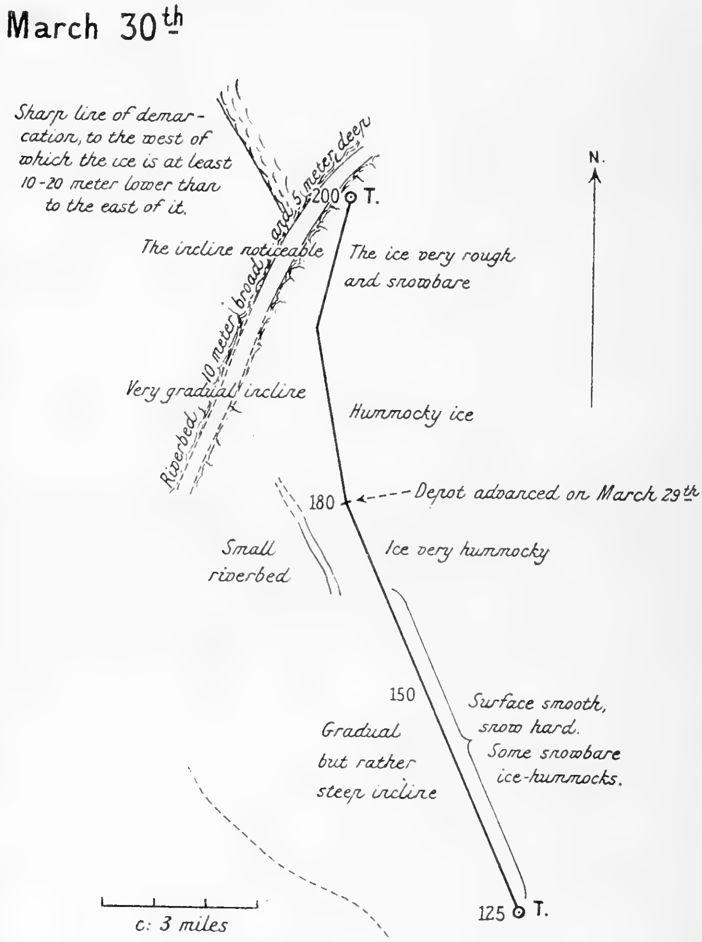
A gale sprang up once more during the night, but it abated in the morning of *March 28th*, when at 7.10 a. m. we thought it possible to start. The weather was quite clear, but far ahead we could see a wall of snow, stirred up by the wind. Large clouds of snow rose over this perfectly sharply defined wall and were all blown away to the east with great velocity, but at a right angle to the wind along the surface, which was northerly. The storm came on us at 8 a. m., and we were compelled to camp after trying to weather it out, believing it to be only a squall. At 2 p. m. the wind suddenly died down, and we were once more able to proceed, now in fine weather.

We drove northward over quite good ice, which rose perceptibly in large, flat hills, covered with hard snow without any sastrugi. The layer of snow became thinner, as we advanced, and the last three miles of the day's travelling were along a surface, where snow-bare hummocks rose through the snow (Fig. 12 & 13). We passed a few broad river-courses extending N—S.

The rise of the Inlandice was 50 metres on a distance of 7 miles, giving us a height of 125 metres above sea-level.

On *March 29th* we fetched up our stores and drove them beyond the tents to the north. The weather was good, but a breeze sprang up in the afternoon and increased to a gale before 6 p. m. It blew very hard all night, but as the wind abated before morning, we were able to follow up the trail of the preceding day on *March 30th*.

At first the going was splendid, and we made good progress over the hard, even snow, and this in spite of the fact that we had a steep rise on the first 6 miles. Then we came on to a plateau 1 mile in length,



and after that to a steep hill, at least 15 metres high. Unfortunately we got rather near to a valley traversed by a river-bed, and we had some rough ice along its edge. Farther to the west we could see a very broad and apparently deep river-course, which had a general NNE — SSW direction, thus cutting our course. We came rather near it towards the end of the day's travelling, and saw that it was about 10 metres broad and 5 metres deep. Its edges were very rough, and large snow-bare hummocks, with deep soft snow in between, delayed our advance (Fig. 14 & 15). We camped after having travelled a distance of about 14 miles, with a rise of 75 metres and 200 metres above sea-level.

We had an extensive view towards Dronning Louise's Land from

Fig. 15. Snow-filled rivercourse on the Inlandice. 31/3 1919.

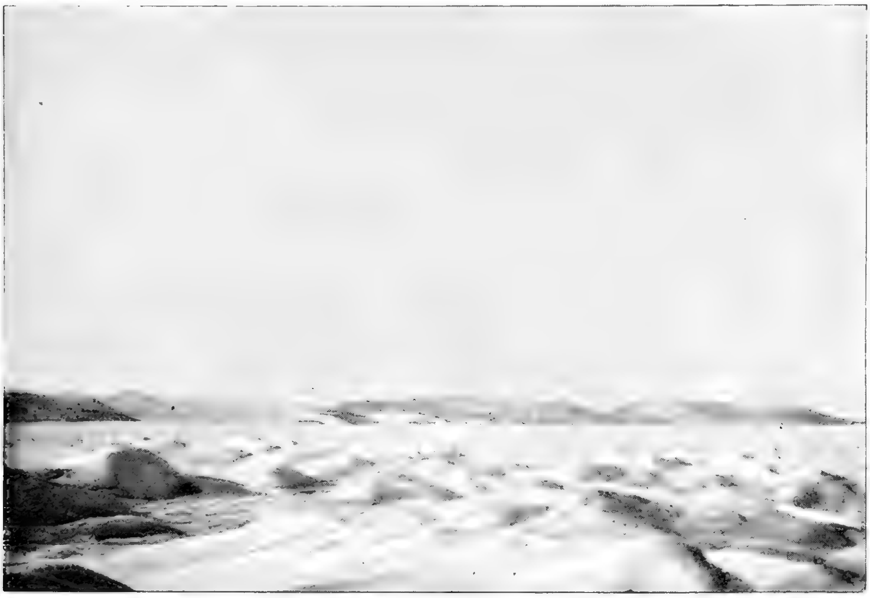


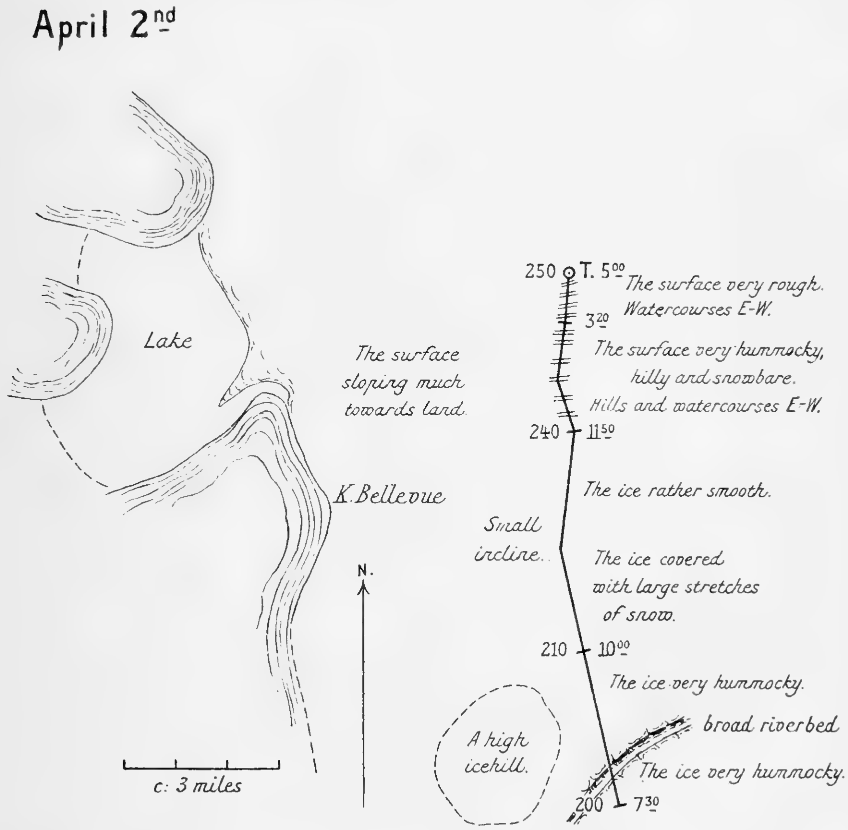
Fig. 17. Very heavy ice just south of the depot. Note the sharp line of demarkation between the lower ice of Dronning Louise's Land and the regular Inlandice.

Fig. 16. Panorama of Dronning Louise's Land. Taken on April 1st from 77°3 N. Lat. Distance about 5 miles.

our camping site, and noticed that the ice was much lower than east of a line from our camp to Cape Bellevue. The line of demarkation was very pronounced, as there was an almost vertical drop of about 20 metres (Fig. 16).

March 31st was spent in camp, as it blew too hard to proceed or even to fetch up our stores, and the wind did not calm down till 5 p. m. too late to do any work. The weather was quite clear after the gale, so we could see far to the north, where hill rose above hill until a distance of about 15 miles.

April 1st we advanced our stores; the weather was quite good.



In this diary sketch, and in the following, the figures to the right of the line indicating the route denote the hour, when the course, distance and other observations were noted down. The meteorological data observed at these hours are recorded in the list, pag. 71. The figures to the left of the line indicate the heights, in metres, worked out after the return, so that they do not always correspond with the notes in the sketch on incline and decline (see pag. 78—79).

April 2nd. We did not leave the camp till 8 a. m. owing to different accidents with the dogs and sledges.

At first we made rather good progress, for immediately after passing the river-course, which we followed on *March 31st*, we got better and better ice, the further we got away from it. The large, snow-bare hummocks disappeared, and the surface became rather smooth, covered with long stretches of snow.

At 12.45, just after having passed the stores we had advanced yesterday, we got on to some very bad ice, where we had to pass a number of rather high but short and steep ice-ridges, parallel with each other and extending E—W. During the summer the water flows between these ridges in a western direction and empties out into the large lake north of Cape Bellevue.

The ice sloped rapidly towards land. The day's distance was 10.5 miles with a rise of 50 metres, our total elevation being thus 250 metres above sea-level.

April 3rd. The weather was very squally, and it was not till 12.30 that we could begin our day's work, which consisted of bringing up our stores and advancing them beyond our camp. The ice, however, was very bad, and one of our sledges broke down just north of our tents, so that we were compelled to return for repairs (Fig. 17).

April 4th. We had hoped to be able to leave our depot for our return-journey on land, but we gave it up, as the ice seemed so very bad towards Dronning Louise's Land.

It was consequently left on the ice on 77°16′ N. Lat. on the top of a high hummock, plainly marked with the wreck of one of our sledges.

The ice over which we travelled was almost bare of snow, and large hummocks, some as high as 4—5 metres, were lying side by side. This snow-bare ice was rather a surprise, but it is quite natural when we consider the extremely boisterous character of the weather in this locality. The wind, which is only an ordinary storm to the north of Dronning Louise's Land, gains in velocity when forced into the funnel-like opening between this land and Germania Land and cuts away the snow (Fig. 18).

The greatest undulations in the surface of the Inlandice are of course due to the large rivers, which intersect it all over, and to the rivulets running into them. But apart from this, there must be other causes, as we noticed a large amount of sand and stones on the surface of the ice, blown out from Dronning Louise's Land. These dark objects absorb the heat, thus causing the ice to melt around and underneath them, whereby holes are made, in which the melting is further accelerated by the water. We passed an exceedingly large number of holes and found sand or stones at their bottoms.

Passing over these hummocks it will soon become evident that they are all longer in a N—S than an E—W direction, which is only natural, as the prevailing northerly winds deposit a hard snowdrift to the leeward of all hummocks or undulations (Fig. 19). These snowdrifts are late to

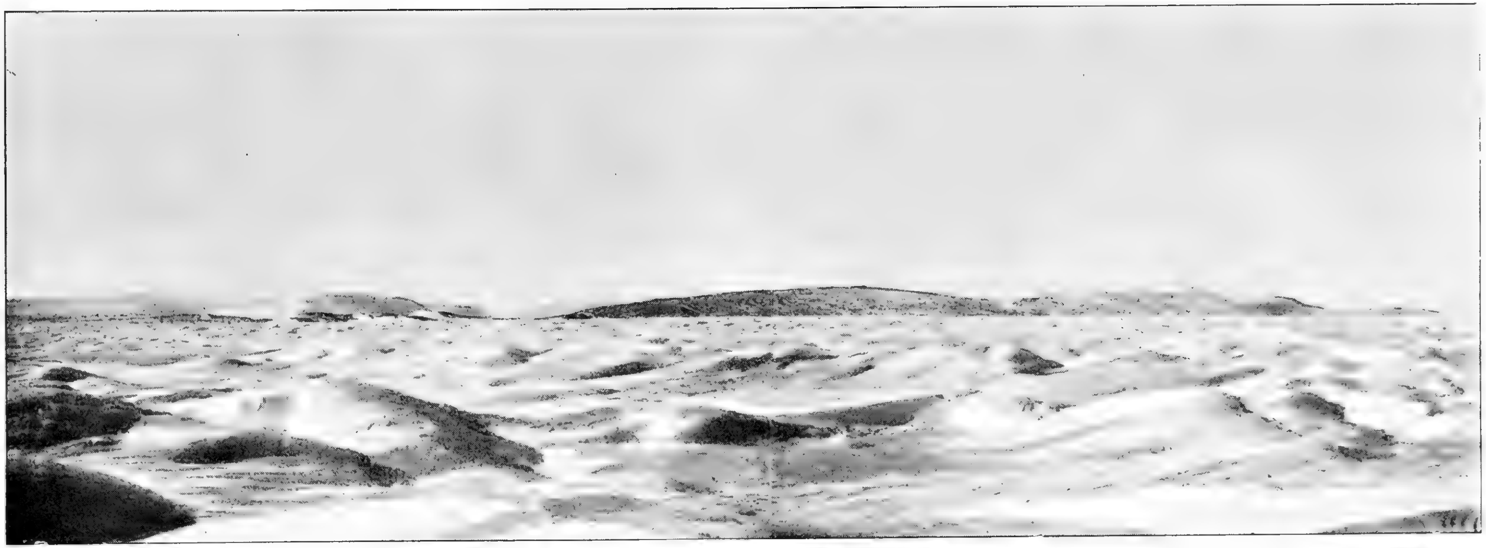


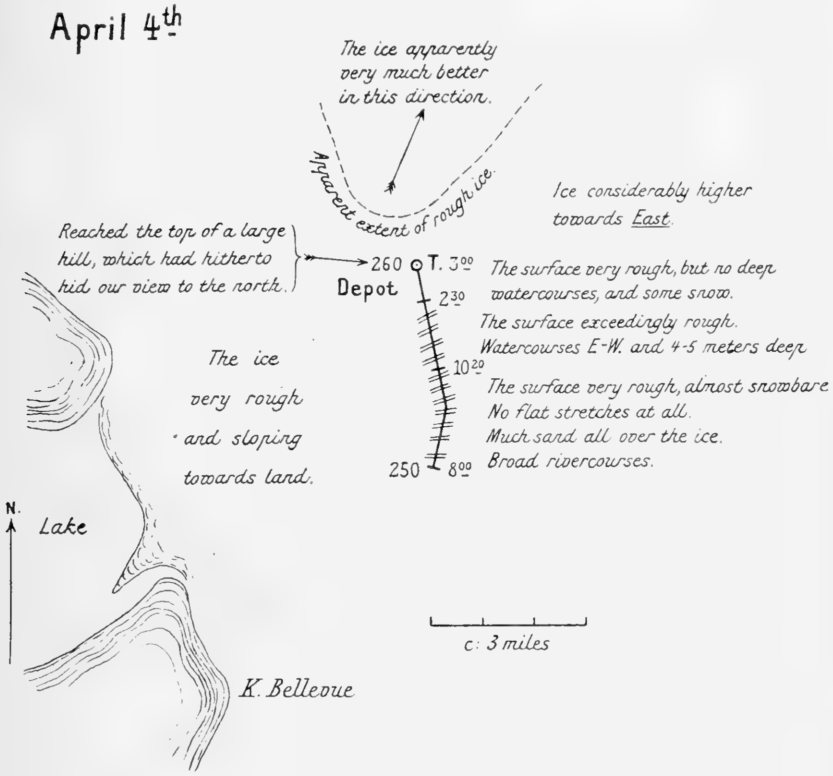
Fig. 19. Heavy undulating ice with large snowdrifts. 1/4 1910.

Fig. 18. Snow-bare, windswept ice.

Fig. 20. Passing snow-bare ice-hills. 1910.

melt, thus protecting the ice against the direct rays of the sun, and some do even not melt at all during the summer, but being watersoaked at the end of the summer they freeze to ice and thus form a part of the hummocks, which in that manner get an oblong shape, the length of which depends entirely on the height of the hummock; the higher the hummock, the longer it becomes.

The many parallel river-courses were passed during the early half of the day, and though the surface became a little better, it was still dif-



ficult to take the sledges across, as the dogs could not find a footing on the quite smooth, snow-bare hummocks.

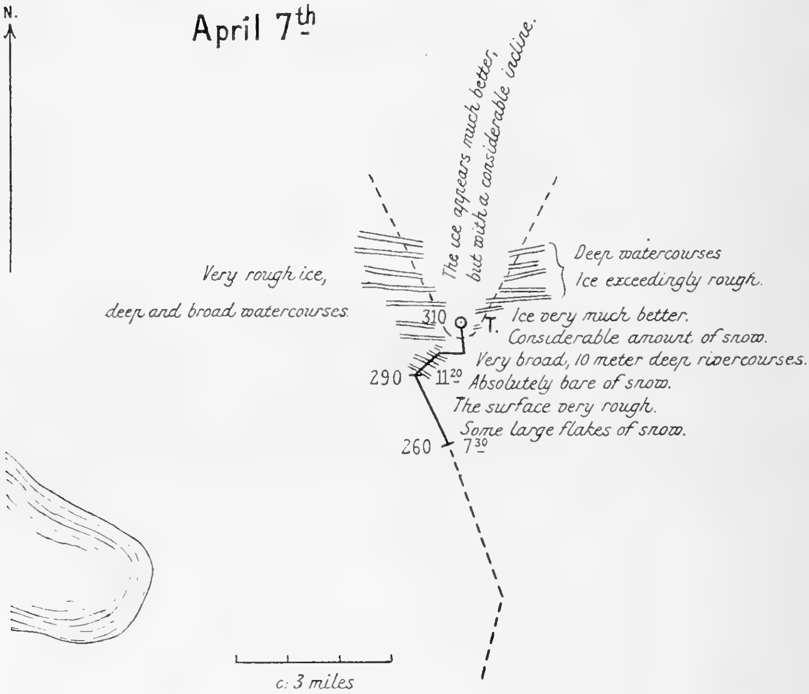
The distance was but 4 miles with a rise of c: 10 metres, making a total elevation above sea-level of c: 260 metres.

When we camped on the top of a high hill, which had hidden our view to the north for the last few days, we were able to see the conditions ahead. They seemed good, but not till we had passed the ice just in front of us — a narrow belt, intersected by river-courses, which were running so close, that they were only divided from each other by an ice-ridge. Further away, on the other side of this belt, a tongue of apparently good ice was stretching as far as the horizon, bordered on either side by apparently impassable ice.

April 5th was spent in camp, stormbound.

April 6th. We advanced our stores, leaving our tents standing, but 2 miles beyond our camping site the ice again became uncommonly bad, and it was decided — in order to get as far as possible before being obliged to let our three comrades return — to leave all of LAUB's provisions in the camp, and only push north with our own stores and his camping outfit, hoping thus to be able to drive all the load in one turn.

April 7th. The ice which we had to pass was however so rough that it was quite impossible to transport the remainder of our stores,



which we had to divide and keep on double-banking, but even then we only proceeded with great difficulty. We worked for 10½ hours, and only advanced 2 miles with half our loads (Fig. 20).

Immediately after leaving our camp we came amongst some very high hummocks, perfectly snow-bare and smooth, consisting of such hard ice that our iron-shod runners made no impression whatever. The ice became worse about 1½ miles north of our last camp, and we had to pass 7 deep water-courses, divided from each other by steep, high and glossy ridges, about 10 metres high. It was impossible to pass all the ridges, and we had to keep off to the eastward through one of the river-beds, thus reaching the plateau which we had seen on *April 4th.*

Fig. 21. Taking the sledges down into a rivercourse. 7/4 1910.

Fig. 22. Driving down into a deep rivercourse. 7/4 1910.

Fig. 23. The sledges in a rivercourse. $^{7}/_{4}$ 1910.

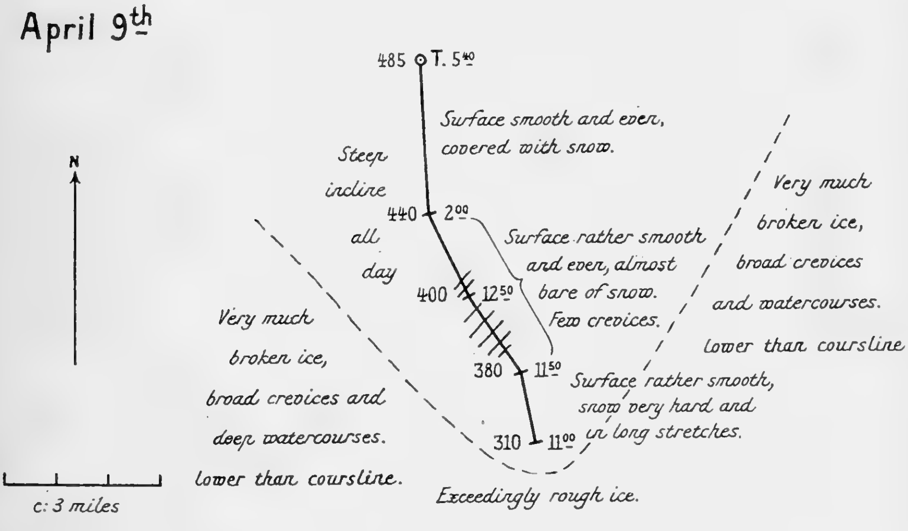
Fig. 24. Very hilly and hummocky ice. $^{7}/_{4}$ 1910.

We had deep river-courses and crevasses on either side, and the plateau when eventually reached was but a narrow spit with a width of only a few hundred metres, getting rapidly broader towards the north. The surface was quite smooth and covered with snow (Fig. 21—22—23—24).

Total distance 2 miles with a rise of 50 metres; total above sea-level 310 metres.

April 8th. As usual a gale sprang up during the night, but it calmed down towards morning, so that it was possible to send back two sledges for the remainder of our stores, which were advanced beyond our tents in the afternoon. Orders were made out for Laub, letters and instructions were written, and everything was now ready for us to part company with our comrades, as on account of lack of provisions it was impossible for us to remain together for more than one more day.

April 9th. Again a gale blew throughout the night, but it calmed down suddenly, and we were able to get off at 11 a. m. The going was very good — the best we had had on the Inlandice — and we made good progress in spite of the large rise of the surface, about 195 metres. For a couple of miles the ice was covered with very long, narrow, but

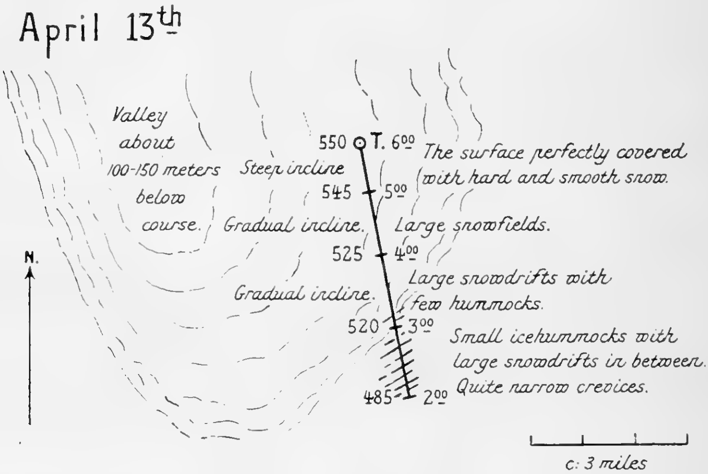


hard and even leads of snow, but for the next 3 miles it became almost quite bare of snow, while the surface was studded with small hummocks, not above one meter high (Fig. 25). Towards the end of the day's journey we got on to an even and smooth layer of snow, which however was not very deep, as small hummocks projected everywhere. The splitting of a sledge-runner compelled us to camp a little earlier than intended, but nevertheless we made a progress of about 9 miles and managed to haul all our outfit at one time. Rise above last camp 175 metres, with a total above sea-level of 485 metres.

April 10th. The weather was fine, but our sledges needed re-lashing, and we had so much work to do in order to get everything into shape — from now onward we would only have ourselves to rely on — that we decided to remain in camp. Our comrades left us at 10 a. m. driving southward (Fig. 26).

April 11th and *12th* were spent in camp, travelling being quite impossible on account of a violent northern gale.

April 13th. The gale did not abate till 12.20, when it calmed down in less than half an hour, thus permitting us to start. The condition of the surface became better, the further we advanced, and the hummocks



disappeared entirely a few miles north of the camp. The rise of the ice was very noticeable, but we could nevertheless take all our stores at one time and even made rather good progress.

The weather only remained fine for less than an hour; then a wind sprang up again, and it increased continually, until a gale blew from NW compelling us to camp after 4 hours sledging, during which period we had advanced 5,8 miles with a rise of 65 metres. Total above sea-level 550 metres.

April 14th. A gale blew again all night, and a short lull at 10 a. m. only lasted ¼ hour, after which it blew harder than ever until 2 p. m. when it suddenly calmed down, and we managed to get off in the teeth of a still very fresh wind. The going was very good all day, and we made rather good progress over a slowly rising surface covered with snow, which was only now and then broken by small hummocks. For the first two or three miles we had to pass some crevasses, but once past these, the ice appeared unbroken.

Fig. 26. Panorama of Dronning Louise's Land taken from the camp of separation on April 10th 1910.

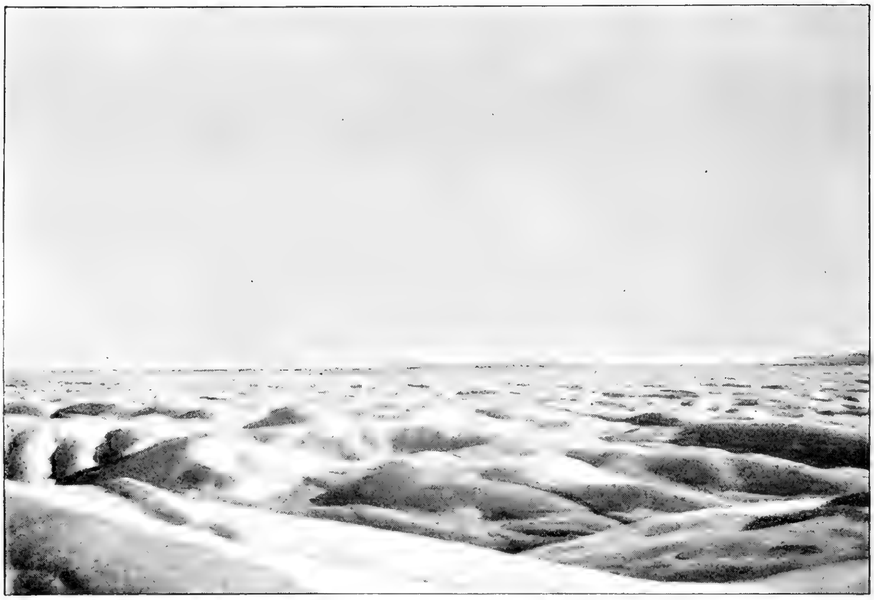
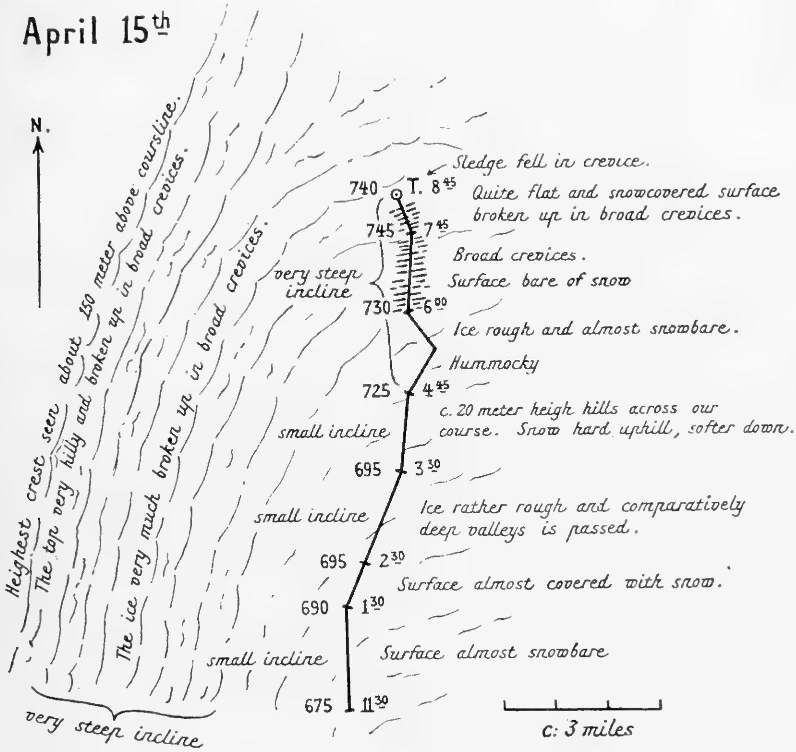


Fig. 25. Small but close-lying hummocky ice.

Fig. 27. The valleys through which the water is drained. 15/4 1910.

Just to the west of us we had a very deep hollow extending over 3—4 miles and at least 100—150 metres below our level. The ice rose steeply from this hollow, particularly to the west, where it had an elevation of 200—300 metres above the bottom of the valley, which was very much broken up. The ice was seen above the western end of Ymer's Nunatak and was also higher east of our course — we were thus driving on the east side of the hollow. Travelled distance 9 miles with a rise of 125 metres above last camp. Total above sea-level 675 metres.



April 15th. As usual a gale blew during the night, and it was not possible to start before 11.30 a. m., when it still blew with a strength of 8 metres a second.

The going was not nearly as good as on the two preceding days, as we had to pass hill after hill, divided by deep valleys extending E-W, through which the water was drained from the high and long hill west of our course (Fig. 27).

We had until now kept off this hill, as its surface appeared too broken to climb, and large and very broad crevasses were visible on its top, but finding a place where it seemed less broken than hitherto we decided to risk the attempt. The ascent was very steep, and the ice being quite bare of snow it was difficult for the dogs to find a footing, but we succeeded in reaching a plateau, which appeared quite level, solid and perfectly covered with snow.

It was, however, intersected by broad cracks, and one of our sledges fell down, but it jammed so that we could crawl on to it and bring the cargo into safety on the solid ice before taking the sledge out (Fig. 28). Everywhere we were hemmed in with crevasses, which compelled us to camp and look for a safe road.

The crevasse into which the sledge fell had a width of about 3 metres. Its sides were perfectly smooth, and it extended so far down as we could see. The edges were very sharp and absolutely untouched by melting water or the rays of the sun, so the crevasse must have been formed since last summer.

We covered a distance of 10,5 miles and were 65 metres above our last camp. Total above sea-level 740 metres.

April 16th. A violent NW gale compelled us to remain in camp all day.

April 17th. The gale calmed down during the night (at 3 a. m.). and we were able to start at 5.30. We reached the extreme top of the hill without any accidents, but we could see that the ice was intersected by crevasses, hidden under the snow, but still visible on its surface, as the snow lying over a crevasse has a somewhat darker colour than that lying on solid ice, and is further marked by a slight sinking in the middle, thus appearing as a long, rather sharply marked path on the surface of the snow.

The top of this hill was so far our highest altitude (730 metres), and we had an extensive view from it, still being able to see Dronning Louise's Land — rather below us — and away to the north a very high conical peak, Moltke's Nunatak (named after Count CARL MOLKTE, member of Garde's expedition on the southern ice-cape in 1893); as well as other tops, Garde's Nunatak (named after T. V. GARDE, Captain R. D. N. who amongst other achievements in Greenland commanded an expedition on the most southerly part of the Inlandice during the spring of 1893), all of which project out of the ice. Nearer at hand we saw some lower nunataks, Bildsøe's Nunataks (named after J. A. D. JENSEN-BILDSØE, who was the first to carry on systematic investigations on the Inlandice). They were all lying on a line almost N—S and were apparently the extreme tops of a mountain ridge, connecting the high Moltke's Nunataks with Dronning Louise's Land. This ridge was visible all the way, either directly — the land itself — or indirectly — the large ice-hill stretching N—S, along which we have been travelling of late. The ice plainly bore evidence of being as it were a thin layer pushed over a mountain ridge, which caused this icelayer to be very hilly, nearly following the contours of the mountain tops underneath.

Fig. 28. Snowbridge spanning a crevice broken down under the weight of sledges.

Fig. 29. Small lakes between the ice-hills. $^{22}/_{4}$ 1910.

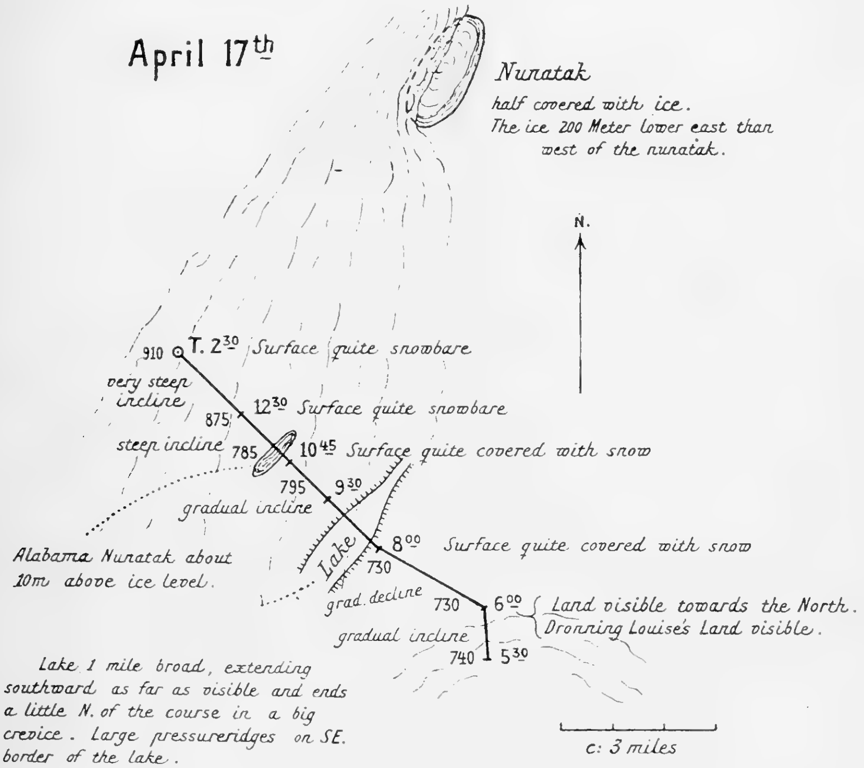
Fig. 30. Using sail on a sledge while driving on level ice off Bildsoe's Nunataks. 25/4 1910.

Fig. 31. The beginning of a deep watercourse off Bildsoe's Nunataks.

A few of the lowest nunataks to the north were partly hidden by inlandice, floating half way across them from the westward, while their eastern side was quite steep and rose almost perpendicularly from the ice. These Bildsøe's Nunataks appeared thus to be the bulwark against the main Inlandice, to the west of them. The height of the cliff facing east was estimated at least 200—250 metres.

The Inlandice viewed from our present place of observation then appeared like this:

The level plateau, which we reached on *April 15th*, and on which



we stood continued to the north, with small or practically no rise, but fell off a little to the west, ending in a long and narrow lake extending along the foot of the ice-ridge, from where the ice rose steeply to a height of about 150 metres above the lake. The downward slope facing west was covered with snow, while the upward slope beyond the lake was quite smooth and bare of snow. There seemed to be no cracks in the surface of the hill.

Being desirous of passing this high ridge, and the place being favorable, we set off to the NW (true) and reached the lake after a rapid downward drive. It was covered with glare-ice and about 1 mile broad, and terminated about 2 miles to the north, ending in a very broad crevasse, but extending as far as we could see to the south. We passed a very large pressure-ridge, stretching all the way along the eastern bank of this lake and consisting of ice, which was 50—75 cm thick. Judging from the amount of ice piled up in this pressure-ridge an area of no less than 100—150 metres must have been crushed.

This seems to be plain evidence of the fact that the ice has a rather rapid motion to the west of these Bildsøe's Nunataks, at least as compared with the motion of the ice east of them, as no pressure-ridges like the one described could be formed by any other cause than by the lake being compressed along its longitudinal axis.

This rapid motion of the ice was most evident in this place, but it was also indicated in a large part of the area, which we had traversed, as we did not see a single crevasse with rounded-off edges, which is sufficient proof that they must all have been formed since last summer, as the edges would otherwise have been rounded off.

The hill rose steeply from the surface of the lake and proved very hard to climb, as the ice was quite smooth, glassy and bare of snow. A strong wind was also blowing right down over the crest of the hill, and it increased as we approached the top, until it was impossible to proceed, as the wind had a strength of 11—12 metres a second, against which the dogs could not haul the sledge.

About half way up the hill we passed what was either a large collection of very big stones or the extreme top of a nunatak. The stones were lying so close that it was difficult to find a way between them, but they did not rise much above the surrounding ice-level. The area in question was 1 mile long and ½ mile broad and quite studded with these large stones.

Distance travelled 7.2 miles and the camp 170 metres above our last camping-site. Total above sea-level 910 metres. Long. at 6 a. m. 24°11′ W. Bearings taken to all visible points and tops, as well as to Cape Bellevue.

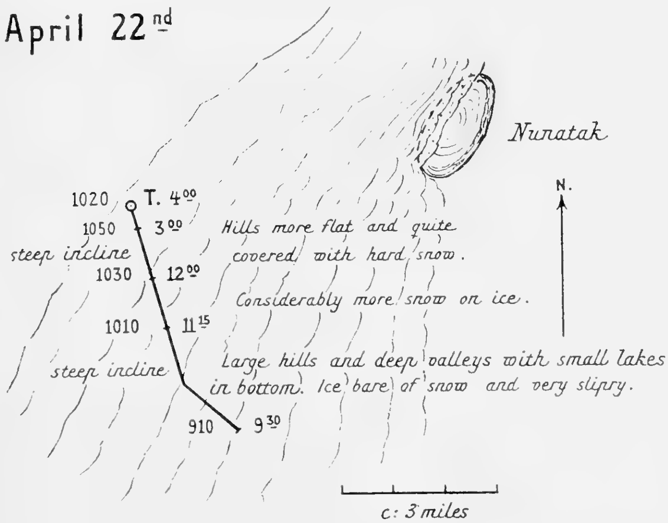
April 18th, 19th, 20th and *21st.*

There was a constant gale from NNW (true) with a velocity ranging from 15—30 metres a second. It was also snowing heavily during the last two days. The barometer was steady on the 18th, reading 674.5 mm, but it rose on the 19th to 678.5 mm and fell again on the 20th to 674.0 mm and still further on the 21st, when it reached 672.5 mm. It appears that the wind increased with rising, and abated with falling barometer. Temperature ranging from ÷ 20° to ÷ 26°.

April 22nd. The gale did not abate so much that travelling became possible before 9 a. m.

The ice was perfectly bare of snow on the first few miles, and we passed a number of long, flat hills with an average height of about 15 metres. Small lakes covered with glare-ice were seen or passed everywhere between these hills (Fig. 29). The rise of the Inlandice was very noticeable in this part of the road, and as long as it rose rather steeply, the ice was bare of snow, but when later on we came to a stretch where the ice had a smaller incline, we found that the surface became covered with snow, which increased in thickness as well as in hardness and covered the ice entirely towards the end of the day's travelling.

This layer of snow was of rather a peculiar kind. Its surface was quite smooth with not even the slighetst signs of snow-waves, and it was so hard that a dog could barely get a footing on it. When rubbing the hand over the surface it felt quite rough, and the snow-particles were hard and quite angular. The sledges hauled very heavily on it, and almost 1 mm was worn off the underside of the wooden runners with



one day's travelling. Even the claws of the dogs got worn off, and one dog became useless, as he could not keep his foothold on the snow.

Two of our dogs died towards the end of the day from sheer weakness, and all the rest were more or less exhausted, probably owing to being exposed to the gale for four days running.

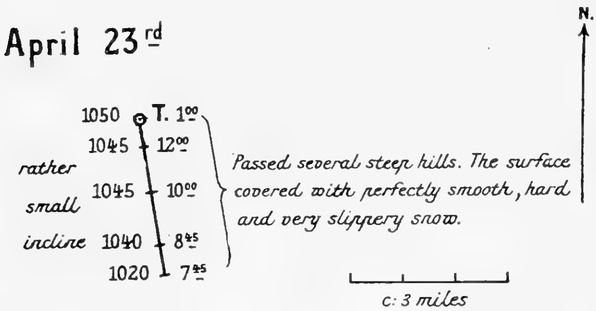
Two rather long, flat nunataks, Laub's Nunataks — named after Lieut. W. Laub, R. D. N., who was the second-in-command of the expedition, and who commanded the party to the west coast of Dronning Louise's Land — were seen far away to the East, almost half way between the coastland and our course.

The distance travelled was but 3.8 miles with a rise of 110 metres above our last camp. Total above sea-level 1020 metres. Latitude at noon 77°58′1. Camp N. Lat. 78°02′. W. Long. 24°20′.

April 23rd. As usual there was a very strong wind during the night, but towards morning it abated, and travelling was possible from

7.30 a. m. But shortly afterwards the wind increased and compelled us to camp at 1 p. m., when it had once more a velocity of 12 metres a second.

The Inlandice rose only very little on the distance travelled to-day, but we had nevertheless to pass some rather high and steep hills, which were lying vertically on our course. The snow was the same as yesterday, hard and granulated as fine sandpaper, but even in spite of this it was so slippery that neither men nor dogs could get a secure footing when on the slightest grade. The snow was so hard that we had to use an axe to make holes for the tentpoles, as our ironspade could make no impression whatsoever upon it.



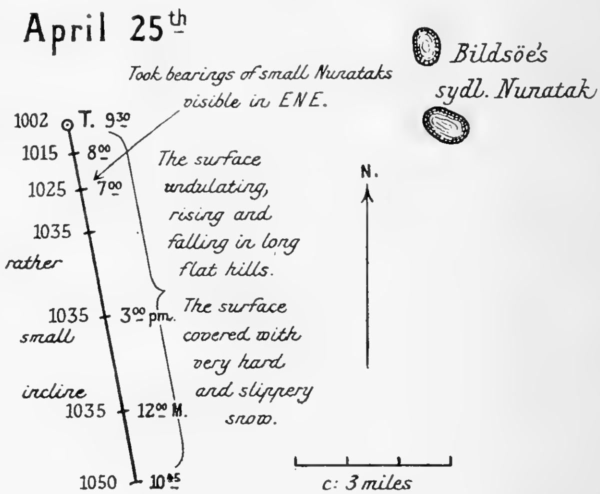
An additional cause for our slow sledging was the great resistance which our bulky sledgeloads offered against the wind, which was blowing almost permanently and nearly right against us and was wearing out the strength of the dogs to no purpose whatsoever.

The extreme tops of Garde's and Molkte's Nunataks, which on April 17th we saw to the north were visible for a short time on a NE bearing.

The distance made was but 3 miles with 30 metres rise. Total above sea-level: 1050 metres.

April 24th. A gale from NW compelled us to remain in camp all day.

April 25th. It blew 25 metres a second at 4 a. m., and when we began to work at 9 a. m., the strength of the wind was still 13 metres. Fortunately the wind of late had a tendency to haul more to the west, and to-day we were for the first time able to use a sail on one of our sledges (Fig. 30).

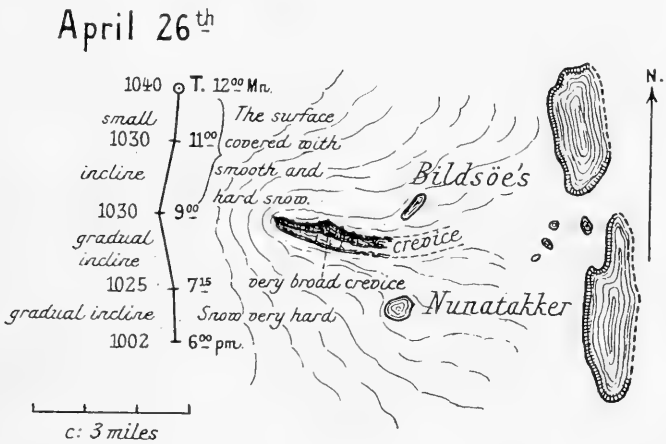


The Inlandice rose evenly all day in long, quite flat hills, covered with perfectly smooth and very hard snow, which however was not so granular as on the preceding days. We consequently made much better progress, helped exceedingly by the wind, which blew from the west during the greater part of the day.

The Bildsøe's Nunataks were visible to the east all day, and save the southermost ones they rose above the Inlandice in rounded hills, but none of them were of great height, and they did not exceed 100—150 metres.

Made a distance of 6.2 miles with a fall af 48 metres. Total elevation above sea-level 1002 metres.

April 26th. A gale blew with heavy snowfall during the whole of the night and the greater part of the day, and we could not get off before



6 p. m. The going was rather hard owing to the large amount of soft snow which had fallen during the gale, and which had not yet blown off the ice.

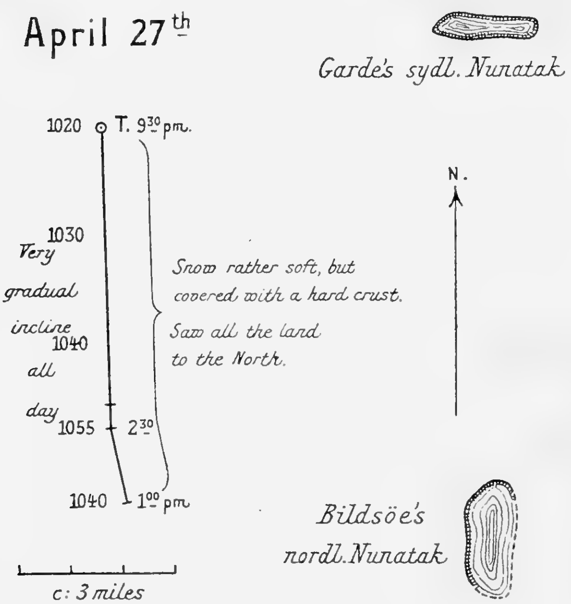
The surface rose quite evenly for 3 miles; after that we drove down hill, but the slope was so small that it did not facilitate our sledging at all.

On the extreme top of the hill we noticed a very broad and sharply marked crevasse or valley just east of our course, extending in an easterly direction towards an opening between two nunataks. This valley must probably be a place through which the water is drained from this locality. (Fig. 31).

We made about 4.2 miles with a rise of 38 metres. Total elevation above sea-level 1040 metres.

April 27th. There was a wind as usual, but not so strong as to make sledging impossible, particularly as the wind was WNW, which allowed us to use a sail on one of the sledges.

The surface of the ice was quite even, and we practically passed no hills at all (Fig. 32). The snow was soft and rather deep, but it was covered with a hard, windblown crust, which could bear the dogs but not the sledges. All in all we made a comparatively good progress of 6.2 miles with a fall of 20 metres. Total above sea-level 1020 metres.



The utmost tops of the high land of the Garde's and Moltke's Nunataks became visible at 2.30 pm., but it was not till we reached our camping-place on 78°20′ N. Lat. that the land could be seen to its full extent, about 10—12 miles distant.

April 28th. There was a wind from the W blowing with a strength of 10 metres a second when we left camp at 10.45, but it abated and calmed quite down before the end of the day's travelling.

At first the surface was very hilly, and we went so far down between the ice-hills that the high land rather close at hand became invisible. The hills became higher and steeper, the further we advanced, and whenever we reached the crest of a hill we could see an ice-dome straight ahead, with a diameter of about 3 miles and rising above the surrounding ice to the height of 75—100 metres. This dome we could also see yesterday, when its top appeared very much broken, but this did not seem to be the case to-day.

The ice was, however, very much broken up, and the first crevasses were passed at 1.30 p. m. From then and until we camped at 9 p. m., we had one crevasse after another.

The crevasses radiated from the top of the ice-dome, where — owing to the lack of snow — they were quite visible. They became however hidden by snow half way down the side of the dome, but nevertheless they could usually be located at the place where we were, as they were always quite straight, and we had no need to be careful, before we had driven so far that the snow-bare crevasse on the top of the ice-dome could be seen from the end.

Another set of crevasses was encircling the ice-dome and cutting

Fig. 32. Level Inlandice with Moltke's and Garde's Nunataks. 27/4 1910.

Fig. 33. The glacier-front towards Fyen's Lake, seen from above.

Fig. 34. View eastward across land in front of Fyen's Lake from the place of descent.

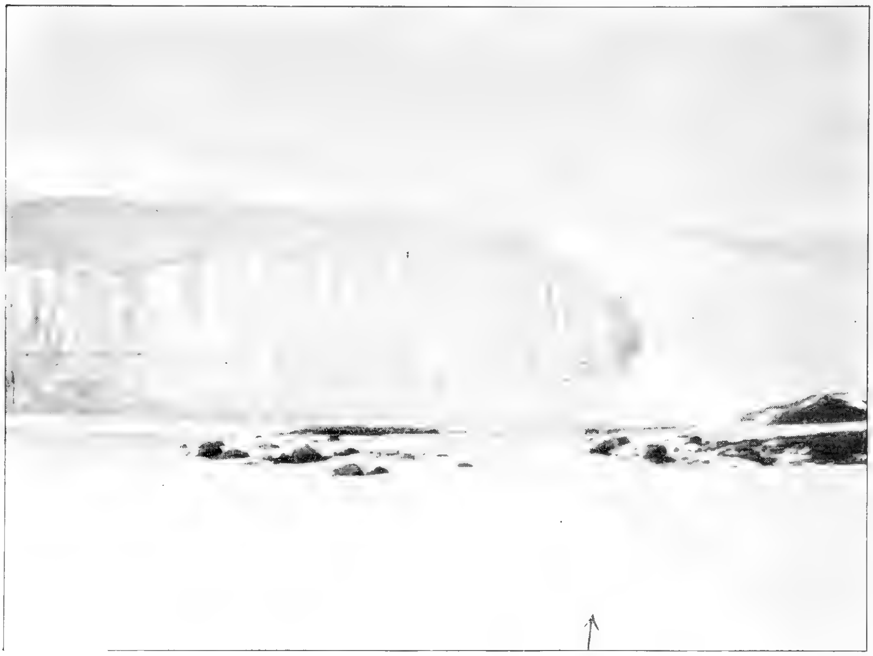
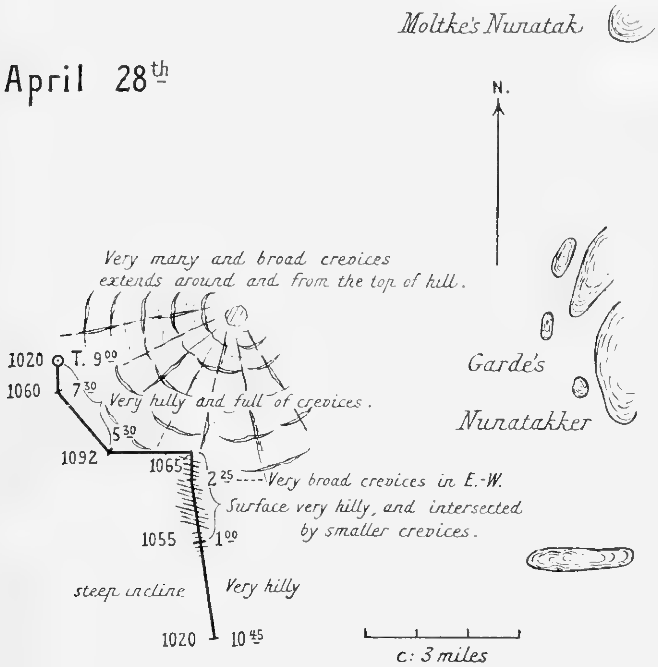


Fig. 35. The place of descent from the Inlandice.

the rays at right angles. The Inlandice was thus cut up in almost rectangular blocks, which were difficult to pass, as we had no indication of these encircling crevasses, beyond the slight sinking of the layer of snow above them. The snow-bridges over these crevasses — on a average 2—3 metres broad — were very variable in thickness, ranging from at least ½ metre to 10 cm. The crevasses were plainly visible in the latter case, as the layer of snow sinks about 15—20 cm. towards the middle. Upon rather close investigation a thin crack will be noticed in the snow, just over the edge of the ice, and the whole layer of snow may even



have sunk a few millimetres down into the crevasse, which in such cases is seen quite plainly.

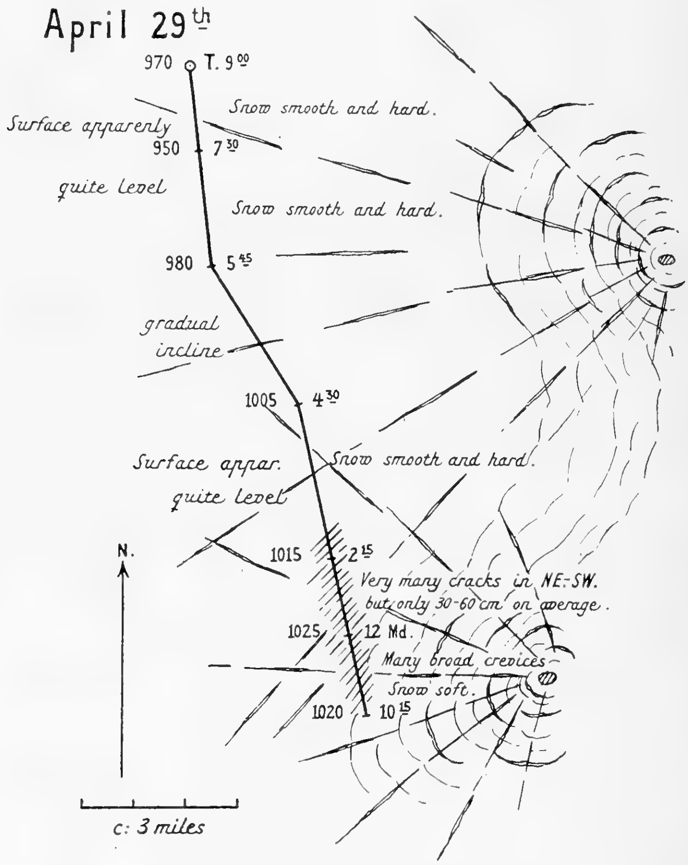
We could not proceed along our course on account of these numerous crevasses, and we had to sheer off to the west, taking care to avoid, as far as possible, the crossing of the larger crevasses. The snow-bridges broke down repeatedly, and the shortest of our two sledges fell two or three times into a crevasse, but fortunately it got jammed, and so we were able to save it. However, we lost one dog on an occasion when the trace snapped.

The ice became a little better towards night, when we camped almost due W of the ice-dome, which was the southermost of three identical domes. Reached at 5 p.m. the altitude of 1092 metres, the highest altitude on our journey.

The distance travelled was 6.7 miles. Obs. 78°24′ N. Lat., 24°34′ W. Long. After we had reached the altitude of 1092 metres, we descended so rapidly that we camped in the same altitude as yesterday (1020 metres above sea-level) (Pl. VI).

April 29th. For once the weather was calm, when we left camp, but shortly afterwards a wind sprang up from NW, increasing during the day.

We headed a little more westerly than usual, thus hoping to get away from the three ice-domes from which the crevasses originated, and



after 3½ hours' work we succeeded in getting beyond the reach of the crevasses, having met with no accidents whatsoever.

The crevasses became broader, the further we got away from the domes, and we passed some, which were 8—10 metres wide, but the snow spanning them was thick and quite safe. The snow-bridges over these broad crevasses would sink as much as half a meter towards the middle, and we saw one instance where for a considerable length the whole mass had sunk down a little more than ½ meter without breaking.

Only the crevasses extending from the tops of the domes and outward were broad, while those parallel with the domes were quite narrow and hardly ever exceeded ½ meter in width.

When looking back on the domes from NW and NNW we noticed what appeared the extreme top of a mountain, barely projecting through the ice on the very tops of the two southermost ice-domes, while no rock whatsoever was visible, when we saw the domes from the south or west.

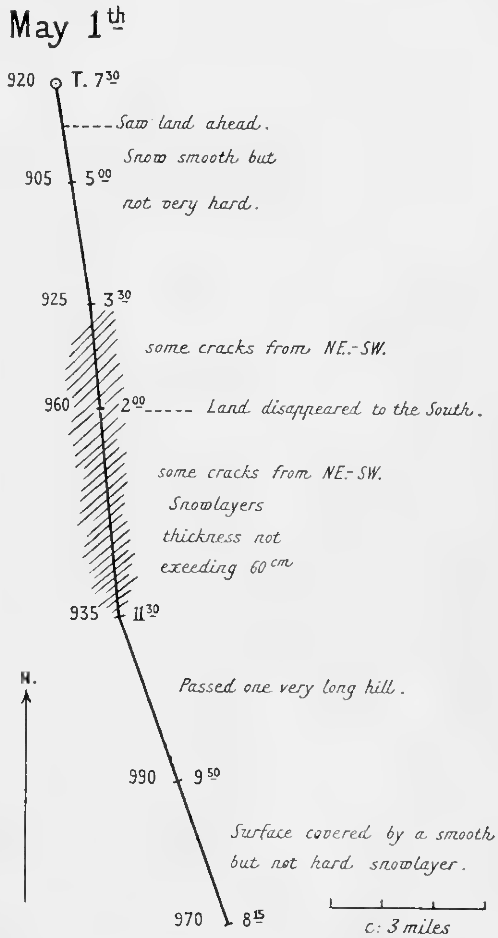
The ice apparently became quite level beyond the above-mentioned crevasses, but it was exceedingly difficult, and in most cases quite impossible to detect a level or declining surface with the eye only. The surface was entirely covered with a thick, hard and smooth layer of snow. The distance travelled was 14,5 miles with a fall of 50 metres. Total elevation above sea-level 970 metres.

April 30th. A gale from NNW kept us in camp all day.

May 1st. All day a wind was blowing from NW and WNW with a velocity ranging from 2—8 metres a second.

The surface of the Inlandice was exceedingly good for sledging, as it rose and fell in very long, quite flat hills, with a span of about 2 miles from top to top.

Towards the middle of the day we passed a number of narrow crevasses ranging from 5—50 cm, all parallel and extending NE—SW.



The layer of snow was on the whole not thick and only measured about 50 cm. over the crevasses, where we sometimes broke through. The snow was not very hard, but quite smooth.

Bildsøe's Nunataks disappeared below the southern horizon at 2 p. m., and the extreme tops of mountains far to the north became visible at 6 p. m.

During the last few days there had been a strong indication of a large tract of land far to the west, but only in one case we thought that we could see a long, low and quite dark streak on the western horizon, where large masses of cumulus clouds have been hanging in a sharply defined place, just as over the highest mountain-peak.

Made a distance of 16.8 miles with a decline of 50 metres. Total elevation above sea-level 920 metres.

May 2nd, was spent in camp, as a violent gale had sprung up from NW, with a velocity ranging from 30—10 metres a second.

May 3rd. The NW gale which blew all yesterday and throughout the night abated in the morning, and later in the day it became quite calm — the first really calm day we had had on the Inlandice.

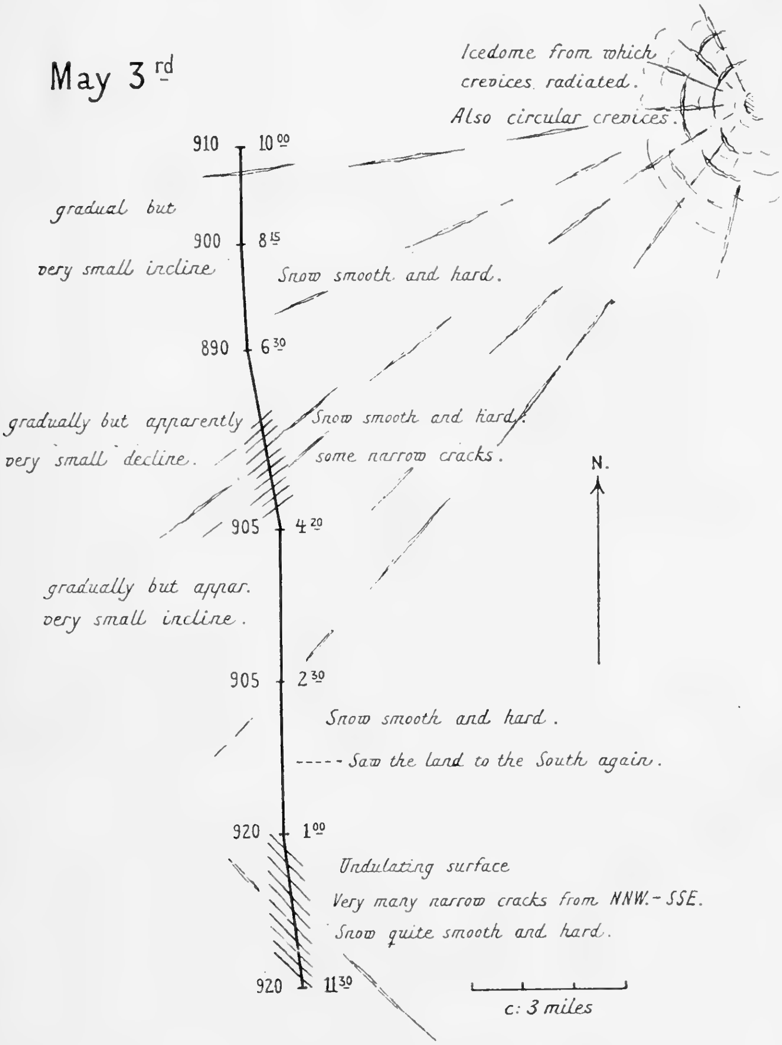
The surface was slightly undulating, and on the whole it was difficult to feel whether we were going up or down, but all day long we thought that there was a very small gradual rise. This may however have been an optical delusion as — whenever the surface is level — it always seems, as if the sledges are driving along the bottom of a very shallow indentation in the Inlandice. This optical delusion is caused by the refraction, which raises the horizon, but even in cases where the visible land is not distorted by refraction, it seems as if the horizon is lifted. The ice was here and there broken up by crevasses, which however were narrow and not at all dangerous. The layer of snow was quite smooth and hard, offering a splendid sledging surface.

On this day we noticed for the first time a slight breaking and consequent sinking of a rather large snow-crust. It gave a peculiar rustling sound, when this breaking took place, and the snow-crystals glittered very much, when they changed position. This sinking of the surface has been noticed by SCOTT while on the antarctic barrier during his first expedition, and I myself have seen it on large drifting floes with a level surface. It is caused by the hard snowcrust breaking under the weight of the sledges, and sinking a little it compresses the loose snow underneath. The depth to which the hard surface-layer sinks depends on the amount of loose snow underneath and its consistency — viz: the deeper and looser the snow, the deeper the sinking, which can amount to a couple of centimetres. The area thus sinking has often a large extent, but it is impossible to form an idea as to its size.

Saw again Molkte's and Garde's Nunataks to the south at 2.30 p. m.

When we camped after 10½ hours' continuous sledging, we had to kill the dog, which had had its claws worn off on April 23th, and which had not since been able to do much work.

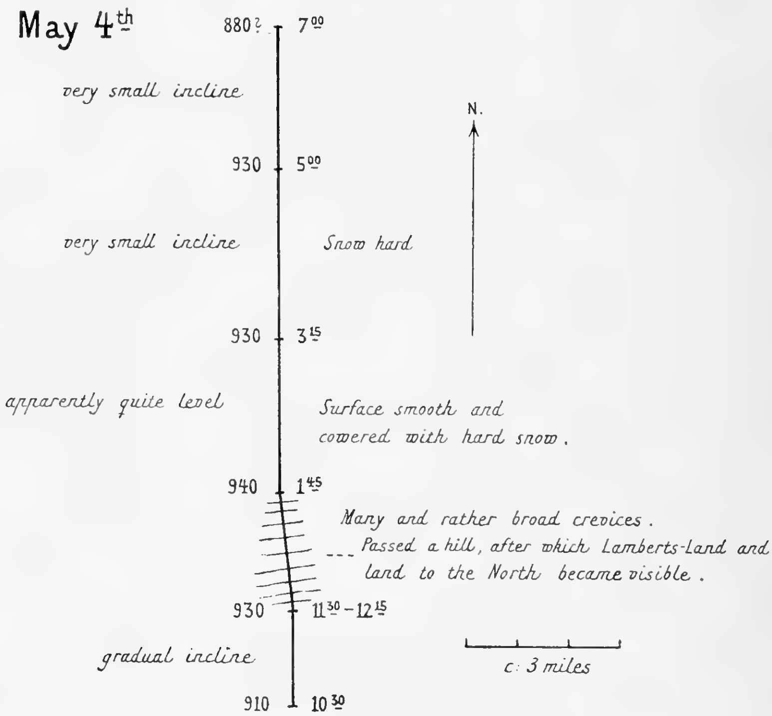
Travelled a distance of 18.7 miles with 10 metres decline. Total elevation above sea-level 910 metres.



May 4th. At first the weather was splendid, calm and clear, but it was only a short while before once more a wind sprang up from NW.

The surface was apparently almost quite level, and to-day as well as yesterday it was difficult to determine by feeling or sight, whether there was a decline or a incline in the ice ahead, but there must have been a slight incline, as at 1.30 p.m. we reached the top of a long hill, from where we could see all of the land to the north, the extreme tops of which we had seen on May 1st, as well as Lambert's Land to the east and the highest peaks of the nunataks far to the south.

The ice was broken up by broad crevasses for a stretch of about 2 miles, just before we reached the top of the above-mentioned hill, but it was apparently quite solid before as well as after this stretch,



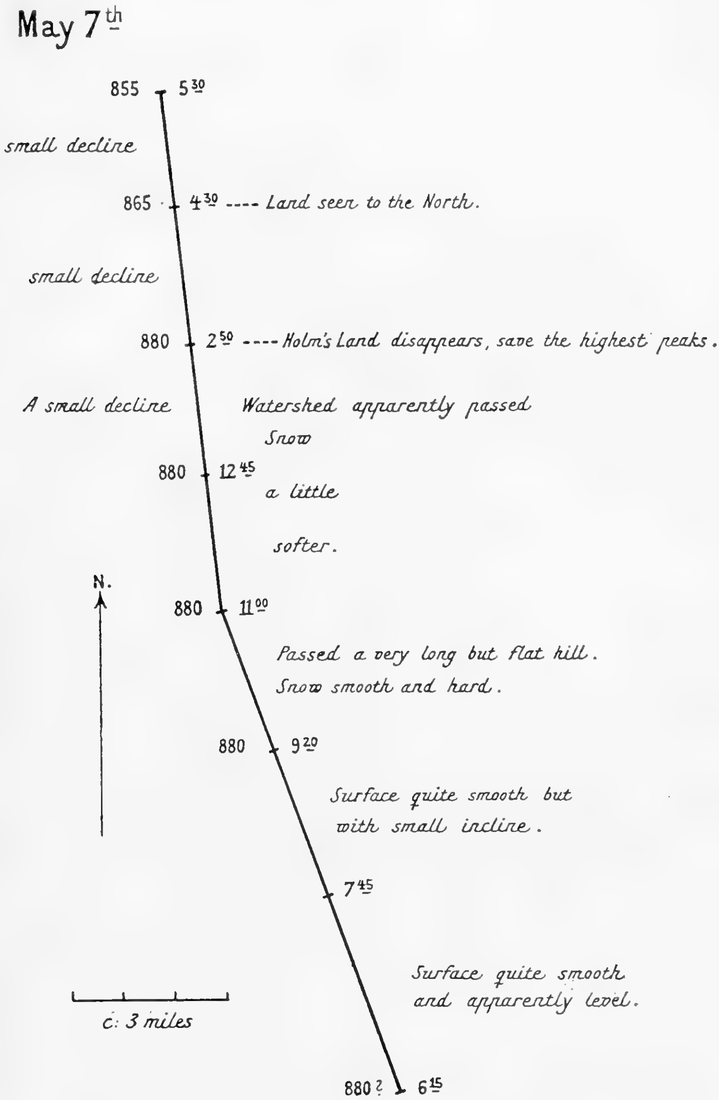
and it was entirely covered with snow, which was quite smooth and rather hard. We made good progress and had covered 14.2 miles with a fall of 30 metres, when we camped after 10 hours' sledging. Total elevation above sea-level 880 metres. Took observations and bearings to all visible points. Lat. 79°27′4 N. Long. 26°09′ W. at camp. (Pl. VI).

May 5th and *May 6th* were spent in camp, as there was a wind from NNW, which made it impossible to travel. The wind was squally and ranged from 10—30 metres a second.

May 7th. The gale abated during the night, and we were able to start at 6.15 a. m. against a fresh NNW wind, blowing with a velocity of 10—14 metres a second.

The ice seemed perfectly solid all day, and for the first time we noticed a decided decline of the surface, which was as a rule quite flat, although we passed some very long and flat hills, which hid the high land to the east from our view. Saw the land around the bottom of Danmark's Fjord at 4.30 p. m.

The layer of snow covering the ice has been rather peculiar since passing the divide between Garde's and Molkte's Nunataks and Lam-



bert's Land. It was much softer north than south of the divide, but long streaks of hard, level and quite smooth snow, separated from each other by soft snow, facilitated our sledging. These streaks were plainly visible when looking over the surface from the top of the sledgeloads, and some of them had a length of almost a couple of miles and were 10—15 metres broad. The edges of these hard snowstreaks were sharply defined and quite straight, so that the streaks had the same marked appearance as a road through a field.

We made a distance of 19.2 miles with 25 metres decline. Total elevation above sea-level 855 metres.

The strength of our dogs had failed considerably of late, in spite of the fact that we gave them a daily ration of a little more than half a kilo of pemmican. They were all very listless, panted very much with the slightest exertion, and could hardly even rouse themselves to take an interest in their food. We too were very shortwinded and got out of breath even with so small an exertion as to whip a dog; also we had headaches and did not feel at all well. The altitude in which we have been of late might of course account for some of this, but it did not seem enough to explain the general weakness of men as well as dogs.

May 8th. The weather was comparatively fine all day; at first it was calm, but in the afternoon a westerly wind sprang up, increasing as the day wore on, and at the same time hauling more to the SW.

There was a decided decline all day, and the surface being quite smooth and covered with a rather hard layer of snow, we made good progress, the best so far while on the Inlandice. All day we had the above-mentioned long, parrallel streaks of hard snow, and we noticed no crevasses at all in the ice.

We could see a long 200—300 metres high ice-ridge about 10 miles to the west of our course, almost parrallel with it and extending, as far as we could see, all the way to the land around the bottom of the Danmark's Fjord. The side of the hill seemed very steep, but its top, being our horizon was quite level and apparently not broken up by crevasses, as was the case with the similar ice-ridges to the north of Dronning Louise's Land.

There was a very great refraction all day, which disturbed the appearance of the land so much that it was impossible to determine its outlines even at rather close quarters, and it was not till about 6 p.m. that it became possible to see anything plainly and to take an observation.

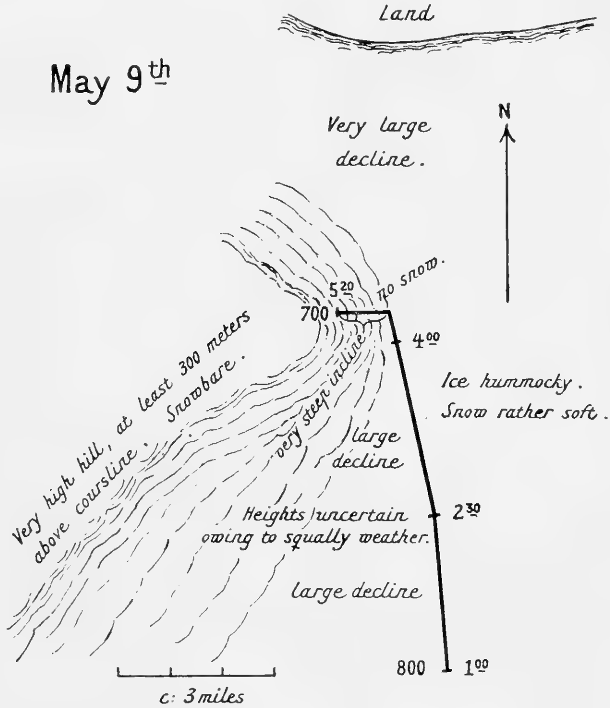
Covered a distance of 18.7 miles with a decline of 55 metres. Total elevation above sea-level 800 metres.

May 9th. There was rather a strong wind from the west all day long, but we were able to travel, as the temperature had risen much, since we began to be nearer land. A latitude was taken before leaving camp, and it gave our position as Lat. 80°04'8 N. Long. 26°51' W. (Pl. VI).

The decline was very marked, and we made good progress, particularly as the sail could now be used. The snow was a little softer to-day than it had been for some time, and the hard streaks or roads had entirely disappeared, while at the same time the layer of snow had decreased in thickness. About 7 miles north of the camp where we reached the beginning of the steep slope towards land, we once more encountered ice-hummocks projecting through the snow.

We made a halt at 4.30, as we were apparently quite close to land and wanted to have a good view of the conditions, before we continued down the rather steep grade, from where it would be difficult to haul up the sledges.

To the east there was what looked like a nunatak or possibly the southermost spur of the not ice-covered land, which extended towards the west, cutting our course and separating us from the Inlandice to the north of it, until it disappeared under the ice about NW from our place of observation. This tract of land had just north of us a breadth of 10 miles, and the Inlandice fell very rapidly towards it. The northern edge of the land was fenced in by a vertical glacier-front.



The Inlandice was again seen beyond this tract of land, which appeared as an immense valley, and it extended so far towards the NW as we could see, and rose to a considerable height, partly covering the west side of Iversen's Nunatak. The ice-ridge, mentioned yesterday, was the beginning of the steep rise of the Inlandice, and it ended almost due west of our course. Its side, visible for a long distance, was quite smooth, absolutely bare of snow and void of crevasses.

As it seemed rather risky to attempt to cross Amdrup's Højland (named after Captain G. C. Amdrup R. D. N. member of the committee and my first commander on Arctic expeditions) to the bottom of Danmark's Fjord — about 25 miles of unknown land, where we might meet very large, snowbare tracts, which we could not pass with our sledges — we thought it prudent to continue sledging on the Inlandice towards the NNW, thus coming closer to the Fyen's Lake discovered by MYLIUS-ERICHSEN. Consequently we headed this way, but in a short while we stopped, compelled to do so by a violent storm from west which began suddenly, just at the foot of the steep ice-hill.

We camped at once, and from our rather elevated position we saw what appeared as a lake or local glacier winding its way in between the mountains to NNE, until at a distance of about 15 miles it turned more to the north, possibly even NW and disappeared behind a steep mountain-spur.

We thought it certain that the immense amounts of water, which must be drained from this large area of ice during the summer, would pour into the lake at our feet, which in this case must have an outlet to Danmark's Fjord, and over which we would thus be able to sledge all the way without danger of encountering snow-bare land. Our only doubt was that what appeared a lake might be a local glacier, which did not connect the land beneath us with Danmark's Fjord. If this should be the case the attempt to reach the fjord would fail, and we decided to investigate before going further, particularly as we seemed to see crevasses all over the white surface.

Made a distance of 8 miles with a decline of 100 metres. Total elevation above sea-level 700 metres.

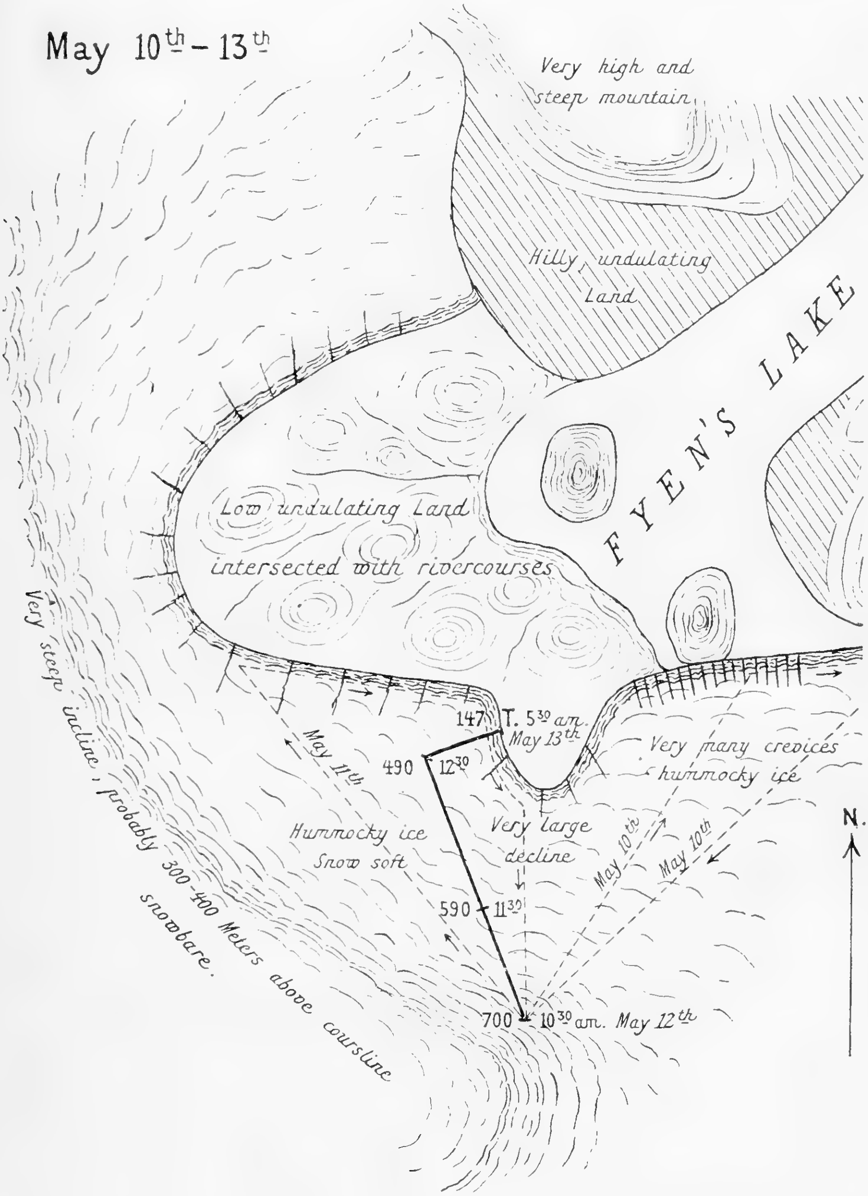
May 10th. The gale increased in velocity during the night, and it blew harder than it had ever done while we were on the Inlandice, but it abated somewhat before morning, allowing us to walk to the edge of the ice in order to find out, whether the white expanse was a lake or not.

It proved to be a lake, and we followed the edge of the Inlandice for about 8 miles towards the east, looking for a place where descent was possible, but without success, as the glacier-front had a height of about 30 metres. The Inlandice in the neighbourhood of the edge rose and fell in hills following the undulations of the land underneath, and it was very much split up (Fig. 33).

We had decided not to waste more time in this locality, but an accident with our dogs compelled us to remain one more day, and this day, *May 11th*, was spent in exploring the edge of the Inlandice at a point further to the west than yesterday. Here we fortunately found a place, where a large snow-bank reached from the land halfway up the glacier-front, and it was possible to lower our sledges on to this snowbank through a narrow and winding crack, cut into the very edge by water-courses during the summer.

The Inlandice sloped rapidly from our camp towards the land, and the surface was quite bare of snow and covered with large hummocks, which were so smooth and slippery that it was almost impossible to stand on them.

The immense amount of water, which every summer floats over the edge of the ice, had broken it up into many and deep courses, which increased in depth when nearing the edge, while becoming at the same



time more narrow than further away from the edge. The ice in the vicinity of the edge was also broken up in rather broad fissures extending all the way through the ice to the land underneath, which was seen in a couple of places.

May 12th. We left the camp with all our outfit, and in a short time we reached the place where we hoped to descend to the land, after having travelled a distance of 6 miles with a decline of 550 metres (Fig. 34).

It was very difficult to maneouvre the sledges on this perfectly smooth ice-slope, where not even the dogs could find a foothold, but we reached the river-course, through which we hoped to get down to the snow-bank, without any serious accident, though it took us 9 hours' work to cover a distance of 1.5 miles with both our sledges.

The snow-bank was very hard, and we were compelled to cut steps into it to get a secure footing, after which our sledges were slowly lowered down the slope, which had a length of about 300 metres, and so at last, on May 13th at 5.30 a. m. our sledges had once more come down from the Inlandice and were standing in a height of about 40 metres above the level of the sea.

The face of the Inlandice when viewed from the land was perfectly steep and very much broken up (Fig. 35), while a very large amount of broken ice was lying at its foot. These pieces of ice were too angular to have been broken off before last summer, as the sun and water would then have rounded their edges, and they must consequently all have fallen down during the autumn and winter, thus showing that the glacier is in rather rapid motion.

The Fyen's Lake.

Journey from May 14th to May 18th 1910.

We had expected to find a very desolate country, when we came down from the Inlandice, but we were agreeably surprised to find a vegetation so luxuriant that we had seen nothing like it north of Danmark's Havn.

Large tracts were covered by a layer of moss, so thick that it felt quite elastic under our feet, and furthermore we noticed several kinds of grasses, some of which had a length of 30 cm. and covered areas so large, that they gave the impression of fields. Not only the valleys but also the slopes of the hills were quite covered with vegetation, moss, grass, heather and willows, the trunks of which were as thick as a thumb and a decimeter high.

A large number of animals found their means of existence on this luxuriant vegetation, and the first traces of animal life we found only 25 metres from the foot of the snow-bank, over which we came down.

These traces were of hares, the excrements of which were strewn all over the ground, and so many of these animals had passed round a very large boulder that a regular path had been worn in the grass and moss.

We also saw very many excrements and footprints of musk-oxen and shortly afterwards the animals themselves.

Of ptarmigan we saw hardly any traces, but we saw exceedingly many tracks of foxes and a few of wolves.

Fig. 36. View of the land 2 miles from the place of descent to Fyen's Lake. 14/5 1910.

Fig. 37. Close view of a steep riverbank on one of Naja's Islands, showing the texture of the earth with interwoven roots of heather.

Fig. 38. Northward view on Fyen's Lake from a height of 20 metres. 16/5 1910.

Fig. 39. View towards the SW. from the top of a mountain in Fyen's Lake 17/5 1910.

The land surrounding us was undulating, studded with evenly sloping hills, which however did not exceed 50 metres in height.

Small rivulets with steep banks were winding their way in between these hills to the lake itself, about 5 miles from our place of descent.

On *May 14th* we saw a herd of musk-oxen shortly after we had begun to sledge across land, and we stopped to give the dogs a feed having succeeded in killing two large bulls (Fig. 36).

The journey was resumed on *May 15th* at 4 p. m. when we headed for the lake, sledging quite close under the glacier-front, which rose to a considerable height. It was perfectly vertical, but its base was hidden under a large mass of ice, which had fallen down since last summer, as all visible ice-blocks had sharp, angular edges.

For a few hours we sledged in between the hills and over some rather large plains, or we followed the small rivulets which led to the lake. The banks of the rivulets were quite steep and bore evidence of the immense rush of water, which flows through them every summer. These banks were on an average three metres high, and the texture of the earth could be seen in a few places, where a slide had occured during the preceding summer (Fig. 37). A layer of earth, interwoven with the roots of heather and willow and having an average thickness of about 50 cm. was lying on top of a moraine sediment, consisting of very course gravel and small pebbles. This layer of earth was seen in many places, and as a rule it projected above the gravel underneath, kept suspended by the numerous roots, which bound it together.

The lake itself, which we reached after 3 hours' travelling, had a length of 28 miles and a general N 30° E direction. It was — save for its extreme south end, which had an extent of 7 miles — rather narrow, and its breadth variated between 2—5 miles. A few islands were lying along its western bank (Fig. 38).

The lake was separated from Danmark's Fjord by a moraine, 3 miles broad, which rose to a height of 30 metres. It was quite flat on top, had very sharp edges and consisted of coarse gravel and small pebbles, without any large stones at all. Some small lakes on its top almost connected Fyen's Lake with Danmark's Fjord.

The land on the east side of the lake rose in large, even hills to a height of 250—300 metres as far as the bottom of Danmark's Fjord, where it became higher and considerably steeper. The hills were broken in a single place — near the middle of the lake — where a broad valley extended ESE to the Inlandice, the only place where it was visible to the east. The land was rather bare of snow.

The land facing the west shore was also evenly undulating in its southernmost part, where its height did not exceed 300 metres, but a very marked change took place on $80^1/_2$° Lat. N. from where and on to its end it rose steeply to a height of above 400 metres less than a mile from the shore, and in some places even closer.

On *May 17th* (80° 36′ Lat. N) we climbed a mountain, 410 metres high, in order to get a general view of the surrounding land, but primarily in order to ascertain the conditions for crossing over land to Danmark's Fjord. We saw that a good way could be found by following the small lakes on top of the moraine, separating the lake from the fjord, and we further had an opportunity to look around from this rather elevated position.

Danmark's Fjord could be seen as far as a short distance beyond Cape Holbæk, and from there, through N to SW, the country was studded with mountains, all of rather equal height i. e. about 4—500 metres, and mostly with steep sides facing east.

The Inlandice and Leffingwell's Nunataks could be seen to the SW through a smooth snow-covered valley (Fig. 39), but this was the only place where it was visible, and no Inlandice could be seen over the comparatively lower undulating land to the east of the lake (Fig. 40).

As far as we could see, the conditions were the same to the north, as they were here, i. e. to the east of the lake and the fjord, where the country was hilly and undulating, being steep and mountainous as well as higher to the west of this line of demarkation (Fig. 41).

The mountain, on which we stood, bore evidence of having once been covered by ice, as the top was worn quite smooth and furrowed by deep notches.

The luxuriant vegetation, which we noticed close to the Inlandice, continued all along the lake, and the mountain which we climbed, was covered with a surprising amount of grass, heather and willow, until at a height of about 300 metres the vegetation disappeared altogether, and not even mosses were seen in the sheltered places on the extreme top. The same vegetation was seen everywhere on the land — save on the moraine — and we saw musk-oxen on the mountain-sides, as well as footprints and excrements of hares, ptarmigans, foxes and wolves.

The ice-sheet covering the lake was level, but large domes, 2—3 metres high, had been formed in many places by the pressure of the water, flowing down into the lake after it had frozen over. If these domes had not been so high, they might have been formed by the ice-sheet sinking down on a rock, but this could not have been the case, as the ice had only sunk about 70 cm. along the coast of the lake.

This sinking indicates that the water of the lake must have flowed out into Danmark's Fjord, some time after the ice-sheet had become solid, thus causing the whole ice-sheet to sink about 70 cm. The outlet must then have been blocked by ice, so that no water could escape, but the water must have continued to flow into the lake through some underground channel and reservoir from under the Inlandice, thus causing a pressure from underneath the ice, which had been relieved through the framing of the large domes with cracks on their tops. These cracks acted as a kind of safety-valve, through which the water could float

Fig. 40. View of Fyen's Lake. Looking south from the top of a mountain. 17/5 1910.

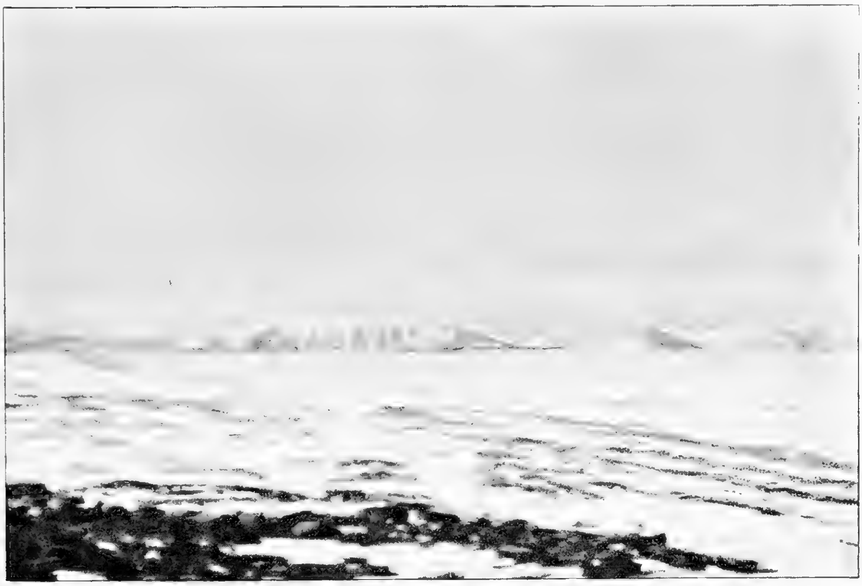


Fig. 41. View towards the NW. from the top of a mountain in Fyen's Lake.

Fig. 42. The southernmost end of Sjælland's Fjældene. 18/5 1910.

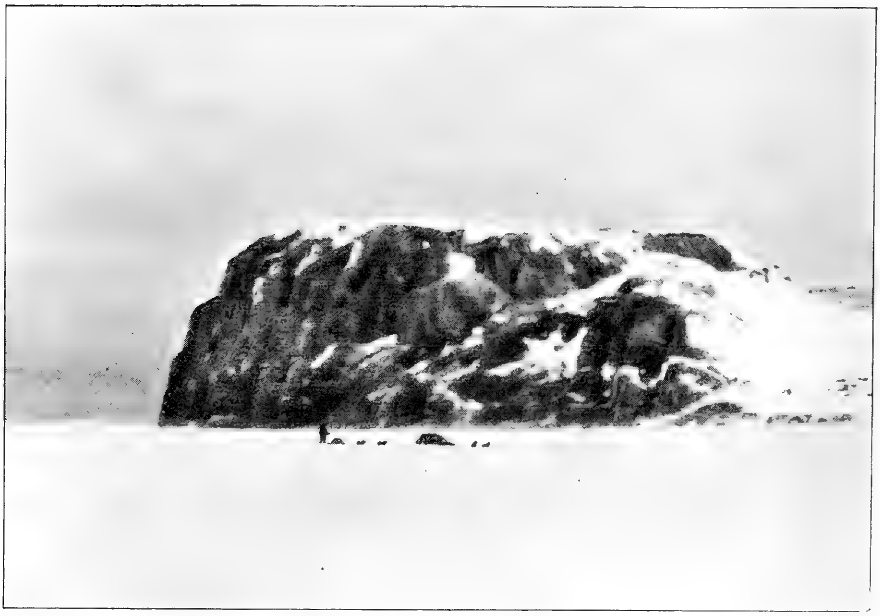


Fig. 43. Cape Holbæk. Seen from the north.

out over the surrounding ice. The domes were particularly numerous and high in the narrow part of the lake, where it was almost impossible to sledge.

The ice on the lake was partly covered with snow, and this again with a layer of sand, blown out from the mountains and several millimetres thick.

We passed the moraine dividing the waters of the lake from Danmark's Fjord on *May 18th*, and it was very striking to see the decrease in vegetation when passing over this narrow tract of land.

Meteorological observations on the journey on the Inlandice.

Month	Date	Hour	Barometer	Temperature of the air	Direction of the wind	Velocity of the wind	Kind of clouds	Amount of clouds	Remarks
April	15th	9^{00} am	701.5						
—	—	11^{30} -	703.0	—17.5	NW.	8	Ci. Str.	4	
—	—	1^{30} pm	699.0	—15.5	—	10	—	6	
—	—	2^{30} -	698.5		—				
—	—	3^{30} -	698.5	—15.5	—	7	Ci. Str.	4	
—	—	4^{45} -	695.8		—				
—	—	6^{00} -	695.2	—18.0	—	4	Ci. Str.	7	Heavy stormclouds over Dronning Louise's Land
—	—	7^{45} -	693.5		—				
—	—	8^{45} -	693.5		NNW	3	Str.	10	
—	—	10^{30} pm	696.0		—				
April	17th	6^{50} am	692.0	—26.0	Calm		Clear		
—	—	8^{00} -	691.0	—24.0	WNW	5	Ci. Str.	2	
—	—	9^{30} -	688.0		NW	8	Clear		
—	—	10^{45} -	687.5	—22.0	—	8	—		
—	—	12^{30} pm	679.3		—	10	—		
—	—	2^{30} -	674.5	—26.0	—	11	—		
—	—	5^{00} -	674.5		—	c. 15	—		
April	22nd	6^{30} am	672.5		WNW				
—	—	9^{15} -	672.5	—22.0	—	15	Str.	2	
—	—	11^{15} -	664.5	—22.0	—	10	—	3	
—	—	12^{00} M	662.5	—22.0	—	10	—	3	
—	—	3^{00} pm	662.5	—17.5	—	8	—	1	
—	—	7^{15} -	662.5	—19.0	Calm		Clear		
April	23rd	6^{00} am	666.5						
—	—	7^{45} -	667.5	—27.0	WNW	13	Clear		
—	—	8^{45} -	665.5	—25.0	—	8	Str.	4	Stormclouds coming from SW. against the wind
—	—	10^{00} -	665.5	—23.0	—	10	—	6	
—	—	12^{00} M	666.5	—25.0	—	12	—	10	
—	—	6^{00} pm	670.5	—26.0	—	12	—	10	

Meteorological observations (continued).

Month	Date	Hour	Barometer	Temperature of the air	Direction of the wind	Velocity of the wind	Kind of clouds	Amount of clouds	Remarks
April	25th	6^{00} am	665.5	—24.0	NW	15	Str.	4	
—	—	10^{00} -	666.5	—22.0	W	10	Ci. Str.	3	
—	—	12^{00} M	665.5	—21.5	—	7	—	4	
—	—	3^{00} pm	664.5	—23.0	—	8	—	4	
—	—	6^{00} -	663.5	—25.0	—	6	—	5	
—	—	8^{00} -	664.5	—27.0	—	6	—	5	
—	—	10^{00} -	664.5	—31.0	—	4	—	4	
April	26th	12^{00} M	663.0		W	c. 25	Snow		
—	—	6^{00} pm	662.5	—23.0	—	12	Str.	9	Gale with heavy snowfall all night and day till 4^{00} pm.
—	—	7^{15} -	660.5	—25.0	WNW	12	—	9	
—	—	9^{00} -	659.5	—26.0	—	10	—	10	
—	—	11^{00} -	658.5	—26.5	—	8	—	10	
—	—	12^{00} Mn	657.0	—28.0	—	3	—	10	
—	27th	2^{00} am	657.8						
April	27th	9^{30} am	656.3						
—	—	1^{00} pm	655.5	—23.0	WNW	14	Clear		
—	—	2^{20} -	655.5	—23.0	—	10	Hazy		
—	—	5^{10} -	656.5	—23.0	W	5	Ci. Str.	3	Thick haze
—	—	7^{00} -	656.5	—25.2	—	5	—	3	
—	—	9^{00} -	656.5	—27.0	—	8	—	3	
—	—	11^{00} -	657.6	—28.0	WNW	12	—	5	
April	28th	8^{00} am	657.5						
—	—	10^{45} -	657.5	—25.5	W	10	Ci. Str.	4	
—	—	1^{00} pm	655.3	—22.0	—	7	—	5	
—	—	3^{30} -	654.2	—20.0	—	4	—	4	
—	—	5^{30} -	651.3	—22.5	—	6	Str.	8	
—	—	7^{30} -	653.5	—24.7	Calm		—	9	
—	—	9^{00} -	654.5	—27.0	—		—	10	
—	—	11^{00} -	654.5	—24.5	—		—	10	Snow
April	29th	7^{00} am	656.4						
—	—	10^{45} -	656.5	—24.2	Calm		Clear		Stormclouds over land
—	—	12^{00} M	656.5	—21.5	NNW	4	—		
—	—	2^{15} pm	656.5	—21.5	NW	5	Str.	2	
—	—	4^{00} -	656.5	—21.5	—	5	Ci. Cu.	9	Clouds coming from N.
—	—	5^{45} -	658.7	—22.5	—	2	Clear		
—	—	7^{30} -	660.0	—24.3	—	8	Ci. Str.	2	
—	—	9^{00} -	660.0		—	8	Clear		
May	1th	4^{00} am	654.5		NW	10	Hazy		
—	—	6^{45} -	654.2	—22.0	—	8	Clear		
—	—	8^{15} -	654.2		—	4	—		

Meteorological observations (continued).

Month	Date	Hour	Barometer	Temperature of the air	Direction of the wind	Velocity of the wind	Kind of clouds	Amount of clouds	Remarks
May	1th	9^{50} -	654.2	—20.7	WNW	1	Clear		
—	—	11^{30} -	654.2	—18.0	W	4	—		Heavy Cu. drifted over from N. with great velocity
—	—	2^{00} pm	659.0	—18.0	WNW	8	—		
—	—	3^{30} -	659.3	—17.5	—	5	—		
—	—	5^{00} -	661.0	—18.3	—	3	—		
—	—	7^{30} -	662.7	—18.0	—	4	Str.	3	
May	3rd	8^{45} am	671.5		NW	c. 10			
—	—	11^{30} -	671.6	—19.3	—	4	Str.	1	
—	—	1^{00} pm	673.2	—19.0	—	3	Clear		
—	—	2^{30} -	674.2	—18.5	Calm		—		
—	—	4^{20} -	673.6	—20.0	—		—		
—	—	6^{30} -	673.5	—22.3	—		—		
—	—	8^{15} -	671.9	—23.9	—		—		
—	—	10^{00} -	669.3	—28.0	—		—		
—	—	12^{00} Mn	669.3		—		—		
May	4th	7^{00} am	667.5		Calm		Clear		
—	—	10^{20} -	668.0	—26.0	WNW	2	Ci. Str.	4	Stormclouds coming up from South
—	—	11^{30} -	667.0	—21.0	Calm		—	6	
—	—	1^{45} -	667.5	—20.5	NW	3	—	4	
—	—	3^{20} pm	668.3	—19.5	—	3	—	2	
—	—	5^{00} -	668.8	—19.5	—	2	Clear		
—	—	7^{00} -	668.5	—23.0	—	4	Ci. Str.	3	
—	—	9^{00} -	669.5						
May	7th	3^{00} am	677.5						
—	—	6^{00} -	678.7	—20.5	NNW	9	Clear		
—	—	7^{45} -	678.2	—19.0	—	10	—		
—	—	9^{20} -	676.5	—17.3	NW	10	—		
—	—	11^{00} -	677.0	—16.0	—	12	—		
—	—	1^{45} pm	677.8	—15.5	NNW	10	Str.	2	Clouds coming up from SE.
—	—	2^{50} -	678.5	—15.0	—	7	—	2	
—	—	4^{30} -	680.0	—14.7	—	13	Haze	4	
—	—	5^{30} -	681.5		—	11	—	6	
—	—	7^{00} -	682.5	—16.0	—	14	—	6	
May	9th	8^{00} am	685.5						
—	—	1^{00} pm	685.0	—10.0	SW	8	Clear		
—	—	2^{30} -	687.2	— 9.0	W	12	—		
—	—	4^{00} -	690.6	— 8.0	—	15	—		
—	—	5^{20} -	685.5	— 8.0	—	20	—		
—	—	7^{00} -		— 8.5	—	30	—		
—	—	8^{00} -	695.0		Calm		—		

Remarks to the chart.

Plate I.

The route from Dronning Louise's Land, across the Inlandice to Fyen's Lake, is laid down on a basis of 5 sets of longitudes and 6 sets of latitudes. These observations were taken with a theodolite, fitted with two levels, which the Navy Department had been kind enough to lend to the expedition. The observations are taken in sets with the telescope placed alternately on the right and left.

Three Waltham Watches were carried as time-pieces, and each watch had its individual furbag suspended from a string around the neck of the man, who carried the watches, and against his bare breast where the temperature was nearly constant. The watches were only taken out of their small furbags for winding and comparison. The rate of these watches had been carefully observed while onboard the ship, and two of the watches had been carried on the Lambert's Land trip, where there was an opportunity — by comparing them with the chronometer of the ship before and after the voyage — to determine their daily rate under circumstances, which were nearly similar to those on the Inlandice.

A comparison of all three watches with the chronometer of the ship was made just before leaving the "Alabama", and the rate of our watches, as well as those of Laub, was nearly constant until April the 8th, when my three watches unfortunately ran out. It was however on the day before leaving the support-party, and we could obtain a new good error to Greenwich time, before parting company with Laub, through comparing them with his watch.

The rate of one of the watches changed however very much during the days following this last comparison, and the watch did not become normal till 3—4 days later. It was however as yet possible to get a good sun-azimuth to Cape Bellevue on Dronning Louise's Land, and a new and final error was thus found. A time-observation for determining the error was again made at Cape Rigsdagen, and the error used for the observation in between these two places is found through interpolation. A daily record of the rate and a comparison of the watches was kept up all the way from Shannon Island to beyond Cape Rigsdagen.

The main points of the route across the Inlandice are thus based on rather good observations. The daily course was approximately set by means of rough bearings to the sun, the true bearing of which was estimated according to the true time of the place, known from the last observation of latitude, with due allowance made for the change in time while travelling on a westerly course — as a rule true N by W or NNW.

Our compasses could not be used for determining the course, as they — we carried two — were very slushy, and consequently on days when the sun was invisible, the route was entirely laid out at a certain angle to the sastrugi, the permanent direction of which was NNW—SSE true.

An hourly record of the course and the distance travelled was furthermore kept with great accuracy and noted down, whenever a stop was made.

The observations of longitudes and latitudes were not taken in the same spot, save in two cases, as the weather-conditions were so severe and changeable that we did not dare to waste 4—5 hours, when travelling was possible, but no error of any importance can arise through this cause, as the hourly travelling-record was kept very accurately.

The station IV & V May 4th and 5th and May 8th and 9th are however laid down according to latitudes and longitudes in the same spot.

Longitudes.

Station	Date		N. Lat.	Number of Observations	Mean of clock-time	Mean of Altitudes	Watch in relation to Green.	Long. W.	
I.	17/4	6 1/2 a. m.	77° 51′	6	6 11 36	9° 40′ 2	+ 1 22 37	24° 11′	Azimuth
	22/4	6 1/4 p. m.	78° 02′	6	6 02 00	12° 38′ 9	+ 1 23 23	24° 16′	
II.	28/4	5 p. m.	78° 24′	6	4 58 02	17° 40′ 5	+ 1 24 13	24° 34′	Azimuth
IV.	4/5	7 1/2 p. m.	79° 27′4	6	7 31 22	12° 36′ 9	+ 1 25 02	26° 09′	Azimuth
V.	8/5	7 p. m.	80° 04′8	6	7 21 50	14° 24′ 3	+ 1 25 36	26° 51′	Azimuth
VI.	19/5	7 1/3 a. m.	80° 55′	6	7 23 35	22° 04′ 3	+ 1 27 03	24° 47′	Azimuth
	26/5	p. m.	82° 03′	6	9 48 27	14° 38′ 2	+ 1 28 07	21° 48′	

Latitudes.

Date	approximate W. Long.	Altitude	N. Lat.	
22/4	24° 16′	23° 49′	77° 58′2	
29/4	24° 30′	25° 37′	78° 26′9	
4/5	26° 00′	26° 19′1	79° 15′8	
5/5	26° 09′	26° 24′5	79° 27′4	
9/5	26° 51′	26° 54′	80° 04′8	
16—17/5	26° 20′	9° 53′2	80° 25′9	Midnight in Fyen's Lake
19/5	25° 50′	28° 27′	80° 58′3	

The chart of the land which we passed on the journey across the Inlandice is made on the basis of these observations, and azimuths are taken to all sharply defined points as seen from the stations I, II, IV, V. It was however difficult to keep up an accurate surveying on a journey across the border of the Inlandice, as it was impossible to decide beforehand where the stations were to be, owing to the extremely hilly nature of this part of the Inlandice, which often caused the land to drop out of sight even for a day or two. The sights are therefore not often cutting into the land at right angles.

A running survey was furthermore made while passing the nunataks or in between the continuous landmasses of Holm's Land and Amdrup's Højland, and a rather good kroki was thus obtained. There are in all nine sketches of land in the journal as well as six krokis.

The compasses were sometimes used for taking bearings, but they proved very inaccurate when check-bearings were taken, and none of these bearings are used for laying down the land, save in one case, with Laub's Nunataks, in which case, however, a check is possible, as the coastland, surveyed by the Danmark-Expedition, was visible at the time, and the nunataks were seen over a very pronounced gap in this coastland.

The bodies of land surveyed on the voyage from Dronning Louise's Land to Danmark's Fjord may appropriately be treated under three different headings:

I. The isolated group of nunataks from 78°10′—78°35′ N. Lat.

II. The land bordering the Inlandice to the east from lat. 79°40′ N. and northward to about 80°35′ and Amdrup's Højland around the bottom of the Danmark's Fjord from 80°15′ to 80°35′ N. Lat.

III. The Fyen's Lake and the resurveying of the lower end of the Danmark's Fjord.

I. The Moltke's, Garde's and Bildsøe's Nunataks are laid down on the basis of bearings taken from stations I, II & IV, that is one station to the south, one west and one NNW off the Nunataks. The positions of the stations are determined by longitudes and latitudes on the basis of the hourly travelling records, and the bearings are sun-azimuths.

The bearings from the south were taken from the top of a high hill at a distance of about 35 miles and comprise 3 sights: 1 to the conical top of Moltke's Nunatak, and 2 to the east and west point of the largest Bildsøe's Nunatak. These were the only well-defined points visible from this distance. An azimuth to Cape Bellevue on Dronning Louise's Land was also taken from this station.

The sights from the west were also taken from the top of a high hill, from where all the land was visible at a distance of about 12 miles. The points to which azimuths were taken were sharply defined. A good kroki of the land was obtained from this station.

The azimuth from the north was taken from 79°27′4 N. Lat. and was but one very long sight to Moltke's Nunatak, as the extension in E-W direction of Garde's Nunatak — also visible — was too uncertain to be used for measuring purposes.

II. The land east and west of Kronprins Christian's Land's Inlandice is laid down on the basis of some long azimuths to well-defined points taken from 2 stations, namely:

IV on 79°27′4 N. Lat. and 26°09′ W. Long. and
V - 80°04′8 — and 26°51′ — . The position of these

two stations is rather correct, with longitudes and latitudes taken in the same spot.

The sights are however very long — 45 miles and more — but their accuracy may be tested approximately by the azimuths taken to the northern and southern extremity of Lambert's Land, which give the same north-south extension of this land, as shown by the surveyings of the Danmark-Expedition.

The land east of Kronprins Christian's Land's Inlandice is laid down on the basis of azimuths both from station IV and V, and the coast is thus rather accurate, as we could get cross-bearings to some points. The northernmost bearing from station IV may be erroneous, as the land, to which the sight was taken, was so low that it was difficult to see exactly where it ended, but it may here be stated that the stations are in any case much elevated above the land, which was to be surveyed, and as we could look down upon it, many details were visible, which would otherwise have been hidden.

The land west of Kronprins Christian's Land's Inlandice is laid down on the basis of sights taken from station V, the distance from there to the land, and furthermore three sketches of the coastline. From station V it was impossible to see the low foreland lying at the foot of the mountains, and the sights taken from this station are all to mountains some distance inland. The outlines of the forelands are roughly sketched from the *kroki* made from our last camping-site on the Inlandice, 5 miles from its edge and 700 metres above sea-level.

III. Fyen's Lake is laid down on the map on the basis of an azimuth taken from station V to a very prominent mountain on its west coast and further after a very careful track-survey. Compass-bearings were taken from the Inlandice to the prominent cape on its west coast, and it may be mentioned that a rough but effective check on the direction of the lake was obtained, when two nights running we saw the sun standing right over the northern end of this lake at 2 a.m. (true time). Roughly speaking this gives a general NNE direction of the lake.

A careful track-survey was as stated taken all the way through Fyen's Lake, and a latitude was taken at midnight (80°25′9), but it may be that the latter is not accurate, as the observation was begun too late, and the sun rose, before the observation was finished.

A mountain of 410 metres was climbed on the west coast of Fyen's Lake, and a fjord or lake extending northward in the same direction as Fyen's Lake was seen from there.

The direction of this fjord or lake — whether the one or the other we could not determine at the time, but it proved to be Danmark's Fjord — was so near NNE, that we never thought it possible that it might be Danmark's Fjord, the direction of which, at the lower end, was very nearly E-W from Høeg-Hagen's chart. We therefore thought it an easterly branch of Danmark's Fjord, which had escaped the observation of the MYLIUS-ERICHSEN party.

A very accurate track-survey was made while travelling out through this fjord, and its direction was at first determined in the same manner as in Fyen's Lake, i. e. by means of the sun, which at 2 a.m. was standing right over its northerly end.

The breadth of the fjord off Cape Holbæk was determined by the walking distance across it. The fjord opened up immediately after passing this cape, and it became at once evident that it was the Danmark's Fjord, in which we travelled, and observations were taken in order to get the exact data, on which to base the direction of the fjord.

Observations for latitude and longitude were made (Station VI), and azimuths were taken to three defined points north of the stations, and one to the south, to Cape Holbæk.

The distance from the station VI to Cape Viborg is about 8 miles, and an error in judging this distance of more than one mile is absolutely out of the question. With the sight from station VI to Cape Viborg and the travelled distance we have the means to determine with a fair accuracy the breadth of Danmark's Fjord off this cape.

While off a jutting point just south of Hjærtefjældsdalen on 81°07′ we could as yet distinguish a sharply outlined and easily recognizable mountain at the southern end of Sjællandsfjældene just clear of Cape Holbæk, which can be seen from the shore itself on 81°15′ N. Lat. and this proves without the aid of track-survey and observations that the south-end of Danmark's Fjord does not bend off to the west as shown on the map of HØEG-HAGEN.

The east coast of Danmark's Fjord fell off to the east just north of Cape Viborg, and it seems as if a little further north the fjord may have the breadth shown on the map of HØEG-HAGEN.

Foggy weather and our anxiety to get along towards the mouth of the fjord forced us to discontinue the track-surveying from Ulvebakkerne and northward, but the direction of the coast, as well as all indentations and capes, was apparently quite correct on this part of the coastline, and further along the coast, as often as we had a chance of checking the surveys of HØEG-HAGEN, we found them correct as well in their chief features as in details.

On the map of the journey over the Inlandice, Pl. I, there will be found two ice-profiles, a longitudinal and a cross-section cut.

The longitudinal profile is mainly a nearly north-south cut of the Inlandice from Brede Bræ to Fyen's Lake, and it represents all the material for determining the heights, which has been gathered and which has been deemed reliable.

The actual rise or fall in the heights of the Inlandice as shown on this profile does not always correspond with the notes on the daily route-sketches found in the text, wherefore I do not omit stating that the route-sketches were made on the spot and represented the seeming ice-conditions on the spot. The profile is of course the reliable material, as the heights have been worked out carefully after our return.

The bottom end of the longitudinal ice-profile has a double cut, one where Laub's party and mine travelled together, and the other where he was alone on his journey to the north and west of Dronning Louise's Land. The rise of the ice on this latter profile is comparatively very considerable, but it must be born in mind that this route — almost westerly — will appear much shorter when projected down on a rightangled profile, and the rise of the ice will therefore seem greater than it actually is.

The cross-section at the bottom of the map gives, however, a better idea of the rise of the Inlandice where the main-direction of the course was nearly due W., and this cut, combined with the longitudinal cut, will give a fair idea of the height of the Inlandice passed by Laub.

The height of the nunataks is not accurate, nor as a rule in proportion to the ice, and they have only been marked off on the profiles to show where land forms an obstacle against the free motion of the Inlandice. Where we have been able to ascertain the height of a nunatak, or where information can be gathered from the results of the Danmark-Expedition, this height has been laid down in the same proportion as the Inlandice.

This is particularly the case in the lower end of the longitudinal profile, and in the cross-section where the profiles show the real proportion between ice and land.

The Bildsøe's, Garde's and Moltke's Nunataks do not pretend to be in the right proportion as compared with the ice.

It may be stated here that the daily route-sketches and the corresponding place on the route-map might not correspond, either as to distance or direction. The route-map is however the most accurate, and the sketches tend only to show the apparent conditions of the place, that is whether there seemed to be a rise or fall and this only as seen by the eye and not with the aid of the theodolite. The travelled distance was guessed hour by hour, and a rather considerable over-estimation or under-estimation as to the actual travelled distance during the day may be found in some cases.

Danmark's Fjord.

May 18th. We reached Danmark's Fjord at 3 a. m. and continued our way outward towards Cape Holbæk, which rose quite vertically from the water. This was however the first steep land seen on the west coast of the fjord, as the coast from the cape and southward to the bottom was lined by a long, flat, rounded hill, the height of which did not exceed 100 metres. High land could be seen further back inland above the hill, and apparently separated from it by a fairly broad valley. The hill was broken in one place, apparently by the outlet from Fyen's Lake, and was so covered with snow, that no stones could be seen on the slope facing the fjord.

The east coast of Danmark's Fjord was bordered by a mountain range, which rose steeply from the shore with no flat or low foreland between its foot and the water. This range which rose to a height of about 300 metres was "Sjælland's Fjældene". It consisted of 3 different mountain, the southernmost of which was conical, the others being oblong in shape. A large mass of fallen stones covered about half of the mountain-side, the rest of which was nearly vertical, while the summits themselves were apparently quite flat (Fig. 42).

On entering Danmark's Fjord we were struck by the absence of tidal cracks and thought at first that we were still on a lake, as the tide must make some cracks under ordinary circumstances. These we did not find, however, until farther on, a little to the south of Sjællands Sletten.

It would thus seem that the ebb and flood must be very small in the extreme bottom of Danmark's Fjord. Possibly the water is so shallow that the ice freezes to the bottom; but this does not seem likely, as we passed some few pieces of ice frozen into the bay ice and rising some 5 metres above the surrounding ice, thus demanding a fair amount of water for floating into position.

Cape Holbæk was passed at 1 a.m. on *May 19th*, and the fjord to the north opened up immediately after leaving the cape behind us.

Cape Holbæk was a fairly high, quite isolated mountain, the southern and eastern sides of which rose perfectly vertically out of the water to a height of about 200—250 metres; the north side, however, was lower and gradually sloping. Its western termination seemed quite steep and was separated from the mountains further back by the above-mentioned broad valley, which ended in a little bight just north of the cape. A fairly large river, probably from Fyen's Lake, runs along the bottom of the valley and empties out to the north of the cape, and the Inlandice was visible through it to the SW (Fig. 43 & 44).

The coast to the north of Cape Holbæk became higher (about 300 metres) but was undulating, being only the foothills of the high mountains further back, which reached the coast at about 80°56′ N. Lat. From there to 81°07′ N., the coast-line was perfectly straight, and the unbroken mountain-range rose vertically to a height of about 400—500 metres. The face of this mountain-range was so straight, that all of it could be seen when viewed from a place not more than ½ mile off shore, and its height was apparently the same all the way.

The dark basalt wall was broken by three horizontal layers of a

Fig. 44. Close view of the northern end of Cape Holbæk

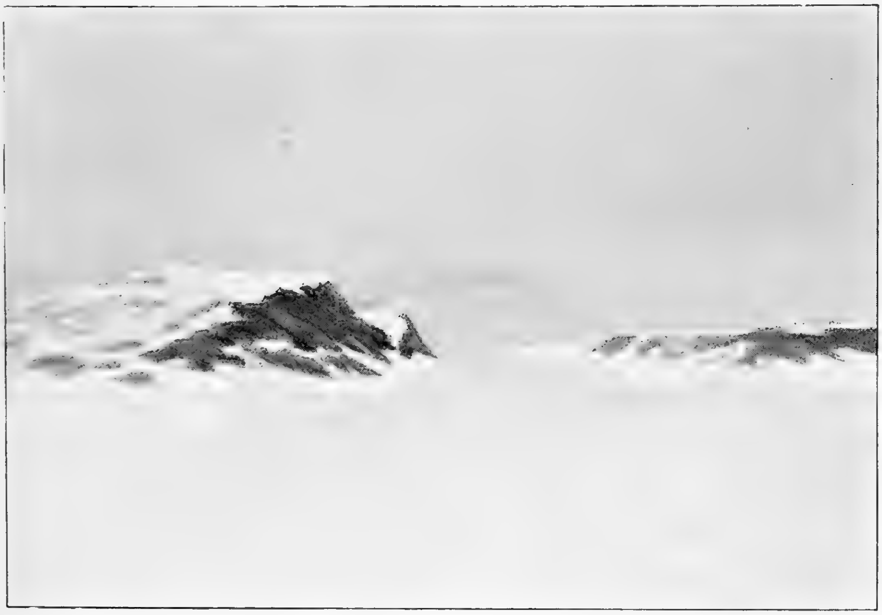


Fig. 45. View of the west coast of Danmark's Fjord from Station VI. 21/5 1910.

Fig. 46. View southward from Pinseskæret showing part of the west coast of Danmark's Fjord.

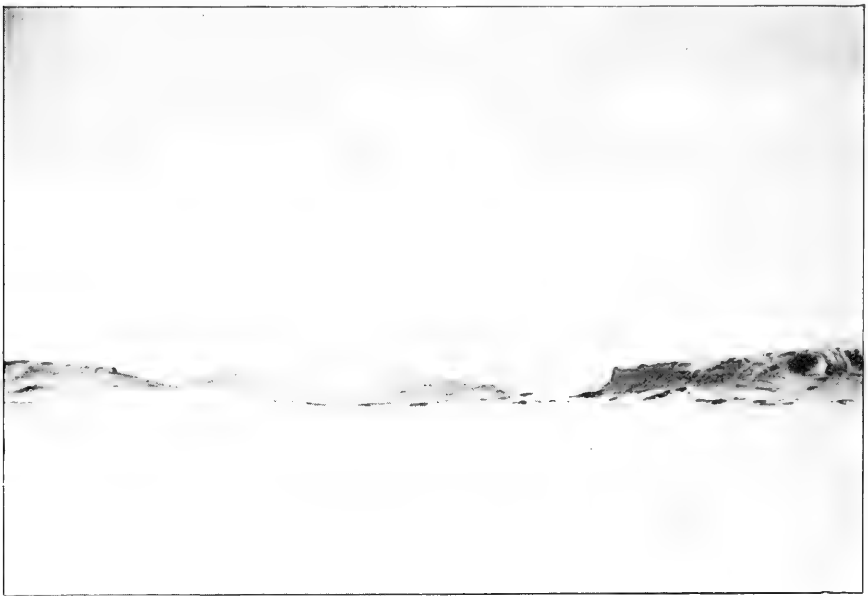


Fig. 47. View westward from Pinseskæret looking towards the Sjælland's Sletten.

yellowish colour. One of these layers at least must contain animal fossil matter, as all the light-coloured stones which we found at the foot of the mountain contained marks of fossil shells. The layers were perfectly parallel and situated apparently at a height of 100, 150 and 300 metres respectively above the surface of the water.

The east coast to the north of Sjælland's Fjældene was not nearly so high as the west coast, and rose in evenly undulating hills, one above the other, far inland but apparently not higher than 300 metres. The Inlandice was visible in some places above the tops of the hills.

The end of the unbroken basalt wall was reached on *May 21st*, when we came to a very narrow valley or rather break in the mountain, along the bottom of which a river flows during summer time (Fig. 45). The extreme end of the ridge was passed 2 miles further to the north, when we came to a river delta with a breadth of at least 1½ mile. The river itself came from the SW, winding its way behind the mountain-range just passed, separating it from an isolated, but still higher mountain with an elevation of at least 600—700 metres.

This mountain and two others smaller as well as lower ones north and east of it, rose steeply from a very level plain, an ancient ocean bed consisting of gravel and covered with an immense amount of shells, one kind circular and another topformed. The plain was quite bare of snow, save for the drifts collected in the river-beds; a little grass and heather as well as some few willows were seen. Saw a great amount of tuffstone all over the plain.

This low stretch of land — Hjærtefjældsdalen — extended north and south for 3 miles, and about 4 miles inland.

It may here be mentioned that we took samples of different geological but particularly botanical specimens, whenever we touched land; these samples, however, were all lost later on through the sledge falling into the water.

Hjærtefjældsdalen formed the beginning of the comparatively low coast extending from there all the way to Cape Rigsdagen, only broken in some few places and on one short stretch by a low, but steep mountain. Inland, however, the mountains were still high and steep, particularly in the vicinity of Sjællands Sletten, which we reached on *May 21st* (Fig. 46, 47, 48).

We walked inland over Sjælland's Sletten to the lake shown on Høeg-Hagen's chart. The valley was very desolate and almost void of vegetation — at least as far as we went, some 3—4 miles inland.

The valley was a gravel bed, similar to Hjærtefjældsdalen, but otherwise it formed a great contrast to this level plain, being studded with large gravel banks, some of which had a height of 10—15 metres. These banks had steep sides, and slides must continually take place, as no trace of vegetation was seen on them. The valley rose slowly and extended far inland in a WSW direction, forming a division between the mountainous country to the south and the high, steep Jydske Aas to the north.

We did not go far inland, as we wanted game and plainly saw that none was to be found here, or at least not until we had reached very much further inland, and knowing from BRØNLUND's Diary that MYLIUS-ERICHSEN had found plenty of musk-ox in the sloping country forming the south side of the bay, we deemed it more prudent to explore that country in search of game.

This mountain-slope — albeit facing north — was covered with a vegetation, almost as luxuriant as in Fyen's Lake, and formed a surprising contrast to the level and sheltered land in Sjælland's Sletten; in spite of the vegetation, however, and the many old traces of musk-ox, we saw none of these animals nor hares nor ptarmigan, and had to give it up with no result whatever.

On *May 22nd* we reached "Ulvebakkerne" (81°25′) and saw a cairn on the low, sloping coast, about 59 metres above water-level. We suspected that the cairn had been erected to mark the place where the ill-fated party collected some drift wood, as a large piece was lying at its base, as well as many smaller pieces and shavings and chips. On opening the cairn, however, we found a carefully corked shot-cartridge, containing the following report from MYLIUS-ERICHSEN, which on Pl. VII is presented in facsimile:

"Danmark's Fjord ca. 81°25′ N. lat., 12th September 1907.

"HAGEN, BRØNLUND and the undersigned — all well — leave to-day "this place, called "Ulvebakkerne", with 1 sledge and 7 dogs, to begin "the return journey to the ship on the new ice, which has to-day at last "become safe. Since we left our summer camp, about 44 miles from here, "on August 8th, we have been obliged to kill 7 dogs as food for ourselves "and the remaining dogs, while we were 15 days out on the sea ice, our "passage stopped 2 miles from land by the water from the melting ice. "At last, on August 25th we reached land and shot 4 hares. By short "journeys day by day since then we have moved our camp altogether "about 32 miles into Danmark's Fjord, constantly impeded in our ad-"vance to good hunting grounds by mild weather, impassable new ice "and lastly by open[1] water from coast to coast. Walked on foot over "the hills, followed by the dogs, some 32 miles further into the Fjord "to "Sjælland's Slette", shot in all 15 young ptarmigan, 15 hares, 1 wolf "and 8 musk-oxen (2 bulls, 3 cows and 3 calves). Camped for a week "under open sky, cooked our food by means of drift-wood, of which we "found quantities along the coast, fed up the dogs and transported the "meat and tallow here to this place, which is the southernmost spot in "the Fjord, we have been able to reach with the sledge. The ice further

[1] Underlined by MYLIUS-ERICHSEN. Note by author.

Fig. 48. View towards the NW. from Pinseskæret showing part of the coast of Danmark's Fjord in the vicinity of Ulvebakkerne.

Fig 49. Cape Kronborg. $^{24}/_{5}$ 1910

Fig. 50. Ice pressed up on the coast in the vicinity of Cape Kronborg. $^{24}/_{5}$ 1910

Fig. 51. View over Mylius-Erichsen's summer-place, seen from Brønlund's Varde.

"in still not safe, otherwise had considered the possibility of returning "home via the inland ice from the head of Danmark's Fjord to the Fjord "at ca. 79° N. lat. Imagine we have had down to 15° of cold (Centigrade) "during the past week. Taking on the sledge drift-wood for 8 days' "cooking, over 300 lbs. of meat, which is sufficient food for ourselves "for 16 days and 8 days for the dogs. Will follow the Fjord eastwards "the ca. 144 miles out to the outer coast and from there, with the help "of the depots laid out there in the spring and bear hunting, we hope "to be able to reach the ship safely in 5—6 weeks.

L. Mylius-Erichsen,
Leader of the "Danmark Expedition".

This report gave us food for thought, as we had thus far considered it certain that Mylius-Erichsen and his comrades had gone along the west coast of Danmark's Fjord, to Fyen's Lake, and along it to the Inlandice and had then made the ascent, although it had seemed to us incredible that this could be possible, considering the steep glacier face and the absence of large snow drifts in the fall of the year. It was now, however, beyond doubt that the party on leaving this place had gone northward along the coast, at least for some part of the way.

The question now arose — where then could we except to find the journals? There might be a possibility of their being at Cape Kronborg, as Brønlund writes about a depot laid down here, but it seemed most likely that the party had taken everything with them, when they passed the cape on their homeward journey, as they were then according to the report well fed and in good condition and had comparatively plentiful provisions. The journals might then be found at the place where they had later ascended the Inlandice from the outer coast when stopped by open water, but as to where this might be, however, we could form no idea as yet.

We had now to make some alterations in our sledging arrangements, as we had lost or killed as useless eight dogs since leaving our comrades on the Inlandice on April 10th. We had now only seven left, and were compelled to leave one of our sledges behind, although the total load was somewhat heavy for one sledge, weighing as it did a little more than 300 kg. The going was however fairly good in spite of a thin layer of wet snow, which covered the ice, and which continually increased in thickness, as it was snowing almost every day.

The coast was followed up on *May 23rd*, and we kept quite close inland, as we could now expect to find traces of the party anywhere, but the shore along which we were sledging was not a likely place for a depot or cairn, as it rose very steeply without any low foreland. The coast itself was undulating, but we could not see the topography further inland, as the weather was very foggy and continued so during the following days.

There was a surprising difference in the appearance of the country near the Inlandice and here. There it was almost bare of snow, and a large amount of vegetation and very many traces of animals were seen wherever we touched land; the country bordering Danmark's Fjord however, was much more snow-covered, the more so the further we advanced toward the mouth of the fjord. The coastline, which we passed to-day, just south of Gundersteddal, and which only had a height of about 70 metres, was so covered with snow as to give the impression of being a small local glacier. The vegetation was very scanty, save in some very few places, and the only animals of which we found any trace, were foxes.

Gundersteddal was passed at midnight *May 23rd*, but we could not see the land behind it owing to fog. Seen as we saw it, there seemed to be no valley, save the one cut out in the hills by a fairly large river, apparently coming from far inland and draining off much water, as the banks were very steep.

To the north of that — about Cape Kronborg — the coast once more became steep, almost vertical, but it did not rise to any great height, probably not above 200 metres (Fig. 49). During the night's sledging we passed only four places, which could afford even a poor site for a depot, and all four places were carefully searched without any traces whatever being found. It was impossible to say for certain which of the three vertical cliffs passed during the night should be Cape Kronborg, as the coastline was very straight, and it was so foggy, that we could not get a view of the opposite shore and thus find our position by bearings; this was, however, of no great importance, as there could be no depots on the stretch we had passed.

We were surprised to find very high pressure-ridges on all projecting points from a little north of Gundersteddal. The ridges had a height of about 10—15 metres and were formed of very heavy ice, which had even been forced up on the low shore in large flakes, showing that the pressure must have been extreme. These ridges did not date from the previous summer, as the edges were melted off, but they had not been exposed to open water, as the waves in that case would have reduced the ridges to a greater extent than was the case (Fig. 50). There had most likely been open water since the autumn 1907, as the ridges could not be so old, so it will be seen that it was not an unusual state of affairs, which broke up the ice in 1907, but a thing of more or less frequent occurrence.

The coast to the north of the cliffs, which form Cape Kronborg, was rather low, and it being foggy we decided to remain in camp to give the dogs a rest, while we could get a good chance of carefully investigating the land, as this would most likely be the place where the depot at Cape Kronborg mentioned by BRØNLUND had been left. We walked along on the land itself, but found no traces at all, either this

Fig. 52. The fireplace of Mylius-Erichsen in his summer-place. 26/5 1910.

Fig. 53. The cairn on Mylius-Erichsen's summer-place. 26/5 1910.

Fig. 54. Land back of Mylius-Erichsen's summer-place seen from about 3 miles out to sea. 28/5 1910.

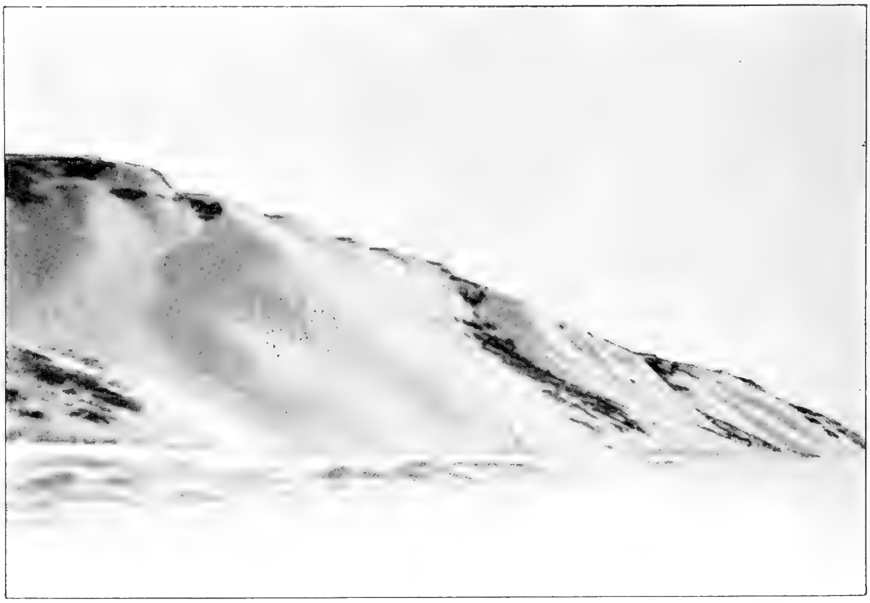


Fig. 55. Cape Rigsdagen. 27/5 1910

time or later, on *May 25th*, when we were sledging close in to the low coast.

In the evening we camped off a place, which we thought to be the summer camp, judging from Høeg-Hagen's chart. A large river and just north of it some smaller ones intersected a quite low, clayey foreland, which rose slowly up to 100 metres about 1 mile inland.

It was however not the place, but we traversed it several times before coming to the conclusion that we had made a mistake in the locality, as no traces whatever were found on the extremely barren land.

The weather was a little clearer than usual to-day, and we were able to see quite a distance inland. The country was undulating and rose in long, flat hills, as far as we could see, but it did not attain any great height, probably not more than 200 metres.

It was again impressed upon us that the country must be more than usually covered with snow, as hardly any bare spots were visible when looking out over the land, and north and south of the above mentioned low country there was so much snow on the coast that it fell off with a vertical drop of 2—3 metres, perfectly resembling a local glacier.

At last, on *May 26th*, we reached the summer camp at about 82° N. and found "Brønlunds Varde" shown on Høeg-Hagen's chart. It was erected on a 75 metres high shoulder, projecting out to sea, and as the surrounding country was very low, the cairn was standing in a very dominating place. It was empty, but from its site we had an extensive view over the low land and small surrounding hills, almost every one of which was surmounted by a cairn (Fig. 51).

The summer camp itself was quite flat, extending for a length of 1½ miles N—S, and ¾ miles in breadth. It was bordered on the shoreward side by small hills, between which some rivulets had cut fairly deep beds, which continued out over the low, level plain. Near one of these rivers we found the old camping site of Mylius-Erichsen and close by it the fireplace.

This fireplace was very crude. It consisted of a couple of large tins, which had formerly contained dog-pemmican and were now filled with stones, flanked by a few large boulders. Between these latter an iron runner was wedged down, the iron being so bent that a pot could be suspended from its upper end (Fig. 52).

Some ashes as well as some half burned bones of musk-ox were still lying in the circular enclosure thus formed, and this latter indicated the scarcity of fuel, albeit bones — particularly fresh ones — burn very well, when once alight.

Round about we saw many traces of men, viz. footprints in the clayey ground, but of utensils no trace. Some small pieces of metal formerly belonging to the theodolite were found close to the stones, which marked the tent enclosure, and scattered about were a few pieces of rope and cloth, which had passed through the dogs. We saw only a very few bones of musk-ox, which was quite natural, considering that they had used the great bulk of them as fuel, and nothing whatever of interest was seen.

A cairn standing about 1000 metres from the camping site was searched (Fig. 53), and in it we found a thermometer case, containing the following report, which on Pl. VIII is presented in facsimile:

"First-lieutenant HAGEN, the Greenlander BRØNLUND and the under- "signed on May 28th 1907 at the North-east Naze of this land (ca. 82°04′ "N. Lat., ca. 22° W. Long.) left the sledge party of First-lieutenant KOCH, "who had reached the north point of Greenland, and were on their way "back to the ship, at Cape Bismarck. We drove westward with 23 dogs "until the 1st of June and reached Peary's Cape Glacier, discovered that "the Peary Channel does not[1] exist; Navy Cliff is connected by fast "land with Heilprinn Land. We renamed Independence Bay the Inde- "pendence Fjord and built a cairn (with report) on a low point near "Cape Glacier. On the way out through the Fjord we discovered and "investigated two side fjords — "Brønlunds Fjord" towards the north- "west and "Hagens Fjord" towards the south-east and built a cairn "(with report) at the last-mentioned. Also discovered old tent-rings.

"Mild weather suddenly set in, deep snow, melting ice-water on the "ice, lack of big game and sickness and loss of energy among the dogs "made our journey out difficult and delayed us so much, that we only "arrived here on June 12th. Further advance by way of the ice was "then impossible. Only 15 dogs were still living, one died later. Since "then we have existed exclusively on the hunting (7 musk-oxen and 1 "calf, 15 wild geese, 4 hares and 3 ptarmigan). Land surveying sup- "plemented, the scientific collections added to, especially flowering plants "and plant and animal fossils. Called the land Kronprins Christian's "Land.

"Devoid of further food for ourselves and the dogs, having had "no big game since July 16th, we must to-day — after ferrying across "to the fast ice on an ice-floe — with 14 dogs, two sledges and all our "goods seek better hunting grounds along the coast away from this per- "fectly desolate locality, which we have wandered over within an area "of 20 miles. All three are quite well. Will endeavour to reach some "miles further into the Fjord lying to the south-west from here, which "we explored in May and called "Danmark's Fjord", where at that time "we found good hunting of hares and musk-oxen. If we succeed in "obtaining sufficient food, we intend, when the ice becomes passable "probably towards the end of the present month, to undertake the

[1] Underlined by MYLIUS-ERICHSEN. Note by author.

"ca. 500 miles journey back to the ship, which we hope to reach before "the end of September with or without the dogs.

"The cairns built in the neighbourhood of this cairn were set up "by HAGEN for trigonometric measurement of the land and contain no "reports.

"In one or more cairns further up in the Fjord we shall deposit "reports on our later fate.

"August 8th 1907.

L. MYLIUS-ERICHSEN,
Leader of the "Danmark Expedition to the
north-east coast of Greenland" 1906—08."

Nothing whatever was found in the vicinity of the cairns, and none of the other cairns were investigated, as we knew from the above that nothing could be found.

That which interested us most in the report found was MYLIUS-ERICHSEN's statement as to the non-existence of Peary Channel, as the many gales and the consequent delay on the Inlandice had forced us to consider it most prudent to go through this channel and down along the NW coast of Greenland, until we met the Eskimos. This we thought was our only chance of escaping a summer somewhere on the coast.

This plan was now impossible, as we could not think of going an unknown distance overland where bare land might stop the sledges any moment, and we had consequently to follow the exact wording of the orders from the Committee, in which it was stated that . . . "If the jour-"nals are not found in the vicinity of Cape Holbæk or Cape Kronborg, "then the homeward journey must be made along the outer coast of "NE Greenland, round Nordostrundingen to Lambert's Land. The jour-"ney will be facilitated by the depots left on the coast by the Danmark-"Expedition. The coast must be carefully examined, and all depots "opened in search of journals or information".

The orders further stated: "The Committee must emphatically point "out that the aforesaid journey towards the west through Peary Channel "is only to be attempted, provided conditions are so favourable as to "practically exclude the possibility of losing the results obtained".

We still wanted, however, if possible to explore the bottom of Independence Fjord, as we now knew that the extent of this journey would be limited to about 100 miles either way (Fig. 54). We therefore kept on northward from the summer-camp to Cape Rigsdagen, along the low coast, which — like most other parts of the land — was covered with snow (Fig. 55). The coast became a little higher, as we advanced, but was not precipitous and ended toward the extreme NE in a low naze, which was reached on *May 27th* at 3 a. m.

The layer of snow on the ice was very soft and became still more so just after passing this naze, and it was evident that the hundred miles' journey to the bottom would take a long time, particularly as our dogs were so very exhausted.

We did not deem the possible result of this journey — the surveying of the extreme bottom, a stretch of some few miles — worth the risk, and began our homeward journey on May 27th at 11 p. m.

As will be seen from the above, we had much fog while in Danmark's Fjord, and on the last part of the journey the east coast could only be seen in glimpses save on two days, when the weather was clear — one day at Sjælland's Sletten and another at the summer camp, but in both cases, the land could be seen far to either side. We were thus able to form an idea of the appearance of the east coast, which was undulating and hilly all the way from Sjælland's Fjældene to the NE point of the fjord. The hills, which rose to their full height some few miles inland, were however between 400—500 metres high. They were divided by some very large rivers which had cut out large valleys in the sides of the hills or mountains. They probably drained the Inlandice, seen in most places above the coastland, which had a breadth of 15—20 miles.

The land tapered down toward the north, and the naze inside Prins Frederik Islands, as well as the islands themselves were quite low, while Cape Ringkøbing lying further back was high and precipitous.

The snow covering the ice in Danmark's Fjord was fairly deep and soft, whenever we came a couple of thousand metres out from the coast, but disappeared in most cases quite close in to land, where, however, the glare-ice by now (the later part of May) was covered by about 2 cm. soft, wet, newly fallen snow.

The only place where the snow was really difficult to pass was off Hjærtefjældsdalen, where it was very deep and soft.

The vegetation on land was — as will be seen from the preceding notes — scanty, the more so the further we came out toward the mouth of the fjord, and the country behind the summer-camp was so barren that it seemed incredible that musk-ox could exist on it. Animal life was consequently very poor, and we saw no living thing the whole way out of the fjord, and only very few traces of animals. The traces of musk-ox were all old, and not a single one could with certainty be said to have been formed since the return of the sun. The traces of hares were fresher and somewhat more numerous, but we saw none of the animals themselves, nor any ptarmigan, in spite of the many fresh traces, particularly on the coast forming the south side of Sjælland's Sletten. Of foxes we saw more traces than anywhere else in NE Greenland, and also one of a very large wolf. No sparrows or other migrating birds were seen in spite of the advanced season, and the general impression of the country as to animal life was one of utter desolation.

Attempt to reconstruct the last journey of Mylius-Erichsen.

Pl. II[1].

When Captain Amdrup drew up his "Report on the Danmark-Expedition", (Meddelelser om Grønland, Vol. XLI, and especially chapter G of same, entitled "Last Journey of Mylius-Erichsen, Høeg-Hagen and Jørgen Brønlund", pp. 213—23) he had at his disposal the following data upon which to determine their route:

1. Jørgen Brønlund's Diary.
2. Høeg-Hagen's sketch-maps and drawings.
3. Mylius-Erichsen's verbal communication to Capt. Koch at Cape Rigsdagen on the 27. May 1907, and finally,
4. the opinion of Capt. Koch regarding the route of the perished party (see Medd. om Grønl. XLVI, No. 2, Pl. IV).

On the basis of information contained in the above the route was conjectured to have been as follows:

Sledging westward from Cape Rigsdagen, the party headed into Independence Fjord as far as the mouth of Hagen's Fjord, entering which they reached the bottom of same 30/5—1/6 and returned, proceeding farther west along the south coast of Independence Fjord. Cape Grundloven was passed on the 5th of June, and Varde Point (the place where Mylius-Erichsen subsequently built his cairn: i. e. Danish "Varde" and deposited his report) was reached about the 7th or 8th of June. Here they turned and commenced the return journey along the south coast of Peary Land to Cape Caroline Marie cutting from there across to Cape Rigsdagen, arriving at Danmark's Fjord once more on the 12th of June.

This route made out by Capt. Koch is also laid down on the chart in "Meddelelser om Grønland", Vol. XLVI, No. 2, Pl. IV.

A new document has, however, now come to light, which entirely upsets this theory and at the same time furnishes the means of determining the actual route followed by the party with greater certainty than before and containing besides information of an important discovery. This document is Mylius-Erichsens report, found on the site of his summer-camp, and dated 8th August 1907. (see pp. 86—87).

Before proceeding to explain and discuss this new route, however, reference must be made to Capt. Amdrups Report which, it must be born in mind, was written before the appearance of the document in question. Captain Amdrup has in Vol. XLI, No. 5, included this together with the other report found by the present writer in Danmark's Fjord in May 1910.

In this treatise Capt. Amdrup has altered Mylius-Erichsens route in accordance with the later information thus obtained. Capt. Amdrup

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[1] In drawing the head of Independence Fjord the map of Knud Rasmussen has been used.

has also, in the same treatise, made mention of the important discovery made by MYLIUS-ERICHSEN, not previously known, namely that Peary "Channel" does not exist, and he gives him and his comrades the full credit of this important discovery.

MYLIUS-ERICHSEN writes in his report:

"First-lieutenant HAGEN, the Greenlander BRØNLUND and the under- "signed on May 28th, 1907 at the North-east Naze of this land (ca. 82°04′ "N. Lat., ca. 22° W.Long.) left the sledge-party of First-lieutenant KOCH.... "We drove westward with 23 dogs until the 1st of June, and reached "Peary's Cape Glacier, discovered that the Peary Channel does not exist; "Navy Cliff is connected by fast land with Heilprinn Land. We re- "named Independence Bay the Independence Fjord, and built a cairn "(with report) on a low point near Cape Glacier. On the way out through "the Fjord, we discovered and explored two side-fjords — "Brønlund's "Fjord" towards the north-west and "Hagen's Fjord" towards the "south-east, and built a cairn (with report) at the last mentioned. Also "discovered old tentrings".

On comparing this report with the information concerning this part of the journey furnished by JØRGEN BRØNLUND's diary, the data upon which previous accounts and conjectures of the route have been based will be found to have another meaning, agreeing, moreover, entirely with MYLIUS-ERICHSEN's own statements.

The route into and out from Independence Bay would roughly be as follows:

$^{28}/_{5}$. Leave Cape Rigsdagen.
(according to MYLIUS-ERICHSEN's report and KOCH).

$^{29}/_{5}$. Reach mouth of Hagen's Fjord.
(according to HØEG-HAGEN's sketch map and sketch[1]).

$^{1}/_{6}$. At Varde Point near Cape Glacier.
(according to MYLIUS-ERICHSEN's report, HØEG-HAGEN's sketch of land, Pl. IX[2], and JØRGEN BRØNLUND's diary).

$^{5}/_{6}$. Pass Cape Grundloven.
(this would appear to be the most probable date judging by the name given to the cape).

$^{12}/_{6}$. At summer camp in Danmark's Fjord.
(according to MYLIUS-ERICHSEN's Report).

These are the only absolutely certain dates; we may, however, on the basis of these and in conjunction with MYLIUS-ERICHSEN's report, HØEG-HAGEN's sketch maps and JØRGEN BRØNLUND's diary, draw up a more detailed route, as follows:

On the $^{28}/_{5}$ the sledge party left Cape Rigsdagen, moving westward

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[1] AMDRUP, Medd. om Grønland, vol. XLI, pp. 221—223. Pl. V & VIII.
[2] The plate number here and in the following refer to vol. XLI, No. 1.

into Independence Bay, and reaching on the following day the mouth of a bay later named Hagen's Fjord. This fjord however, was not explored at the time, the party pushing on to Cape Glacier.

By the $^{30}/_{5}$ they must have passed this fjord, since JØRGEN BRØNLUND writes:

"*May 30th.* The weather had become calm. From the other fjord[1] "there came a slight wind which we had at our backs .... A little "after 6 in the evening started again in the direction of Cape Glacier. "We were moving westwards in a large sound"[2].

At the end of the second day's sledging, the party probably camped at a spot a little beyond Cape Peter Henrik. With regard to the third day's journey, which commenced on the evening of the 30th, JØRGEN BRØNLUND writes:

"We wanted to sight the place reached by Peary[3] but did not "get so far, and without having it above the horizon we had to make "a halt; we drove along a hilly stretch of coast, tending smoothly to- "wards the west by south and stopped early in the morning of the 31st "of May, after having covered 36 miles"[4].

These 36 miles which, according to BRØNLUNDS note, were covered in a westerly direction from the mouth of Hagen's Fjord would bring the party to the mouth of Astrups Bay, which agrees with the statement in BRØNLUND's diary, when he expressly mentions that the lie of the land was south of west. Up to this point the general direction — according to the map — had been westerly, even tending slightly towards north.

On the $^{1}/_{6}$ JØRGEN BRØNLUND writes:

"In the night we at last sighted the place we wanted to see"[5].

The sledge-party must here assuredly have reached Varde Point, and not as previously supposed, the inner termination of Hagen's Fjord. This agrees both with MYLIUS-ERICHSEN's report and with the sketch of the land from the termination of Independence Fjord, made by HØEG-HAGEN. Moreover, BRØNLUND had throughout referred to Cape Glacier as being their final objective.

Varde Point was most likely reached on the morning of the $^{1}/_{6}$, HØEG-HAGEN's sketch from here being dated $^{1}/_{6}$. Had they arrived in the evening, there would probably have been no time for surveying work or making sketches, as they would have been obliged to rest first.

The party must have remained at the bottom of Independence Fjord until the 4th of June inclusive. BRØNLUND writes:

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[1] Hagen's Fjord. Note by author.
[3] Glacier Point. Note by author.
[2, 4, 5] AMDRUP, Medd. om Grønland, Vol. XLI, pag. 204.

"2 June. In the evening at 6 o'clock I went out hunting musk-"oxen at a place ca. 8 miles away. I found a great number of tracks "in the bay, but saw no animals. On the way back I saw again a seal "on the ice; when I was calling for my dogs it heard me, and the moment "I saw it, it dived down again. Hoping that it would reappear, I stood "on the watch for it, but in vain"[1].

"3 June. At noon I returned and found my comrades very anxious "and on the point of setting out to look for me .... [2]".

BRØNLUND mentions, quite casually, that he had found great numbers of musk-ox tracks in the bay, which lay some eight miles from the camp. This bay must presumably be taken as being that part of the bottom of Independence Fjord shown on HØEG-HAGEN's drawings (Plate IV & IX). The low-lying Peary Islands marked on the north side of the bottom of the Fjord seem to indicate that the land beyond must be comparatively low.

BRØNLUND's probable assertion that from there it was possible to perceive with certainty that the channel did not exist, must presumably have persuaded MYLIUS-ERICHSEN to devote yet one more of the precious days to the task of checking BRØNLUNDS statement. There could be no other reason for their going out after his return, since they could not expect to find game where BRØNLUND had been unsuccesful.

They did go out, however, for BRØNLUND found himself alone in the camp, when he woke about noon on the 4th of June. This is evident from the note in his diary:

"June 4th. At noon I awoke; on going out I managed to shoot "two ptarmigans at one shot outside our tent. I rejoiced over this booty "as we were quite destitute of provisions, having just the small quantity "of meal for one more time. A little later I went out to the place where "the inlandice merges into the sea, hoping there to meet with seals, "but returned soon after without seeing any.... At 6 in the evening "MYLIUS and HAGEN returned, also without any game[3]".

MYLIUS-ERICHSEN and HAGEN would then no doubt have employed the time they had been away from the tent in checking BRØNLUND's statement as to the non-existence of a strait. True, BRØNLUND himself makes no mention whatsoever of the supposed channel being closed, merely stating that they had failed to find game; but it must be remembered, however, that this for him was a point of primary importance, the appearance of the country being a subordinate feature, while his companions would regard the latter as most important.

It is probably on the basis of observations made on this trip that MYLIUS-ERICHSEN makes the very definite statement contained in his

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[1, 2, 3] AMDRUP, Medd. om Grønland, vol. XLI, pag. 204—205.

report, where he writes that "Peary Channel does not[1] exist; Navy cliff is connected by fast land with Heilprinn Land".

It is practically certain, that MYLIUS-ERICHSEN and HØEG-HAGEN saw the "channel" landlocked; but there is, however, the possibility that his statement was based on supposition, and indeed it appears at first sight to be somewhat discounted by the fact that HØEG-HAGEN has not marked the bottom of Independence Fjord upon his map.
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It is clearly evident, from the foregoing, that MYLIUS-ERICHSEN and his two comrades found the supposed channel closed, and that the fact of HØEG-HAGEN's not having marked the head of the bay on his

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report, where he writes that "Peary Channel does not[1] exist; Navy cliff is connected by fast land with Heilprinn Land".

It is practically certain, that Mylius-Erichsen and Høeg-Hagen saw the "channel" landlocked; but there is, however, the possibility that his statement was based on supposition, and indeed it appears at first sight to be somewhat discounted by the fact that Høeg-Hagen has not marked the bottom of Independence Fjord upon his map.

On closer examination, however, this element of doubt will be removed; the omission is simply explained by the fact that the paper on which the chart was drawn was not large enough to permit of the bottom of the fjord being included. There is no doubt that Høeg-Hagen was of the same opinion as Mylius-Erichsen, for he has himself written "Independence Fjord" on the finished chart, which he certainly would not have done without having seen the bottom of the Fjord. And as far as Høeg-Hagen is concerned, the matter is rendered perfectly certain by the fact that his sketch of the country about here is marked distinctly: "Bottom of Independence Bay", and the drawing itself shows that the supposed sound is blocked by a glacier.

In addition to this we have his sketch map, compared with his sketch of the country. On the sketch map Pl. V angles have been drawn from Varde Point, presumably leading to the southermost point of Heilprinn land and to Navy Cliff. On the sketch points are marked off to which bearings had doubtless been taken; these are, however, not all shown on the map, which Høeh-Hagen naturally did not think would ever be of great importance.

On the sketch, Pl. IX, a glacier is shown filling the opening between Peary Land and Navy Cliff, and on the carefully redrawn chart, Pl. IV, we find the beginning of a glacier stretching SSW from Heilprinn Land, and called Marie Sophie Glacier. The paper was not large enough to permit of this glacier being drawn in its whole length, but it must certainly be the northermost end of the Marie Sophie Glacier, which on Pl. IX is seen stretching across the supposed channel and connecting Heilprinn Land with Navy Cliff.

On the sketch map Pl. V another set of angles are marked, taken from out on the ice, as the trend of the land rendered it impossible to see the opening between Navy Cliff and Academy Land from Varde point. This set of angles embraces the opening in question. On the basis of these two sets of angles, the drawing of the land and Høeg-Hagen's and Peary's maps, the head of Independence Bay can be roughly drawn.

It is clearly evident, from the foregoing, that Mylius-Erichsen and his two comrades found the supposed channel closed, and that the fact of Høeg-Hagen's not having marked the head of the bay on his

[1] Underlined by Mylius-Erichsen. Note by author,

map is no reason for contesting their claim to this discovery, especially when taking into consideration the existing proofs that HØEG-HAGEN himself was entirely in agreement with MYLIUS-ERICHSEN on this point. This is distinctly indicated by the angles on the sketch map (Pl. V), by the drawing made on the $^1/_6$ of the head of the fjord (Pl. IX), by the direction of the Marie Sophie Glacier as drawn (Pl. IV) and finally by the words "Independence Fjord" on the same map.

HØEG-HAGEN could naturally not suppose that his rough sketch maps would come to serve as the basis of future maps of these northerly regions, and probably considered Marie Sophie Glacier too insignifiant to warrant a special survey, thinking it sufficient to indicate on the map and drawings of the land that the supposed sound did not exist.

The return journey was probably commenced on the morning of the 5th. As to this day, nothing can be said with certainty, as BRØNLUND makes no special reference to it in his diary. HØEG-HAGEN'S sketch map (Pl. V), however, gives us one piece of information, viz: that the sledge party had left Varde Point and moved up to Cape Harald Moltke, from where some few angles were taken, and from where it was possible to determine the approximate outline and extent of Brønlund's Fjord. MYLIUS-ERICHSEN'S report gives some information concerning the backward route; he writes of this part of the journey, as follows:

"On the way out through the fjord, we discovered and explored "two side fjords — "Brønlund's Fjord" towards the northwest, and "Hagen's "Fjord" towards the south-east, and built a cairn (with report) at the "last-mentioned. Also discovered old tent-rings".

It will be seen from this that Hagen's Fjord was passed unsurveyed on the outward journey, and the Eskimo tent-rings on Cape Peter Henrik were probably found at the time when the fjord was partly surveyed. The sledge-party must presumably have moved in a south-easterly direction from Brønlund's Fjord, until they reached the coast of Greenland once more, following the same down to Danmark's Fjord.

The greater part of Hagen's Fjord was, however, in all probability not explored at this time, but surveyed later in the course of trips made from the summer camp westward across country, as HØEG-HAGEN'S sketch-map (Pl. V) shows angles from Himmelbjærget and from a cairn on the east coast of the fjord, Hagens Varde (Slutstenen). The angles embrace all prominent parts of the coast, which would not have been necessary, had the fjord been explored previously by sledge, and in view of the very difficult conditions under which they had to work during the summer, it is hardly likely that MYLIUS-ERICHSEN and his comrades would have undertaken the arduous task of carrying their heavy surveying instruments some twenty miles over the country, if it had not been for the purpose of surveying the last stretch of the coast.

Everything seems to indicate that the return-journey from Cape

Glacier was made with all possible speed, and that no surveying was done beyond noting such features as could be observed on the way. According to Mylius-Erichsen's report the journey in as well as out was attended with considerable difficulty. He writes:

"Mild weather suddenly set in, deep snow, melting ice-water on "the ice, lack of big game, and sickness and loss of energy among the "dogs made our journey out difficult and delayed us so much, that we "only arrived here[1] on 12th of June".

In view of these circumstances it must be considered as a quick journey, seeing that the party arrived at the summer camp on the 12th of June, having covered about 100 miles in 7 days, and with only 15 dogs alive of the 23, with which they had started on the journey to Cape Glacier.

On the 14th of June an attempt was made to continue the homeward journey over Danmark's Fjord. The party were however soon obliged to turn back, the snow being so soft as to render progress impossible.

As regards the stay at the summer camp, from $^{12}/_{6}$ to $^{8}/_{8}$ Jørgen Brønlund's diary gives fairly detailed informations, and Mylius Erichsen himself writes, in the report found on the place itself (pag. 86):

"Since then [2] we have existed exclusively on the hunting, (7 musk-ox "and one calf, 15 wild geese, 4 hares and 3 ptarmigan). Land surveying "supplemented, the scientific collections added to, especially flowering "plants, and plant and animal fossils. Called the land Kronprins "Christian's Land.

"Devoid of further food for ourselves and the dogs, having had "no big game since July 16th, we must today[3] — after ferrying across "to the fast ice on a ice-floe — with 14 dogs, two sledges and all our "goods, seek better hunting grounds along the coast away from this "perfectly desolate locality, which we have wandered over within an "area of 20 miles. All three are quite well. Will endeavour to reach some "miles further into the fjord lying to the south-west from here, which "we explored in May, and called "Danmark's Fjord", where at that "time we found good hunting of hares and musk-oxen. If we succeed in "obtaining sufficient food, we intend, when the ice becomes passable, "probably towards the end of the present month, to undertake the "ca. 500 miles journey back to the ship, which we hope to reach before "the end of September, with or without the dogs".

This extract from Mylius-Erichsen's report, in conjunction with what Jørgen Brønlund has written as to their stay at the summer camp gives so clear a picture of what has taken place as to render com-

[1] The summer camp. Note by author.
[2] 12th of June. Note by author.
[3] 8th of August. Note by author.

ment superfluous. One thing, however, may be pointed out; the surveying which they carried out under such difficult conditions was a magnificent and probably unparalleled piece of work, hardly to be appreciated save by those who have themselves visited the spot and seen the many cairns set up on the surrounding hills for this purpose.

We have here the evidences of unexampled energy and devotion; it is only to be regretted that the detailed results of the surveys, made at such a sacrifice, should have been lost.

On the 8th of August, as already mentioned, the party were forced to abandon their summer camp, and the journey southwards, into Danmark's Fjord, proved a very toilsome and difficult piece of work.

JØRGEN BRØNLUND gives a fairly detailed account of this part of the journey in his diary; MYLIUS-ERICHSEN's report, found at Ulvebakkerne, while it tells us but little that is new as to this section of the route, yet serves to confirm BRØNLUNDS statements. He writes:

"Since we left our summer camp, about 44 miles from here, on "August 8th, we have been obliged to kill 7 dogs as food for ourselves "and the remaining dogs, while we were 15 days out on the sea ice "our passage stopped two miles from land, by the water from the melting "ice. At last, on August 25th, we reached land, and shot 4 hares".

This must have been somewhere in the neighbourhood of Cape Kronborg; from here they sledged along the coast, after having deposited everything not absolutely indispensable in a cache.

They now began to find game once more, and as the weather was growing colder, they were able to work their way on southward, although progress was but slow.

MYLIUS-ERICHSEN continues his report as follows:

"By short journeys day by day since then, we have moved our camp "altogether some 32 miles into Danmark's Fjord, constantly impeded in "our advance to good hunting grounds by mild weather, impassable "new ice, and lastly by open water from coast to coast".

They had reached Ulvebakkerne at 81°25′ N., before the winter ice in the fjord broke up, forcing them to abandon the sledge, with all their gear, on the coast, after which they:

"Walked on foot over the hills, followed by the dogs, some 32 miles "further into the fjord, to Sjælland's Sletten, shot in all 15 young "ptarmigan, 15 hares, 1 wolf, and 8 musk-oxen (2 bulls, 3 cows and 3 calves). "Camped for a week under open sky, cooked our food by means of "drift-wood, of which we found quantities along the coast, fed up the "dogs, and transported the meat and tallow here to this place[1] which "is the southermost spot in the fjord, we have been able to reach with "the sledge ... Imagine we have had down to 15° of cold (Centigrade) "during the past week".

[1] Ulvebakkerne. Note by author.

This abundance of game and the rather great amount of drift-wood which they were fortunate enough to encounter, rendered it possible for Mylius-Erichsen and his two companions to remain quietly in the vicinity of Sjælland's Sletten, until the autumn was so far advanced and the weather cold and constant enough to let the young ice settle down, whence the homeward journey could begin.

The question of the journey home would assuredly have formed a daily topic of conversation throughout the summer, and there were probably two plans: one, to follow the coast and the other to make their way across the Inlandice from the base of Danmark's Fjord to Lambert's Land.

The latter project doubtless appeared the more promising of the two, presenting as it did one considerable advantage over the other, viz: that the homeward journey could be commenced much earlier than would be the case if they were forced to wait, until the young ice along the outer coast should be strong enough to permit their sledging on it; this is, however, all that could be said in favour of the route in question, which presents many and serious difficulties, the chief of which would be the ascent of the Inlandice. This they would always be obliged to consider as an unknown factor, which might overthrow their plan entirely, and from what Høeg-Hagen said to Capt. Koch[1], on the occasion of their meeting at Cape Rigsdagen he does not appear to have believed that it would be possible to make the ascent. Moreover, even if this difficulty should be overcome, there would still be the long journey over the Inlandice, where fissures and rugged ice would hinder and delay their progress. Even for a well-equipped expedition such a journey would be a matter of considerable difficulty, and for Mylius-Erichsen and his comrades, situated as they were, it would be almost impossible to accomplish it. They lacked everything that was necessary, clothes and gear, and most important of all provisions. Even if they had meat on the sledges when making the ascent, there was always the possibility of unforeseen delays from various causes, and if their provisions should give out while on the Inlandice there would be no means of obtaining food.

The alternative route, on the other hand, viz: along the coast, offered so many advantages in comparison with the only one point in favour of the Inlandice — i. e., the earlier start, and even that was doubtful — that it was only natural to finally decide on the route along the coast.

In the first place, the distance would be about the same, whether they went overland or along the coast. There were, moreover, depots along the coast; which, though not large, were yet large enough to furnish a very valuable support and save them from absolute starvation, especially when taken in conjunction with the game which they might with some degree of certainty expect to find.

[1] Amdrup, Medd. om Grønland, Vol. XLI, pag. 216.

Finally, a point of great importance, they would, by choosing the coast route, have the advantage of moving over familiar ground, and there would also be a possibility of meeting the relief-expedition, which they expected would be sent out from the ship.

Nevertheless, when they left the summer-camp, it was doubtless MYLIUS-ERICHSEN'S intention to sledge home over the Inlandice, induced thereto by the prospect of making a start as soon as they had found sufficient game. Provided the winter-ice in Danmark's Fjord still held — and there was no reason for supposing otherwise — they would be able to sledge over this and on the new ice formed over thawholes and cracks, at a time when the coast would still be quite open.

This plan, however, was abandoned during their many days' stay on the ice, and when they left their depot at Cape Kronborg, it was in all probability with the intention of proceeding homewards along the coast, as it would otherwise have meant a considerable amount of extra work to fetch their gear from there: they could not possibly say how far they might have to go on into Danmark's Fjord before finding game.

The unexpected rise in the temperature and the still more unexpected breaking up of the ice, which left them face to face with open water stretching from one coast to the other, led them to decide on the safer route along the coast, and even if they had still wished to go overland, this would have been impossible, for a somewhat peculiar reason. MYLIUS-ERICHSEN writes in report found on Ulvebakkerne:

"— — — The ice further in still not safe — — —".

It would only be natural to suppose that the young ice would quicker get solid farther up in the comparatively narrow fjord, where it would not be exposed to very heavy pressure, than out towards the open sea, where shifting winds and currents would keep the ice in motion, long after it had become firm and solid in closed waters and narrow fjords. That the ice, as seen from Ulvebakkerne, should appear safer to the north than farther southwards can scarcely have been other than an accidental circumstance, a circumstance, however, to which they attached the greatest importance, coinciding as it did with their own wish to find some reason, which they themselves could deem sufficient to warrant thus relinquishing their original plan of crossing the Inlandice.

On the 12th of September, they started from Ulvebakkerne, at 81°25′ N. on their homeward journey, according to MYLIUS-ERICHSEN'S report under favourable conditions. He writes:

"HAGEN, BRØNLUND and undersigned — all well — leave to-day this "place, called "Ulvebakkerne" with one sledge and seven dogs, to begin "our return journey to the ship on the new ice, which has to-day at "last become safe .... The ice further in still not safe, otherwise had "considered the possibility of returning via the Inlandice from the head of

"Danmark's Fjord to the fjord at ca. 79° N. Lat. . . . Taking on the sledge "drift wood for 8 days' cooking and over 300 lbs. of meat, which is sufficient food for ourselves for 16 days, and 8 days for the dogs. Will "follow the Fjord eastward the ca. 144 miles out to the outer coast, and from "there with the help of the depots laid out there in the spring, and bear "hunting, we hope to be able to reach the ship safely in 5—6 weeks".

It will be seen from the above that they were well equipped, and they had no lack of fuel, since they left behind them by the cairn a piece of wood large enough to serve for four or five cooking fires.

The first point on the homeward journey was Cape Kronborg, where they loaded up on the sledge everything that had been left at the depot there on the 25th of August. It is inconceiveable that anything should have been left behind, as the range of coast to which any such depot must necessarily be confined, is so short and narrow, and was, when we visited the place, so bare of show that nothing could have escaped attention, especially as the ground was examined three times over.

On leaving Cape Kronborg the dogs must have been in good condition, since the party were able to draw the heavy loads which meat, fuel, personal and other effects would make, and they would doubtless make good going over the newly frozen ice.

From Cape Kronborg they must have shaped their course for Prins Frederik Islands, and from there eastward again. Had they, at this point, been forced to abandon their project on account of thin ice or for other reasons, and decided to sledge down along the east coast of Danmark's Fjord, they would most assuredly have built a cairn there, and left a report, as these low-lying islands would lie directly on the route of any search-party proceeding towards the western coast of the Danmark's Fjord. They would thus have been able to consider it as certain that the search-party, which they continually expected would be sent from the ship, and which they knew must come up along the coast, would be at once set on the right track and not have to cross to the west coast of Danmark's Fjord, where also they would find only misleading information — viz: the reports left at the summer-place and on 81°25′ N. Lat.

It may therefore be regarded as certain that Mylius-Erichsen, on leaving Prins Frederik Islands, turned his back on Danmark's Fjord without any intention of returning. Moreover, the party must have been hopeful as to future progress, since they found no occasion to build a cairn and leave a message at such a conspicuous spot.

We may still, however, follow them with certainty some distance further on their homeward journey. The party must have passed Prinsesse Dagmar Peninsula, where Mylius-Erichsen had left a depot on the way up containing some 26 kg of dog-pemmican and the cooking-box, and this depot we did not find. It is true, that we had no knowledge as to whether any provisions were left there, and did not therefore make any direct search, but circumstances forced us to sledge on the inner side of the tidal fissures and often on the beach itself, and we did carefully examine everything we passed in the hope of finding some evidence to show that MYLIUS-ERICHSEN and his comrades had reached so far.

It should also be remembered that this depot was laid down at the beginning of May, and of course on a spot then free from snow. Such a spot would of necessity be at least equally bare when we passed, more than a month later in the year, and it would be impossible to avoid seeing two such large objects as the tin of dog-feed and the cooking-box. These must therefore have been removed by the party on their return-journey.

The next depot was situated about 60 miles farther to the east at 81°30′ and consisted according to Capt. KOCH of

2 tins of pemmican à 0.5 kg.
1 tin of cabbage and farcemeat à 1.0 kg.
2 tins of pease meal à 0.25 kg.
2 litres kerosene.
26 kg dog-pemmican.

We found the depot on the top of a little island or possibly beach, the spot itself, as well as the ground in the immediate vicinity, being so bare of snow, that we also found several fragments of rope which had been chewed by the dogs, some rags and empty tins. But of the provisions only the following remained:

2 tins of pemmican à 0.5 kg.
1 tin of cabbage and farcemeat à 1.0 kg.
2 tins of pease meal à 0.25 kg.

The two litres of kerosene and the 26 kg. of dog-pemmican, however, were missing.

MYLIUS-ERICHSEN and his comrades must thus have reached this spot; it is impossible, however, to formulate any suggestion as to why they should have left the 5 small tins of provisions behind. It would be natural to suppose that they would welcome a change of diet after having lived so long exclusively on meat. The fact, however, at least serves to show that they must have been well supplied when they reached here, and had fully recovered their strength; they must also have found game after leaving Sjælland's Sletten, since they were able to disregard so comparatively considerable an amount of food.

That they should have taken the kerosene is a matter of course; fuel, and that of an economical sort, is of enormous importance when sledging. It is less easy to understand why they should have taken the dog-pemmican, if they had so much meat on the sledge that the men could afford to neglect the provisions contained in the depot; it would be natural to suppose that there must also be enough for the dogs.

The most reasonable explanation would seem to be that they had already realised that they would be forced to go up on to the Inlandice in order to reach Lambert's Land, and therefore took the dog-feed with them, as this, being much more concentrated than fresh meat, would save them a great deal of extra weight.

At this depot, on 81°30′, the last trace of the ill-fated men is lost; they must have made their way up to on the Inlandice between this and the next depot on Amdrup's Land.

We have still two points to consider, viz: why Mylius-Erichsen abandoned the coast, and where?

As regard the first question, there can be but one answer — open water. The journey was undertaken in early autumn, when the new ice would be very thin and liable to break up, thus rendering sledging extremely risky.

In Danmark's Fjord they were sledging over new ice as early as 12th September; it is possible, however, that Prinsesse Thyra Island may have helped the young ice to get solid by preventing the pack-ice outside from pressing too hard upon the thin ice sheets, which would thus, when left undisturbed, become thick and fairly solid long before the ice on the open coast had bound together.

In the bay between Prins Frederik Islands and Prinsesse Dagmar Peninsula, there may perhaps have been old ice, as the prevailing northerly winds would prevent the winter ice from drifting away. Sledging thus far may therefore have been, and very probably was, a fairly easy matter.

From Prinsesse Dagmar Peninsula, however, it must doubtlessly have been a very difficult matter to sledge along the coast on the sea-ice, this stretch being entirely unprotected, and the ice would probably not freeze solid before very late in the year, certainly later than the time when Mylius-Erichsen and his companions passed that way. It is possible, however, to sledge from Prinsesse Dagmar Peninsula to the depot at 81°30′ over the Inlandice, save when passing Nakkehoved. The Inlandice is here on Kronprins Christian's Land quite low, sloping gently down into the sea, which probably has no great depth, as we noticed several icebergs and old floes, which must have been aground.

The sledging around Nakkehoved is probably also possible early in the spring, owing to the large pieces of ice stranded in the rather shallow water, and this ice will tie up the young ice.

Mylius-Erichsen would in all probability keep as far as possible to the low edge of the Inlandice, thus avoiding the thin and dangerous sea-ice along this stretch. From 81°30′ southwards, however, it was a more difficult matter.

In the first place, the sea is deeper here; we did not see a single berg aground when we passed. Moreover, the Inlandice, besides sloping far more steeply here than on the other side of Nordost-Rundingen, breaks off precipitously towards the sea in a glacier wall, often of considerable height. The Inlandice is here full of fissures, and to sledge along the edge would be, in our opinion, almost impossible. The lack of grounded bergs and floes would prevent the new ice from settling, and this part of the journey has doubtless proved so difficult that MYLIUS-ERICHSEN and his comrades decided to abandon the coast route, as soon as they found a favourable place, at which they could make the ascent to the Inlandice.

From Amdrup's Land southward to Lambert's Land the Inlandice does not reach out to the sea; if therefore they had already realised that the coast route was impracticable, they would have to make the ascent north of Amdrup's Land.

In accordance with the view of Capt. AMDRUP and KOCH[1] the ascent was probably made at the base of Antarctic Bay, where conditions generally would be favourable. This theory is supported by the last entry in BRØNLUNDS diary — the only one, by the way, concerning the homeward journey. He writes on the $^{19}/_{10}$:

"In the afternoon we came up on the Inlandice. The ascent took "us four days. The fifth of the remaining dogs has now also died, butted "to death by a musk-ox".

Amdrup's Land is the first place on the outer coast where a sledge-party coming from the north would find musk-ox[2], and they cannot have reached beyond Amdrup's Land, as the depot here was untouched.

Here, then, the ascent must have been made, and they probably remained some days at the spot, as JØRGEN BRØNLUNDS diary contains, between the two last entries, a verse, the beginning of an essay on the legend of the Polar Eskimos, and some recollections of the stay at Cape York.

One does not write things of this sort on a sledge-trip, unless one has been resting for a few days, and certainly not unless provisions are sufficiently plentiful to leave no cause of anxiety for the immediate future. They must have found plenty of seal, etc. on their way down along the coast, since we can see that they had no lack either of provisions or fuel (i. e. blubber). That they probably had no need to economize in this latter respect is evident from the fact that BRØNLUND spent some time writing for his own amusement in the tent, from which it follows that they must have had fuel enough to warm the place at least during some part of the day; otherwise it would have been too cold to write more than was absolutely necessary.

MYLIUS-ERICHSEN and his companions have doubtless found their further progress from Amdrup's Land southward checked by open water,

[1] AMDRUP, Medd. om Grønland, Vol. XLI, pag. 218.
[2] ibid.

and as the glacier had given place to a low, clayey foreshore, it was impossible to go farther, until the ice had frozen solid once more.

This was probably what they were waiting for, and it is presumably during this period of inaction, spent under fairly comfortable conditions, that Brønlund wrote the essay, etc. referred to above. And the party must probably have grown tired of the long delay, before the ice became solid, and they therefore decided to give up waiting and to go over the Inlandice to Lambert's Land, from where they could travel on the floating Inlandice.

It is, however, surprising to note that the depot on Amdrup's Land should have been left untouched, and that none of the party should have seen any occasion to make the comparatively short journey from Antarctic Bay to Sophus Møllers Næs to fetch this food. But we have already seen, in the case of the northernmost depot, that for some reason or other they wished to spare the provisions of the different depots, and the same reason might have served here.

But this fact also tends to show that the party must have had abundance of food, as there was a good supply here, especially of dog-feed. Neither Mylius-Erichsen nor any of his comrades can however have visited the place at all, since the messages left by Koch and Thostrup in a tin at the depot were still there, when we arrived.

We can thus follow the three men in their attempt to get back to the ship, as far as Antarctic Bay. From the time of their ascent on to the Inlandice, however, on the 19th of October according to Brønlund, all trace of them is lost, until we find them again in Lambert's Land, where, as we know from the final entry in Brønlunds diary, Høeg-Hagen died on the 15th of November.

As to this part of their terrible journey, but little can be said; once up on the Inlandice, they would be forced to go on, until they reached Lambert's Land. We know with some certainty where they went up (Antarctic Bay), and where they came down (79° Fjorden); and the route between these two points must be drawn round behind the great masses of Holm's Land which lie between the Inlandice and the sea.

The journey over the Inlandice must have taken much longer time than the three brave men had reckoned on; the darkness, in conjunction with the violent autumn storms, must have caused them unexpected delays, apart from the difficult nature of the ground to be passed, where crevasses and chasms would force them to make long detours, and make the whole undertaking very hazardous, as the snow-bridges, which span the crevasses in spring are partly lacking in the fall of the year.

As to the exact place where they made the descent, nothing can of course be said with certainty: I am inclined, however, to agree with Capt. Amdrup[1] in supposing that the spot where they pitched their

[1] Medd. om Grønland, Vol. XLI, pag. 219.

tent for the last time, and where HØEG-HAGEN and MYLIUS-ERICHSEN died, was the westernmost of the two small fjords, which run from the northward down into Lambert's Land.

The tent was most likely pitched on the ice, as there would hardly be snow enough on land so early in the year, and when we reached this fjord in the autumn of 1909, two summers' thaw had passed over the spot. The ice had been broken up and the tent with the last remains of the two brave and enduring men had disappeared, together with such indications as they might have left concerning the spot where HØEG-HAGENS journals were to be found, or informations regarding what had become of them.

It is possible that these were left, as Captain AMDRUP[1] supposes, at the place where the ascent was made; in my opinion, however, there are certain points which seem to indicate that this was not the case.

In the first place, the three men probably never dreamed that they were setting out on what was to be their last journey. When they ascended the Inlandice, they must have had plenty of meat, since they were able to exist for so long — nearly a month — and they could certainly not expect the journey to take anything like that time, the distance being only about 150 miles.

In addition to this, had they considered the journey as being of so dangerous a nature as to render it advisable to leave their diaries behind in the hope of their being found later on, they would have made every effort to deposit them somewhere out on the coast, particularly at a depot, where future sledge-parties might be expected to pass, and not at the bottom of a deep bay. And to leave the originals behind and take a copy with them would seem, in my opinion, a somewhat unnatural method of proceeding. Under such conditions as these a copy might be left behind, as it was of much less value than the diaries and would be of no account, if the party succeeded in getting through. If they — on the other hand — had left the originals, it would mean a long journey to fetch them, whereas a copy might be left where it was. Should the party however not come through, then the copy would be of great value if found later on, as the results of the journey would appear from it.

Finally if they had, as Capt. AMDRUP supposes, divided the material in such a way that BRØNLUNDS diary and copies of the maps would be all that got through, they would in all probability have made some note to this effect in the diary, as well as some indication of the spot where the originals were left. It must be remembered that if the diaries were deposited anywhere in a depot, with the intention here suggested and in the hope that someone would find them later on, then here had been plenty of time to consider what was best to be done, and they would certainly have thought of making the note in BRØNLUNDS diary.

[1] Medd. om Grønland, vol, XLI, pag. 221.

It appears to me more likely that the division of the diaries, etc. was made up on the Inlandice, from apprehension as to the numerous crevasses which they must have encountered there. It is more than possible that one or other of the party may have been in danger of falling down a crevasse, or they may have feared to lose the sledge and all its load by a similar accident. In such cases, the natural course is to stow away on ones person such things as are considered most essential; they would therefore divide the material in such a manner that even if one of the party should be lost, the others would yet have sufficient to ensure that the results of their work should not be altogether destroyed, if only one man came through.

Assuming this theory to be correct, it is easily understood that nothing else was found on Brønlund save his journal, the copy of the map and the original land-sketches, as the rest would have been carried by the other two. This material found on Brønlund would be enough to give a fair idea of the happenings of the party and primarily the results of the splendid journey, consisting of the map of new land passed on the route.

This theory, however, fails to satisfactorily answer the question: Where are the diaries?

If Capt. Amdrup's supposition be correct, viz: that Mylius-Erichsen died two days after Høeg-Hagen, Brønlund being away at the depot to fetch provisions, then it may well be imagined that he (Brønlund), after the conclusion of the journey over the Inlandice, still bore on his person the sketch-maps entrusted to his care, while the remainder was left behind in the tent in care of the other man.

When Brønlund returned and found his friend Mylius-Erichsen dead and knew that absolutely nothing more could be done, then he he had only one desire — to get away, to try to reach home without any further waste of time. He might have thought that he had enough material on him to show the results of the journey, and would possibly not disturb his dead friend or — being a Greenlander — dared not touch a dead man.

Whatsoever his thoughts he might be right in conjecturing that the material he had would serve for a time, and he might even have had hopes — and not wholly without reason — of his safe return to the ship, from where it would be an easy matter to fetch the journals in the coming spring.

And when death was at last overtaking the brave and undaunted Greenlander, then still he thought of his dead friends and was desirous of explaining to those who might find his body, where the other two had died, and where the original fieldnotes were to be found.

The location of this place seems not absolutely certain after Brønlunds written directions, but he must have thought them satisfactory himself, and he died with the proud thought that he had saved the results of the expedition and given explicit directions as to where his two comrades, together with all that was left of their outfit, was to be found.

If these remains had been looked for the same spring that BRØNLUNDS body was found, then they would possibly have been found at the mouth of the small fjord, mentioned above, but this did not happen, and two thaws and two winters erased all signs of the last resting place of MYLIUS-ERICHSEN and HØEG-HAGEN.

The return-journey from Cape Rigsdagen to Mallemukfjældet.

May 25th—July 3rd 1910.

The return-journey began under rather favourable conditions, as we had provisions enough for 40 days on small but still sufficient rations and dog-pemmican enough for 12 days. The total weight of the load was about 250 kg., and it was drawn by seven dogs, two of which however were of no account. But we expected to get some game before long and wanted, if possible, to keep the two dogs alive until then; however not expecting them to work we only fed them on very small rations.

We were back-tracking to MYLIUS-ERICHSENS summer-camp, which we left on *May 28th* at 5 a. m. shaping our course for the Prins Frederik Islands. The snow became very soft a short distance from land, but we could nevertheless make a fair progress, as it was not deeper than 25—30 cm.

The Prins Frederik Islands were reached on *May 29th* at 8,30 a. m., and we camped near them in order to make a careful search for traces of MYLIUS-ERICHSEN and his party. The islands or skerries were low and barren, and nothing whatever was found to indicate a previous visit of human beings in this place. We were a little surprised at this, as the island was an ideal place for a cairn, which could be seen very far on the route which a party would follow when searching for the missing men. The absence of a cairn with information indicates on the other hand that the prospects of MYLIUS-ERICHSEN and his comrades when passing these islands had been good; otherwise they would certainly have built a cairn containing information for the party, which they believed to be looking for them.

Our next camping-place was very near Prinsesse Dagmar Peninsula, which we reached on *May 30th* at 8,30 a. m., after a strenuous march through the deep and soft snow, which covered the bay to the west of it.

Prinsesse Dagmar Peninsula is a low peninsula with a flat foreland, which rises gradually to a height of about 100 metres. The Inlandice floats out over its southern end.

Owing to the extremely soft snow on the sea-ice we were compelled (on *May 31st*) to sledge on the low coast, which was rather bare of snow. No traces were seen of MYLIUS-ERICHSEN and his party, nor of the depot, which he had left on the pensinsula when going west (Medd. om Grønland, vol. XLI, pag. 131), and it is evident that he and his comrades have been so far as this on their return-journey, as this depot had been removed.

Foggy weather obliged us to make the day's sledging short and to take a rest, which was very welcome, as we felt extremely tired, and the dogs were played out. A goose — the first migratory bird which we had seen this year — flew over our tent to the NW.

On the evening of May 31st, shortly before starting, we saw to our surprise what appeared like open water in the SE with small pieces of ice floating about in it. It proved to be an optical delusion, similar to the one described by Capt. Amdrup in Medd. om Grønland, vol. XXVII pag. 53, and no water at all was found in the vicinity.

During the night of *June 1st* the snow became so soft that we were compelled to unload half of our outfit on the ice and proceed with the rest in order to advance at all, and even then, although the weight of half the load was but 100 kg. our progress was so slow that we did not reach the coast just east of Prinsesse Dagmar Peninsula before *June 2nd* at 6,30 a. m. The next sledging day was spent in bringing up to our tent the remaining half of our stores.

We had camped on what we thought to be the coast of the main land after having passed two low and small islands, but it turned out that we had put up our tent on the north side of a third and rather large island, just off the main land.

On *June 3rd* at 10 p. m. we proceeded once more with all our stores in one haul and climbed its top (30 metres high) to get a better view of the surroundings. The island, on which we stood, was almost circular with a diameter of 3 miles and separated from the glacier on the main land by a strait 1½ mile broad. To the NW we could see the two small islands, which we had passed (each about 1 mile in diameter). They were quite low.

To the east, at a distance of about 3 miles, there was a long apparently narrow ice-peninsula, the silhouette of which was saddle-backed so that for the 3 miles farthest out it almost appeared as an island joined on to the main land by a rather low and narrow tongue of the Inlandice.

The ice-covered coast of Kronprins Christian's Land was visible far to the east above this peninsula, and likewise the high Nakkehoved was plainly to be seen.

The view to the south was that of the gradually rising Inlandice, very much broken up and furrowed by many river-courses. Its height was not particularly great. It looked like a long valley in the ice, not much above water-level, extending far to the south in continuation of the bay, which formed the western termination of the above-mentioned ice-peninsula.

When on *June 4th* 3 a. m. we reached the place, which from the distance we had deemed the best for crossing the peninsula, we were stopped by a water-lane, 5 à 7 metres broad, which separated the sea-ice from the Inlandice. We headed north along this lane and noticed, for the first time, melting-water around the larger iceblocks and water on the ice underneath the snow. Before long a place was found, where ice drifted together had formed a somewhat passable bridge, over which we reached the Inlandice. The surface was smooth, the snow rather hard and the incline so small that we had only attained a height of 20 metres, 1 mile from the edge of the Inlandice, when progress was stopped by the snowlayer bursting underneath us. The sledge, IVERSEN, myself and one dog felt into the crevasse, but the sledge fortunately became wedged so that we could crawl out, and only a few articles were lost. The crevasse was 4 à 5 metres broad and about 20 metres deep, and its bottom consisted of quite level sea-ice bare of snow. It took us a couple of hours to save our sledge, and we did not continue sledging till 11 p. m. (Fig. 56).

The whole of the night of *June 5th* was spent in getting away from the Inlandice, as progress on it appeared almost impossible because of the numerous crevasses and river-courses, which were rarely separated from each other by so much as 30 metres. The weather was at the same time foggy and cloudy, and when it later on began to snow, it was impossible to see even the largest undulations, before we tumbled over or into them (Fig. 57).

We tried to let our dogs take the lead, but they too became nervous, as they frequently fell into deep holes, and it was not till we found a way of pushing our sledgemast ahead of us, thus forming a small, but quite visible furrow in the snow, that we could go ahead, and even then only very slowly. The whip-lash was tied to the other end of the mast, and whenever we came to a river-course, we determined its grade and depth by swinging the mast, just like a fishrod, and dropping the whip and handle (7 metres long) into the river-course. Thus we formed a black line across the snow and could see whether the grade was too steep or the river-course too deep for the sledge. It was, however, too tiring to make real progress in that way, and we had to stop at 4 a. m., as we came to a river-course, so steep and deep that the whip-handle could not reach the bottom and was suspended almost vertically.

We were surprised to find that the snow which fell on the sledge and later on the tent melted, although the temperature was ÷ 3° C.

On *June 6th* at 5 a. m. we were able to continue. The weather was fair, and almost immediately we got splendid going, ice which was quite smooth without crevasses or river-courses. We headed straight for the high mountain, Nakkehoved, and at 7 a. m. we passed a water-lane, similar to the one crossed when ascending the Inlandice. We had about 1 mile of sea-ice, till the next lane was passed, which like the other lanes we had passed formed the line of demarkation between sea-ice and Inlandice.

Fig. 56. Crevasses on the Inlandice of Kronprins Christian's Land. 1/6 1910.

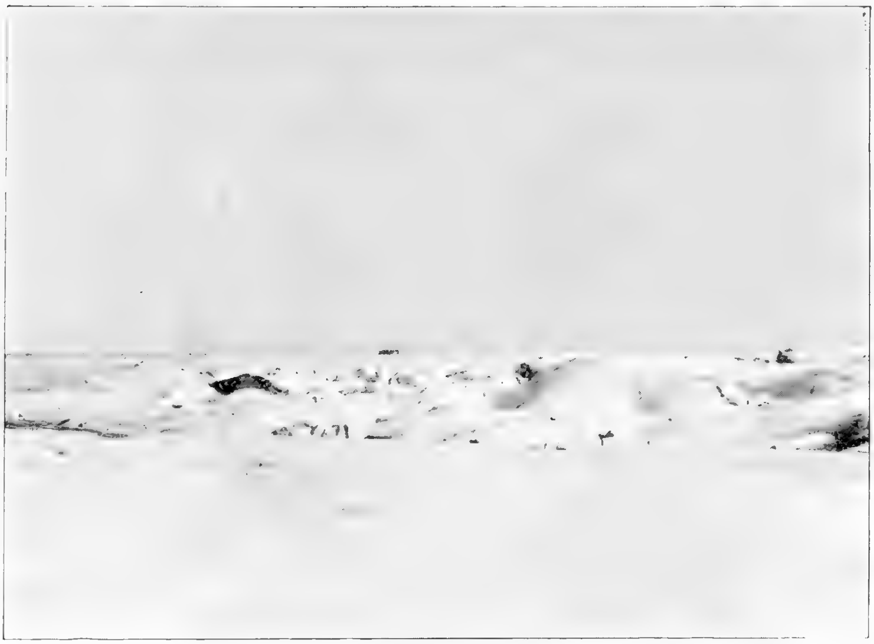

Fig. 57. Rough and pressed-up Inlandice on Kronprins Christian's Land. 5/6 1910.

Fig. 58. Camping site on the Inlandice on Kronprins Christian's Land. Nakkehoved showing in the background. 7/6 1910.

Fig. 59. Nakkehoved on Erik S. Henius' Land, seen from the west. 8/6 1910.

The surface of the water in these lanes did not taste of salt, although we became a little thirsty some time after drinking it.

The Inlandice remained quite smooth for the remainder of the day, but the rather warm weather compelled us to camp at 9,30 a. m., as it was impossible to force the sledge through the snow, which was by now quite wet and slushy. The temperature was ÷ 6°5 C. according to the sling-thermometer, but it registered 19°2 when exposed to the direct rays of the sun on top of our tent.

The journey was resumed at 11 p. m., and the whole of the morning of *June 7th* we were sledging on the Inlandice, which was so flat, that it was difficult to determine, whether we were on sea-ice or glacier-ice, save for the fact that we passed the broad water-lane, whenever we went from one to another. These lanes must have been open some time, if not all winter, as heavy pressure-ridges of different thickness of ice were seen like a high wall on the seaward side of the lane.

Camped at 8 a. m. — still on Inlandice just east of a flat nunatak extending 2 miles in E—W direction. (Fig. 58).

We had been very much surprised of late to see the way in which our dogs had acquired new strength as a result of the renewed feeding of pemmican. They were fed on meat of musk-ox while in Danmark's Fjord, and each dog got at least 1½ kg a day. But their strength waned, they lost flesh, and their tails were hanging down, until we once more began to feed them on pemmican. Each of them had 400 gr. a day, and in the course of a week they acquired their usual strength and general good appearance. Their strength still increasing we cut down the rations to 350 gr. and (six days later) to 300 gr., which seems to be just enough to keep a dog in working condition.

During the night of *June 8th* a gale sprang up from NE, accompanied by snow, and the weather did not abate sufficiently to allow us to start till 3.20 a. m. As of late our route lay alternately over the sea-ice and the smooth Inlandice, which had such a small elevation and grade that it would often have been difficult to determine, whether we were on the one kind of ice or the other, if we had not had the open lanes to show the demarkation between the Inlandice and sea-ice.

This water-lane, which we had seen whenever we came to the outer limit of the Inlandice, was all along of the same width, never exceeding 7 metres, and never less than 4 à 5 metres. It probably extends all the way from Prinsesse Dagmar Peninsula to Nakkehoved and must be formed by other agencies than melting; it was quite evident that the two kinds of ice had been separated from each other by force, as the sharp and thick edges of the ice on either side of the lane made it quite impossible that the lane should have owed its existence to melting.

We came down from the Inlandice and camped near the shore off the westernmost part of Nakkehoved (June 8th at 8.45 a. m.) (Fig. 59).

When we continued at 10.30 p. m., we found glare-ice close inshore and made good progress, although I had to be driven on the sledge, as I could not keep up with our dogs on my sore and swollen feet — a result of beginning scurvey. We were not above 50 metres from the shore, which was carefully searched for traces of MYLIUS-ERICHSEN; however, without any results.

The land, when we visited it, appeared barren, but we saw excrements of hares. A great number of ivory gulls were roosting on Nakkehoved, and there seem to be more birds here than we later on saw at Mallemukfjældet. No open water — nor indications of it — was seen from the height of 100 metres, and the gulls must probably feed in the water-lane along the north coast of Kronprins Christian's Land, which possibly indicates that this lane is an annual occurence. We saw a bear-track, which may have been a couple of days old at the foot of the mountain, and this was the first sign of game we had seen since Fyen's Lake.

A gale blew from SE during the afternoon of *June 9th*, but it was possible to sledge, and we followed the quite low face of the glacier until the early morning of *June 10th*, when we came to a very flat foreland or small, outlying island — whether the one or the other we could not see — and at 7 a. m. we camped somewhere in the vicinity of the depot on 81°30′ N. Lat. The gale was very strong at that time, and it was not till late at night that it abated so much that IVERSEN could go out to look for the depot. He found it near the tent, and it only contained:

2 tins of pemmican	1.0 kg
2 tins of pease meal & pork....	0.5 -
1 tin of farce with cabbage	1.0 -
	2.5 kg

while according to Medd. om Grønland, vol. XLI, pag. 120, it ought to have contained:

2 tins of pemmican
2 tins of pease meal with pork
1 tin of farce with cabbage
2 litres of kerosene
1 box of dog-pemmican.

The 2 litres of petroleum were wanting as well as the dog-feed, and it is thus evident that MYLIUS-ERICHSEN and his party must have been here, passing by with good prospects for the immediate future and in good condition, as they had not thought it necessary to take the few kilo of men-provisions with them.

We reached the depot with the sledge on *June 12th* at 1.30 a. m. and examined it once more very carefully. We found that the provisions had been stowed into an empty tin of dog-feed, which had been turned over, either by the wind or some animal, and the tins were lying close to it. Some stones which had been piled up so as to form a small cairn had been removed, but nothing was found underneath them. Stones which had been used for fastening the tent were seen in at least one place. Some few short pieces of rope were scattered about as well as a couple of empty tins, but nothing else was found.

The low gravelled beach in front of the glacier, on which and along which we were sledging, seemed to be the breeding place of rather great numbers of geese, as we saw many on the wing and a very large flock sleeping on the ground. We killed two.

The going was splendid to the south of Nordost-Rundingen, and we made good progress along the low face of the Inlandice. The going improved still more in the night between *June 12th and 13th,* when the sea-ice, close to the Inlandice, was quite level and almost bare of snow. The coast was hemmed in by a line of apparently grounded icebergs, about 1 à 1½ mile off the shore. They were very numerous, lying close to one another, but they were all rather small and did not rise to more than 20 metres above the level of the sea.

The melting-process must already have been going on for some days, as small rivulets were trickling down the steep glacier front, and melting channels had been formed through the snowbanks in front of the glacier. Furthermore, the sea-ice was beginning to melt, and all the tidal cracks or frost-cracks were open, the former about 30 à 50 cm on an average, and the latter only 10 cm.

A few seals were basking in the sun, but they were so shy that they took to the water, long before we could get anywhere near them. It surprised us very much not to see a single trace of bear, neither old nor new, all the way from Nakkehoved. The geese had disappeared, and the only birds which we saw were ivory-gulls.

When in the night between *June 13th and 14th* we got out into a bay just north of Antarctic Bay we once more found snow on the ice, and this was also the case, when in the night between *June 14th* and *15th* we drove into Antarctic Bay itself; it was not till the morning of *June 16th*, when once more close under land, that we got snow-bare ice, broken up however, by rather broad tidal cracks and water-lanes. Some seals were seen on the ice, but we could not get within shooting range before they dived.

We reached the depot on Amdrup's Land on *June 16th* at 4 a. m. (Fig. 60), and it was in all probability untouched, so Mylius-Erichsen must have ascended the Inlandice somewhere between this depot and the one on 81°30′ N. Lat.

The depot contained

pemmican	1.00 kg
pease meal & pork	0.25 -
farce with cabbage	1.00 -

dog-feed for 3 teams for 2 days, as well as some meat now rotten, which was carefully hidden away underneath some stones (by KOCH) and was surprisingly well preserved.

The depot contained all it was said to contain except about 10 kg grease, which KOCH had also left there and mentioned in a letter to MYLIUS-ERICHSEN, which letter we found in a small tin. The missing box may have been dragged away from the depot by a prowling bear, which could smell the contents.

Judging by the fact that the provisions were intact save this tin, and that the letters from KOCH and THOSTRUP to MYLIUS-ERICHSEN were untouched it may be presumed, almost with a certainty, that MYLIUS-ERICHSEN and his men had not reached so far, but had taken to the Inlandice somewhere to the north, probably at the bottom of Antarctic Bay (as pointed out by AMDRUP, vol. XLI, pag. 218) and with such ample provisions that they did not deem it worth while to fetch the few kilo of men-provisions, which they themselves had deposited there on the northward journey.

We had hoped to be able to give our dogs a good feed, when we saw this large amount of dog-pemmican, but in spite of their being very hungry our dogs would not eat it and infinitely preferred the rotten meat deposited by KOCH.

By this time I was so sick of scurvy that I could not leave the tent, and IVERSEN went out alone, hunting on the low, flat foreland. He shot one goose and did not see anything else. His impression is that the land is extremely barren.

When we once more began to sledge on *June 17th* 2 a.m. we were very much surprised to see the thermometer register + 2° C and to notice 5 cm of melting water on the surface of the ice. It was an astonishing amount of water, which had thus been produced in the course of one day, and it was probably only possible because of the high temperature of the last few days, which had slowly warmed up the ice almost to the melting point so that a rather thick layer of surface-ice became transformed to water by the first temperature above zero. The water was, however, drained away before 6 a. m.

Open water-lanes were now seen in all directions, and a few of those were almost 1 meter broad (Fig. 61). A surprising amount of seals were lying on the ice, but IVERSEN had not sufficient practise or patience to approach within shooting range, before the seal took to the water. Ivory gulls were seen as usual, whenever we had open water.

When we camped at 8 a. m. (June 17th) — about 3 miles east of Cape Jungersen — we were once more on ice covered with snow, so windblown and hard that it reminded us of the trying granular snow on the Inlandice. The snow was so hard that we could not drive our iron spade into it, but had to use the axe to make snowblocks for fastening the tent. The snow was cut up in large sastrugi, but it became smoother

Fig. 60. Amdrup's Land. 16/6 1910.

Fig. 61. Open water lane in year-old ice.

Fig. 62. Mallemukfjældet seen from the north. $^{19}/_{6}$ 1910.

Fig. 63. Glacier just south of Mallemukfjældet.

the further we got out into Ingolf Fjord. It was not till we were close to land, on *June 19th*, that the ice once more became bare of snow.

There were heavy pressure-ridges near land about Eskimonæsset, and they compelled us to travel on the low gravelled beach, which was nearly everywhere covered by snow. Remains of the Eskimos were seen all along the coast, especially of tent-rings and meat-câches, but here in particular a large number of Eskimo relics were found scattered about the snow-bare land. Some of these, which we found piled up behind a large stone, may have been the things collected by Mylius-Erichsen and his party, and which he had asked Koch to leave behind for himself.

We found sledge-runners of split narwhal's horn, darts, spearheads, one nicely carved bonehandle for a knife and some peculiar flat discs of bone, which must have been used as blades of paddles. The discs had a diameter of about 25 cm, and into them was cut an indenture 5 cm broad and 1 cm deep, apparently to hold a handle which could be lashed on to the discs through four small holes, two on either side. We found in all seven of these discs, but the list of specimens found is not correct, as my diary in which it was written, together with a description of the specimens, was lost later on through a bear breaking into our depot. We took with us as many of these relics as we could carry on the sledge, but also these things were lost, as we became compelled to leave everything behind.

Camped at 8,30 a. m. on Holm's Land, a little beyond Fældestrand, and there also we found some tent-rings and meat-câches.

Our tent was erected on the flat foreland about 10 metres above sea-level, and close to us we found sure evidence of the disappearance of the foreland, as half of a tent-ring had slid into the water.

From our camping site we had an extensive view of the ice-pack, and we saw, for the first time, open water. It came rather close inshore (about 2 miles off the coast), but it was only a long narrow pond of 10—15 miles in extent. Until now we had not even seen the slightest indication of open water on our route along the coast, and it was a surprising difference from 1907, when Mylius-Erichsen found open water all the way from Mallemukfjældet to Nordost-Rundingen. Then bears, seals and walrusses were seen and shot in great numbers, but this year we had not yet seen a bear nor bear-traces save the single one at Nakkehoved.

However, we saw and shot at a bear, shortly after we had camped, but it escaped, badly wounded.

When we broke camp at 10,30 p. m. (June 19th), we went to the open water and followed its edge to the south, as the snow had melted in this place, and the water was drained off. We saw some few mallemuks (fulmars) and gulls and also a rather great number of seals in the water.

We had, however, before long to leave the good going along the edge of the water and head for Mallemukfjældet, across a pressure-ridge

— or rather a succession of pressure-ridges — which were very difficult to pass on account of the soft snow in between the ridges, but once under the high and steep Mallemukfjæld we found good going over level ice, which was almost bare of snow (Fig. 62). The ice was as yet quite solid, but all the frost-cracks were open and about 15 à 20 cm wide, while the snow on land was melting so fast that rivulets were trickling down the slopes.

We camped at 11 a. m. (*June 20th*) just south of Mallemukfjældet (Fig. 63) and in brilliant weather, but when we resumed the work at 11 p. m., it was cloudy, warm and foggy. We headed up the fjord following the coast as closely as possible in order to find the depot, but we went beyond the place without seeing it and camped at 7 a. m. (*June 21st*).

The melting process went on fast, owing to the warm weather, and the ice frozen on to the bottom near the shore was already overflowed with water.

The weather on *June 22nd* was wretched, warm and nearly rainy, and the melting process went on so fast, that we could see the diminishing of the snow and ice from day to day. The whole day was spent in trying to locate the depot, but in vain.

On *June 23rd* we tried to go across the fjord to Hovgaard Island after having given up to find the depot and having left behind us all the articles of outfit, which were not absolutely necessary; but the sledge got stuck in slushy snow about 2 miles off land, and in a short time we had to give up the attempt as impossible. We measured 30 cm of clear water on the surface of the ice and crossed some large ponds, but much worse than this was the wet, slushy snow, in which the sledge sank down so that unloading became necessary in order to get out.

We talked the matter over carefully and decided to wait on the coast of Holm's Land, until the snow had melted away; then we would try to get some game instead of wasting more time in this futile attempt of crossing, and on June 23rd 7 a. m. our tent was erected on land.

Our resourses were as follows: for ourselves we had 20 kg of different kinds of provision, which would last for twenty days on the same small rations, which we had used since we passed Nakkehoved. For the dogs we had about 20 kg of dog-feed from the Danmark-Expedition, but it was of no great account, as the dogs would not eat more of this than was absolutely necessary to prevent starvation, and they consequently lost strength. Of kerosene we still had sufficient for 20 days, and of ammunition we had as yet 180 ball-cartridges and 45 shotgun-cartridges. Our camping outfit was good, and we had still five dogs left.

The prospects for the immediate future consequently seemed fairly good, as we were quite certain that we would get game, before our provisions had come to an end.

The rest, which we were now compelled to take, was of vital importance to me, as I was so weakened by scurvy that I could not stand erect, but had to crawl from the sledge to the tent. But we hoped for certain that this enforced rest and the fresh meat, which we thought we were sure to get, would cure me so far that I could once more do my share of the work.

On *June 24th* Iversen went north along the coast, looking for the depot, but he returned without having achieved any result. He had seen some ivory-gulls, but had not been able to shoot any of them.

On *June 25th* we were lucky enough to find the depot, not very far from our tent. It had been covered by a small land-slide and was only discovered, when Iversen found a small stick and close to it a bear-cranium, so that he knew that the depot must be close at hand.

The provisions in the depot were unfortunately very much damaged by water, which had got into the box through many holes, and all the crackers and other products of flour were scarcely anything but a lump of mould. Some tins of provisions were rusted through and the contents partly spoiled, but it was still a great addition to our stores, and we ventured to increase our daily ration a little. Of dog-feed we found almost 50 kg, but unfortunately of the same kind as before, which the dogs would only eat in extremities.

Furthermore we found one box of clothes and a box containing a large number of odds and ends, most of which however became very useful.

There were also 20 litres of kerosene, a box of shot-cartridges, a broken-down carbin, and at last we found two letters to Mylius-Erichsen, one from Koch and the other from Thostrup. The latter contained a much desired information — a complete list of what the depots contained from here and southward.

On *June 26th* the weather became bad again with fog and rain, and Iversen had no other result to show for the work of many hours than one mallemuk.

I saw a large flock of geese on *June 27th*, unfortunately at a time when Iversen was up the fjord looking for game. I tried to shoot the geese, which swam about in a large pond, near the shore, but my hands were so shaky from scurvy that I could not shoot straight. The weather was wretched, but it changed for the better on *June 28th*, when Iversen succeeded in shooting a sea-gull.

We only saw very few seals on the ice and of bears, which we had hoped to see in large numbers in this locality, we did not even see a trace. On land we found no trace of musk-ox, and we saw only one hare, which we shot.

In short, the hunting was as bad as could be, and as it was only too evident that we could not exist here, we made an attempt, on *June 29th*, to get across to Hovgaard Island, taking only half of our outfit on the sledge. It was, however, quite impossible at this early period, and our progress was effectually stopped 2½ mile off shore by slushy snow.

As we hoped that the hunting would give better results on the flat, low foreland north of Mallemukfjældet we left our camping-site and moved our tent to that place on *July 1st.*

This was eleven days after our arrival at Mallemukfjældet, and it was surprising to see how rapidly the melting went on. When we came, the water did not trouble us at all, but now we had to await low water in order to get away from land and on to the sea-ice. All the snow lying on the ice had melted, and large, deep ponds were all over its surface. The cracks were very broad — 1 meter or even more — and became broader, the nearer we got to Mallemukfjældet. Off this steep mountain the ice was broken up in small floes, but the floes could not float away, as the pressure-ridges, which lined the coast and which probably were aground, kept the floes in place.

A large waterfall came tumbling down over the cliffs from the very top of the high Mallemukfjæld and flung an immense amount of water over the ice, wearing it away and stirring up a motion in the sea. This motion, combined with the shifting tides and wind, caused the ice-floes to drift about and to rub against each other, crushing the edges and thus accelerating the destruction of the ice.

When we camped to the north of Mallemukfjældet, we could see that the open water out to sea had not come much closer to land, and that in spite of the many open lanes, which extended from the pressure-ridges to it. Its N—S extension was as when we saw it last, but the general impression was that the ice would drift off, the moment a strong wind sprang up.

The day was a memorable one, because I was able to walk for the first time since June 12th.

All of *July 2nd* was spent in looking for game, but without any results, and IVERSEN again walked out to the open water on *July 3rd.* Two mallemuks were shot, but one drifted away. The prospects of game were, if possible, worse at this place than to the south of Mallemukfjældet, and we returned to our old camping site on the evening of July 3rd, as we did not like to run the risk of being cut off from our outfit by open water off Mallemukfjældet.

When we came back, we saw that a bear had been near our camp, and it would probably have been our booty, if it had not been for these two days' absence.

The Return-journey from Mallemukfjældet to Shannon Island.

July 7th—November 11th 1910.

The whole of *July 4th* was spent in making a much needed alteration in our sledge, as we could not hope to make any progress, as long as our sledge would sink down into the slushy snow, often $^1/_3$ meter or more.

This we achieved by fastening the flattened sheet-iron from the provision-boxes underneath the cross-boards of the sledge, so as to get a comparatively smooth surface on which to drag the sledge, when it sank far down into the snow, and the snow was so wet that it could not support the runners. Two skies were lashed under this sheet-iron in order to give it sufficient stiffening, and now we had a sledge, which was serviceable on hard ice and almost equally good in slushy snow.

We made one more attempt to cross the Dijmphna Sound in the early morning of *July 5th*, but we could not force the sledge through the mixture of snow and water, which was so deep and soft that the sledge capsized in it, and we ourselves fel into holes between the ice-blocks — holes so deep that only the shoulders were above the surface of the snow. The lakes on the ice had a great extent and a depth of as much as half a meter. It was absolutely impossible to cross the fjord under these circumstances, and we had to wait, until holes were melted in the ice, through which the water could be drained off, and on *July 6th* we were once more back at our old camping site.

A fourth attempt to cross the Dijmphna Sound was made on *July 7th*, and this time we were successful, as a good road was found on the level ice outside the pressure-ridges, which filled the mouth of the fjord, and at last — on *July 8th* — we were ready to leave Mallemukfjældet with our remaining outfit.

We had been in the vicinity of Mallemukfjældet from June 20th to July 8th, and during this period we had only shot 8 sea-gulls and 1 hare. We had consequently been compelled to use more of our provisions than we had expected, but we had still enough to last us until we could reach Bagatellerne. The problem of food was, however, more difficult as regards the dogs, of which we had only three left, seeing that they would not eat the food found in the depots, and we had to feed them on our scanty rations to keep them in comparatively good working trim.

The snow had entirely disappeared from the land during the eighteen days we had been there, and larger or smaller rivulets were rushing down the slopes through every little creak or valley. The vegetation on land had become green, and buds were seen on the flowerplants, but no flowers as yet; neither had the willows unfolded their leaves.

The animal life at the outer end of Dijmphna Sound was very scanty, and even the fulmars, ivory-gulls and glaukos-gulls were few compared for instance with the rookery on Nakkehoved. Of other birds we saw some geese, a few snow-buntings, one owl and one loom. On land we noticed but one hare and two foxes, and saw no traces of musk-ox.

On the sea-ice we saw some few seals and the traces of one bear.

The Dijmphna Sound between Holm's Land and Hovgaard Island must be shallow all the way across, as the whole sound was filled with small pieces of grounded ice. We were surprised at this, as we had expected to find deep water off the steep Mallemukfjæld, but we could reach the bottom with a pole of 2½ metres' length almost 2 miles off land. The bottom when seen through the numerous cracks was full of small starfishes and some shells. It was quite smooth and sandy.

When we left Holm's Land, on July 8th, the sea-ice was separated from land by a stretch of landwater 5 à 10 metres broad, and it was difficult to pass Mallemukfjældet with a sledge on account of open water, but once at sea we found good sledging conditions. The snow, where it was not accumulated by pressure-ridges, was all melted off the ice from last fall, and ponds a couple of hundred metres in extent and knee-deep were all over its surface. The dogs had sometimes to swim over the deeper places in the ponds, and the load on the sledge was stowed on the top of empty tins to keep it clear of the water.

Broad lanes delayed us considerably, and when we found them too broad to cross, we had to get hold of a small piece of ice, which could be used as a sort of raft.

Similar conditions prevailed all across the Dijmphna Sound, and the progress we made was consequently so small that we did not reach Cape H. N. Andersen until *July 11th* 4 a. m.

On *July 12th* we had the misfortune to loose some of our outfit, as a small flow which we used as a raft, broke underneath the sledge. The sledge fell into the water, and we dared not cut our lashings for fear of loosing our entire outfit, but eventually we had to run the risk and do it, as it was impossible for us to get our sledge out of the water in any other way. We lost our theodolite, our spade and a few other minor articles as well as the botanical and geological specimens collected in Fyen's Lake, Danmark's Fjord and at Mallemukfjældet. The camera and some rolls of exposed films got also spoiled by water. Our greatest loss, however, was some of our scanty food, while what we saved had been soaked for an hour and a half in salt water and was almost spoiled.

Foggy weather delayed us a good deal on this journey, as we dared not sledge between this maze of lanes when prevented from picking out the best road, and so we camped, whenever the fog became too dense. We were not in any particular hurry, being as well-off out at sea as on land, and on the sea-ice we could furthermore expect at any time to get a seal or bear.

On *July 13th* we camped on a small rock about half way down the coast of Hovgaard Island, close to the glacier, but surrounded by water. We saw some eiderducks in the water and shot one, but we lost it again, as the bird drifted away from us.

On *July 14th* we made comparatively good progress over ice, which was level, bare of snow and free from frozen-up old floes, but our progress was as usual delayed by the lanes, which apparently became broader the further south we got. Saw Lambert's Land just before we camped at 4.30 a. m.

The greater part of the ice which we passed during the night of *July 15th* was, though last-year ice, covered with a rather deep layer of snow. We passed two very broad lanes, over which we had to raft the sledge on a piece of ice.

Bagatellerne was reached on *July 16th* at 6 a. m. but without the sledge, which got stuck in the deep snow on the floating Inlandice between them and Cape Anna Bistrup.

We had been 8 days on our way from Holm's Land to Bagatellerne, a distance of only 35 miles, with 46 actual sledging hours. This gives an hourly average of 0,76 miles, but it must be borne in mind that I was not entirely cured of my illness, and that one of our three dogs was of no use at all. Further that the trail had been over an area, more than half of which was covered by water, which had to be sounded all the way across, before we dared to take our sledge out. And last not least, the fog forced us to make many unnecessary detours.

The depot on Bagatellerne consisted of a whole provision-box and 10 litres of kerosene. The provisions had been dragged away from their original-place, and then were left so near the beach that as soon as the ice had melted away, any little wave would be able to reach them, and furthermore they were lying in a small rivulet. Water had consequently got into the box through some rather large holes, and all that could be mouldy viz: bread etc. was nearly spoiled. The provision-tins inside the large box were also rusty, so much that holes were found in the tins, and some of the food was consequently spoiled. In spite of this damage we found, however, food enough to last us for some time with strict economy; we had no bread, butter, sugar or tea, when we reached the depot, and only 4 kg pemmican besides the dog-feed — which by the way the dogs were now sufficiently hungry to eat. With the provisions found here and a ration of ¾ lbs a day we expected to have food enough to last us almost one month, and it seemed incredible that we should not get game within this period.

On *July 17th* we walked southward out over the ice and came to the conclusion that we had better stop and try to get some game on Hovgaard Island, which was quite near, all the more so as the ice to the south of the skerries was very old, hummocky and covered with such soft snow that we could not think of taking the sledge across, before it had melted away entirely.

On *July 18th* at 2 a. m. we erected our tent on the low foreland just north of Cape Anna Bistrup.

It was on a flat stretch of land — 1½ mile in breadth and about 2 miles in length, almost separated from the main land by bights cutting into it from the north and south, nearly joining each other. This foreland was quite clayey save in its southern point, which consisted of a steep basalt cliff. A very good and rather large harbour is found between this basalt cliff and the main land, and a large river coming from the top of Hovgaard Island had its outlet in this harbour, where the ice had already melted away.

The land seemed splendid and was covered with a rich vegetation consisting of heather, willows in bud, several kinds of flowers as well as a great amount of grass. The vegetation became more luxuriant further away from the coast, and the mountain-slopes were covered with grass and heather.

We saw many traces of animal life, but mostly old. The excrements of hares were so plentiful on the mountain-side that we had not formerly seen anything like it, and on the flat land we saw many traces of musk-ox and bears. Of birds we saw snow-buntings and a small wader, some sea-gulls and eiderducks in the open bay to the south. A few seals were seen in the broad tidal crack, and we felt quite certain that we would soon get game.

But we got nothing on *July 19th*, and on *July 20th* we sledged round to the southern side of the Island, where we had seen a large valley, which seemed splendid for hunting purposes. It was a difficult trip, as the ice close under land was full of large and deep melting holes, and one of our three dogs succumbed to the permanent wetting. We reached the valley after 9 hours' hard work and camped in the low and wet river-delta, as we had not strength enough to keep on, after we had once reached land. The temperature was very high $+ 5°$ C.

It was still warmer on *July 21st*, when we had a temperature of $+ 7°5$, and the rivers which enclosed the tent swelled to such an extent that the water almost reached us, although we had camped on the highest spot. To go hunting was out of the question, as we could not ford the rivers, before the supply of water became less plentiful. It began to rain at 2,30 p. m., a perfect downpour, and it was not till July 22nd that the water of the rivers had fallen so much that we could ford them. We went out in two different directions to cover as much land as possible, but it soon became evident that we could not expect large results of the day's hunting, as the country was barren. We saw one snow-owl, some lemmings and two ptarmigans, which IVERSEN shot.

We returned to our permanent camp on July 23rd, and a bear came to our tent during the night, when we were asleep. We fired a shot at a long distance and wounded the animal, but it swam over the broad tidal crack and disappeared in the fog.

For two days we searched the land and the mountain-slopes for game, without any results at all, and then we determined to concentrate all our energies on getting seals, which we occasionally saw in the tidal crack along the coast, and we watched by turns so that nothing should escape us.

The weather was raw, windy and cold, and no seals crawled out on the ice, so that our only chance was to get one in the water. On July 26th we saw one seal, on July 27th three and on July 28th none at all. We ate our last bread and had now nothing left except pemmican and tea.

I went out on the ice on July 29th and shot a seal in the water, but it sank, before I could get hold of it.

We saw one seal on July 30th, but it escaped easily, as we had no means of following it into the water. New ice formed for the first time on the tidal crack, and the temperature had been as low as ÷ 3°5 during the night.

We saw no seals on July 31st and August 1st, but we saw three on August 2nd, and four on August 3rd. The seals were however very wary and kept so far away that we could not reach them with our guns. We had realized long ago that we could not expect to get any game here, except by the merest chance, and we had decided to leave Hovgaard Island and try to reach Schnauder Island, while we still had some provisions left, but foggy weather delayed our departure.

On August 4th we shot one seal in the tidal crack, and although it sank at once, we hoped to be able to get it, as we had good marks on the place where it disappeared, and the depth of the water did not exceed 3 metres.

The whole of August 5th we spent in dragging for the seal with a rather good drag manufactured out of the handles of the kerosene-tanks. We used a small piece of ice as a raft, but after having worked in vain for seventeen hours we gave up the attempt. The seal must have been carried away by the current, which runs along the coast with great speed — northward with the flood, southward with the ebb.

At last we left Hovgaard Island on *August 6th* after a stay of nineteen days, during which period we had done all that we possibly could do to secure game. We had tracked the land carefully and only got two ptarmigans, and we had been at the tidal cracks night and day, with the result that the seals we shot sank at once and drifted beyond our reach. We had lost one dog and eaten such a large amount of our provisions that we had now only 4 kg pemmican left — nothing else, save food for our 2 dogs in 8 days.

The cold weather, which we had had while on Hovgaard Island unfortunately changed to warm weather on the very day, when our sledging was resumed. This melted the ice, which had frozen so thick during the cold weather that it could carry a man, and our sledging southward was consequently very much delayed.

We did not break camp on *August 7th*, as I had sprained my right foot on August 5th while looking for the seal, and it was now so swollen that I could not get on my kamicks. During the day my foot became much better, so we started during the first hour of *August 8th* and made splendid progress over old ice, bare of snow and quite smooth, though filled with a very large number of melting holes, lying close side by side.

We met our first river-courses 3 miles south of Bagatellerne, and they caused us some trouble and delay, as we had to ford the rivers, which were often quite deep. The surface of the ice was very sharp, and holes were worn in one pair of new kamicks during the night's work.

We had also a great number of river-courses to cross on *August 9th*, and we had to be very careful not to be overthrown by the rushing water. Besides these river-courses we had so many large melting holes to pass, that we could do nothing but keep right on and cross them with our sledge, if we wanted to make any progress at all.

This was however rather easily proformed, as we had brought a tarpaulin, by means of which we could alter the sledge into a raft. We nad been experimenting with this, and had by now succeeded in making a float, which satisfied us entirely and made it possible for us to sledge. When we broke camp, we bundled all our outfit into the tarpaulin, making a long, flat and very bulky bundle, which was lashed on to the sledge. Two skies were lashed underneath the bottom-boards of the sledge, and projected 1 meter behind the handlebars.

When the sledge, fixed up like this, came to a pond or a river which we had to cross, we unharnessed the two dogs and tied them on top of the load. One man went over the pond with a line made fast to the sledge, and everything thus being ready the sledge was pushed into the water. The two skies, which stuck out astern, prevented the sledge from capsizing, as one runner would get clear of the sharp edge of the pond before the other, and thus they made the fall into the water much more gentle. When the sledge was in the water, we hauled it over with the line. If the pond was so broad that we could not reach the other side with our lines, we both stood on the sledge and pushed it along with a couple of poles. In this manner we could cross water with a depth of 60 à 70 cm without getting particularly wet. It was, however, rather dangerous, if the water was deeper than this, as the bundle then would be so buoyant that the sledge would float. This it could do, but not very well when loaded with more than our two dogs and one man. On rare occasions we both ventured to mount the sledge, but it lacked buoyancy and stability, and it was thus rather dangerous.

3 miles to the north of the small rocks on 79°22′ N. Lat. we came to the end of the floating Inlandice, and the sledging conditions at once became worse owing to the lack of decline in the ice, by which the water was drained off from the Inlandice. On the sea-ice we had to pass a very large number of broad and deep melting holes, which occupied more than half of the area traversed, and we did not reach the skerries till *August 10th.*

Our dogs had suffered much by being exposed to the water, and one of them could not walk any longer. Iversen too was ill, suffering from symptoms resembling scurvy, and we were compelled to camp on land to get some rest and to dry our soaked travelling-gear.

The ice between Lambert's Land and the skerries was not older than from last autumn, and the water was already drained off it through melting holes, so our progress was rather good, only retarded by some open lanes of water. On *August 13th* we reached the open landwater, which was at least 30 metres broad, but we rafted our outfit across on small pieces of ice without any accident.

We camped on land at 3,30 a. m., and after a few hours' sleep we went out hunting, as we had only 0,5 kg pemmican left.

The northern end of the peninsula, on which we had camped, was a low, marshy plain, covered with long and fresh-looking grass, and we saw very numerous traces of musk-ox, some of them apparently quite recent. Fair-looking as the country had been on the plain, it became still better between the sheltering mountains on the lower half of the peninsula, where we found grass, heather and willows. We did not see any big game, but Iversen succeeded in shooting twelve ptarmigans with our only shotgun.

We proceeded on our journey on *August 14th*, but we did not make good progress, as we had more water-ponds to cross, than we had ever had before, and it was not till we came very near to Brønlunds Grave, following the land-water, that the water-ponds began to disappear.

Brønlunds Grave was reached on *August 15th*, and we went out hunting at once, but without any results, which was all the more surprising as the country was covered with vegetation in all sheltered spots. We saw many new traces of musk-ox.

We were hunting all of August 16th and only got one small hare weighing about 2 kilo. The high temperature surprised us, and we had + 1°8 at midnight.

We had intended to start for Schnauder Island on August 17th, but after having eaten the liver of one of our dogs, which we had been obliged to kill for food, we fell asleep and slept so long that we did not begin to work again till August 18th 5 a. m.

We examined Brønlunds Grave carefully and had a good opportunity of doing it thouroughly, as all the snow was now melted off the ground. We found a compass, formerly belonging to the theodolite, but nothing whatever of any importance.

We left Lambert's Land at noon (*August 18th*) in order to pass the tidal crack with low water, which facilitates the work, but then we camped on the other side of it to await the lowest night-temperature.

The sledge-journey was begun in earnest at 1,30 a. m. *August 19th*, and in the course of an hour we reached the floating Inlandice. Here the going became quite good, and the rivers were rather easy to cross, as the comparatively cold weather prevented the large flow of water, which we had to the south of Hovgaard Island. Passed a couple of open water-lanes — one of them almost 100 metres broad — using as usual a piece of ice as a raft.

Killed our last dog and could not resist the temptation to eat the liver, with the result that we became more than usually tired and could not muster sufficient energy to continue sledging till 6,30 a. m. on *August 21st.* We were sledging over the floating Inlandice without any difficulty at all, until we came to a very broad crack with open water at the bottom of it. The sides of the crack were vertical and about 10 metres high, and it was at least 50 metres broad. A current was setting outward through it, and it was so strong that it foamed along the edges, having at least a velocity of 3—4 miles an hour. Saw a large seal or walrus, which was barely able to stem the current. Sledging outward along the crack we came to a place where some ice-floes had jammed, and we succeeded in passing this bridge.

We had splendid going to the south of the crack and reached Cape Drygalsky at 3 a. m. on *August 21st.* We followed the coast sledging on the ice-foot, until the coming flood forced us to camp on land. We were so tired that we could not go out hunting, in spite of the fact that we saw quite fresh traces of musk-ox.

Continued sledging at 3 a. m. on *August 22nd,* when the water had fallen so much that the ice-foot was nearly dry. We once more met the Inlandice between the two islands and camped off the north point of Schnauder Island. We had just passed a large valley, the bottom of which was strewn with iceblocks about 1 meter thick. These blocks were fragments of a continuous ice-sheet, which had covered the valley about two metres above its bottom, where large pieces still clung to the sides. The bursting must have been very violent, as blocks were found a couple of metres above the ice-sheet and 20 à 30 metres from their original position. The bursting seems to have happened in consequence of a large floe of Inlandice having broken off from the main glacier and settled deeper in the water, whereby the pressure on the under side of the ice-sheet covering the water in the valley must have become so great that it was rent into small pieces. It must have happened in the autumn, or the ice would have been much thicker.

We reached the NW point of Schnauder Island on *August 23th* after a difficult night's work, as three deep valleys in the Inlandice and parallel to land had to be passed, before we came to a place where the Inlandice touched a small point. The grade from the Inlandice towards land was very steep.

When we had eaten our last piece of dog-meat and taken a short rest, we proceeded along the coast, looking for the depot. It was a difficult walk, as we often had to cross a marshy foreland, in which we got stuck, or broad rivers or very steep points where we had to crawl along on the downfallen debris. Where it was flat the coast seemed covered with vegetation, and we saw many traces of musk-ox, hare and ptarmigan. We followed a quite fresh track of one musk-ox along the coast, where the going as a rule was rather good, a large moraine running almost all along the western coast of Schnauder Island, separated from the land by a narrow stretch of water, in which the tide rises or falls.

The depot was found on August 23rd at 9 p. m., and the box was lying on the top of a small mound, where no water could get into it. The contents were well preserved, and we had now food to last us about a fortnight, and so we could afford to take the much needed rest of a few days. For the matter of that it was also absolutely necessary to remain in camp for some days, as we had been poisoned by the dogliver, and our skin peeled off in large flakes, whereby we got open sores in all places where the underclothing rubbed against the body.

Rested the whole of August 24th and 25th. I went out hunting on August 26th and crossed Schnauder Island. The west coast was high and rather steep, but the country sloped gradually towards the east. The interior of the island was covered with vegetation, and there was a very large number of musk-ox traces. The animals were on the island, as I found warm excrements, but it was impossible to follow one trace, as so many animals had been walking backwards and forwards over the island. Saw some rather large lakes near the east coast with footprints of geese on the marshy beaches, but I did not see anything to shoot. IVERSEN went out on August 27th, but he did not get anything, although he saw a hare. We had hoped to be able to do some hunting, but we were compelled to give it up after these two attempts, as our skin peeled off to such a degree that it became dangerous and threatened to lay us up for a considerable period.

August 28th and 29th we spent in camp.

Began sledging southward along the west coast of Schnauder Island on *August 30th*, after having been lucky enough to shoot five ptarmigans. The ice on the fresh water-ponds was now frozen so solid that we could walk on it, and this was of course a very great help to us, as we were not compelled to make more detours, and could use the river-courses as a highway.

Camped at the depot on Schnauder Island, which we left again on *August 31st* at 2 a. m. We made good progress in spite of the very much pressed-up Inlandice, which we passed off the SW point of Schnauder Island. The ice became quite good, when we got clear of the island, and remained good all of *September 1st*, when we had neither crevasses nor river-courses to cross. On our route we passed two places, where the members of the Danmark-Expedition must have rested temporarily, as boxes and opened tins were lying about on the ice. Made about 7 miles.

The conditions were the same on *Sept. 2nd*, and we made rather good progress over the undulating, snow-bare surface on the Inlandice. We felt however more weak and tired than on the preceding days, and the effects of the rest and feeding seemed unfortunately to disappear very fast.

The ice was bad on *Sept. 3rd*, and we had to cross one river-course after the other. These were not particularly deep, but hauling the sledge up even from a small grade almost proved too much for our strength, and we were soon so tired that we had to stop after only four hours' sledging.

The ice became worse, the nearer we got to Nordre Depot, and on *Sept. 4th* at 11 a. m. we had to give up hauling the sledge any further towards the island, and left it and the tent on the ice, while we walked unhampered towards the depot. We passed a lake, covered with new ice and surrounded by Inlandice, lying a couple of miles to the north of the islands. We landed on the northernmost island, as we did not know where the depot was to be found, and saw a large flock of ptarmigans sitting on the stones. We had left our gun behind, as it was too heavy to carry together with the provisions, which we hoped to find, and thus we lost this chance of securing game.

The depot was found at last after nine hours' search, and was in rather good condition. We found more food than we had expected to find after THOSTRUP's message at Mallemukfjældet.

Owing to various circumstances we had not got a list of the depots and their contents before leaving home, and we thought of course that the depots would be intact, as they were marked off on the chart, and that they would contain nearly what was stated by THOSTRUP, all the more as we understood that KOCH had a hundred days' provisions with him, when he went north searching for MYLIUS-ERICHSEN, and that he would thus have no reason to touch the food already deposited. If the depots were intact, as we believed them to be, we would have ample food for the remainder of the journey, and we consequently increased our ration to ¾ kilo a day, after we had found the food at Nordre Depot.

Passed Nordre Depot with our sledge on *Sept. 5th*, keeping as far away from the coast as possible, but never the less we got very hilly ice, over which we made but poor progress. The ice became very much better on *Sept. 6th*, and on *Sept. 7th* we came down from the floating Inlandice and found splendid going on the old floes and the melting ponds on its surface.

We reached the depots on Hagen Island on *Sept. 8th* at 11,30, and finding it empty we decided to push on and try to reach the depot on Bjørneskærene. We came out on newly formed ice just south of Hagen Island and made very good progress over it. The ice, however, became very thin, when we arrived in the neighbourhood of Bjørneskærene, and we were compelled to camp on the ice, only half a mile from open water.

Leaving our outfit behind we went on to the land on *Sept. 9th* in order to get a good view of the conditions of the ice and to look for the depot. We found it, but it was empty. From a steep hill near the depot we had an extensive view of the coast in a southern direction, and we saw that we had gone as far with the sledge, as we possibly could, as no ice, new or old, was in sight south of our camping site. We could do nothing but leave our sledge and outfit on the coast near the depot and walk overland to Danmark's Havn.

All of Sept. 10th was spent in getting our outfit on to the shore and in making the necessary arrangements for carrying the load which we must take with us — our journals, films, guns, ammunition, food ($1\frac{1}{2}$ kg of pemmican) and primus with kerosene for three cookings, a little spare clothing etc. things which we thought absolutely indispensable. This we divided into two bundles, which we strapped on our backs, and everything being ready we started on the last part of the journey.

In order to get inside the open water, which we had seen at the mouth of Orleans Sound, we had to cross Orleans Island on a WSW course. Our progress was rendered very difficult, as the coast was extremely hilly, and we had to make two long detours, in both cases caused by lakes, which to our surprise were quite open. We had no thermometer left and could not measure the temperature of the water, but it felt quite warm against our hands and had a very bitter taste.

Being unused to carry the heavy burdens we were compelled to stop for the night, immediately after we had crossed Orleans Sound. We had no sleeping-bags and only a little piece of tent-cloth, which we hung up on the three sticks to break the wind.

On *Sept. 11th* we walked along, following the coast past Cape Louise and a little beyond the depot of the Danmark-Expedition. Shot a bear, which unfortunately took to the water and died a short distance off shore.

Cape Amélie was passed on *Sept. 12th.* It was very difficult and dangerous, as we had to crawl along on the down-fallen debris which rocked and rolled under our feet. Saw five fox-traps on the south side of Cape Amélie. They were very well preserved, and stood quite close together on a small flat plain surrounded by rocks.

There was quite open water in Skærfjorden, and we were forced to go towards the NW in Penthievre Fjord in order to reach the ice, which we had seen from Cape Amélie. A gale sprang up and broke the ice, before we reached it, and we had to remain where we were. We had shot four ptarmigans during the day's march and had seen one hare.

Sept. 13th the wind was too strong for us to proceed or to allow the ice to become thick, and it was not till *Sept. 14th* that we were able to continue. We crossed over to Joinville Island and followed its coast to the south, until an on-coming gale broke up the ice and compelled us to stop on a small rock, just close to the open water.

Here we remained all of *Sept. 15th*, as we had been surrounded by open water, while the ice was not solid enough to walk on till *Sept. 16th.* We were now so weakened from the permanent exposure and lack of food and even water that we could not carry anything besides our gun and glasses, and so everything else was left in a depot on the rock.

We started at 6 a. m., and it took us seven hours to walk over the thin and unsafe ice to Rekvedøen, where we ate our last few grams of pemmican. The ice along the coast from there and to Cape Marie Valdemar was safe, and we reached the site of the depot at 9 p. m. but found no food. Rested until it became light enough to walk (*Sept. 17th*). We had to walk along the beach from here to Danmark's Havn, as there was no ice at all along the coast save in the most sheltered bights. We reached Syttenkilometernæsset on Sept. 17th, and we luckily found two small tins of provisions left by the Danmark-Expedition. This small amount of food helped us a great deal, and we arrived at the house in Danmark's Havn on *Sept. 18th* at 11 a. m.

At first we were too exhausted to do any hunting, and we also lacked energy to undertake even the slightest amount of work. We had, however, to make a new camping outfit, sledge etc. of materials which we found in the house, and we were not ready to go north to fetch our journals till Oct. 2nd, after which period stormy weather, which continually broke the ice, kept us in the house until *Oct. 13th.* Being as yet rather weak we could not make any progress over the salty ice, which was covered with snow, and after seven days' travelling we had not even reached Fyrretyvekilometernæsset.

We realized that it would be impossible to reach our depot in this way, and as we had no prospect at all of better conditions, we gave up the attempt and reached Danmark's Havn on *Oct. 23rd.*

It was not till *Nov. 5th* that we were again able to continue our sledging, now laying our course to Shannon Island. Stormy weather, darkness and a surprisingly wet surface delayed us so much that we did not reach our depot on Cape Peschel till *Nov. 10th.* We found the food in good shape, but the clothing-bag was torn to pieces, and only small rags of the contents were found.

The same salty surface which we encountered across Dove Bay was also found along the coast of the main land, and in some places we found more than 1 cm salt and snow mixed together. This surprised us, as the ice must have been so thick at this time of the year that no salty moisture could remain on the surface, but we were still more surprised to notice that the snow-layer seemed to have been drenched by salt water. This could only have happened in one way, i. e. the ice having broken under the strain of a violent storm on Oct. 31st and Nov. 1st, after which it became possible for the waves or spray to drench the snow. This assumption was strengthened by the fact that we found many places along the coast, where the ice was quite thin.

We reached the depot on Haystack *Nov. 15th* and headed over the packice for Shannon Island. The ice was very bad, rough and hilly and covered with deep snow, and our progress was consequently so poor that on *Nov. 18th*, after three days' sledging, we had only advanced about 15 miles from Haystack. A succession of gales and cloudy, dark weather with a heavy snow-fall compelled us to remain in our tent from Nov. 19th to 23rd. We had eaten all our food on Nov. 23rd, when we were compelled to leave the tent and our outfit for the second time, but the weather fortunately became calmer so as to enable us to walk to Shannon Island. The night between *Nov. 23rd* and *Nov. 24th* we spent in a hole dug out in the snow, as it was too dark to walk, because the moon had hidden behind some heavy clouds. At midnight the weather cleared, and we continued our walk without any more stoppages, until on *Nov. 25th* at 5 a. m., 43 hours after we had left our tent on the ice, we reached the house built by our comrades in our old winter-harbour. The ship had sunk during our absence.

On Shannon Island and Bass Rock

from November 25th 1910—July 19th 1912.

We remained in our winter-quarter on the north-eastern point of Shannon Island from the date of our arrival (Nov. 25th 1910) to March 17th 1911, in all a hundred and twelve days.

Generally speaking the weather was very stormy during the 112 days. The wind was almost continually blowing from the north and as a rule with a great velocity, which, however, might be due to the exposed situation of our winter-quarter.

The cold was not particularly severe, as the temperature did not fall below ÷ 38° C, and in one case, on January 2nd, it rose to ÷ 6°5. The wind was slight and blowing from the south, where there must have been a large area of open water in order to influence the temperature to such a degree. The temperature fell from ÷ 8°2 to ÷ 18°5 C. between 7 p. m. and 8 p. m., when the wind changed to the north after a short lull.

It was remarkable to see the effect of the large rise of temperature on the rocks in our vicinity, which became glazed by a whitish ice, so that the whole rocky promontory, when seen at a short distance, seemed covered with a fine, powdery snow. Towards evening the glaze on the rocks had a thickness of 1½—2 mm, and traces of it were still to be found about a week later.

Save for the foxes, of which we had about twenty during the winter, the animal life was remarkably poor. A wolf was seen and chased, but it escaped, and of bears we saw only one trace in the vicinity of our house. No traces were seen neither of hares nor ptarmigans on the ice surrounding the land, and the only bird seen during this period was a raven, which we saw on March 16th.

On *March 17th* we began a short sledge-trip (hand-sledge) down to the American depot on Cape Philip Broke. We arrived at the depot at noon (*March 19th*), having only used 15 sledging-hours to cover the distance of 23 miles. The depot-house was filled with snow, as a window-pane had become broken, and foxes had lived in the house during the winter.

We had expected to see open water to the south of Shannon Island, as the temperature rose whenever the wind was southerly, but we were not prepared to see the practically open ocean, which came within 1½ mile off Cape Philip Broke and extended so far to the south and ESE, as could be seen from an elevation of 100 metres. Only to the east the packice was seen and there rather close inland.

We remained at Cape Philip Broke for several days, as we hoped to get such good weather that the ice between this cape and Bass Rock might freeze solid. But continual gales broke up the new ice, which drifted away out to sea, and it was evident that if we were particularly desirous to reach Bass Rock, we would have to make a large detour inside the open water and to walk over the old ice, which was covered with knee-deep snow. We had neither snow-shoes nor skies with us, so it would have been a hard task to drag the sledge through the soft snow, and as we were not particularly anxious to reach Bass Rock and did not want to waste our strength, having the large trip to Skærfjorden in view, we gave up the attempt until after our return from the north.

On March 25th we had a temperature of ÷ 2° C with a rather fresh SE wind, which later on changed to south and SSW without a fall of temperature. The temperature did not fall, till the wind came from the north, when it went down to ÷ 26° C, but it rose again with a change of wind, and on April 5th it reached + 4° C, also with a SE wind. These large deviations of temperature must indicate that the open water extends far to the SE and S.

Our first game in 1911 was bagged on March 28th, when we shot three ptarmigans and one bear. We saw several hares, but they were very shy.

We left Cape Philip Broke on *April 7th* and went back to our winter-house, where we arrived on *April 9th.* We began at once to make preparations for our journey to Skærfjorden, and on April 13th everything was ready for departure, but storms and bad weather delayed our going until *April 23rd.*

The pack-ice had broken away from the shore-ice during a violent gale (April 18th), and we passed large lanes, covered with quite thin ice just north of Shannon Island. The ice between this island and Koldewey Island had all been broken up within the last week, and the lanes and ponds became broader and larger, the nearer we got to Koldewey

Island, which we had great difficulty in reaching, as open water came within 50 metres off the coast.

We reached Koldewey Island at last on *April 28th* and intended to follow the east coast, where we would be certain to find ice bare of snow, but open water close in land at Cape Arendts forced us to cross the island and follow its west coast. The snow was very soft and deep all along the coast, and progress would have been very slow but for a regular path close inland, formed by a very great number of bears, which had kept on walking along the broken trail. We saw several bears and shot one.

We went into Bergs Fjord and over the low land to the east coast on *May 3rd* and reached Danmark's Havn on *May 5th.*

On *May 9th* the journey was resumed along the outer coast of Germania Land. We passed a large opening in the packice 1 mile broad and 3 miles long and lying close inland just north of Syttenkilometernæsset, but no other open water was seen along the coast, not even from the rather high land just behind Cape Marie Valdemar.

The snow was very deep and soft in Skærfjorden, and we did not reach the skerry, on which we had left our depot, till *May 15th.*

A bear had found our depot and broken into it, scattering everything all over the ground. It was now covered by a deep layer of snow, but some few fragments were found on top of the snow, and a small stick belonging to our knapsack projected through it. The snow was dug away round it, and we found our diaries, journals and barometer. Only one of my journals was lost, and though the bear had apparently tried to chew everything, the actual damage was not great.

The return-journey began on *May 17th,* and having our old trail to follow we made very much better progress than when going north. Cape Marie Valdemar was passed on *May 18th,* and to our surprise we saw a very broad lane extending along the coast from the south, close to the cape and as far as we could see all the way to Ile de France, where it broadened so much that it lost the appearance of a lane and rather looked like open sea.

The water followed the coast and came within 100 metres of Syttenkilometernæsset, where it had a breadth of at least 2 miles. The weather was cloudy, when we passed the cape, and the sky was in the best condition for showing open water and presented the same appearance as when seen over scattered pack-ice in summertime.

Danmark's Havn was reached on *May 20th,* and there we were detained by warm weather, fog and snow until *May 29th,* when we continued our return-journey, now following the east coast of Koldewey Island, where the ice was very good.

On *May 31st* we passed the cairn erected by the Danmark-Expedition, when it landed there in the summer of 1906, and we took out the record, which had been left in it. We rebuilt the cairn and left a message from ourselves.

It was possible to follow the east coast of Koldewey Island until a little north of Cape Arendts, where open water close inland forced us once more to ascend the island and sledge on it to the south point, which we reached on *June 3rd.*

The ice between Koldewey and Shannon Island was still more broken than when we went north, and we came within a few miles of the Haystack in our endeavours to get inside the unsafe ice.

On *June 6th* we reached our winter-house on Shannon Island, and we remained there until *June 15th,* when we went down to the depot on Cape Philip Broke to await the arrival of a vessel.

The snow on land had almost entirely disappeared, and large water-ponds were scattered all over the low marshy plain of the southern end of the island. We reached the depot on *June 16th,* and we intended to go over to Bass Rock at once. But the snow on the ice was too soft to make it possible, and we decided to wait, until it was warm enough to cross the open water between Shannon Island and Bass Rock in a kajak found in the house.

Our kaiak was repaired and tried in the water on July 5th towards evening, and we intended to cross over to the rock the following day, but a fresh wind sprang up during the night and broke the coast-ice close to the south point of Cape Philip Broke, and so our kaiak, which was left on the ice, drifted away with it. We were now compelled to remain on Shannon Island, until we got another boat.

The ocean, as seen on the day of our arrival from the highest point in the vicinity of Cape Philip Broke, seemed very open. From this height (120 metres) there was no packice in sight except in SE and off Cape Pansch.

But a remarkable change took place in the packice during the first two weeks of July. Until then there had been very much open water to the south of Cape Philip Broke, which stretch of water increased in size with an easterly and southerly wind, but decreased with a northerly wind.

But this was entirely changed, when a NE gale on July 14th had set the ice on land and filled the open water to the south with a compact mass of packice, which remained nearly stationary, whatever the directions of the wind. Its only motion was that which was caused by the shifting tides, and no change of any extent happened before the latter part of August.

No "open-water sky" was seen anywhere over the packice.

The shore-ice in Freeden Bay broke up and began to drift out on August 9th, but it could not float away owing to the large amount of packice which hemmed it in. It broke up in several small pieces, and the pressure on the coast was great.

The packice began to open up on August 20th, and on August 22nd it was so open that we felt confident that a sailing-vessel might easily manoeuvre between the floes. The ice opened more and more, and from then onwards there would have been no hindrance for navigation.

While living at Cape Philip Broke our time was divided between hunting and digging out some Eskimo remains. The result of this latter work was very meagre, as we only found one winter-house. Tent-rings, however, and particularly shooting-shelters and meat-câches we found in large numbers. The only thing of interest which we found in the house, was the hollow part of the bottom of a bottle, carefully chipped so as to make a small vessel, and it was buried under the caved-in roof and about one foot of turf. In one of the meat-câches behind Cape Philip Broke we found another bit of glass, apparently belonging to the same bottle, which we had found in the house, as the broken-off pieces fitted together. No European who in our knowledge had visited the east coast of Greenland could have left this bottle, as the thick turf must have been very long in forming. The bottle must then either have been brought to the coast by a whaling-vessel or have come down with the polar current. This latter seems unlikely, as a bottle could hardly drift across the Polar Ocean without breaking, either by being hammered against a piece of ice or by being burst by the frost, and the most likely theory seems to be the one that the bottle must have been brought there by a whaling vessel.

The finding of these pieces of glass and the assumption that the original bottle must have been brought by a whaling vessel may give a vague explanation of the total disappearance of the Eskimos from this part of the coast, as diseases may then have been introduced amongst these people by stray whaling vessels, which have reached Greenland and got into connection with the Eskimo, though news of it never seem to have penetrated to the outer world. Any disease will spread with a surprising rapidity and will almost certainly be fatal to these small communities, as shown with painful plainness for instance in Alasca.

A few utensils belonging to former inhabitants were found amongst the rocks on the point, and a whole whale-bone was discovered in a câche far inland.

The hunting gave rather good results as regards bears, musk-oxen and sea-gulls. The bears were numerous, until the Freeden Bay broke up, and it was probably due to the fact that a very great amount of seals were basking on the ice. We did not get near enough to see what kind of seals they were, but we shot a few in the water, and found them to be the common ringed seal. A couple of walrusses were also seen. The stomachs of all the seals we shot were full of shrimps.

On land we saw and shot musk-oxen on August 8th and August 14th, in both cases bulls — four in all. Further we saw hares, of which there was a very large amount near Cape Philip Broke, and in one day we shot seven. This was on June 20th, and their kittens were probably only a couple of days old. Two of the kittens, which we caught, were kept alive during the whole of the summer. Lemmings there were also in plenty, and a very large number of their winter-nests were scattered over the plain. These small animals are eaten by foxes, which were likewise rather numerous. A couple of wolves came to our vicinity during the early part of September.

Of land-birds we saw several kinds of waders, ptarmigans and geese, which preferably had their nests on small islets in the middle of the large, temporary melting water-ponds on land. We saw many snow-buntings during the whole of the summer, but it was not till the migration began during the latter part of August that we realised, how extremely numerous these birds were. They seemed to gather on the low plains north of Cape Philip Broke, and from there they flew in flocks, larger than any I had ever seen before. It is difficult to estimate the number of such a large flock of small birds, but there must have been thousands, and flock after flock passed over our house. We noticed the first flock on August 27th and the last on August 31st, but occasional stagglers were seen much later.

Ravens we saw during the whole of the summer, and seven falcons came to our house on Sept. 11th and remained there until we left.

Of seabirds we saw eiderducks, looms, glaukous, arctic skuas, fulmars and terns. Eiderducks were — as far as we could make out — the last migratory birds to leave the country, and as late as on Sept. 8th we shot a young bird, which was not more than half-grown, and the body of which was covered with down, through which only a few feathers projected. The parent birds were however not to be seen and may have left the country and the young bird, which for some reason or other was late in developing.

The vegetation on the land surrounding Cape Philip Broke was rather luxuriant, but only consisted of very few species. There were several kinds of grasses, willows and mosses. Of flowers there were only the yellow poppies, which all began to bloom almost at the same time during the few hours between bedtime on June 26th and the morning of June 27th, presumably as a consequence of a sunny day.

The summer of 1911 must have been more warm than the summer of 1909.

In 1909 when on August 25th we had reached Shannon Island, we found very thick ice on all ponds, and the land was frozen hard, but this year, on Sept. 1st and even later, we found all ponds free of ice, and the ground was so soft that we sank 4 à 8 cm into it while walking, and even during the latter part of September we were able to make impressions on the clayey ground with our kamicks.

When we went down to Cape Philip Broke, it was our intention to wait there until August 1st, and if no ship had come until then, to return to our winter-quarter and try to get Capt. AMDRUP's boat into the water, in order to make an attempt to reach Cape Dalton. When the ship did not arrive, we made several attempts to go to our winter-quarter, but we failed owing to the impossibility of crossing the clayey and marshy land of which almost the whole of Shannon Island is composed. But the plan would have been frustrated, even if we had been able to reach our winter-house, as the ice was pressed close on shore during the whole of the summer and effectually prevented a boat from passing the coast between Cape Pansch and Cape Philip Broke.

On Sept. 17th we had a violent gale with sleet, and its consequences must have been severe to all grass-eating animals on Shannon Island for the rest of the winter, as the whole land became covered with a crust of ice 2 à 4 cm thick. On a walk lasting several hours we hardly saw a bare spot of land, and on the march from the depot to our winter-house on Sept. 20th we passed one long stretch after another, covered with this kind of ice, so much in fact that we thought it quite feasible, though we were only two of us, to haul Amdrup's boat on a sledge over the plain, which was 4 miles broad.

This ice-sheet on land disappeared, when on Sept. 21st we came nearer to the north end of Shannon Island, where no sleet had fallen at all. Judging by the large amount of snow found there it seemed that all the moisture, which on the south end of the island fell as rain, had here come down as snow.

We remained in our winter-house from Sept. 21st to Oct. 17th, when we finally left the house. In the meantime we had made some small trips, advancing our stores etc., and had succesfully hunted musk-ox, of which we found many west of Frozen Bay.

The early part of October was boisterous, raw and stormy, but the latter half of October and the first week of November were surprisingly calm, but very cold, the temperature being as low as $\div$ 32° C.

The purpose of the autumn sledging was to haul Amdrup's boat, with full outfit, kerosene, clothing, some food etc. as far as Cape Philip Broke, so that everything could be ready to start southward in a boat, if the ship failed us again in 1912.

It was of course no easy matter to transport the boat, but it was lashed firmly on a sledge, and two oars were raised to form a mast, on which another oar was hoisted as a yard.

The tent-cloth did service as a sail, and with a northerly wind we could make rather good progress, but it was difficult to keep the sledge with the boat from turning over.

We transported in all 1200 kilo and had of course to go backwards and forwards several times in order to advance the whole load. The total absence of wind made it difficult for us to transport the boat, particularly over the rough, hummocky old ice in the middle of Frozen Bay, and at last on November 2nd we had to leave the boat about 2 miles north of the bottom of Frozen Bay.

We got through with the rest of our outfit and reached Cape Philip Broke with the first load on Nov. 11th. The ice in Freeden Bay could not have been very old, as its surface was very salty, and the open water almost touched land at the depot and extended so far towards the south and SE as we could see. The edge of the pack-ice was only visible in the ESE and from there all the way along the coast of Shannon Island.

We made the house on Cape Philip Broke our basis, fetched up the remainder of our outfit and had everything in safety by November 18th. On November 17th we passed to our great surprise six quite fresh traces of musk-ox, almost in the middle of Freeden Bay. The animals had headed SW, toward Pendulum Island. We concluded that the thick layer of ice on land had made it impossible for the animals to exist on Shannon Island, and that they were now migrating.

We left Cape Philip Broke on *November 20th* and went out over Freeden Bay with two sledges, of which the one was under sail and dragged the other. We made good progress with the fresh NE wind and nearly reached Bass Rock, before calm, rough ice, deep snow and darkness compelled us to camp, very close to the open water. We reached the American depots on Bass Rock November 21st and found them in rather good order.

A vessel, the s/y "Laura" chartered by an Austrian, Mr. KOSTERLITZ, had visited Bass Rock on July 24th and had left a message to the effect that they would try to reach Shannon Island and look for us. This had, however, been impossible, and I have later learned that the s/y "Laura" became beset in the ice and drifted with it to the south of Scoresby Sound. It was very unfortunate that we had left no message here, but for the reasons already explained we did not think it worth the trouble to cross Freeden Bay with the sledge. The final result would, however, in any case have been the same, because it was impossible for a ship to reach Cape Philip Broke, even if the men had known that we were there and in distress.

We had now entered upon our third winter under rather favourable conditions, as we found ample provisions and coal in the two houses on Bass Rock. We had also carried meat with us from the place where we shot the musk-oxen in Frozen Bay and had enough for more than one month, so that we were in little danger of scurvy.

The conditions of the weather during the winter 1911—1912 formed a remarkable contrast to those of the two preceding winters. Then calm, clear weather was the rare exception, and gales or fresh winds the rule. But this winter the state of affairs was entirely reversed, and we had hardly any gales during the months of December, January and February. This winter the temperature was also very much lower than during the two preceding winters, and the quicksilver was frozen the whole of the first week of February.

On December 16th and February 16th we had very high temperatures, in the first case as high as — 9°8, in the second as high as — 4°7. In both cases it was quite clear and calm, and no reason could be alleged for this sudden rise of temperature, particularly as the draft of the wind came from the north, i. e. away from the water.

The fall of snow was surprisingly small during the winter until the beginning of March, when there was rather a heavy snowfall. The small local glaciers were quite bare of snow until March, and only 30 cm of snow was lying on the level sea-ice.

Footprints, made in the autumn and then about 5 cm deep, rose about 10 cm above the snow-level toward the end of February, and they bore evidence of the decrease in the thickness of the layer of snow lying on level ice. The conditions, however, became normal in April.

All winter the ice off Bass Rock was broken up close inland, and on December 4th the breadth of the shore-ice was only 300 metres. The land-water changed in breadth with the shifting winds, and ranged from a few hundred metres to 4 à 5 miles. The motion in the pack-ice was rather great during the winter, and the thin ice, which covered the landwater, and which grew rather thick with the extremely low temperature and calm weather, was continually broken up and drifted away. Even the ice in the sheltered Freeden Bay broke up during the winter, and a very large, open tract of water was always there, even with the lowest temperatures.

The animal life was very poor during the winter, and our place was only visited by three bears, a dozen foxes and a couple of hares. These latter animals were so hungry that they were caught in a trap, baited with dried vegetables.

Unfortunately we were unable to make observations of the aurora borealis, as our fuel would not permit us to keep watch day as well as night. Consequently our notes on these phenomena are scattered and of no account whatsoever. It is a much discussed point, whether the aurora borealis is able to throw light over the country or not, and only once we noticed that this was the case. It was during the night of Dec. 12th; the weather was quite clear and so dark that a stone was invisible at a distance of only a few metres from the house. A little later, when we came out, we were surprised at the difference, and we were now able to see far about us. The aurora borealis in this case had no defined shape, and was neither particularly large nor luminous. Its colour was greenish. The light thrown over the country was so strong that the details of a point about 1000 metres distant were quite clear, and we thought that the light was strong enough to throw shadows. It only lasted a quarter of an hour, after which everything was in darkness, as before.

1912. In order to make preparations for a sledge-journey along the coast to Cape Dalton and further to Angmagsalik, which we intended to undertake rather than to be dependent upon the ships which might or might not reach Shannon Island, we had to go to Cape Philip Broke after some outfit left there, and the journey lasted from January 28th—30th. It took so long, because we had to make a very long detour to get inside the open water in Freeden Bay.

Judging by the many footprints of fox and bear it was evident that a great number of these animals had been near the house, since we left. They had done considerable damage, but had fortunately not broken into the house. We shot a bear shortly after our arrival and experienced one of these rare cases of a polar bear adopting offensive tactics. The animal wanted to break into the house, and it was by mere chance that we were able to shoot it, after it had burst the door. The bear was not very old, its stomach was quite empty, and absolutely no blubber was found inside its skin.

On Feb. 3rd we had the first gale since the beginning of December, and it was not very strong.

The return-journey to Bass Rock was made from Feb. 10th—12th, after the sun had returned.

All our outfit for the sledge-journey to the south was ready on Feb. 28th, and we made a small sledge-trip to Walrus Island between Feb. 29th and March 3rd, partly to find the depot left there by NATHORST for SVERDRUP, but chiefly to test our outfit, which was rather heavy.

We could, however, hardly make any progress, though the ice was in excellent condition, there being no more snow than usual during the autumn and no snowbanks of any importance to leeward of the frozen-in pieces of ice. It took us sixteen hours of the most strenuous work to cover the distance of only fourteen miles, and it was evident that we lacked strength for the work in hand and had to abandon all hope of managing the journey to Angmagsalik. The depot on the Walrus Island had been removed by sealing vessels, and we found nothing whatsoever, but left a message in a cairn on the NE point of the Island, stating therein that we lived on Bass Rock.

Our return-journey was as strenuous as the journey out, and we realized with great regret that our strength had waned to such an extent that in the future we had to give up sledging any long distance.

We fell ill shortly after our return and suffered much from a severe cold, and practically all of March was spent in the house or its immediate neighbourhood, as we did not feel well enough to go abroad.

We wanted to make a final attempt to set ourselves free, this time by means of the boat, already dragged across Frozen Bay in the autumn, and on March 31st we left the house on Bass Rock. It was, however, necessary to return and make our sledge lighter, as we could not drag it through, although its weight did not exceed 90 kilo. We left the house for good on April 3rd, and reached the house on Cape Sussi on

April 6th. It seemed as if the attack of cold during the month of March had left us still weaker than in February, as it was impossible for us to work at hauling the sledge for more than 6 hours a day; likewise we both felt excessively tired during the march and stiff and sore in all limbs, when we began in the morning. It was evident that we would be too weak to drag the boat, and also this project had to be given up as impossible.

The condition of the ice was, from the beginning of the year, different from what it had been during the two former years, and we even saw a very broad lane of water, which extended along the east coast of Shannon Island and as far towards Koldewey Island as could be seen through glasses from the height of 300 metres.

Large tracts of open water were seen in between the pack-ice, and the general impression was that of ice, which was easily navigable.

The house in our winter-harbour was left again on April 13th, and we reached Cape Philip Broke on April 15th. Animals had broken into the house, and foxes had dragged books out through the window and left them scattered all over the snow.

There was very much open water to the south of Cape Philip Broke, and no pack-ice could be seen from the height of 125 metres between Bass Rock and true ESE. The ice came however close to the east coast of Shannon Island, but seemed rather open. The water was covered with thin ice.

We left Cape Philip Broke on April 17th, but we did not reach Bass Rock till April 24th, as we were detained in camp by a two days' snowstorm. The temperature rose so much after the storm that the snow became wet and slushy, and it was necessary to resort to double banking in order to get all our outfit with us. This little sledge-trip, from Bass Rock to Shannon Island and back, was our last bit of sledging-work and the remainder of the time, until the arrival of the ship, was spent in the near vicinity of Bass Rock.

The weather during the remaining part of our stay on Bass Rock was not like that of the two preceding summers. To begin with we got a warm spell with very fine weather during the latter part of April, when the temperature rose as high as $\div$ 2°6, and the snow on land melted so fast that water flowed and collected in rather large ponds, and the surface of the earth was quite soft, almost as it used to be during the latter part of July. These conditions, however, changed during the early days of May, when the weather once more became normal.

The weather was exceedingly cloudy and foggy during the months of May, June and July, and quite clear weather was only recorded for one day in May and three in June. The sun was visible through clouds on a dozen days of each month, while the remainder of the days were entirely cloudy or foggy. July was, however, a little better. The prevailing winds had been decidedly northerly or easterly during the two preceding summers, but this was entirely reversed during our third summer, when in the month of June the wind blew for twenty days from the south and for five from the north.

These unusual wind-conditions altogether changed the state of the pack-ice during the summer of 1912, and it became uncommonly favourable. The pack-ice was far removed from land, even in April and so on during the whole of the summer, and it was very slack, as far as we could see from an elevation of 300 à 400 metres.

The land-water decreased a little in extent during July, but the belt of pack-ice must have been very open and narrow, as a northerly gale, which blew on July 11th, raised a swell so heavy that it broke up the land-ice and heaved the shore-ice at least 50—60 cm up and down.

The strait between Bass Rock and Pendulum Island became impassable on July 10th, and the land-ice in the larger bays and along the east side of Freeden Bay broke up and drifted away on July 17th.

The warm weather during the latter part of April had a lasting effect on the vegetation of all the lower lands of Bass Rock and Pendulum Island, which had been floated during this warm spell. These areas froze during the ensuing cold snap, and the consequences were that the growing vegetation became cased in ice, which either killed it or delayed it so much that the flowers only began to bloom a couple of weeks after they were blooming in more elevated parts.

The yellow poppy bloomed on July 22nd on the south end of Bass Rock, which was exposed to the rays of the sun day and night, but they were hardly even in buds on the east coast of Bass Rock at the same time. But Bass Rock was on the whole rather bare of vegetation except mosses and rank grass between the hollows of the stones, thus making a great contrast to the fertile Pendulum Island, the slopes of which were covered with an abundance of grasses and mosses, but surprisingly few willows. The north coast of Pendulum Island, which was steep and very disintegrated, was contrary to expectations and in spite of its exposed conditions, more fertile than any other part of the neighbourhood. Several kinds of flowers were seen on Pendulum Island, amongst which were the only bluebells, which we saw on this expedition. They were in bloom on July 3rd.

The first sign of returning animal life in 1912 was seen on April 28th, when we noticed the first migratory birds i. e. a few snow-buntings. Gulls were not seen till May 29th. A few guillemots were roosting on Bass Rock and had eggs on June 3rd, but only very few birds lived on this island, which we had expected to be a favorite place for roosting birds, because of its steep and inaccessible cliffs.

The birds were, all told, rather scarce on Bass Rock as well as on Pendulum Island, where we only saw some few eiderducks and geese, besides ptarmigans. These latter had very few brown feathers on May 9th, when several couples were shot, and we were surprised to notice that the female birds had all begun to change their plumage, while the male birds were as yet quite white. The first falcon was seen on May 9th.

The largest amount of any species of animals found on Pendulum Island were hares, which were seen in surprising numbers, particularly on the south end of the island in a large, sheltered valley. The hares lived in flocks, most of which counted twenty animals or more, and several flocks were seen at the same time. When frightened they all ran towards the highland, even if we were standing above them.

Several traces of musk-ox were seen on the island, but we met none of the animals themselves, although we walked all over the island.

During our rambles on Pendulum Island and Bass Rock we found very many traces of former Eskimo inhabitants, particularly on Bass Rock where remains were found in all level places. Meat-câches, built up with great care, were found in large numbers just north of our house, and chips, shavings, feathers, hair and bones were found in them and in one case even about 1 meter of walrus-spine, where the sinews still bound the vortex together. A few tent-rings were seen close by our house.

More remains were found on the SE point of Bass Rock, i. e. meat-câches, as well as hunting shelters and nine tent-rings, besides two graves, in which, however, we could find no skeletons, but the graves were opened, and the skeletons might have been removed by the members of former expeditions. Wherever we found stones collected by the Eskimos, we removed them in our search for implements, but the result was of no importance whatsoever, and we only found a few spearheads, some bone arrows and small pieces of wood or bone, in which holes had been bored as well as pieces of an ivory sledge-runner. On the few level gravel-beds we found some few implements, evidently dropped by accident, but nothing of any importance.

A third cluster of tent-rings, meat-câches, shelters etc. were found on a low, level gravel-beach on the west coast of Bass Rock, and also some almost complete skeletons of narwhal and walrus, but no implements of any kind.

The Eskimos have, however, only lived on Bass Rock during the summer, and their winter-houses were situated on Pendulum Island, in a small bight to the south of Cape Hartlaub. There were the remains of six houses in all, but the winter-place must have been used at widely different periods, as two of the houses were much older than the other four. The ruins were, however, so old that they had collapsed entirely and were covered with vegetation. The turf covering the ruins was frozen as far as we could cross to Pendulum Island from Bass Rock, and we were thus unable to dig out the ruins. No meat-câches or any other artificially erected stone-structures were found in the immediate vicinity of these houses, but many of these, as well as fox-traps, were seen near Cape Hartlaub.

The time which we spent on Bass Rock awaiting the arrival of a vessel, was thus taken up with hunting and short excursions to Pendulum Island, until July 10th when open water compelled us to remain on Bass Rock. We often climbed to the very top of the rock and noticed that it was covered with small angular and quite thin stone-slabs, never more than 10 à 15 cm in extent. The same kind of stone-slabs were seen in other places on the top of basalt mountains, but hardly ever down their slopes.

Our period of waiting came to an end on July 19th, when in the early morning the Norwegian steamer "Sjöblomsten" Capt. LILLENES arrived at Bass Rock. We went to Cape Philip Broke onboard the steamer, but failing to find walrus the ship headed south for Gael Hamkes Bay.

All of July 20th was spent in Gael Hamkes Bay, which was quite open as far in as to Cape Stosch, where progress was stopped by unbroken ice. We could, however, see that the Inlandice encircled Jordan Hill Island and barred the fjord along a line from Cape Blosseville — Cape Oetker, almost to Loch Fine.

The return-journey was begun on July 20th at 5 a. m., and the pack-ice, when we reached it about 20 miles off land, was very slack and consisted of quite small floes, the breadth of the belt of pack-ice not exceeding 75 miles on a true SE-course. The open water was reached on July 21st at 8 a. m., and we arrived in Aalesund on July 28th 1912.

II.

REPORT CONCERNING THE REMAINING PART OF THE EXPEDITION DURING MIKKELSEN'S SLEDGE-JOURNEYS

BY

WILHELM LAUB

The period from Sept. 25th to Dec. 17th 1909.

Plate III.

WHILST Capt. MIKKELSEN undertook the sledge journey to Lambert's Land, and after OLSEN and I — who had accompanied the sledging party some of the way towards north, principally to get our dogs and ourselves into training — had returned on the 2nd of October we made some trips in the vicinity of our winter quarters.

The first trip was undertaken to Haystack by POULSEN and myself from *13th—23rd October.* Bad weather forced us to stay at Haystack for six days altogether, but during this time we managed to investigate the peninsula and the immediate surroundings. Worthy of special mention is a river debouching due south from the spot where Haystack joins the mainland, and which ends in a rather large delta. (Fig. 64).

The river flows in a southeasterly direction (true) between steep mountains, and further out between high heaps of rubble up to 75 metres. The river, between the mountains, is about forty metres broad and four metres deep.

Four miles from the coast the river ran through a large valley, which in all probability is flooded in summer, as the stones in this valley were polished and quite smooth. From the valley the river went further in for about four miles, where it was seen to flow between hills a hundred metres high at a depth not exceeding a metre in some places. The river was fed by five small confluents, all coming from a northwesterly direction.

Moreover, it looks as if there is a valley region northwards for about six miles into the country, stretching behind the hills on the east coast and up to Bessel Bay; this latter deduction I made by noticing the way in which the shadow from the sun fell across the country.

As regards ice-conditions we were much better off this time than on our previous tour, by keeping closer in to the mainland — Hochstetter Forland — where there was a lot of new ice very good for sledging, compared to the heavy ridges northward of Shannon Island up to Koldewey Island.

The next tour was undertaken by UNGER and myself from $^{28}/_{10}$—$^{11}/_{11}$ 1909.

We went north and west of Shannon Island, in order to survey the coast and on the *4th of November* we arrived at the Shannon Island depot at Cape Philip Broke, the south-eastern point of the island (Fig. 65). The ice had been good the whole way, smooth new ice everywhere along the west coast of Shannon Island and over Freeden Bay. At the latter place, however, we drove on quite thin ice during the last four hours before reaching the depot. The ice was only 5—6 cm thick and broke up the same night we arrived at the depot, and the next day open water extended far away into Freeden Bay.

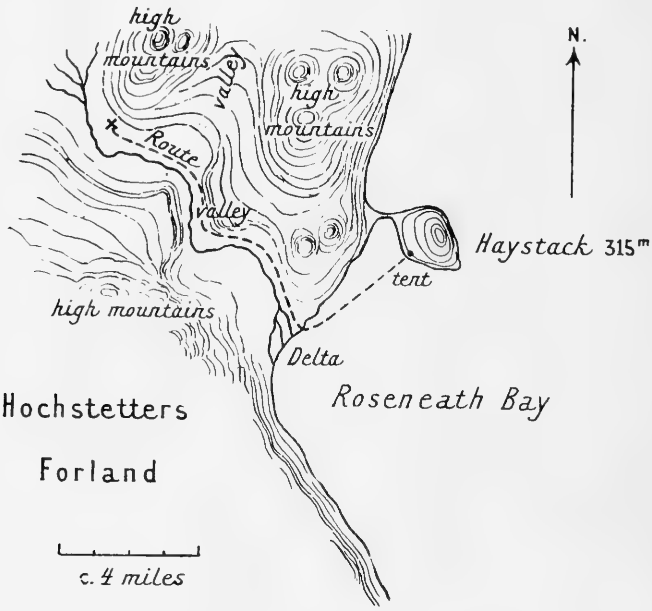

Fig. 64. The river at Haystack.

We stayed at the depot for a week, expecting the ice to freeze solid, so that we might get to Bass Rock, but as our expectations were not fulfilled, we returned to our winter quarters on the *11th.*

Here we were to take tidal observations for a month, and therefore we all four stayed on, especially as the said observations had to be taken before Christmas.

One man had to look after this for 24 hours at a stretch, this division of labour proving the most practical with regard to our other duties on board the ship. These consisted furthermore in taking daily meteorological observations, looking after the dogs, bringing provisions ashore, besides making the vessel ready for the winter, by covering her entirely (Fig. 66). This was done with our spare sails, which were laid over a wooden frame, but I shall point out that this method should only

Fig. 65. The Shannon Depot at Cape Philip Broke. $^{6}/_{11}$ 1909.

Fig. 66. »Alabama« in winter-harbour, prepared for winter. $^{27}/_{10}$ 1909.

Bass Rock.

Fig. 67. Open water off the Shannon Depot. 6/11 1909.

be adopted when conditions of space prevent one from bringing planks for the purpose. Sooner or later a canvas covering gets carried away, especially when made of sails which are intended for subsequent use, and which one does not wish to spoil by cutting up.

As a matter of fact one cannot cover the whole ship with one sail only, such as the mainsail, and thus there are apertures which it is impossible to cover up entirely, so that a gale sooner or later finds out the weak spots through which it can penetrate, and if it has once got in under the sail such a canvas roof is doomed beyond repair.

In the evening of the 17th December the sledge party from Lambert's Land returned to Alabama Havn.

Remarks concerning the current round Shannon Island.

Respecting the open water at Shannon Island and farther south, I should here like to state my views. During the course of the expedition I stayed at the Shannon depot at Cape Philip Broke four times, on the following dates $^{4}/_{11}$—$^{11}/_{11}$ 1909, $^{8}/_{1}$—$^{12}/_{1}$, $^{13}/_{6}$—$^{15}/_{6}$ and $^{15}/_{7}$—$^{27}/_{7}$ 1910 and at Bass Rock and Sabine Island from $^{8}/_{6}$—$^{12}/_{6}$ 1910. Each time it was apparent that the open water was close to the Shannon depot, and moreover during my stay in November far up in Freeden Bay (Fig. 67). Only when I stayed there in January was it removed about 3 to 4 miles from the depot in a southeasterly direction, but again in June and July the open water reached right up to the depot. In the following sketch the conditions are shown as they were observed from the top of Bass Rock on the $^{9}/_{6}$ 1910 and the following night from the southern point of Sabine Island (Fig. 68).

Everything indicates that there is a current running in a southern direction to the westward of Shannon Island and then southeast between Shannon Island and the group of islands, Bass Rock, Pendulum and Sabine. This current has possibly become swollen by the liberated waters from Ardencaple Inlet, which flows from the Inlandice.

The many fissures in the perfectly smooth ice to the westward of Shannon Island would appear also to indicate the existence of a current here.

From our sojourn in the ice on the outward tour with the "Alabama", we know that the current flows rapidly along the east coast of Shannon Island, as at that time we were ice-bound from $^{21}/_{7}$—$^{24}/_{7}$ 1909, and during this period drifted from a point about ten miles NE of Cape Pansch and did not get free until we were abreast of Bass Rock, which means that in that time we had drifted about fifty miles to the southward. We estimated the daily set of the current at that time at about fifteen miles in a southerly direction, but it must also be borne in mind that at certain hours of the day there must be a current going northwards on account of the tide, in some way eliminating the current running south, which runs south along the East coast of Greenland round Cape Farewell and northward along the West coast of Greenland. As mentioned before tidal observations were taken for

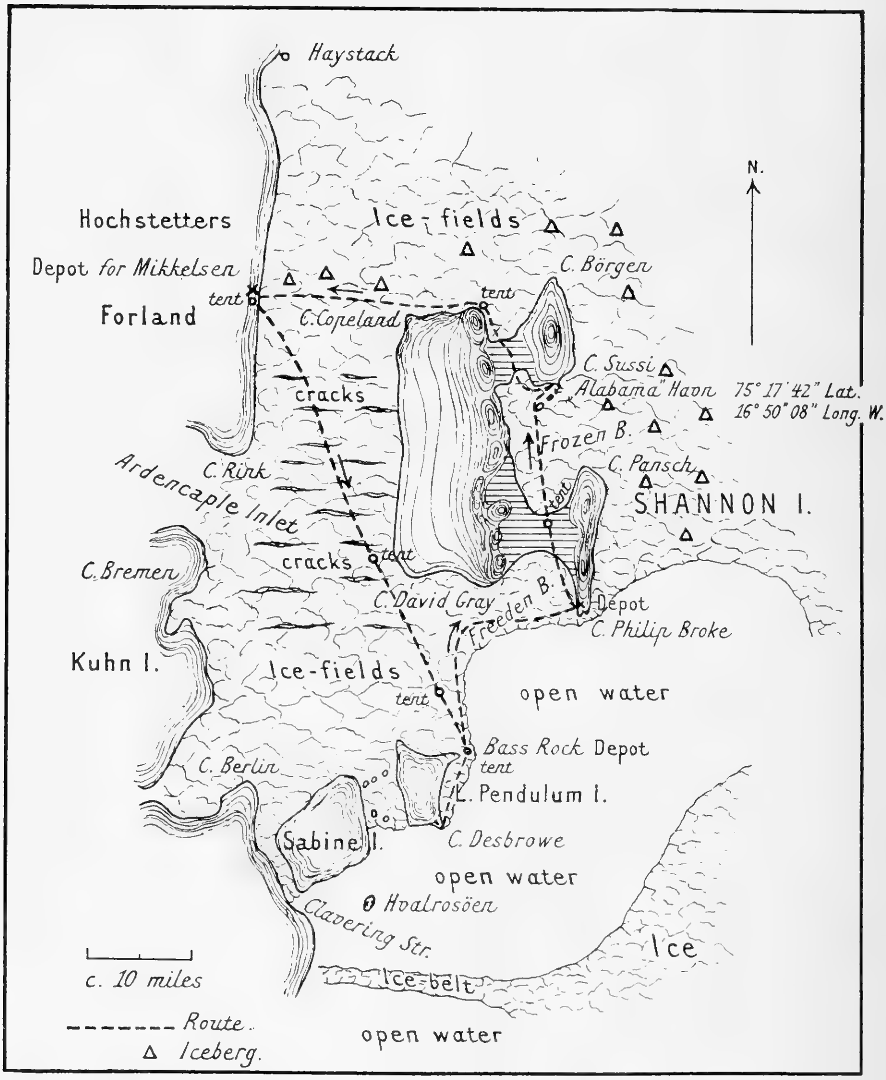

Fig. 68. Sketch showing the ice round Shannon, Pendulum and Sabine Islands on the $^{9-10}/_{6}$, 1910.

a month from $^{19}/_{11}$—$^{19}/_{12}$ 1909 at Alabama Havn. These observations showed a difference between high and low water of about 1.60 metres.

Along the western coast of Shannon Island, however, this difference is less, judging from the tidal marks on the coast, and from this I deduce the fact that the current flowing south must be considerably stronger. Moreover, as the water has to force its way through the comparatively narrow sound between Shannon Island and the mainland, there must be a stronger current.

The objection may be raised that it is curious to find such smooth ice at this place, but this, I think, has its origin in the small tidal difference. The current flowing southwards will thus be the dominating one, whilst that going north will be but a slight current or may be none at all, it being ultimately absorbed by the constant arctic current flowing south, and by reason of these conditions I am of opinion that the ice-pressure disappears or is, at any rate, but slight.

I cannot speak definitely as to how the soundings are here, but everything would seem to indicate a comparatively great depth, as there were no stranded icebergs in the waters between Shannon Island and the mainland, nor in the bay between Shannon and Sabine Islands and Bass Rock.

The fact that icebergs are not to be met with at the first place may perhaps be accounted for by the extension of a submerged ridge from Haystack to Shannon Island, as several stranded icebergs were to be found to the east of this line, and none or only some small ones west of this line.

In the bay SW of Shannon Island one might reasonably expect to find icebergs of a slight depth, as the Ardencaple Inlet debouches here, which I presume ends in a glacier from which icebergs are formed and not simply in an inactive glacier.

The sledge journey to the west of Dronning Louise's Land.

April 10th—May 23rd 1910.

The plan and outfitting.

Before the departure from the winter quarters on the *3rd of March* for the sledge journey to the bottom of Danmark's Fjord, which was to be undertaken by Capt. Mikkelsen and Iversen, it had been arranged that the mates Olsen and Poulsen together with myself should accompany them as an auxiliary party, chiefly to assist the main party in ascending the Inlandice and on the first advance on it, according to the plan as far as about 78° N. Lat. At about 77° N. Lat. a depot was to be laid down on the Inlandice for the auxiliary party, so that we, after having separated from the main body, were to return to the depot and thence go west on the Inlandice and west and south of Dronning Louise's Land descending from the Inlandice at the bottom of the Ardencaple Inlet, and from there to the winter quarters on Shannon Island.

For the execution of this plan the party had at its disposal provisions for thirty-two days and food for six dogs for thirty days, so calculated that two of the dogs were to be killed during the journey as food for the remaining ones.

The daily ration for the men was the same as that allotted to the main party, and consisted of 0.98 kg. daily, whilst for the dogs it was based upon 0.30 kg. of dog pemmican.

The rest of the equipment was as shown in the following.

Cooking utensils.

Case for the utensils.
Primus apparatus with grill (the grill was very quickly discarded, it having proved quite useless).
Spare parts for the Primus, consisting of four leather packings, four ebonite packings, one top piece, one mouthpiece, six asbestos packings and twenty-four spare cleaning-needles.
Funnel for filling petroleum.
2 cooking pots with lids.
3 bowls.
3 spoons.
1 keg of spirit.
3 can-openers.
2 packets of matches, one of which was in a soldered tin box, in case the sledge got into the water.

Total weight = 8.3 kg.

Sledge equipment.

Sledge.
— mast.
— sail.
Tackle.
Spare harness (3).
100 metres of alpine rope.
1 pair of skis.
1 ski-staff.

Weight = about 39 kg.

We had only one pair of skis with us, I being the only one of the party accustomed to use them, and it was thought I might in this manner walk ahead of the sledge. As will be seen later on, they proved of great utility in another way.

Ice equipment.

1 spade.
1 ice hook.
1 axe.

Weight = about $4^1/_2$ kg.

Tent equipment.

1 outer tent-covering.
1 inner —
4 tent poles.
3 sleeping-bags.
3 covers for sleeping-bags.
1 snow brush.
1 kamiut-stick.
3 sleeping skins.

Weight = about $42^1/_2$ kg.

After the parties separated, the sleeping skins were left behind at a tent place in order to diminish the weight, which was thus reduced by about seven kilos.

Tools.

1 Yankee tool-chest.
1 marline-spike.
1 pair of pliers.
3 sailmaker's needles.
Half a ball of twine.
Half a ball of tarred twine.
1 sailpalm.
1 saw.
Wax.

Weight = about $1^1/_2$ kg.

Medicine.

Quinine, cocaine, antiphebrin powders, aperient pills, constipating pills, boracic vaseline, lanoline vaseline, one box of soda cakes, a pair of scissors and two packets of bandaging.

Weight = about $^3/_4$ kg.

Instruments.

1 sextant.
1 theodolite.
1 stand.
almanac and tables.
3 books for observations.
1 pocket compass.
1 — barometer.
3 sling-thermometers.
1 minimum-thermometer.
6 pencils.
1 piece of indiarubber.
1 case of instruments.

1 map.
1 camera.
12 rolls of films in a tin box.
1 pair of spare snow goggles.
Weight = about $12^1/_2$ kg.

Guns and ammunition.

1 rifle.
1 rifle lock.
50 shot cartridges.
50 cartridges.
Weight = about 12 kg.

Furthermore clothing for each man consisting of

1 set of underwear.
1 fur outer anorak.
1 - inner —
1 pair of fur trousers.
1 canvas anorak.
1 pair overalls.
2 pairs of stockings.
1 pair of Finn-shoes.
1 pair of loose soles.
1 pair of woollen mittens.
1 pair of fur mittens.
1 pair of canvas mittens.
1 pair of sealskin mittens.
1 cap.
Total weight = 8,6 kg. per man, besides spare clothing per man comprising:
1 pair of drawers.
4 pairs of stockings.
3 pairs of mittens.
5 pairs of canvas mittens.
1 pair of fur mittens.
2 pairs of fur stockings.
4 pairs of kamicks, for my personal use 3 pairs of Finn-shoes instead of kamicks.
Finally sennegrass and diary.
Weight = about 8 kg. per man.

Moreover I had a pair of Laupar-shoes for use when skiing; several times I wore Finn-shoes, but they were not suitable, as it was impossible to fasten them quite tightly to the skis, *a sine qua non* if the full benefit is to be got. They must fit on to the foot in such a way that they form part of the body.

The total weight on the sledge was:

Cooking utensils		8.3	kg.
Sledge equipment		39	-
Ice equipment		4.5	-
Tent equipment		42.5	-
Tools		1.5	-
Medicine		0.7	-
Instruments	about	12.5	-
Guns	-	12	-
Spare clothing		24	-
Men's provisions		108	-
Dog food		50	-
		303	kg.

There was, furthermore, a lot of ice on the outer covering of the tent, caused partly by the fact that the dogs actually melted into the snow, which was always put round the tent to weigh it down, so as to prevent it from blowing away, and partly by rime frost in the tent, and although the latter was carefully brushed off every morning, there generally remained a rather large quantity of ice on the tent. I shall not go into further details here respecting the construction of the tent, which was of the same kind as the one Capt. Mikkelsen used, and I cannot speak too highly of its practicability, it being easy to set up and without backstays, and not liable to be destroyed by the dogs, which very soon get into such a state of hunger that they devour anything they can get their teeth into, even the backstays; and, moreover, the tent by reason of its half-spherical surface can be exposed to violent storms without being overturned.

Before I proceed to describe the sledge journey itself, I must first mention that it was not carried out according to the programme, on account of circumstances which had occurred, and at the same time I will quote the written instructions respecting the tour which I received from Capt. Mikkelsen two days before we parted company.

April 8th 1910.

To Lieutenant Laub.

With reference to the entry in the order book of the $^{27}/_{2}$ the green yawl was to be placed on the coast of the continent, but instead of this kindly put one or, if possible, two kayaks at the same place, with a small depot for two men and three dogs.

With regard to the sledge journey which you, assisted by the mates

OLSEN and POULSEN, are to undertake after leaving me to morrow, I wish to make the following remarks: You have in the depot thirty-two days' provisions for three men and thirty days' food for four dogs, and I consider this supply sufficient to enable you to carry out the tour north and west of Dronning Louise's Land with a descent at the Ardencaple Inlet or Dove Bay, in such a way that you choose the place from which you can most quickly get down to the coast. The object of the tour is the surveying of the NW and SE coasts. The ice has been more impassable on the stretch we have travelled over than anticipated, but seemingly better both towards north and west. I beg you to be cautious and not advance further than you can see your retreat clear. Should the ice compel you to turn back, so that the return journey lies north of Dronning Louise's Land, you may in case of dire necessity open our depot case at about 77°10′ N. lat., and take from it six days' provisions for two men, and five kg. dogs' food, but you must take care to cover the case, so that the snow cannot penetrate it. If you make use of these provisions the descent must take place at the same spot as the ascent, and you can take as much petrol from the supply lying in the depot as is absolutely necessary for you to make "*Alabama*". Besides in case of absolute necessity you can take the stores slightly south of Cape Teufel, but you are requested to take only the minimum in order to make the depot at Haystack, which supplies you may take with you and replenish afterwards, together with petrol.

On your sledge journey over the Inlandice, you are requested to take meteorological observations at 7 a. m. and afterwards every hour until you pitch your tent, so that data may be available for a comparison of the weather conditions in the districts where you and I are.

You are likewise requested to note the nature of the ice in the stretch of ground covered by you daily. In the event of your reaching land at Dronning Louise's Land, I shall be glad if you will collect botanical and geological specimens, and above all, do not forget to keep a careful diary of the sledge journey.

(signed) W. LAUB.　　　　(signed) EJNAR MIKKELSEN.

The Sledge journey.

Plate I and III.

After a little jollification in our tent in honour of Capt. MIKKELSEN and IVERSEN, who were proceeding northwards alone, we started off on the *10th of April* 1910 in a southerly direction for our depot, laid down on April 6th at about 77°10′ N. Lat. Before we separated we gave to the other party a further three days' provisions, as we thought we could spare them and get back to our depot in a day and a half.

We arranged ourselves in the following manner round the sledge: A forerunner walking five or six metres in front in a long trace — as a rule I was the forerunner — then came the dogs, afterwards the other two by the sledge, one on either side of it, both harnessed. In this manner we sledged the whole way, and it turned out to be a very practical arrangement, as one got the utmost work out of the dogs, by letting them have a man to pull after, all the more as among the six dogs there was not a single one which was specially fit to act as leader. Until we parted company we had each of us driven our special team, which we were accustomed to from previous tours, but between Capt. MIKKELSEN and myself the arrangement was made, that when we separated, he was to have the best fifteen of the twenty-one dogs; which was only reasonable, considering that he was going to undertake the big tour. So, as far as we were concerned, we got the six poorest dogs, and there was not one among them which had ever been a leader.

On the first day we sledged about twelve miles — one mile = a nautical mile = 1852 metres — crossing the very fissured ground we had passed on the 7th of April, and pitched our tent well south of this ground, our object being to let the tent remain, and sledge down to the depot from which we were to take our stores, and with these we were to return to the tent, a matter of a day's march of twelve miles. We did not wish to exceed this distance the first few days, for fear of exhausting the dogs, which by this time had already begun to fall off and get wearied.

But on April 11th there was no sledging. Already during the night a gale sprang up, and in the morning it was quite impossible to sledge ou account of the gale, especially as it was snowing hard at the same time, so that it was impossible for us to see our way. Neither was it any better on the 12th, so that we had to remain in the tent. Not until the *13th* did the storm abate, and we were able to make a start.

Enforced idleness on a sledge tour is, as a rule, a terrible nuisance. The first day it may be all right, there is always some repairing to be done to clothes or so on, but if the delay is extended over several days, it is certainly not pleasant. The only thing to be done is to attempt to sleep, but this is rendered difficult by thinking over how one is to get ahead.

But there was one advantage with these two and a half days of stoppage; they gave the dogs a good chance to rest, which was what they were badly in need of.

Until *the 17th* we were on ground we were familiar with, as we had moreover a day and a half's delay on account of a fresh storm. As soon as an opportunity offered through the cessation of the bad weather we sledged further, but the heavy sledge and the bad ground caused us much trouble, and we decided to throw away a lot of things which we could dispense with, such as the sledge mast (pole), sealskin mittens, canvas mittens etc., and in this way we were able to reduce the load on the sledge by 17 to 20 kg.

On *the 17th* we were on a hill (elevated ground) of about 440 m above sea level nearly four miles from the north-east coast of Dronning Louise's Land at 77°19′ N. Lat. The Inlandice between Ymer's Nunatak and Dronning Louise's Land was observed to rise considerably about seven to eight miles west of our tent ground, but it appeared to be a good, even road. After having made a survey and sketched and photographed we proceeded in the evening on a trip to the west in order to find a good road for the next day. On further investigation the road, however, proved to be anything but level, consisting as it did of hummocks of about ten to twelve metres in height, with holes interspersed. Even if the ground could not be regarded as dangerous, as there were no actual crevasses, still it was difficult to traverse, being entirely bare of snow; only at intervals there was a snowdrift which could assist us in some way by enabling the dogs to get a proper foothold. On the slippery ice it was impossible for them to make any headway, as they could not stand on it, but kept on slipping and falling all the time. As far as we ourselves were concerned, it was necessary to resort to our ski poles so as to keep our footing. The sledge gave us practically no support, because it, generally speaking, constantly had a side slip. As to the forerunner it was absolutely necessary for him to avail himself of his ski-pole.

The same day we had the regrettable misfortune to lose three days' rations, as the dogs in our absence from the tent had broken into it and regaled themselves on the food, which had not been closed up in the cases. This was a considerable loss to us, about a tenth part of our total rations having been "appropriated".

The culmination of surprises occurred on *April 18th.* In the forenoon the sledging was rather good, as we had picked up our tracks from the previous evening on the first part of the journey. The ice had practically no incline, but only the old irregular surface, bare of snow. About three miles from the tent ground which we left on the morning of *the 18th*, having sledged along in a westerly direction, we passed a belt of rubble and stone going in a NNW by SSE direction (Fig. 69). Whether this was the surface of the ground (bedrock) appearing here, or only loose bits of stone carried along by the ice in its advance, I am not in a position to determine, but the correct surmise would appear to be that it is the actual ground, and I propose to return to a discussion of the matter. From this point of observation we noticed that further ahead a perfectly vertical glacier appeared, which was named Suzanne Glacier (Fig. 70). For the next three miles the ice was very smooth and covered with a rather thick layer of snow. When I say that the ice was smooth, I mean that the rugged formation disappeared, whilst at the same time the surface became like a large hilly territory, with long even hills and valleys, which at last, as we came nearer up to the edge of the glacier, became shorter and shorter, finally assuming the character of regular crevices, and

Fig. 69. Belt of rubble and stone on the Inlandice. 18/4 1910.

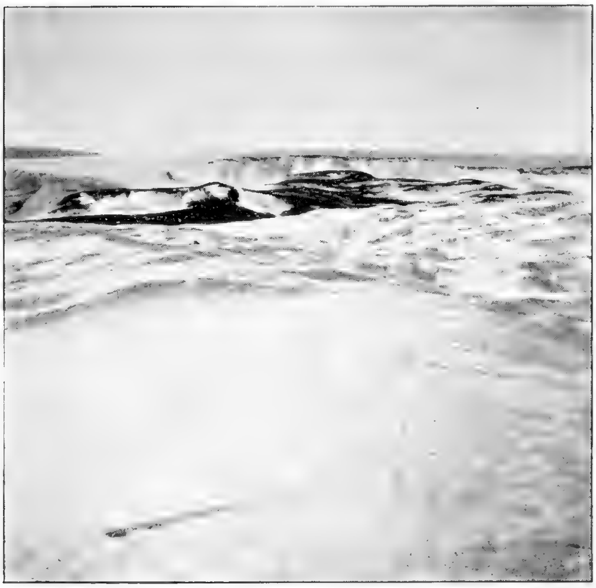

Fig. 70. Suzanne Glacier and the Nunatak in front. 21/4 1910.

Fig. 72. Sledge in a riverbed near Suzanne Glacier. 21/4 1910.

Fig. 73. Lake A of the »Sostersoerne« seen from the east.
Suzanne Glacier visible behind. 21/4 1910.

the ice was again bare of snow. We advanced a further three miles through this territory, it then being necessary to unload the sledge, which could no longer make progress with a full load. With half a load — the tent with the tackle and its appurtenances, cooking case etc. was left — we proceeded a bit further towards a Nunatak situated about a mile east of Suzanne Glacier (see Fig. 70). From this spot we could see the rock projecting at several places in the glacier. The ice lay close up to the

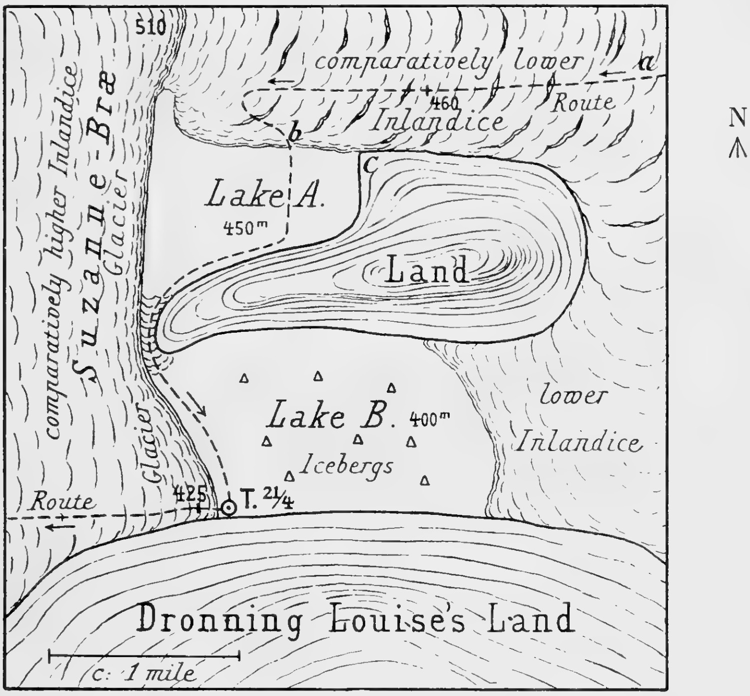

Fig. 71. Søstersøerne.

Nunatak from NW (see point c at Fig. 71) through north and east to south, whilst towards the south from point c the Nunatak extended about 300 m and still sloped towards the south, after which an arm turned in a southwesterly direction right on to the glacier. In this way a lake is formed with perfectly smooth ice, and bordered as follows: towards the east and south by the Nunatak, to the west by the perpendicular glacier front and on the north coast by the ice which here sloped down towards the glacier, intersected by small crevasses running in a northerly and southerly direction. This lake is named "Lake A" of the "Søstersøerne" (sisters' lakes); some days later we discovered another lake, close up to "Lake A" and this other lake is named "Lake B" (Fig. 71). The Nunatak was, as far as we could observe, devoid of any vegetation. We ascended it, but saw nothing whatever, neither moss nor grass, and nothing which proved that there had been any the previous summer.

At 8.15 p. m. we returned with the sledge to the place, where we took half load, and here we set up our tent. This place became then our camping site for some time, *the 19th* and *20th of April*, as we encountered another storm, this time from the west, with masses of snow. On the 20th the storm was at its height with a wind velocity of 10 by Beaufort's scale.

As regards the direction of the wind during the journey until we turned back, it appeared that it was as follows: On the west of Dronning Louise's Land southerly, on the north westerly, and on the east northerly, which meant as far as we were concerned, that as soon as it came on to blow, we had the wind right in our faces, and this was extremely unpleasant to sledge against, it being at times absolutely impossible to make any headway, on account of frostbites in the face and because the dogs' eyes became filled with snow, which we had to clean out every five minutes.

Not until *the 21st* at noon was the weather such as to permit sledging, and in the course of an hour we arrived with the comparatively small sledge load at the spot to which we had driven our things three days previously. The ice from here right up to Suzanne Glacier was full of crevasses in a northerly and southerly direction (Fig. 72), and then the front of the glacier turned out to be quite perpendicular, so that any ascent there would have been impossible.

So there was nothing else for us to do but to come down to the lake and otherwise to hug the glacier front and follow the foot of it, until we got to the north coast of Dronning Louise's Land, in order to get to the more elevated Inlandice there. The size of the lake was about a mile in an easterly direction and at the broadest part, viz the western end nearest the glacier, about 1500 metres (Fig. 73).

As previously stated the ice on Lake A was as smooth as glass. The arm, running from the Nunatak in a southwesterly direction, was only some few metres higher than the level of Lake A and in some places showed signs of vegetation, a little moss and some straw from the previous summer.

About 15 to 20 metres from the glacier the arm ceased or was at any rate entirely covered with snow. At this point the glacier turned off in a SSE direction, always with its vertical front, and along the glacier there was a snow-drift which ran down to a lake of about a square mile in area, about 50 metres below Lake A (see Fig. 71).

This lake, like the one previously mentioned, was as smooth as glass, but otherwise it was filled with icebergs. Its borders are: Towards the west the glacier front of the Suzanne Glacier; to the south the north coast of Dronning Louise's Land; from the south and up through east to north and further along the northern coast of the lake, the Inland-

Fig. 74. Lake B of the »Sostersoerne« seen from the west.
To the right: Dronning Louise's Land. 21/4 1910.

Fig. 75. Ascending the Suzanne Glacier from lake B
of the »Sostersoerne«. 22/4 1910.

Fig. 76. Lake B of the »Søstersøerne« seen from Suzanne Glacier.
To the right Dronning Louise's Land. Behind the Indlandice west of Germania Land. 22/4 1910

Point A
↓

Fig 78. Northern part of Dronning Louise's Land seen from the NW. 22/4 1910.

ice; and the last part, the western end of the northern side, was bordered by the aforesaid Nunatak, which here stood with a steep wall facing south.

We did not undertake any soundings trough the ice, but judging by appearances, chiefly the colour, it would seem as if this last, lowest lying lake, Lake B, was considerably deeper, and in support of this may be cited the numerous icebèrgs frozen into the lake (Fig. 74).

At 8 o'clock in the evening of $^{21}/_4$ we set up our tent in the south-westerly corner of the lake, in order to undertake investigations regarding the ascent of the glacier on the following morning.

I will, however, from this very camping site narrate an episode which might possibly be of importance for other expeditions, or, at any rate, exhort to caution, because in our case it might have cost Olsen his life.

We had set up the tent, and Poulsen was feeding the dogs, whilst Olsen had been asked to get me some ice for cooking purposes. Just outside the tent lay a block of ice about three metres in diameter. Olsen and I agreed that it would be possible to get some good ice there. He chopped away at the block quite lightly with an axe, but this slight touch caused it to suddenly shift, and, with a loud report, it slid down on to the ice, because it lay slightly higher up on the firm ground. It just missed Olsen, who was standing a little to one side of it; had he been but a fraction lower down, he would have had the whole lot over him and been crushed to death.

The ascent took place on the morning of the *22nd of April* after we had investigated whether there was not possibly a place where the whole sledge with its load and everything could be taken up at one time, but it could not be done (Fig. 75).

Poulsen now stayed by the tent, whilst Olsen and I went round the land with the dogs and up on to the Suzanne Glacier, which here right in to the land was very much lower than farther north. The height of the perpendicular wall was about 25 metres, and from here it sloped up very steep, but not more than one could climb with care about 20 metres on to the nearly vertical declivity. At this spot a platform was built in the ice, in such a way that a man could stand here securely, and about 50 metres further up there was another large platform upon which we could place the load, as it was brought up, whilst the dogs could make this their starting point. The alpine rope was then brought down, and with the 100 metres' long trace which we thus had at our disposal we were able to make use of the dogs. Whilst I myself drove them along up on the glacier, Olsen, who sat upon the first platform, supported the trace until the sledge came up to him, and then he followed it up to the second platform, where it was loaded up. In this way we were able to get all our tackle on to the glacier in five journeys, but we had to leave our sleeping skins behind in order to decrease the weight. (Fig. 76).

At 12 o'clock noon on *22nd April* we had all our tackle up and were ready to drive further. All went well now until 6.30 p. m. The going was good but very slippery, in some places quite smooth ice, and at the same time a rather sharp ascent, a gradient of 420 metres on a 12 miles' stretch.

As far as the country is concerned here on the north coast, the following is worthy of note. The Ymer's Nunatak (mentioned by Captain KOCH from his journey to the Inlandice in the spring of 1908) appeared to be covered by the Inlandice towards west, where the ice without any visible demarcation joined the land, contrasting greatly with the east point, which rose steep from the ice. With reference to the north coast of Dronning Louise's Land, it appeared to consist of islands among which the Inlandice floated. In the very centre of the north coast a long fjord stretched in a southerly direction, whilst we also observed some "fjords" going in E—W direction from the first named fjord (Fig. 77—78). It was very difficult to find a camping site that evening, on account of the absence of snow; but after a good half hour's search we came across a snow-drift with just sufficient snow so that the tent poles could stand firm and the lower part of the canvas be covered.

From this place we then made a survey of the environs, but unfortunately it became also our involuntary camping site for three days altogether, as a gale sprang up in the course of the night to the accompaniment of a heavy fall of snow, so that surveying and sledging were equally impossible. If only the wind had been at our backs, sledging would have been possible, but as stated before, it always turned out to blow along the coast, and was therefore right in our faces. Finally on *25th of April* in the evening it cleared up and began to abate, and at 8.30 p. m. we started, overjoyed to get away from the very unsatisfactory camp. But it was not altogether pleasant. It is true, the ice was quite good and even, and the further we advanced in the direction of our course, which was now true SW, there was more and more snow upon the ice. The ground was, however, constantly rising, altogether 250 m on the distance (about 10 miles) which we had sledged on this march; but what worried us much was the stiff breeze, a velocity of 3 to 4 Beaufort's scale add to which ÷ 27° C., so that we had constantly to thaw one another's noses and cheeks by rubbing.

The land which now ran in a southwesterly direction still proved to be formed of nunataks, covered by the Inlandice towards west, whilst towards east it faced the ice with steep slopes (Fig. 79). At half past one in the morning we had reached an island extending from east to west. This island, Juel Brockdorff's Nunatak, forms the northwesterly point of Dronning Louise's Land, but here we were obliged to camp, as OLSEN had three fingers on the one hand and one ear and his right heel frost-bitten, and we did not wish to expose ourselves to serious

Point A. ↓ Prins Axel's Nunatak. ↓

Fig. 77. Northern part of **Dronning Louise's Land**, seen from the north. 22/4 1910.

Fig. 79. North-western part of Dronning Louise's Land. $^{27}/_{4}$ 1910.

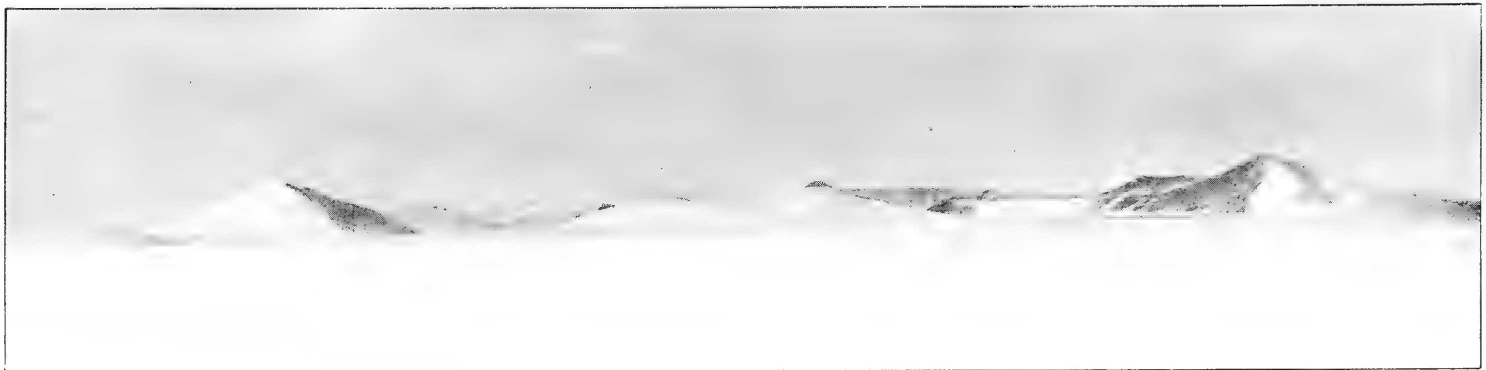

Fig. 80. The interior of Dronning Louise's Land seen from the top of Henius' Nunatak. $^{29}/_{4}$ 1910.

consequences from frost-bite, which we knew might cause us great difficulty and inconvenience.

Also in this camp the storm and the keen wind found us out and kept us prisoners on the 27th and 28th. I wrote in my diary for the *28th*: "One day is worse than another, as we have again to-day a keen wind blowing dead against us, so that sledging was out of the question. As time hung heavy on my hands in the afternoon, I resolved, despite the weather, to go a short way to the south along the coast, in order to see something new. I went 7 to 8 miles and then on to a nunatak, from which I could see the land stretching in a southerly direction, so that I think I reached the westernmost point of the country. As far as the eye could reach the Inlandice ran right up to the land and almost up to the top all the way. The height of the nunataks above the ice was on an average about 300—400 metres. From the elevation on which I stood, I saw a nunatak about 20 miles away in SW by S (Poulsen's Nunatak), and in SSW I saw two small nunataks which I estimated as being about 40 miles away (Olsen's Nunatakker)". When I returned to the camp in the evening, the storm had abated a good deal, and I looked forward confidently to having fine weather on the following day, but "man proposes, God disposes". In the course of the night the wind freshened considerably, and not until 3 p. m. on *the 29th* was there any chance of sledging south, which we then did. The weather was good and we made about 10 miles southwards, with a gradient of ice of some 250 metres and reached a bit further south than I had been on the previous day. We camped here in the evening, and immediately climbed the island where I had been on the day before to have a look round. We had in fact at this time debated whether we had not better go back, but before making up our minds, I wanted my two companions to know how the land lay, particularly as my own feeling was in favour of continueing south. I did not, however, wish to insist on doing so, preferring to come to a definite decision after having held a council of war with my comrades, when they had had an opportunity of studying the surroundings. Moreover, I had Capt. Mikkelsen's instructions to go by, and there he had written as follows: —

"The ice being more impassable than we had anticipated on the stretch we have travelled over, whilst seeming better both towards north and west, I beg you to be cautious and not advance further, than you can see your retreat clear".

After having ascended the nunatak, Henius' Nunatak, which had an altitude of 400 metres above our camping site, we got a splendid view of the interior of Dronning Louise's Land. It proved to consist of a number of nunataks and not of compact land (Fig. 80).

All the nunataks in the interior rose steeply out of the ice, and many of them were considerably higher than the one we were on the top of — thus one just east of us and one just south, of which I should estimate the latter at 300 metres higher than where we stood, i. e. about 1720 metres above the level of the sea. Towards northeast we also saw nunataks higher than our position. From the nunatak where we stood, a very conspicuous glacier or branch from the main body extended in a WNW and ESE direction, thus passing straight through Dronning Louise's Land from the west coast to the eastern side, but it must be mentioned that the glacier was broken up by greater and smaller nunataks. The outrunning of the glacier in Storstrømmen at the east coast of Dronning Louise's Land seemed to be just opposite Brede Glacier.

On all the nunataks forming the west coast of Dronning Louise's Land, the Inlandice lay close up to the west side which sloped towards it; so that it was easy to climb them from this side, whilst they were very steep on the east side of the islands, where ascent was impossible. The whole of the east side of the island on which we were standing was thus quite perpendicular.

The west coast of Dronning Louise's Land fell away from the place where we were in a S ½E direction, but the southern end of the land could not be definitely located. Moreover, we observed the Olsen's and Poulsen's nunataks in a SSW and SW by S direction, whilst also noticing that the Inlandice towards the south was continually rising. As to the snowdrifts on the ice — along the west coast there was a lot of snow on the ice — it showed that the main direction of the wind was southerly.

After having descended we decided to return and commence the homeward journey from here. Our reasons were:

"The main purpose of the expedition is Capt. MIKKELSEN's journey and safe return, which is dependent upon the following depots; at the bottom of Dove Bay, at the entrance to the same, and at Haystack. Up to the present the party has been pursued by bad luck, and has made but little progress during the 19 days since we parted from Capt. MIKKELSEN. We have still provisions for a fortnight, on somewhat reduced rations, but not sufficient for us to reach south of Dronning Louise's Land, according to the experience we have gained on the stretch already covered; as with the descent to the Inlandice in the Ardencaple Inlet it is a distance of about 210 miles and with the descent to Dove Bay also about 210 miles to the "Alabama", according to which an average day's march of 15 miles was necessary. This distance we only covered on a few occasions, and there is no prospect of our being able to keep it up, particularly when considering the prevailing conditions: bad weather, constant head wind, unknown territory and constantly inclining ice. It is true that if the descent took place at Dove Bay, we should have Capt. MIKKELSEN's depots to fall back upon, but the probability of being able to supplement the stores with others before

Fig. 81. Panorama of the east coast of Dronning Louise's Land from about 77°00′ N. Lat. to the northern end. 7/4 1910.

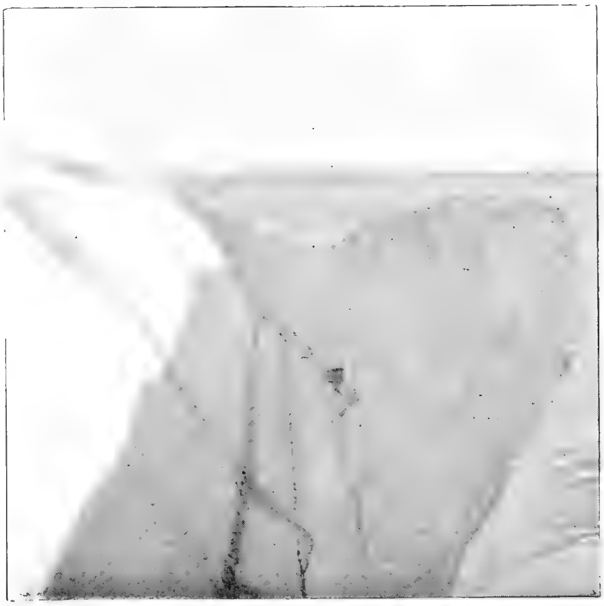

Fig. 82. A crevasse in the Inlandice showing the pressure of the ice. 1/4 1910.

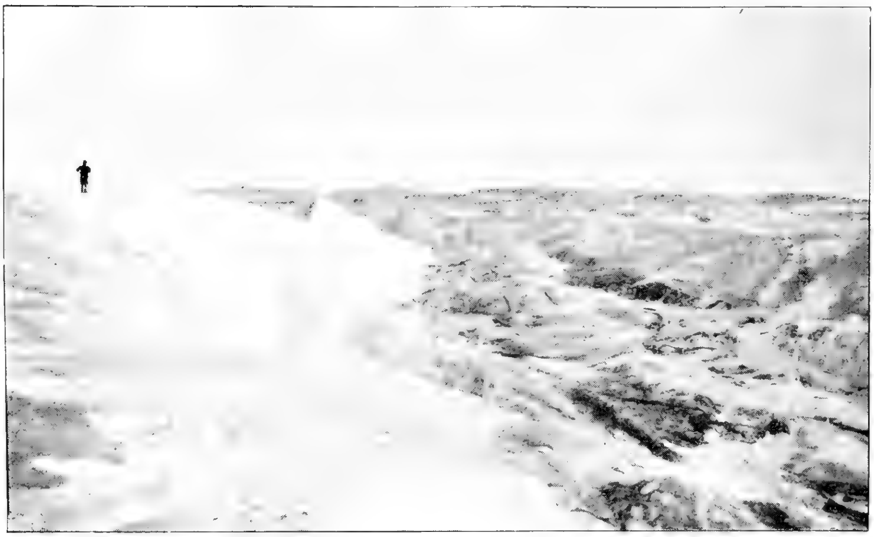

Fig. 83. A crevasse in the Inlandice. Storstrommen. 9/5 1910.

the thaw takes place, I regard as very remote, and thus the safety of his return would become questionable."

It must also be borne in mind that our party had something to do on board the "Alabama" — viz to get her ready to sail home during the latter part of the summer, and it must not be forgotten that the two men left on board were not able-bodied seamen. — At this time our party knew nothing of the fact that the "Alabama" was damaged, which, as will be remembered, happened ten days after we left the ship on March 3rd. — The following decision was then arrived at: "We were to start for the ship on April 30th, the route to be followed being that of the outward journey, but not till the exact position had been located. The date of our descent from the Inlandice will decide whether we are to continue direct towards Alabama Havn or to take our way over Danmark's Havn in order to provision, it being about 125 miles from the place of descent to "Alabama", but only about 52 miles to Danmark's Havn, and we could always reckon on getting supplies at the latter place".

After this decision had been made, our first dog "Christian" was shot to supply food for the others. On *April 30th* it was again bad weather with a quantity of snow, so that we could not observe the sun, for which reason we stayed another day in this place, having now a fairly good idea of the situation and not risking very much by staying on. It was, moreover, rather important to decide our position, and therefore we did not get away on our return journey until *May 1st* at 1 p. m.

Our progress in a northerly direction was now rather rapid as it was downhill, so that the sledge practically ran by itself, although both Olsen and Poulsen were sitting on it, while I was upon skis, but toward the end it was difficult for me to keep up, so that at 5 p. m. I took off the skis and put them on the sledge. We now drove somewhat nearer to the land and stopped at 8.30 p. m. after having covered about 15 miles with a declivity of about 450 m. We had, therefore, made our distance, but about 6 p. m. we had encountered half a gale with snow at our backs, which at last prevented our seeing even three metres ahead of us. In the bay between Cape Trekløver on Prins Axel's Nunatak and Juel-Brockdorff's Nunatak, the northernmost nunatak on the west coast, we observed several fissures in the ice, obviously caused by the pressure of the ice on the land, as the direction of the fissures was seen to run parallel with it. But they were all narrow, at the utmost about half a metre broad and easy to cross.

The storm which had increased in the course of the afternoon continued for three days with snow, so that it was impossible to see anything whatever, and we had to lie quiet. We could just see one end of the sledge when standing at the other. It would in fact have been too risky to venture out in such weather, now that we had the bad ice in front of us, and where it was necessary to select the best way.

In the afternoon of May 2nd at 6 p. m. we registered a temperature of ÷ 27° C., on the 3rd we did not record anything, but that it was extremely low is proved by the fact that one of our dogs was frozen to death that day. It was "Bajads", a small dog without ears and tail, which we had grown very fond of.

Worthy of mention is that nearly all the storms, we had during the sledge journey, were blowing when the barometer was high; and the same thing was noticed in our winter quarters, where it was also blowing with a high barometer.

On the morning of *May 4th* it was still blowing hard, but the snowfall had ceased so that the drifts were less, and we continued our journey, fortunately with the wind at our backs; had it been a head wind our progress would have been rendered impossible. It was certainly not a pleasant experience, but necessity forced us to advance. Our course now lay somewhat more to the north, as we crossed our outward course whilst still on the high Inlandice, and drove down the midway between Ymer's Nunatak and the northern extremity of Dronning Louise's Land, where we found a long snow drift extending from the wall of Suzanne Glacier, so that this was comparatively easy to descend. But we did not get through without damage, as both runners of the sledge broke in the forepart, so that it was necessary to turn the sledge and drive stern foremost. It will be obvious that this mode of progression was no easy matter, as the runners were constantly embedded in the snow, caused by the lack of the usual curve. When we camped in the evening my skis were put under the sledge as runners, but this also was a matter of some difficulty, as the fittings of the old runners had first to be screwed on to the skis, which afterwards were lashed on to the sledge. But once more everything was all right, and we were able to resume our journey on the morning of the *5th.*

We had, however, still another disaster on that day, due entirely to my own want of foresight. I had put the Primus apparatus too close to the canvas, and whilst I was taking the provisions out, the tent caught fire, and a hole was burnt in it, about half a metre square. I succeeded in making the damage good, but it cost me about an hour's extra work, after the others had turned in.

On the *6th* we reached the depot arranged for Capt. Mikkelsen at 77°10′ N. Lat. off the east coast of Dronning Louise's Land on Storstrømmen, where we were obliged to take three days' food for the dogs, viz 12 pemmican cakes. We notified this and also particulars of our journey to Capt. Mikkelsen in a letter, which we left for him at the depot.

We spent four more days on the Inlandice (Fig. 81 and Fig. 82), but although we were not strangers to the district, there were many difficulties to be encountered, as the sledge had now to be driven with great care over the very troublesome ice encountered here, it being full of

Fig. 84. A crevasse in the Inlandice. Storstrommen. $^{10}/_{5}$ 1910.

Fig. 85. The sledge on the Inlandice. $^{10}/_{5}$ 1910.

Fig. 86. The bottom of Dove Bay near to Brede Glacier, seen from the south-western end of Germania Land (later-on called »Cape Stop« by Capt. Koch). 11/5 1910.

clefts and crevasses (Fig. 83 and 84). The sledge was now extremely ricketty and could not very well stand the many crevasses and irregularities. The uprights were bent like an S, three of them were broken, and as a climax to our troubles POULSEN became snow-blind, so that he was in total darkness the last three days on the Inlandice. In the morning when we started he was placed by the side of the sledge, and he only had to hold on and keep up with it (Fig. 85). OLSEN and I, who were in the traces, gave him timely warning whenever we were coming to uneven ground, but it often happened, that we omitted to do so, or thought that the ice was in such a condition that it was not necessary. A moment after we were brought up standing by a shout from POULSEN and a jerk on the sledge, and each time he had stumbled over an irregularity in the ground. OLSEN also suffered from that affliction — which is so painful and troublesome in the Polar regions, — but fortunately not until the last day before we returned to "Alabama", so that he was able to sit in the dark in our hut and rest his eyes, thus getting over the trouble easily.

On *May 10th* at 2 p. m. we were again down on the sea-ice in the fjord outside Brede Glacier. The appearance of the glacier was somewhat changed, as just round our place of descent and likewise where we ascended, part of the glacier had fallen down, and for the space of the last kilometre along the edge of the glacier several small currents had formed, where we heard the rippling of water which at last fell out over the glacier. It was a curious feeling now after forty-eight days' march up on the Inlandice to find one self again down on the fjord-ice. The difference was clearly apparent in the very loose snow on the ice, and in many places there was water on it, but otherwise it was a great relief to be able to rest the eye on the black hilltops of Germania Land, as a contrast to eternally seeing the dazzling white of the Inlandice. At 9 p. m. we pitched our tent at a point at the southern end of Germania Land (Fig. 86)[1]. Here we decided to sledge to Danmark's Havn, as we could see that we should not be able to make "Alabama" with the remaining provisions, so we laid our route northwards in between the small islands in the bottom of Dove Bay (Fig. 87) and then to the south of Red Island and the southern Orientering's Island towards Cape Helgoland. There is nothing special to report about this part of the tour; we arrived on *May 14th* shortly after noon at Danmark's Havn after having completely run out of provisions. The cause of our being delayed was the very soft and deep snow, so that we sank into it up to our calves at each step, besides which we lost our way in the fog, which lasted the whole day and night of the 13th, and we reached Koldewey Island well south of Cape Helgoland, whereby the journey was considerably prolonged.

[1] Later on by Capt. KOCH, when he came there in the autumn 1912, called Cape Stop.

We remained two days at Danmark's Havn to recover our strength and to provision, and then journeyed south towards Shannon Island on the afternoon of the *16th*, with a week's supplies and after having left a letter for anyone who might come to the depot or for Capt. MIKKELSEN, who was the most likely person to arrive there. Fortunately we had got skis at Danmark's Havn, which were of great assistance to us now in the soft snow which extended over the whole of Dove Bay, from Cape Helgoland right up to the north coast of Bessel Bay. On the same stretch we encountered a number of fissures in the ice running from east to west and which in some instances stretched from Koldewey Island right away to the mainland, but the majority were narrow, up to about a metre in width. Only two of the fissures were very broad, over four metres at the place of crossing, and they caused us a lot of trouble to get over, as we had to go nearly up to the mainland in order to pass.

At one of these fissures POULSEN had the ill-luck to fall into the water when attempting to cross over, a very unpleasant plight, but fortunately without any serious consequences.

On the morning of *May 21st* we reached the depot at Haystack. From Danmark's Havn we had sledged by night, partly on account of the heat and also to avoid having the sun in our eyes during the journey southwards. From Haystack we again encountered hard ice, but the old trail from the autumn was still there right down to Shannon Island and caused us a lot of trouble, the snow having become much softer and looser, and on this stretch we had besides to carry two of the dogs, "Gamle" and "Tandbylden", both of them being quite played out, but being so near home, we wished to get them back to "Alabama". These two dogs, however, never got over the hardships of the sledge trip.

On *May 23rd* at 1 p. m. we got back to the winter quarters and here found the "Alabama" in a damaged condition (Fig. 88), whilst our two comrades Lieutenant JØRGENSEN and UNGER, the carpenter, had fitted up a tent ashore.

Remarks concerning the Inlandice at Suzanne Glacier.

Respecting the curious appearance of the Inlandice at the northern end of Dronning Louise's Land, I shall describe it more closely, but with the reservation that I do not make any deductions from it, not being competent to do so, but I shall draw attention to Capt. KOCH and Dr. WEGENER's description of the character of land and ice at Ymer's Nunatak, which according to my opinion coincides exactly with the experiences we had.

The description in question is to be found in the "Meddelelser om Grønland XLVI, No. 1": "Die glaciologischen Beobachtungen der Danmark-Expedition von J. P. Koch und A. Wegener" p. 30 under the section "Die Schlittenreise vom Anneksø nach Ymers Nunatak".

Fig. 87. Sledging in Dove Bay for Danmark's Havn. $^{11}/_{5}$ 1910.

Fig. 88. »Alabama« at our return. $^{29}/_{5}$ 1910.

Fig. 89. North-western point of the Shannon Island North Bay. 31/10 1909.

Fig. 90. North-western point of the Shannon Island North Bay. 2/6 1910.

The belt of stone and rubble which we came across about 7 miles east of the high Inlandice, beginning at Suzanne Glacier, must have been a continuation of the horseshoe-shaped moraine formation mentioned by WEGENER and KOCH, because — judging from Fig. 46 in the description — it runs off in a southeasterly direction towards Cape Bellevue, and this coincides exactly with the direction of the belt we came across, as it went towards Cape Bellevue, the chief direction being nearly NNW—SSE (true). The ice, where the tent was erected sloped towards the west, and had done so for about two miles before we reached the tentplace; further for about a mile to the west of the tent place the ice sloped, whereafter it retained the same height farther towards the west, but was yet full of small hills and valleys, which straight up to Suzanne Glacier assumed the character of the crevasses previously mentioned.

As regards the situation of the two lakes, I must refer to the sketch (see Fig. 71). The route followed by the sledge is shown by a dotted line representing the way down over the lakes. At the point *a* the ice became very uneven and full of small crevices (see Fig. 72) with direction north and south. The sides of the crevices were quite smooth and polished, seeming to suggest that they were old river-beds from the last thaw and perhaps the result of several thaws, the lakes thus being the natural receptacle for the water flowing in this vicinity.

The height of the Inlandice itself above the lake A at the point *b* was about 10 to 12 metres, sloping at an angle of 45°. On the east side of the lake the land rose straight up to such an altitude, that it went right over to the Inlandice at the point *c*.

The south side of the lake was bounded by the arm of the island extending to the west, which at this spot was quite low, and on this arm we found a few bits of grass and moss. The tongue or arm of land stretched to about 20 metres from the wall of the glacier, which bordered the west side of the lake. The glacier wall rose vertically to an altitude of about 30 metres above the level of Lake A.

On the glacier wall itself the land projected visibly at several points (see Fig.73), a fact which strongly suggests that Dronning Louise's Land is connected with Ymer's nunatak by a range of hills hidden at some points by ice, and this would also appear to explain the existence of the glacier wall. It is true that the land did not project through the ice on the whole stretch between Dronning Louise's Land and Ymer's Nunatak, which was clearly shown on our return journey, as the route went just between the said nunataks (Dronning Louise's Land and Ymer's Nunatak); but on the other hand no borings were made in the ice which might have demonstrated the presence of the land. Another reason from which I draw this conclusion is that the appearance of the surface of the ice, especially just between Dronning Louise's Land and Ymer's Nunatak and to the west of this place, was like that of the ice which joined the west coast of Dronning Louise's Land — a very slightly ascending, almost even surface, followed by the sharp declivity on the eastern side of the numerous nunataks. On the west coast of Dronning Louise's Land the ground certainly projected at the top, and the height here on the west coast was greater than towards the east coast of the land at Storstrømmen.

From Lake A ran a narrow passage — which was now partly filled with snow and excellent for sledging purposes — along by the glacier wall, thus being bordered by it on the western side, whilst the east side was formed by the isthmus of the island between the two lakes, rising to a height of about 50 metres, so that Lake B, where we came down through the passage, lay about 50 metres lower than Lake A. At the same time the upper edge of the glacier sloped in a southerly direction down to Dronning Louise's Land, in such a way that the height of the glacier right in at Dronning Louise's Land was about 50 metres, of which about 25 to 30 metres was a perfectly steep wall. I have previously mentioned the appearance of the lake, and its position is clearly shown on the sketch.

With reference to the prolific fauna stated by the Danmark-Expedition as existing at Dronning Louise's Land, I can only say that our party up to now throughout the journey had not observed a single trace of animal life, neither lemmings, snowhares, ptarmigans or snowsbuntings, but the reason is perhaps to be found in the fact, that we were at Dronning Louise's Land at an earlier period of the year than when the party from the Danmark-Expedition were there.

The meteorological conditions have been treated elsewhere, and I shall not touch on them more closely, but simply emphasize the fact which we observed at Dronning Louise's Land, viz that the wind blew round the country in a right hand direction and always with great velocity, irrespective of the fact whether it succeeded snow or fine weather, it thus being nearly always windy on the stretch of country we covered.

It was partly blowing gales on about 75 % of the 48 days we spent on the Inlandice.

Extract from Lieutenant Jørgensen's diary, chiefly with respect to the wreck of the "Alabama".

The period covered is from the 3rd of March to the 22nd of May. The two men on board — Lieut. Jørgensen and Unger — spent the first few days mainly in clearing up after the departure of the sledging parties. As early as March 8th they noticed that the "Alabama" was making water in the space beneath the forecastle, there being about 35 cm of water above the keelson, but they baled it out the same day. In the hold itself no water was observed.

Again on the 12th they noticed that the water had risen considerably. In the hold it had increased 15 cm in the course of the last forty-eight hours, and now covered the coals. In the space beneath the forecastle it had risen to about 40 cm above the keelson. Aft in the engine room no water was to be observed.

Unger went to work at once to bale out — the pumps could not be used — but he only succeeded in just keeping the water at the same level.

Next day the water had increased considerably. In the hold it was 41 cm higher than on the 12th, and in the space beneath the forecastle it was only 5 cm under the floor. Jørgensen then came to the conclusion that baling was of no avail, as the water rose quicker than baling was possible, so Unger then went to work to remove as much provisions and other things as possible on to the deck, where they remained safe for the time being. His efforts merit commendation, all the more as his work was done in a snowstorm with a force of 7 (Beaufort's scale).

On the 14th the water rose further, so that the two men were compelled to move aft into the cabin, where the water had also begun to rise, but not as yet above the floor. On the subsequent days until the 17th the water rose still higher, so that on the date in question it was 6 cm under some cross beams in the hold, which were placed about 60 cm under the deck.

In the engine room the water was up to the floor, but had not yet reached the cabin floor. On the same day it was noticed that the ship had a bulge amidships and that an iron side girder was bent, whilst the stern had risen about $^3/_4$ metre above the ice.

On the 18th Unger again tried baling, but in vain, the water coming in as quickly, as he got it out. Next day it rose very much in the engine room, about 30 cm, and Jørgensen and Unger came to the conclusion that they would very speedily have to make tracks for land, as the water was rising day by day in the engine room, thus approaching the floor of the cabin. In the hold the water reached up to the under side of the aforesaid beams. Unger set to work to put up a canvas house on shore, consisting of a wooden frame, for which he used loose beams brought with us from Copenhagen, and covered it with the sails. The house was spacious enough to accommodate the whole seven of us. The work was, however, greatly delayed by bad weather (snowstorms) so that JØRGENSEN and UNGER could not move ashore until the 26th of March, but at this time there was much water in the cabin, about 20 cm above the floor. The last three days they had occupied the cabin, the water was over the floor. In April the two men endeavoured to pump the ship, as they had managed to get one of the pumps free and thawed out, but again the result was nil, as the water rose constantly, and when my sledging party returned, the ship was lying with a list to starboard and with the deck aft from almost up to the edge of the main hold under water.

Respecting the actual wreck, particulars have been given elsewhere, so I shall not allude to it, except to express my admiration and recognition of the splendid services rendered by my two comrades on board under the trying circumstances, and this the more when the fact is borne in mind that Lieutenant JØRGENSEN was ill, but this he kept in the background and worked on deck himself. It should be mentioned that when the sledging party left the ship on March 3rd, he was still in bed on account of his frostbitten feet.

Until my party returned, our two comrades were busy every day saving as much provisions and other things as possible from the wreck, whilst in nowise neglecting to take the necessary meteorological observations.

The period from 23rd of May until arrival at Aalesund.

On my return to "Alabama", May 23rd 1910, from the great sledging tour we found, as previously mentioned, that the "Alabama" was wrecked, which disaster had happened on the 13th of March, ten days after the departure on the great sledging tour.

Lieutenant JØRGENSEN and UNGER had both moved ashore into a tent which they had built on the shore out of the sails. The day of our arrival we simply ate, drank coffee and rested, and not until the following day did I make a start with my survey of the "Alabama", the result being that we decided to save as much of the timber as possible, so that we could build a house ashore. In order to fully explain the condition in which the ship was, when I returned to the winter quarters, I subjoin a report of the reasons which induced us to condemn the "Alabama".

"Alabama"'s winter quarters,
Shannon Island, May 27, 1910.

Report concerning the condemnation of the expedition ship "Alabama".

The following explains our reasons for condemning the "Alabama".

As the ship on the 17th of Aug. 1909 struck the ice, she received some serious bumps, and after the last of them her mast got a severe shock; she was again jammed in the ice between two heavy floes the foot of one of which was under the keel. She lay between these floes in a heavy swell until the morning of the18th, when the ice slackened, and the only damage noticeable from on board was that the rudder stem was strained, but we were able to repair it. The pumps were sounded all through the night, and the water did not appear to rise more than usual.

On our further passage through the ice, until we reached land, the ship was, moreover, exposed to some pressure, the total effect being that she was completely wedged in and lifted upon the ice. Through the pressure the stern shaft and the rudder were damaged, the latter for the second time, but although when we got into our winter quarters, no damage could be observed to the ship herself, it is the unanimous opinion, that she had suffered a lot by the heavy passage through the ice. Shortly after our arrival at Shannon Island, she began to leak more than usual, but this was reduced after a couple of days. This took place, however, before we were ice-bound.

It should here be stated that the ship in the course of the winter had come close up to the tidal cracks, as the latter had gradually moved further out, and may have caused some damage to the ship.

During the winter of 1909—1910 violent shocks were observed, but up to the end of January the water did not show any signs of rising, but was maintained steadily at about 5 cm under the upper edge of the keel. But on Jan. 28th 1910 it was observed that the deck under the forecastle had sunk, and when we proceeded to strengthen it, we discovered that there was a lot of water in the hold under the forecastle and also under the pump well. We immediately got the buckets to work and baled out the water from the whole ship. On Feb. 12th 1910 water again appeared in the hold, and we got rid of it in a similar manner.

On the departure of the two sledging parties on 3rd of March 1910 there was again a lot of water in the ship, but it was baled out four days afterwards and again on the 12th of March. But after this last baling out, the water in the ship again rose rapidly and forced Lieutenant Jørgensen and Unger, to abandon the ship and move ashore, which they did on March 26th. Before they left, however, they had moved aft into the cabin on the 14th of March, the water at this time not having reached the cabin. Until the return of the second sledge party, attempts were constantly made to bale out the vessel, but with two men, one of whom was just recovering from an illness, no result was arrived at, and the ship continued to sink day by day.

On the 25th of May another attempt was made to bale her out with both pumps working; four hands took turns at pumping and made the water in the ship sink 65 cm. At this time the pumps had been worked for three hours. Two men now stayed at the pumps, whilst the other two brought seven barrels of flour and some coal — which had been under water and were still partially so — out of the hold.

But it soon appeared that two men could not keep the water in check. After an hour and a half it had increased 8 cm and rose still further, as soon as the pumping stopped, 25 cm in the course of half an hour. An hour later we again took soundings, and the water level was then the same as when the pumping began. It was, therefore, obvious that two men constantly working the pumps were unable to keep the vessel dry.

We cannot decide where the leak is, but what we can assert is the following:

1) The mast had sunk 13 cm and therefore the keel or keelson must have been broken, presumably during her passage through the ice.
2) On her port side about one metre and a quarter abaft the mast she has got a dent, so that both her side and the inside iron stringer are strained, and the deck planks have parted and gape about 2 cm on a length of about 2 metres.
3) Through her heeling over to starboard the bow has become so strained that the side planks from two planks under the upper side of the ice sheathing and up to the upper side of the railing has sprung from the bow and gapes about 2 cm.
4) Moreover she has probably sprung a leak at the stern tube, the result of the damage caused to the rudder and propeller shaft during her passage through the ice.

The ship is still carried by the ice, but she is down so much by the stern and has heeled over so that the deck by the starboard railing is under water. The heavy weight aft (the motor) is probably the cause of the ice being pressed down and resting on the bottom. Astern at low water when she lay in her winter quarters there was about $3^1/_2$ m of water. As soon as the ice breaks up, it is to be presumed that the vessel will sink entirely. As the locality of the winter quarters is not favourable for hauling her ashore, and as the expedition does not possess suitable tackle for raising and subsequently repairing her, we regard it as more practicable, as long as she is kept up by the ice, to take sufficient timber from her to build a house ashore in case of our being forced to pass another winter here.

Captain MIKKELSEN not being present, I have consulted the other members of the expedition respecting the measures to be adopted as regards the ship, and they have drawn up the following.

(Signed) Wilhelm Laub.

The undersigned hereby certify that they are cognisant of the contents of the foregoing and that we are not able at present nor shall we be able with the appliances at our disposal to put the "Alabama" into a seaworthy condition, and we, therefore, regard it as most feasible, in view of possibly passing another winter here, to take so much timber from the ship as will enable us to build a house ashore.

(Sig.) C. H. Jørgensen. Hans P. Olsen.
Georg Poulsen. C. Unger.

We immediately started to save the timber from the ship, whilst also making preparations for another sledging trip.

Before Captain Mikkelsen and I started off simultaneously from the "Alabama" on March 3rd, I had been requested by him on my return to the winter quarters to draw up a report for the Committee and place a copy of same in the depot at Bass Rock and in the depot at the SE point of Shannon, Cape Philip Broke. Also I was to try to reach the Tyrolfjord, especially to investigate this and Clavering Island, lying in the fjord. Lieutenant Jørgensen was to undertake this tour, if his feet were so much better that he could stand the hardships of a sledge trip. But although, when I got back, he was out of bed and could walk about, he was still not well enough to stand the trip, and I made up my mind to undertake it myself, choosing as companion Unger, who had not been away for some time. Moreover, we were enjoined to lay down a depot for Capt. Mikkelsen on the mainland at Hochstetter Forland in a spot lying true west of the NW point of Shannon Island, this depot being intended to supplement those laid down in the spring along the east coast to the north.

On account of the disaster which had happened to the "Alabama" I had, moreover, resolved to place in the aforesaid depots, besides the official reports, open letters for any travellers who might perchance come, so that they might become aware of the condition of the "Alabama", and we might thereby get a chance of being taken home.

I was loth to return without having any news from Capt. Mikkelsen, but as matters stood and according to the instructions of the Committee § 4, together with the orders given to me by Capt. Mikkelsen to return after August 1st, if he had not by that time returned to the winter quarters, I considered it the right thing for us five members of the expedition to get back, should opportunity offer. In Capt. Mikkelsen's orders to me he states that if the ice conditions are good, I am to wait until August 15th, but not without having consulted the other members of the expedition. Also I was guided by the thought that Capt.

MIKKELSEN and IVERSEN were not very likely to return along the east coast of Greenland, but after leaving Danmark's Fjord would continue in a westerly direction to Independence Bay and Peary Channel to Cape York on the west coast of Greenland; my two companions from the sledge trip OLSEN and POULSEN shared my opinion, especially after the conversation we had on the morning of April 10th 1910, when we separated on the Inlandice, in the course of which conversation Capt. MIKKELSEN spoke very definitely about going the whole way round, and he asked me expressly whether I thought I could manage with the four men left and myself to get the "Alabama" out of the ice in the autumn and then home.

Also as far as Lieutenant JØRGENSEN's illness was concerned, I considered it prudent to try to get the expedition home that year, all the more as, in the event of having to winter again, we should suffer much from want of good clothes.

With regard to provisions we could have managed to winter, mainly with the help of the American depots on Shannon Island and Bass Rock.

But I thought that Capt. MIKKELSEN and IVERSEN would have been helped most efficiently by our returning home, should occasion offer, instead of our remaining in the winter quarters and awaiting their arrival there, as in that case we should be short of provisions, when we had seven mouths to fill instead of two. I could not count upon shooting any game, as this from our arrival up to the present had proved to be exceptionally scarce.

Therefore the days, until I went on my last sledging tour, were spent by me in getting the report ready, whilst the others saved as much tackle etc. and also timber and fuel from the "Alabama", which would be of great advantage to us, should we winter again in that place, as we should otherwise run out of fuel.

On *June 1st* in the evening we started with sufficient provisions and petrol to enable us to reach Bass Rock, not taking the direct course, but north of Shannon Island (Fig. 89 and 90) and across to the main land at Hochshetter Forland, in order to lay down Capt. MIKKELSEN's depot reckoned to be sufficient for two men and three dogs for six days.

Provisions for the men.

Pemmican	3.6	kilo
Butter	2.5	-
Biscuits	3.6	-
Chocolate	1.3	-
Pea sausage	0.75	-
Vegetables	0.37	-
Sugar	0.30	-
Tea	0.05	-
Salt	0.10	-

Fig. 91. A depot laid down for Capt. Mikkelsen on Hochstetter Foreland. $^{3}/_{8}$ 1910.

Fig. 92. The tent and the house in Alabama Havn. $^{30}/_{7}$ 1910.

Fig. 93. »7de Juni« arrives at the Shannon Depot. Pendulum and Sabine Islands are seen behind. $^{27}/_{7}$ 1910.

Fig. 94. Passing a river on our way to »7de Juni«. $^{2}/_{8}$ 1910.

Petrol in a keg 3.53 kilo, dog food 15 kilo and finally a kayak with two oars. The latter was brought along so as to ensure Capt. Mikkelsen's crossing to Shannon Island from the mainland, as at the time they would be returning, there was every chance of the ice having broken up.

We took our last three dogs with us on this tour, but they were not of much use in pulling, as they had not yet fully recovered from the hardships of the spring tour.

On *June 3rd* in the morning we reached the spot on the mainland where the depot was to be laid down, and after all this had been arranged, we proceeded south (Fig. 68 and 91).

But this did not take place until the evening of *the 4th*, we having been doomed to enforced idleness on account of a snowstorm. Besides our stay here was also prolonged on account of the investigation we made of the country, chiefly with reference to hunting possibilities, but we found no trace of animal life.

Our course was shaped straight for the SW point of Shannon Island and thence direct to Bass Rock. The going was generally good, most of the ice in the strait between the mainland and Shannon Island being free of snow, but a strong NE wind with snow made it difficult for us to see the way in front of us, so that we had to make many a detour in order to cross the fissures, which became more and more frequent the nearer we got to Freeden Bay.

Not until *June 7th* in the evening did we reach the depot at Bass Rock; a snowstorm in Freeden Bay had delayed us about thirty hours, but on account of the numerous fissures and the open water quite near our route it was impossible to get through during the storm.

At the depot we found the mail from the Danmark-Expedition, placed there in the autumn of 1906, together with an open letter to the finder of same, which mail our expedition brought home.

Moreover, the depot turned out to be well supplied with articles of food, so that in this respect we were all right for the coming winter; the only thing, of which there was a scarcity, was fuel, which we had anticipated to find there. All the food was counted and booked.

Furthermore we came across a communication from Mr. Oliver V. Hassig, who in 1905 on board the Norwegian vessel "Magdalene" visited the depot to see if everything was in order, which he states to be the case in his report, with the exception of the petrol which had leaked out of the barrels. Mr. Hassig represented "the late Mr. Wm Ziegler, the U. S. Weather Bureau and the National Geographical Society of Washington".

As soon as the counting was done, I went up to the top of Bass Rock, which is about 150 metres high, in order to investigate the ice conditions, which from the foot of the rock did not look very favourable to our further progress towards south, as the open water reached within 200 metres off Bass Rock, and besides the ice did not appear to extend further south (see Fig. 68).

Furthermore, it had appeared in the course of the winter, as I have stated elsewhere, that around Bass Rock and both north and south of it, there was much open water, and this was stated also in the ice reports of several years, so that we felt quite convinced that any advance over the sea ice would be difficult so late in the year.

On the *9th of June* I wrote in my diary, after having been up to the top of Bass Rock:

"The ice has broken up right up to the SE point of Pendulum Island, and it looks as if it had also done so farther towards the west. If this is a fact, the plan of endeavouring to make Clavering Island must be relinquished, as I do not consider it feasible to go to the main land and try to reach Clavering Island over land, as this would take too much time. The house at the winter quarters *must* also be built, and this before the 15th of July, if there should be a chance of getting home by ship this year, so that MIKKELSEN and IVERSEN may have something to live in, should they come this way; and this I regard as the principal thing, while Clavering Island and with it the survey of the Tyrolerfjord must come second. Thus if there is ice south of Pendulum Island to justify me in thinking that I can be back at the ship by 1st of July, I will try to go there, but it will be only with a week's supply of petrol and without a kayak, as I have presumed, that there was both petrol and kayaks here, just as at the Shannon depot. It had all the time been my intention from the time I started from the "Alabama" to take a kayak with me to the mouth of the Tyrolerfjord in order to be able to undertake the return journey, if the ice had broken up, when I came out of the Tyrolerfjord".

There was a boat at Bass Rock, or rather a skeleton of a boat, as the canvas which should have served as a sheathing for the boat had rotted completely, so that she was absolutely useless.

During the night between *10th* and *11th of June* we proceeded on our journey south and made the southern end of Pendulum Island, where our progress was stopped by perfectly open water, which apparently extended right away to the Tyrolerfjord, only broken by a very small belt of drift ice. We observed this both from the ice down below and when we were up on the hills of Pendulum Island. Here we also found something of the game we had so long looked for, as we came across a lot of hares.

As regards the ice conditions at Pendulum and Sabine Islands my view was absolutely confirmed by the crew of the "7de Juni", from which two men, a week after I had left Bass Rock, rowed round to the depot from their winter quarters at Germania Havn.

Another "tip" which I got from the captain of the "7de Juni" was that it was impossible to sail round Clavering Island, it being joined to the main land by a very low isthmus on its northeastern side, but one can go over the isthmus in a yawl at high tide.

We returned to Bass Rock the same night, and continued our journey northwards to the Shannon depot on the following night. At both of these places we left reports for our committee in Copenhagen, besides the subjoined open letter, written in English. It ran thus:

$^{11}/_{6}$ 1910 Bass Rock.

To whom it may concern:

Any person calling at this depot is requested to bring this letter home with him and forward it to its destination. He is also requested to get into touch with the members of the "Alabama Expedition" who, having lost their ship, are at their winter quarters and desire, if possible, to return home with you. The "Alabama" went down in March this year.

(sign.) W. Laub.
Second in command.

On *Wednesday the 15th of June* at 8 p. m. we were back at Alabama Havn without having encountered anything worth mentioning. But we noticed a considerable difference in the ice during the fortnight we had been away, it now being very heavy going for the sledge, whilst in many places it was full of fissures and open lakes, so that it took us double the time to cross Frozen Bay.

The three men remaining by the ship had spent their time in getting as much material as possible ashore from the "Alabama", so that on June 21st Unger was able to start building the house, in which there was provided proper sleeping accommodation for all the seven men. At the same time two of our party were always on the prowl after game, and although the result cannot be regarded as brilliant we now and then got some hares and lapwings, but we saw no traces of musk ox. They were not seen by us until the 26th of July, when I myself came across a herd of seven animals consisting of six fully grown and one calf. This was during my stay at the Shannon depot, when I went out for the purpose of getting hold of a couple of hares, and had therefore taken only a few ordinary cartridges with me, which were of no use whatever against big game, so that I had to return with my errand unaccomplished.

We saw nothing whatever of these animals during the last days we spent on Shannon Island, but there must have been a number of them about, as Capt. Mikkelsen and Iversen during the two years they spent on the island shot a lot of them.

The time when there was a possibility of a vessel coming in to one of the depots was now approaching, and I considered it advisable to have two men stationed at the Shannon depot. Should a ship touch at Bass Rock I felt sure that she, after having found the open letter deposited there, would go north to the Shannon depot to investigate whether there were any further particulars there. Lieutenant Jørgen-

SEN who had been up and walked about on his sore feet the last fortnight wanted to go for a trip, and thought he could stand the journey to the depot where they were to stay, and where he could have his feet properly attended to.

On the 27th of June he and POULSEN started for the depot with instructions to remain until they were relieved, which would take place as soon as the house was finished.

The three of us who stayed behind worked very hard at building the house, which was ultimately finished on July 11th, so that we were able to move into it. It was high time, as we had now foggy, rainy weather which very quickly penetrated the tent we had hitherto lived in (Fig. 92).

Two days later OLSEN and UNGER received instructions to proceed to the Shannon depot to relieve JØRGENSEN and POULSEN. They also got off all right early in the morning of July 13th, and they hoped to get through in about ten hours.

But they found difficult conditions when trying to cross Frozen Bay and returned to our quarters in the evening of the same day. As OLSEN had strained a muscle, UNGER and I went southwards the next day to the depot, which we reached after fourteen hours' continuous marching. The going had been rendered unusually difficult through the thaw, so that over the ice we had constantly to wade up to our knees in water, and over land we waded over three miles of swamp.

JØRGENSEN and POULSEN had no experiences to relate from the depot, nor had they seen any ship. So they returned the next day, but we retained our three dogs and the sledge, estimating that in case a ship should come, we should be better able to return quickly to the winter quarters with the sledge than without it.

The ice, which during JØRGENSEN's and POULSEN's stay at the depot had lain firmly out from the land at about half a mile off, and over the whole of Freeden Bay as well as over the strait between Shannon and Pendulum Islands (see Fig. 68) broke up completely on July 18th, so that the open water came right up to the land, and at the same time far into the bay between Shannon and Pendulum Islands.

We passed our time down here by keeping a look-out and going after game, on land as well as on sea, and we used for the latter sport a canvas kayak lying at the depot, similar to the one which was placed on the mainland for the use of Capt. MIKKELSEN and IVERSEN. It turned out to be an excellent craft, and had good carrying powers.

On *July 27th* at 11 a. m. the galeas "7de Juni" of Aalesund, Capt. W. LANDMARK, sailed up to the depot, after having found the open letter and report we had left at Bass Rock (Fig. 93). The "7de Juni" had wintered at Germania Havn on Sabine Island, in order to hunt bears and foxes, but they had met with no success. Captain LAND-

MARK had come to Bass Rock in search of provisions, a week after UNGER and I had been there in June. At this time the crew of the "7de Juni", originally consisting of six hands, had been considerably reduced, one man having died in March, whilst two others were down with scurvy. He therefore resolved, as soon as the ice broke up, to try to get to Shannon Island with his ship, so as to get into touch with us, to whom he would thus bring assistance, whilst in return getting a crew for his ship.

Before the "7de Juni" went north to Shannon Island from Sabine Island, she had on the 21st of July been down to Clavering Island, and there she had fallen in with the Norwegian three-masted steam schooner "Laura" of Tromsø, which ship heard of our plight from Capt. LANDMARK, and her captain then had decided to try to reach us, sailing at once northward to Shannon Island, which, however, they did not reach.

The "7de Juni" remained some days longer at Clavering Island to load skins and provisions, and afterwards they went north, being helped by the land water, so that they made Bass Rock early in the morning of 27th of July. On their arrival they observed that no one had called at the depot since their previous visit on June 20th, so they sailed further on in a northerly direction to the Shannon depot, which they made after a four hours' sail in open water.

An arrangement was subsequently made with Capt. LANDMARK to take us home, according to which we were to make ourselves useful on board; only Lieutenant JØRGENSEN was to be exempted from duty, as he had not yet quite recovered. I clearly pointed out to Capt. LANDMARK that I could not promise him any remuneration whatever or any compensation, not knowing what attitude the committee would adopt in the matter. He generously replied that, as far as he was concerned, no reward would be expected, he being only too happy to assist, whilst he also obtained some hands to work the ship.

Moreover he undertook to remain a week at the Shannon depot, — unless the ice conditions compelled him to go away earlier. This arrangement was made, because I was not in a position to inform him definitely, as to how long it would take for us to send a message to our winter quarters. To get through with a ship along the east coast of Shannon Island to our winter quarters was impossible at that period on account of the thick, heavy ice. Capt. LANDMARK and I had thought of trying to do so, as we could thus take a much larger quantity of our possessions home, but we had to abandon the idea again, after we had reconnoitred along the east coast to find out the chances of successful navigation.

On the same evening — July 27th — UNGER and I then sledged away to our winter quarters, in order to bring the news to our three comrades there. In spite of the sledge being empty, it took us twenty-five hours to make the journey, including a six hours' rest, but still the sledge was of material assistance to us, as without it we could never have crossed the numberless fissures, which were the result of the progressing thaw; it was also of great use to us in the deep, soft snow.

In addition our progress was greatly hampered by fog; thus at Frozen Bay we went about four miles out of our way to our destination, which was ultimately reached on the evening of the 28th.

Whilst UNGER and I were away at the depot, JØRGENSEN, OLSEN and POULSEN had got the house quite shipshape with a rubble banking surrounding it, so that it should not be capsized by the wind, and to make it tight and snug they had lined the four walls outside with roofing felt. All provisions, clothing and goods were afterwards stowed away in the two houses, and there we left a list of the things and two reports about the work of the expedition addressed to Capt. MIKKELSEN or the committee, should the former not return. If strangers called at our former quarters, they would be able to bring the reports home with them.

As luck would have it, however, these reports were never found by Capt. MIKKELSEN, so that until he called at the Shannon depot in 1911 he was ignorant of our fate. The reason was that our skill as tilers was not very great, and so the zinc plates which we had laid over the roof in order to make it water-tight, had been carried away by a storm before Capt. MIKKELSEN's arrival, so that the house was full of snow, and when our two friends cleared it away, they most likely shovelled away the reports at the same time.

As I have said before, Capt. MIKKELSEN had enjoined upon me under no circumstances to leave before Aug. 1st and preferably not before the fifteenth, this latter, however, only after consultation with all the members of the expedition.

Moreover, if we actually left, to try to take the "Alabama" north to one of the depots, on the off-chance of there being any news for us from MIKKELSEN.

Circumstances, however, had materially changed, since I had received my written instructions in February 1910. I was loth to get away prior to the appointed time and now dragged the time of our departure out by all possible expedients which suggested themselves to my fertile imagination, but we finally departed twelve hours before the time arranged, getting away at 12 noon on *31st July.*

At the same time I left a letter for Capt. MIKKELSEN, requesting him, in case he arrived within the next few days, to go to the Shannon depot with all possible speed.

The "Alabama" had set considerably during my absence from the harbour, but the ice, which had not yet melted under her stern, still bore her up, so that she was just afloat with her bow above the surface.

The going was very bad, so it took us about thirty-six hours to reach the Shannon depot and this despite the fact that we had scarcely any "traps" with us. Only the clothes which we should want aboard the "7de Juni" were taken, also the diaries, our journal with particulars of our experiences during the winter, photographic plates and the ship's papers. Everything else, instruments, photographic apparatus, chronometer etc. were left behind in the house.

We had a sledge with us, but we had to leave it behind at the bottom of Freeden Bay, as it was impossible for us in the fog to get it on to the ice, on account of the many tidal cracks, and we were thus obliged to walk about ten miles overland down to the depot, where we arrived in the evening of August 1st, and found the "7de Juni" still at the edge of the ice.

The next day, when the weather had cleared, four of us (Jørgensen was in bed, his feet having caused him much discomfort on the trip, so that he had to lie up) fetched the sledge from the bottom of Freeden Bay, but it still continued to be very difficult for us to get out on the sea ice, and not until we had been into the water all of us, did we succeed in getting it over, as some of the cracks were so wide that we had to jump in order to get over and then throw the contents and the dogs over the cracks, finally letting the sledge float across by itself (Fig. 94).

Of course our remaining dogs suffered a lot on this tour to fetch the sledge, so we were obliged to kill two of them before we got back to the "7de Juni", as on account of their exhaustion and drenched condition they were unable to drag themselves along, and my experience tends to show that the worst thing that can happen to a Greenland dog is to expose it to water, whereas cold and snow do not affect it at all.

In the evening of the same day — 2nd of August — at 10 p. m. we left the depot on board the "7de Juni", going north along the coast, after having helped ourselves to ten days' provisions for five men from the depot.

Capt. Landmark had stated his willingness, now that the number of his crew had increased, to endeavour to make our winter quarters in order to see if anything new had occurred, and then, if the land water extended further, to proceed so far north as to render it possible to investigate the depots along the coast.

At five in the morning of the *3rd of August* we passed Cape Pansch, the southern extremity of Frozen Bay, and worked our way until noon through ice which became more and more impassable, until we were compelled to stop about six miles to the eastward of "Alabama"'s winter quarters on account of the ice being quite impenetrable. Prior to this I had consulted Capt. LANDMARK at about nine in the morning, when the ice began to look nasty, as to whether we were justified in proceeding further north, especially out of regard to the two sick men he had on board, but he, an experienced arctic sailor, thought there was no risk connected with it.

Until we were stopped by the ice we had kept the motor running, there being a fresh northerly breeze, but as we were now going south Capt. LANDMARK stopped it, and we ran along under canvas only. The ice became closer, and after only half on hour's sail we were shut in by the ice which closed a channel leading southward under our very noses.

Thus closed in we drifted slowly towards the south along the east coast of Shannon Island, and we did not escape the ice until the night between the *6th* and *7th of August*, off the depot at Cape Philip Broke, which we reached at 7.15 p. m. on Aug. 7th.

During our stay in the ice we had suffered some damage through ice pressures, whereby the blades of the propeller were bent and the rudder split, but the damage to both was speedily repaired, the latter especially with UNGER's assistance.

Arrived at the depot I went ashore to see if anyone had been there during our absence which, however, did not appear to be the case, and then, after having shipped some provisions and inspected the motor, we left Shannon Island finally at 10.30 p. m. on *August 7th.*

In order to prevent any misunderstanding if any ships should come from Bass Rock, where Capt. LANDMARK had left my open letter with the endorsement on it that he would try to make the Shannon depot, the open letter left at this depot was destroyed, and the following communication deposited in its place, as the possibility of the "Laura" arriving was still present to my mind.

Shannon Island 7 Aug. 1910.

To possible callers at the depot:

Any caller here is requested to bring home the communication deposited here and forward it to the addressee.

Should the party in question have come from Bass Rock depot, he will have learnt that Capt. LANDMARK of the galeas "7de Juni" of Aalesund has left there to pick up the members of the Alabama expedition, who went on board on the 2nd of August. In the interval between 2nd and 7th of August the galeas has been sailing northwards, in order to try to make "Alabama Harbour", but was stopped by solid ice, and became ice-bound. At "Alabama Harbour", the position of which is marked upon the map on the wall and where a flagstaff has been put up and a house built, will be found provisions for seven men for a year besides a lot of fuel, about 1000 litres of petrol and some clothing (worn).

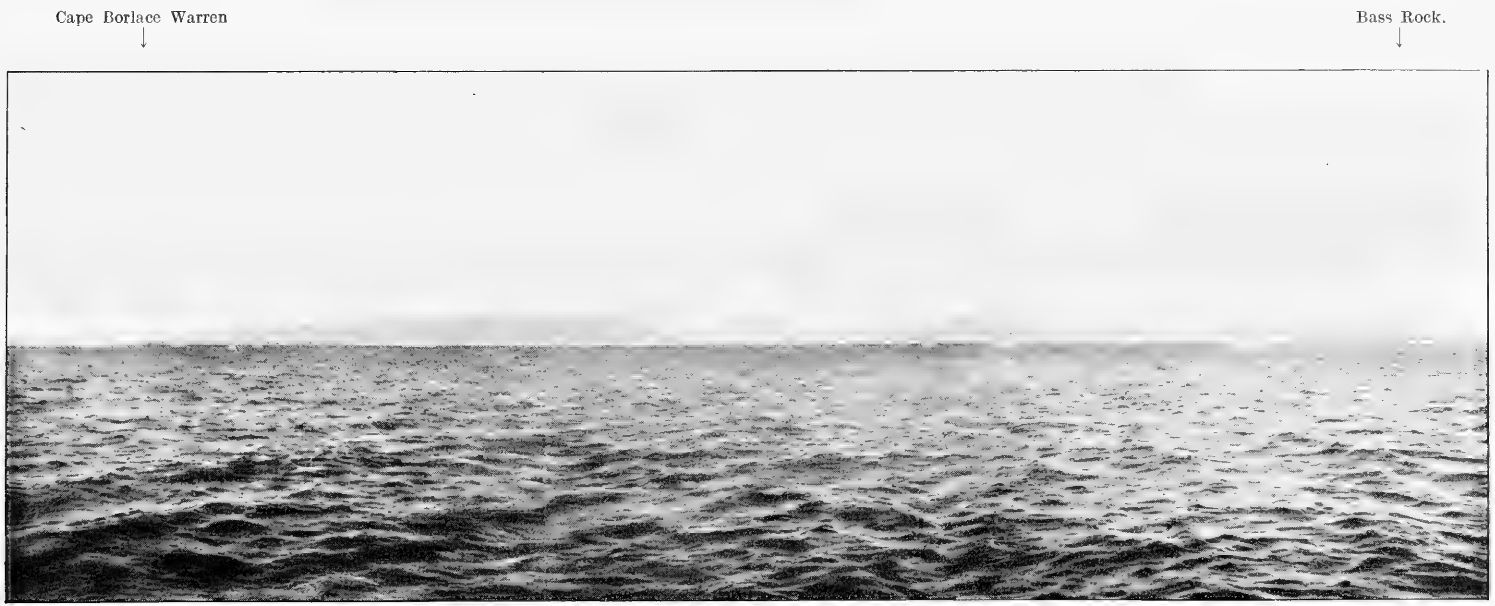

Fig. 95. East coast of Greenland from Cape Borlace Warren to Bass Rock. 11/8 1910.

Until the beginning of September of this year, Capt. Mikkelsen may *perhaps* be expected at the depot, and he would then want to come home, if a ship should be here. The map is left here for Capt. Mikkelsen in case of his coming.

Wilhelm Laub,
Second in command of the expedition.

In addition we left the report to the committee, which had been previously deposited there.

We attempted twice to get clear of the ice, but had to return each time, as it appeared that we had got into a bay in the ice. The second attempt to get clear was made on the night between *8th* and *9th of August*, when we again experienced a lot of trouble in getting back to the land water, there being continual and strong movement in the ice, but finally on the morning of the 9th we again succeeded in reaching land.

At 9 a. m. the same day, when up in the crosstrees, I caught sight of a three-masted schooner-rigged steamer inside us in the land water to the southwest, working northward. Believing her to be the "Laura", we tried to bear down upon her. When, however, we got alongside, she turned out to be the "Minerva" of Christiania, with her owner Magnus N. Gjever and an Austrian Count and Countess Merveldt with a party on board, the Count having chartered the ship to go on a shooting expedition.

At Clavering Island the "Minerva" had come across the "Laura", which at that time had made two attempts to reach Shannon Island, but without result, whereupon the "Minerva" had promised to try to get into touch with us, as the "Laura" had to proceed home.

After having called at Bass Rock, the "Minerva" on the 3rd of August went in quite close to the depot at Shannon Island, but as no signal was to be observed, she continued in a northerly direction with the object of reaching our winter quarters. This attempt failed on account of the heavy ice. When we got up with her, she was heading for the Shannon depot. All on board the "Minerva" assisted us in every possible way and offered to take Jørgensen home with them, as he would be better looked after on board the ship which carried a doctor, but he declined the courteous offer, preferring to go home with us.

At 5 p. m. we parted company, the "Minerva" shaping her course for Clavering Island, whilst we with the "7de Juni" headed SE through the ice. All went well until a couple of hours after midnight, when we had to turn and sail westward, as we again had got into a bay in the ice.

During the same watch the propeller was smashed by an ice foot so that the motor could not be used, and we had to sail entirely under canvas.

On *August 10th* at noon we were under the land off Saddelberg and kept south until we made Cape Borlace-Warren, after which we proceeded full and by in an easterly direction (Fig. 95). This time we had actually found the passage out from the ice. The latter became gradually less compact, and at 9 a.m. on the *11th of August*, we noticed the swell which increased, until at noon in 73°38′.5 N by 11°40′ W we passed the edge of the ice.

On *August 15th* at noon we passed Jan Mayen to the northward and eastward at about 30 miles off, and finally on *August 19th* 1910 at 7 p.m. the "7de Juni" made Aalesund Harbour.

III.

NOTES ON THE SEA-ICE ALONG THE EAST COAST OF GREENLAND

BY

EJNAR MIKKELSEN

Notes on the state of the coast-ice from Erik S. Henius' Land to Shannon Island in 1910.

THE following notes, compiled on the return-voyage from Danmark's Fjord during the months of May, June, July, August, September 1910, are rather fragmentary, as my journal, in which a strict account of this matter was kept, became lost while lying in a depot in Skærfjorden. IVERSEN, however, kept a journal, from which most of the notes are taken, and something has been added from memory.

The ice along the coast of Erik S. Henius' Land was presumably several years old, and had not moved much within the last year. A very narrow band of year-old ice[1] 8—25 metres broad followed the face of the glacier, and a comparatively large tract of year-old ice was noticed off Nakkehoved, where there must have been open water during the preceding summer.

A rather broad stretch of year-old ice was found along the SE coast of Kronprins Christian's Land from Nordost-Rundingen and southward to Eskimonæsset, where we encountered some rather high pressure-ridges close on land, in places even piled up on the coast itself, and it was evident that the ice had been subject to a very severe strain down to the end of Fældestrand, from where the edge of the pack-ice trended away from the coast to the SE[2], leaving a space, several miles broad between it and the coast, covered with year-old ice.

The mouth of Dijmphna Sound was entirely filled with large pieces of ice, bound together by year-old ice, but it was not pressed up in ridges and had not been exposed to any strain whatsoever, as it was composed of ice, stranded in the shallow water of Dijmphna Sound.

We met the edge of the pack-ice and heavy pressure-ridges about 5—7 miles off Hovgaard Island, and the ice between it and the coast was all year-old ice, quite smooth and with only a few small pressure-ridges. Only very few old floes were frozen into this ice. The same kind of ice extended down to and encircled Bagatellerne, but from there and just north of Hagen Island we passed no sea-ice whatsoever.

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[1] i. e. ice frozen during the preceding autumn and winter.
[2] all directions are true.

Of open water we saw (in June) one large pond off Holm's Land, but it was not particularly broad, probably not more than 2 à 3 miles.

The general impression of the state of ice from Nordost-Rundingen to Bagatellerne was the following, viz. that a landwater, variating in breadth from 2 to 7 miles, had extended between these two places without any interruption some time during the late summer of 1909.

The sea-ice we met with again and traversed on Sept. 8th, a few miles to the north of Hagen Island, but it was so newly frozen that it was barely strong enough to carry the weight of a man. From a mountain on the NE point of Orleans Island, about 150 metres high, no pack-ice nor year-old ice was in sight anywhere, and the open sea extended to and probably beyond Ile de France.

No ice whatsoever, neither new nor old, was found along the coast from Orleans Sound to Cape Amélie on Sept. 12th, and not till the inner half of Penthievre Fjord did we find unbroken ice.

The unbroken year-old ice extended across the inner half of Skærfjorden, but there had been a slight motion in it a few days before we crossed it.

There was no pack-ice in sight from the highest parts of the coast between Cape Marie Valdemar to Syttenkilometernæsset; and there were but few grounded pieces of ice along this coast. It was only among these that the new ice had formed, and was solid enough for us to walk on as late as Sept. 18th—19th.

Danmark's Havn was quite open, when we reached it on Sept. 19th, and so was all the water visible from Harefjeldene. The new ice was not solid enough to travel on till Oct. 11th, and the ice between Koldewey Island and the mainland must have been broken up again as late as the latter days of October, as the snow-covered surface of the ice bore plain evidence of having been washed over by saltwater.

Very heavy pack-ice filled the bay between Haystack and Shannon Island, and there were no indications of its having been broken up during the summer of 1910.

Notes on the state of the coast-ice during the journey in 1909 from Shannon Island to Lambert's Land and in 1911 from Shannon Island to Skærfjorden.

The new ice under land and between the floes of the pack-ice was not considered solid enough to travel on till Sept. 25th, 1909. On the journey from Shannon Island to Danmark's Havn old floes with new ice in between were passed until 20 miles north of Shannon Island, when we came to large areas, where there had been perfectly open water during the summer of 1909, and from the south point of Koldewey Island to Danmark's Havn we only passed very few old floes, so it was evident, that the sea on this stretch had been quite open during the preceding summer.

We followed the coast from Øksebladet to Cape Marie Valdemar, sledging on new ice, and we noticed the edge of the heavy pack about 3 miles off the coast. There were rather large ponds between the ice-floes far out to sea. The new ice extended across Skærfjorden and further along the coast as far as a few miles beyond Bjørneskæret, where it gradually passed into unbroken year-old ice.

From there and northward we did not meet with ice, which had been broken in the course of the preceding summer, and the sea-ice among the many islands of Jøkelbugten was very old.

Another journey was performed from Shannon Island and northward during the spring of 1911.

Between Shannon Island and the south end of Koldewey Island we passed several very large ponds, only recently frozen over, and it was evident that the ice, far into the bay between the two islands, had been in continuous motion during the winter.

An open lead of landwater was noticed and partly followed along the east coast of Koldewey Island, variating in breadth from 200 to 1000 metres. Some large ponds between the pack-ice were seen several miles off land from an elevated part of Koldewey Island.

The open lead extended all the way from Koldewey Island to Cape Bismarck, further past Øksebladet and to Cape Marie Valdemar, but it was as a rule considerably narrower on this latter stretch than further south. The pack-ice outside appeared very slack.

A remarkable change in the breadth of the landwater took place in the days between May 13th and 18th, although the weather had been quite calm during the intervening days. The landwater had for some reason or other increased so much that it appeared as an open sea with small floes drifting about in it, and extended as far as could be seen from the high land back of Cape Marie Valdemar toward Ile de France, and all the way along the coast southward at least as far as beyond Øksebladet. The breadth of the landwater was on an average about 3 miles, and the pack-ice beyond had no defined edge. The solid land-ice was only about 100 metres broad off the most prominent points of the coast from Cape Marie Valdemar to Syttenkilometernæsset.

The lead along the east coast of Koldewey Island was the same when we saw it on our return-journey (beginning of June) as when going north in May. The open water or unsafe ice between Koldewey Island and Shannon Island came within 10 miles off Haystack, where we passed ice, which was at most a month old, an absolute proof that the ice-floes even in this rather sheltered bay are churned about during the winter and spring.

Observations on the state of ice in the neighbourhood of Shannon Island and Bass Rock, during the years 1909, 1910, 1911, 1912.

Observations on the distribution of water and ice, the motion of the pack-ice, the influence of the different winds on the ice etc. were made during the three years, when the expedition had its headquarters on or in the neighbourhood of Shannon Island.

When on August 25th 1909 the "Alabama" had become liberated from the pack-ice, in which she was drifting, she entered a landwater 4 à 5 miles broad and almost free of ice, extending along the east coast of Shannon Island from Cape Philip Broke, beyond Cape Pansch and northwards until off Cape Sussi, where it narrowed considerably and closed up entirely about 4 miles north of Cape Børgen.

Frozen Bay was open at its northermost end, the remainder of it being filled either with unbroken ice or drifting floes[1].

The pack-ice immediately north of Shannon Island appeared very packed when seen from the top of Meyersteins Mountain, a height of 305 metres, but further to the north around the south end of Koldewey Island some very large ponds could be seen.

The strait between Shannon Island and the mainland was quite open, and a line of grounded icebergs, from Cape Copeland to the mainland, formed a barrier, against which the pack-ice was pressed with great force.

There was open water to the south of Cape Philip Broke, and no ice could be seen to the south of SE from the cape.

The ice remained in this state for several weeks, and no motion was noticeable in the pack-ice between Shannon Island and Koldewey Island. It was evident that the body of ice, filling the southern end of the bay, was set against the north coast of Shannon Island by the current and not by the wind, as we experienced some rather strong southerly breezes, which made no difference in the state of the ice north of the island.

Some heavy northerly gales in the middle of September, gales which, however, were of no long duration, drove the pack-ice against the east coast of Shannon Island and into Frozen Bay, closing up the landwater entirely. The open water southward and westward from Cape Philip Broke remained, however, in its former extent.

The young ice in the bays and between the pack-ice had on Sept.

[1] The landwater was seen on August 20th, but it was closed up by a northerly gale and remained closed until August 24th, when the wind calmed down, giving way to a fresh SE wind, which within a few hours opened the landwater described above, at the same time opening up the pack-ice — in which the "Alabama" was beset — a good proof of the influence of different winds on the pack-ice.

25th attained such a thickness that it was considered solid enough to travel on.

The pack-ice remained close on the coast of Shannon Island during the remainder of the winter, and no water was in sight at any time, save to the south of Shannon Island, where during the whole winter there was a large body of open water, extending from 1 à 2 miles south of Cape Philip Broke, westward towards Cape David Gray, a distance of about 10 miles and from there towards Bass Rock, and no pack-ice could be seen inside a line from Cape Philip Broke to 3 à 4 miles clear of the island.

1910.

The pack-ice remained compact and close on land during the winter and spring, and no water at all was visible between the floes from Meyersteins Mountain till July, when water began to appear between Cape Pansch and Cape Philip Broke, but it was never so continuous as to form even a narrow landwater.

The water to the south of Shannon Island had about the same extent during the spring and summer as described above, and no motion was noticeable in the pack-ice.

On August the 5th there was a very narrow landwater leading from Cape Philip Broke to a couple of miles beyond Cape Pansch, but it was impossible for a vessel to reach the winter harbour south of Cape Sussi.

The ice in Frozen Bay did not break up or melt at all during the summer of 1910.

No indication of water along the coast of Shannon Island or between the floes of the pack-ice was seen, when we returned to our winter-quarters on November 25th, nor during the winter or early spring. There must, however, have been extensive tracts of open water to the south of Shannon Island, as the temperature in our winter-quarter rose very much, whenever the wind was southerly[1].

1911.

When medio March we arrived at Cape Philip Broke we saw a large area of open water, extending from the cape as far as a little outside Bass Rock, and in the direction of Cape David Gray, thus forming a large triangle free of ice. The open water extended into Freeden Bay, about 2 miles to the north of a line Cape Philip Broke—Cape David Gray. We noticed several times that floes, breaking off from the land-ice between Shannon Island and Bass Rock, drifted at a right angle away from the land-ice, even against the wind.

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[1] In order to show the difference in the condition of the ice in places not very far removed from each other the attention is called to the open water south and west of Ile de France and all along the east coast of Germania Land, seen on our return journey in the fall of 1910.

The pack-ice consisted of small, but very rough floes.

On March 23rd a fresh northerly breeze opened up a very large pond between floes of the pack-ice extending as far as the horizon, seen from the height of 100 metres, and the open water to the south of Shannon Island increased considerably in size. The pack-ice itself seemed also more slack than formerly.

The northerly breezes and gales continued until March 31st, causing the land-ice to disappear almost entirely; so no land-ice could be seen toward Cape David Gray from an elevation of 100 metres, and no pack-ice could be seen within 30° off Bass Rock from the same place.

The stretch of open water to the east of Cape Philip Broke also increased during this windy period, and no ice whatsoever could be seen in this direction over an angle of at least 25°. Judging by the ice-blink, which frequently was very marked, there was much open water between the pack-ice.

The pack-ice came nearer to land, the openings between the floes closed up, and the open water to the east disappeared entirely after two days of calm weather.

The first indication of landwater from Cape Philip Broke northward appeared on April 19th, but it was very narrow.

On June 6th the pack-ice was seen from an elevation of 150 metres on the NE end of Shannon Island, and much open water was seen between the floes in SSE, but at least 10 à 15 miles off land. No landwater was visible along the east coast of Shannon Island. The stretch of open water between the pack-ice increased and came nearer to the land, and on June 11th, five days after it was first seen, it had attained the appearance of a continuous lead from beyond the horizon to within 3 à 4 miles off the coast. The weather had been very fair during the intervening days with calm or changeable winds, but mostly from the north.

From June 16th to Sept. 19th we remained on Cape Philip Broke, awaiting the arrival of a vessel.

The distribution of ice and water was about the same, as when we left the cape in April, the only change being that the land-ice had decreased still more in extent and had only a breadth of about half a mile just south of the cape.

A south-easterly gale was blowing on June 18th, and it scattered the pack-ice to such an extent that no ice was visible between Bass Rock and a lane SE of Cape Philip Broke. This large area of open water tapered down in breadth near Shannon Island, but there was still a rather broad landwater from Cape Philip Broke to beyond Cape Pansch. The pack-ice itself was quite open.

Upon this great slackening of the ice there followed a period of easterly winds, which once more compressed the mass of ice so that it was more compact on June 24th, than it had been at any time during the year. The stretch of open water to the south of Shannon Island decreased very much in extent during this period.

It was, however, only of short duration, and on June 28th, after a rather strong south-easterly gale, the conditions had improved so much that a landwater about 4 à 6 miles broad could be seen extending all along the east coast of Shannon Island; the pack-ice however seemed very compressed judging by the looks of the sky. The ice was drifting to the south with a velocity of 3 à 5 miles a day.

The pack-ice again came nearer to the land during the first days of July — after some days of northerly and north-easterly breezes — and a large amount of ice drifted about in the water to the south of Shannon Island, which had formerly been quite open. The pack-ice itself was very heavy; there was no water at all visible between the floes, and the drift seemed entirely stopped. On July 4th a fresh SE wind for the first time caused no perceptible change in the state of the ice.

The usual opening in the pack-ice to the east of Cape Philip Broke was seen on July 9th, but the bay between Shannon Island and Bass Rock was entirely filled with ice drifting backwards and forwards with the tide, and the landwater had ceased to exist.

The pack-ice seemed still more slack on July 13th, but its edge was quite impenetrable. The pack-ice under land drifted so fast, that a large iceberg drifted from abreast of Cape Philip Broke and out of sight to the south within two days.

A northerly gale on July 15th and 16th drove the ice on land in very large floes — a single floe stretching as far as the horizon in all directions when seen from the height of 100 metres, and there was no water at all in sight even close under land.

The ice remained immovable in this state all of July and the greater part of August, and the direction of the wind, which formerly had such a marked influence on the ice, had absolutely no influence whether blowing from the north or south.

The land-ice in Freeden Bay broke up on August 9th, but could not drift away owing to the pack-ice, which was pressed close on to it.

A very pronounced water-sky was noticed to the east of Cape Philip Broke on August 11th, but no water was in sight from an elevation of 100 metres, and there was absolutely no change in the state of the pack-ice nearer at hand till August 14th when — in consequence of persistent SE winds — the pack-ice generally speaking opened up and seemed navigable, but there was as yet no landwater and no indication of openings between the floes further to the north.

The ice between Shannon Island and the mainland broke up on August 19th and by its size and momentum cleared away all the smaller ice-floes between Shannon Island and Bass Rock, but it was unable to drift clear away on account of the pack-ice, which stopped its progress when approaching the main current. It was not till August 23rd that the bay between Shannon Island and Bass Rock once more became free of ice, owing to the influence of a rather fresh westerly gale, but the pack-ice remained as closely packed as before.

This little improvement in the state of the ice lasted only a short time, owing to some strong northerly breezes, and on the last day of August there was hardly so much water around the prominent capes that they could be passed by a whaling-boat.

The ice remained stationary like this until the middle of September, when a decided improvement took place. The pack-ice was now rather open, and the landwater was free of drifting ice, but there were no openings to be seen in the ice to the east and north of Shannon Island.

On Sept. 18th, and 19th a violent gale from the north opened the landwater still more, but on the other hand it compressed the pack-ice considerably.

We left Cape Philip Broke on the following day, and on Sept. 24th when we stood on top of Meyersteins Mountain on the NE point of Shannon Island, no water whatsoever could be seen in any direction, save in the strait between Shannon Island and the mainland.

The ice remained apparently immovable until Oct. 15th, when we left the winter-quarters for Bass Rock.

The ice in Frozen Bay had remained stationary during the summer.

When on November 12th we returned to Cape Philip Broke, there was more water between the pack-ice than at any time during the summer, and the stretch of open water between Shannon Island and Bass Rock had such a great extent that no ice was visible to the S of SSE.

The land-ice between Cape Philip Broke and Cape David Gray had a large indenture toward the north approaching within 3 miles the bottom of Freeden Bay, and, following the edge of the land-ice it was not till beyond the middle of the bay that the edge fell off to the southwest. This place was so far to the west that Bass Rock could be seen clear of Pendulum Island when sledging to Bass Rock and being half way between it and Shannon Island.

The open landwater off Bass Rock had on Nov. 23rd a breadth of about half a mile and extended in both directions along the coast as far as the horizon.

The land-ice adhering to Bass Rock and kept in place by frozen-in icebergs was not more than 400 metres broad.

On December 4th, after a southerly gale, which however did not last very long, there was no ice to be seen abreast of Bass Rock from an elevation of about 75 metres, and allowing for the darkness the landwater must at least have had a breadth of 4 à 5 miles. There was likewise no ice to be seen to the north or NE, and to the south the landwater went close around Cape Desbrowe.

The state of the ice during the month of December — which was unusually calm — was as described above.

There must, however, have been a great deal of motion in the pack-ice, as the thin ice covering the landwater was repeatedly broken up and carried away, and this ice never attained the thickness of 10 cm even during quite calm spells, or when the weather was at its coldest.

1912.

The state of the ice during the month of January 1912 was about the same as in December, with the exception that the breadth of the land-water was more constant, being on an average about 3 miles. There was no pack-ice to be seen towards Cape Philip Broke, and the edge of the land-ice extended north from Bass Rock on a course a little to the east of Cape David Gray.

On February 1st, from the high land back of Cape Philip Broke, there was no ice to be seen in ESE, but it lay close on the coast from the cape (Philip Broke) and northward. The open water just south of the cape had a breadth of 3 miles, and a northerly storm on Feb. 3rd set the pack-ice still farther out from land.

All of February the ice off Bass Rock remained the same as in December and January, with the exception of a few small changes owing to the different winds, but none of them were of long duration. Northerly and northwesterly winds pressed the ice a little closer on land, while at the same time all ponds between the pack-ice closed up, and easterly or southerly winds opened up the ice and set it farther from land. The influence of the wind only lasted, while it was blowing, and the ice resumed its usual limits, as soon as the wind abated.

On March 2nd, while on the Walrus Island, the landwater was noticed to extend as far north and south as could be seen from an elevation of about 75 metres, following the main lines of the land and coming within half a mile of the most prominent capes. The breadth of the land-water was on an average 1½—3 miles, and large isolated fog-banks over the pack-ice indicated open water in many places.

The winter 1911—12 had until the month of March been unusually calm and cold, but in the course of this month the weather changed entirely, and the wind blew strongly and persistently from the north. The landwater was consequently a little more restricted off Bass Rock, than it used to be, and the pack-ice appeared more dense than formerly during the winter, but the large body of open water to the south of Shannon Island had its usual extent, and the landwater extended as far north and south, as could be seen from an elevation of 125 metres.

We were sledging about during the greater part of April and visited the winter-harbour near Cape Sussi. This spring the state of the ice was different from what it had been during the preceding years, and on April 10th from the top of Meyersteins Mountain, we could see a very broad land-water extending all along the east coast of Shannon Island and toward Koldewey Island as far as the horizon. The landwater had a breadth of at least 2 miles, was quite unobstructed and connected the open water to the south of Shannon Island with a large area of open water south of Koldewey Island, which open water apparently came within a few miles off Haystack. Far away in the SE between the pack another large pond or chain of ponds could be seen, but the pack was otherwise heavy and was made up of very large floes — at least just off the shore. The weather had been fair and calm during the preceding days, so the open landwater and ponds were not the consequence of untoward breezes.

On April 12th a heavy northerly gale temporarily closed the landwater.

On April 16th from the highlands back of Cape Philip Broke we could see no pack-ice to the south of SSE. There was an open and rather broad stretch of landwater as far as Cape Pansch, and the land-ice itself was very narrow south of Cape Philip Broke. The open water south of Shannon Island reached a line connecting Cape Philip Broke with Cape David Gray, but it was covered with quite thin ice, cracked up in all directions.

The state of the ice off Bass Rock was on April 28th nearly the same as during the winter, only still more open, and no pack-ice could be seen to the north of ENE. The landwater off Bass Rock had a breadth of at least 2 miles, and extended as far south as we could see. Much open water was seen further out to sea, just back of a narrow tongue of ice separating it from the open water, and the pack-ice seen from an elevation of about 300 metres seemed quite navigable, even with a sailing vessel.

During the month of May the ice was subject to rather great changes, and the pack seemed to be in much greater motion than formerly. During the whole month there appeared almost permanently a very large opening in the ice to the east of Pendulum Island, and from the top of Bass Rock there was frequently no ice in sight in that direction. The landwater was not so pronounced as formerly, owing to the fact that large floes drifted into it, but the ice was on the whole extremely open, and the pack, when seen from an elevation of about 300 metres, would have offered no resistance whatsoever to a ship penetrating it.

New ice was still forming during this month, but it never attained a thickness of more than 2 à 4 cm, before it was broken up by the waves or the general motion of the ice. The ice drifted more steadily to the south than formerly during the winter or the spring, and several large icebergs were drifting by at a rate of 4 à 6 miles a day.

What is said about the state of the pack-ice in May can on the whole also be said of its state during the month of June, with the exception that the landwater was again rather pronounced. In clear weather it was on a few occasions possible to see it extending beyond Cape Philip Broke, and the view seaward from the top of Bass Rock was that of a perfectly open sea, bordered in the far distance by a broken line of pack-ice. Only a few floes drifted about in the water, and towards the end of the month there was hardly any pack in sight from an elevation of 300 metres (Pendulum Island). The icebergs or large floes, which could be recognized, were seen drifting to the south with great rapidity.

The land-ice was rapidly disappearing during the month of June, and melting water was standing on the icefoot from June 10th. The land-ice was seen to be perfectly "rotten" after a few days of foggy weather, which ended on June 23rd, and an ordinary gale would break it all up.

During the month of June the wind was decidedly southerly, as for 20 days it was blowing from the S and SE and only for five days from the N and NE.

The state of the ice during the early part of July was the same as in June, until July 10th, when a fresh northerly wind forced the the pack-ice on land, so that the landwater decreased in breadth from 10 à 15 miles to 2 miles off Bass Rock, and the pack-ice approaching the land consisted of very large floes.

This gale broke up the land-ice off Bass Rock and in Freeden Bay and raised such a swell that the ice close to land rose and sank at least 50 cm.

It seems incredible that this swell which lasted for almost a day and a night, after the gale had subsided, should originate from the now very small area of open water visible to the north, and it seems most reasonable to presume that the swell, felt so strongly on land, originated in the open sea beyond the pack-ice, as it would otherwise have died down with the wind, if it had come from a local pond. The length and regularity of the waves also indicated that the swell was not local, and its effect was seen on the slowly heaving land-ice to the NW of Bass Rock.

A subsequent slackening in the ice — owing to southerly winds — lasted only a couple of days, and on July 14th the ice was closer on land, and the pack-ice was more compressed than at any time since the early spring.

It seems that when the ice, during summertime, had once been set on land, a land-breeze is necessary to drift it out to sea again, as it comes within the limits of the tide and drifts up and down the coast in the area, where the landwater was formerly found. The main current does not go into the deeper bays, but in most places follows a line connecting the outermost points, and the loose ice in the landwater will consequently be beyond its limits and remain an almost stationary and compact mass of ice, often preventing ships, which have penetrated through the pack-ice, from reaching land.

When the "Sjøblomsten" came on July 19th just after a strong SE wind, the pack-ice was once more open, and the landwater broad, in which state it remained, until we left the coast on July 21th. The landwater off Gael Hamkes Bay was quite open and free of ice, and anything aproaching the appearance of pack-ice was not met before about 30 miles off land.

The coastwater along the north-east coast of Greenland.

By the term of coastwater is implied the body of water, which is usually found between the floating pack-ice and the solid land-ice. A rather broad coastwater seems in the habit of forming every year, and it extends at least from Ile de France and southward along the east coast of Greenland.

That this is so from Shannon Island and southward along the coast, probably all the way to Cape Farvel, is a well-known fact, but it is only during later years that sufficient material has been collected to make a sort of basis for our knowledge of the existence of this coastwater, from Shannon Island and northward.

It was during the cruise of the "Belgica" in 1905 that this northerly coastwater was noticed for the first time, and since then, until 1912, we have direct or indirect information regarding its existence, from which we either know that the coastwater has been seen, or can infer with certainty by the state of the ice that it had existed during the preceding summer.

The information is this:

In the year 1905 "Belgica" found open coastwater as far as Ile de France.
1906 "Danmark" found broad coastwater as far as 77°32′ N. Lat.
1907 no coastwater on the northeast coast. (Danmark-Expedition).
1908 "Danmark" found broad coastwater as far as 78° N. Lat.
1909 Plain evidence of open coastwater beyond 77°45′ N. Lat. (MIKKELSEN).
1910 Broad coastwater as far as at least 78° N. Lat. (MIKKELSEN).
1911 A very broad coastwater from Shannon Island northward to Ile de France, during the months of April, May and June, but probably no coastwater during the summer. (MIKKELSEN).
1912 "Godthaab" found open coastwater off Koldewey Island to Cape Bismarck and beyond.

From this material, covering a span of eight years, it will be seen that the coastwater has existed every year except one, and it will probably not be a premature conclusion to infer that coastwater is found annually during summers with ordinary ice-conditions from Ile de France and probably even from further north to the south along the east coast of Greenland.

The breadth of this coastwater is very variable, ranging from half a mile to 3 à 4 miles — in some places even more — and it will, at least in the early summer, be rather free of drifting ice, the pack-ice as a rule not going beyond the limits of the main polar current.

But later in the year, in June or July, the coastwater is likely to be filled with drifting ice-floes, either with pieces breaking off from the solid land-ice or by small floes forced away from the main pack by strong NE winds. This ice will — as stated above (p. 197) — remain in the coastwater and often obstruct it entirely, until a strong land-breeze forces it out to sea, where it once more gets within the grip of the main current.

The coastwater, which forms the boundary between the solid land-ice and the drifting pack-ice will probably mark the inner termination of the polar current, as all ice outside the coastwater drifts to the south, whatever the direction of the wind, and the theory put forth by Trolle[1] to the effect that the main current follows an imaginary line rather far out to sea from Nordost-Rundingen to Shannon Island, does not seem quite correct, as nothing but a continuous drift to the south could form a coastwater free of ice and extending along the coast during the greater part of the year.

The "imaginary line" of Trolle lies about 60 miles off land in the place where it is furthest out (off Jøkel Bay), and it is unlikely that the current should not be deflected towards the west, rather close on land, as everywhere else on the east coast of Greenland. Also, if the main current or a branch of it did not reach the coast of the mainland, then all the ice in this area of slack water would freeze together and on to the land, thus forming a very broad stretch of land-ice, as the motion in the water caused by the tide or changing winds would be quite insufficient to keep this large area broken all during the winter, and we know that the ice is nearly always broken close to all prominent points, viz: Mallemukfjældet, Ile de France, Cape Bismarck and Shannon Island.

Another, and possibly the safest proof of the existence of a branch of the main polar current, close to the north-east coast of Greenland, is the rather large amount of drift-wood found in Danmark's Fjord, on the coasts of Holm's and Amdrup's Land and along the north coast of Germania Land. This drift-wood must have been brought there by the current, as it could not otherwise have been stranded on land far within the limits of the main current.

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[1] Trolle: Hydrographical Observations from the Danmark-Expedition. Medd. om Grønland, vol. XLI, pag. 406.

A branch of the main current will thus — in my opinion — go close along the coast of Greenland, inside the Belgica Shoal, and unite with the main current somewhere in the vicinity of Shannon Island; this current, while setting the ice continually to the south, will make the coastwater by keeping the ice outside it in continuous motion.

The coastwater has a uniform breadth along shores in a direction from north to south, but increases considerably in extent just south of islands or promontories with coasts trending E—W, in which latter places the water areas are almost permanent in size.

These open areas of water are found south of Ile de France ("Belgica" 1905, "Danmark" 1906, 1908, MIKKELSEN 1909, 1910, 1911) probably south of Koldewey Island ("Belgica" 1905, MIKKELSEN 1909, 1910, 1911, 1912) and south of Shannon Island.

This area of open water (south of Shannon Island) was noticed during the winter of 1870 by the German Expedition[1], by the members of the Danmark-Expedition, when in 1906 and 1908 they visited Bass Rock and Shannon Island[2], and finally by ourselves in the years 1909, 1910, 1911, 1912.

Open water during the winter seems, in this locality, an established fact, and will most likely be formed every year. The principal reason for its existence is the main polar current, which follows the coast from promontory to promontory and deflects a little towards the west in the deeper bays. The current keeps the pack-ice in continuous motion and prevents it from freezing on to the land-ice.

But that does not quite explain, why the land-ice should form a bay, several miles deep, just south of Shannon Island, a bay, which is usually quite free of drifting ice, and some other reason must be found to explain its annual and permanent existence. We noticed — whenever this area of open water was covered with thin ice — that when broken up by the wind it drifted away from the solid land-ice, quite perpendicular to its main direction and leaving between it a lane of open water.

Likewise, when a seal or a bird was shot near the edge of the solid land-ice, it invariably drifted away to sea.

This set away from the land-ice can only be caused by a current, as the set was often seen to be right against the wind, and while this off-shore current can easily be explained during summer-time by the outflow of melting water from the mainland of Greenland, this can not be the case during the winter, when there is no outflow from the ice-cap, and this drift, which exists winter as well as summer, must be accounted for by some permanent cause throughout the year.

It seems the most likely assumption that a part of the main current branches off south of Koldewey Island, bends westward and flows down

[1] Koldewey. Die zweite deutsche Nordpolarfahrt. Vol. II, pag. 461, 546, etc.

[2] Medd. om Grønland. Vol. XLI, pag. 496. Hydrographical Observations of the Danmark-Expedition.

between Shannon Island and the mainland, until once more forced out toward the main current by the obstruction which Sabine and Pendulum Islands place in its way.

The existence of this branch can be inferred by the following facts:

that the bay between Koldewey Island and Shannon Island is always full of heavy pack-ice, making navigation between these two islands difficult and often impossible, even when there is open coastwater to the north and south of it,

that open water is found to the south of Koldewey Island, while the pack-ice is forced as a compact mass against the north shore of Shannon Island, even with southerly winds.

that the strait between Shannon Island and the mainland is as rule open every summer and perfectly free of drift-ice, which is kept in check at the northern end of the strait by stranded icebergs,

that a rather large amount of drift-wood is found along the shores of this strait, and finally

that all through the year there is a permanent outward set of the water from the south end of the strait, as explained above.

This current which is thus supposed to sweep down between Shannon Island and the mainland, thereby encircling Shannon Island, will cause the stretch of open water to the south of this island and explain its annual existence.

From the general description of the conditions of the ice in the vicinity of Shannon Island it will be seen that there is another, rather permanent opening off land, which however cannot be considered in connection with the coastwater, but must owe its origin to some other source.

This opening is the large body of water seen to the east and ESE off Cape Philip Broke on several occasions.

1910. No information regarding it.

1911. March 23rd. After northerly gale. Closes up after calm weather in the early part of April.

June 6th open water seen upon the return from a sledge-trip.

July 9th all other openings closed up before a northerly wind save the one in the east, but this one also closed up a few days later.

August 11th. Water-sky in the same direction.

1912. February 1st. No ice in sight east of Cape Philip Broke. Indications of open water in this direction seen on several occasions from the top of Bass Rock and Pendulum Island.

This area of open water stretching almost from the coast and beyond the horizon seems as a rule to form during the spring, before the drift of the pack-ice gets so steady as to make its appearance impossible, except after the disturbance in the drift caused by a gale. It seems to confirm the theory put forth by AMDRUP[1] that the ice from Shannon Island and northward rather close under land should drift at a lesser rate than at the outside of the pack. But it is difficult to see the cause of this slow drift, as there is no known shoal in that vicinity, which might stop the pack-ice. The explanation must — as inferred by AMDRUP[2] — be sought in the currents, and it may be that this is the approximate locality, where the branch of the Polar current (the one inside Belgica Shoal) meets the main current.

The influence of the different winds on the pack-ice as noticed from land.

By far the most predominating winds on the east coast of Greenland are the northerly ones, and their effect on the ice is absolutely tending to close it up. It has been noticed, during a period of three years, that the openings between the pack-ice close, and that the pack-ice itself comes nearer to land, when there is a wind from NNW to ENE or possibly even to the East. But the tendency to close up the pack-ice and force it on land seems much greater during the summer than during the winter, and this may probably be explained by the fact that there is, as a rule, more open water between the pack-ice during the summer than during the winter, and the wind will consequently be able to move the single floes about and pack them together with greater ease, than when — as during the winter — it is a nearly compact body, which has to be moved by the wind.

Southerly winds and winds even as easterly as ESE will, as a rule, open up the pack-ice and set it away from land, and this in spite of the fact that the wind is right on land, and the only time, when this wind failed to have this effect on the pack-ice, was during the summer of 1911, when permanent northerly gales had packed the ice hard on land, and the icebelt was very broad and dense.

A SW—W wind will always blow the ice away from the coast and clear the coastwater of drifting ice, if the pack outside is not too dense, while a

NW wind — almost right off land — will not always clear out the ice.

A general rule regarding the influence of the winds on the ice is the following:

that all winds from a direction north of E—W will trend to close up the pack and coastwater, while

[1] Medd. om Grønland, vol. XXVII, pag. 142 and 143.
[2] ibid. pag. 141.

all winds from a direction south of E—W will open the pack and clear out the coastwater, if the conditions of the ice are nearly normal.

Calm weather has as a rule the same effect as southerly winds, viz: of causing the ice to open up, and the explanation of this may be sought in the theory advanced by PETTERSON[1], that the melting of the ice will form a local current away from the individual floes.

The pack-ice.

The large body of the ice between the east coast of Greenland and the open water has since the time of SCORESBY jun. (who gave a good general description of it, chiefly based on personal observations and experiments) been subject to much speculation, not only among the men, who either sailed along or between it for purposes of hunting or scientific research, but also among men of science, who have attempted to generalize the now rather plentiful and equal mass of material.

In the following an attempt will be made to collect this material, together with the reliable observations on the state of the ice, which since 1894 have been carried on and published at the initiative of the Meteorological Institute of Copenhagen. From these observations which cover a span of nearly twenty years, besides stray information gathered from other sources, some rules can be deduced which will be, if not correct — the space of time is of course too short for that — at least so universal that they may form the basis of further generalisations.

As the northern hemisphere is unnavigable during a great part of the year, and the sealers etc. leave it, even before this period falls in, it is only natural that the information regarding the outer edge of the ice is limited to the months of April, May, June, July and August.

The position of the outer edge of the pack-ice variates considerably according to the seasons, and all the material, which can safely be used, has been collected in order to make this variation plain[2].

The outer limits of the pack-ice for the months of April, May, June, July and August are shown on the accompanying map (Pl. V), which shows the mean ice-limits for nineteen years. It will be noticed that the edge of the ice only recedes very little from April to May, a little more from May to June, still more from June to July, and again only very little from July to August.

The real extent of this decrease of the ice-belt is more evident when

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[1] Ymer. Vol. 1900, pag. 173.

[2] Ice-observations during all the years from 1894—1913 (inclusive), as well as ice-limits of all recent expeditions and stray information gathered from sealers.

looking over the following table, which is a rough calculation of the decrease in the ice-belt, in square miles, between the different parallels.

Average decrease of the pack-ice off the east coast of Greenland from 67° N. Lat.—79° N. Lat. in April, May, June, July & August.

	April—May	May—June	June—July	July—August	Total decrease in the quantity of ice from April—August
67°—68° N. Lat. ...	900	3,000	3,900	3,000	10,800
68°—69° — ...	1,500	3,000	4,500	1,800	10,800
69°—70° — ...	1,500	3,600	4,800	1,200	11,100
70°—71° — ...	1,200	2,400	6,000	2,100	11,700
71°—72° — ...	900	2,400	6,300	2,400	12,000
72°—73° — ...	1,200	3,300	3,600	1,800	9,900
73°—74° — ...	600	3,600	3,600	2,100	9,900
74°—75° — ...	600	2,700	3,900	1,800	9,000
75°—76° — ...	÷ 300[1]	2,700	2,400	1,800	6,600
76°—77° — ...	÷ 1,500	1,600	1,500	2,400	4,000
77°—78° — ...	1,000	0	300	3,900	5,200
78°—79° — ...	2,400	÷ 600	300	1,800	3,900
	10,000	27,700	41,100	26,100	104,900

The decrease in the magnitude of the ice-belt pr. month is thus:

From April to May 10 % of total decrease from March—Sept.
- May - June 26 % - — - - -
- June - July 39 % - — - - -
- July - August 25 % - — - - -

The reasons of this decrease are manifold, viz:

less ice coming from the Polar Basin than what drifts away to the south; the influence on the ice-masses of the open ocean; the warmer currents flowing along the edge of the ice in three different places (branches of the Gulf-Stream); the melting caused by the warmer weather during the spring and summer and the decomposition of all thinner ice.

The latter will probably be found to be the principal cause of the decrease, as all ice, which has been formed during the winter in the large ponds and openings between the older floes, is not very thick, has a salty surface, which accelerates the melting in an astonishing degree, and a strength considerably less than that of the surrounding older ice.

Scoresby jun. gives a very good description of the rapid decomposition of this kind of ice[2]) owing to the salt on its surface, which

[1] ÷ denotes increase.
[2] Account of the Arctic Regions. Vol. I, pag. 271.

aided by the comparatively warmer spring-weather eats large holes into the floes, weakening them very much and forming a line of breakage.

The melting having proceeded so far, the year-old ice-field breaks up, and its destruction is accelerated by the constant crush and grinding along its edges of older floes.

The year-old ice is thus at an early period broken up in many small floes, and the waves, warmer weather, melting water etc. get a larger surface to demolish, which also accelerates matters.

The greater part of this comparatively thin ice, which during the winter has filled all the open spaces between the older floes, will probably have disappeared at the end of July — if not before.

The effect of the comparatively warm weather during the spring will not make itself felt on the older ice, before some time has elapsed, partly owing to the non-conducting snowlayer on its surface, and partly on account of the low temperature, which the ice has retained from the preceding winter. The temperature of the ice and snow must first rise almost to zero, after which the melting begins all of a sudden.

But this will not happen at the earliest before the end of June or the beginning of July, and in conjunction with the above-mentioned causes this will have the effect that the ice-belt decreases most from June to July and less again from July to August, when the greater part of the year-old ice has disappeared, so that the decrease in the extent of the ice-belt for the rest of the season can only be caused by the demolishing effects of the ice-crushing waves and melting.

The outer edge of the pack-ice recedes on an average 150 miles during the period from April to August, between 77° N. Lat. and 67° N. Lat.

This receding of the edge of the pack-ice has been discussed at some length by Petterson, who on the strength of the observations of one year, published in "The State of the Ice in the Arctic Seas" (1896) calculated that the edge receded westward with the rate of about 5 miles a day, during April and May. This however is not the case, but it may be brought to mind that the limits of the ice were unusually easterly during this year (1896). The mean of nineteen years of observations shows — as stated above — that the ice recedes 150 miles in about as many days, or only one mile a day. Petterson maintains[1]) that we must look for the cause of this receding in the melting of the ice, caused by an underlying layer of water from the Gulf-Stream, which comes within a couple of hundred metres of the surface, but it is difficult to understand, why this heat should be able to influence the melting of the pack-ice through 200 metres of cold surface-water, particularly as the ice is never stationary, but drifts rather rapidly to the south over the places, where the Gulf-Stream sends branches towards the east coast of Greenland.

[1] Ymer. 1900, pag. 176.

The rate of the ice-drifts from Angmagsalik to Cape Farvel.

Pack passes		Number of days	Distance	Average velocity of the current for every 24 hours	Remarks
Angmagsalik	Cape Farvel				
25. Nov. 1884	c. 25. Jan. 1885[1]	60	420	7	
24. Nov. 1894	5. Feb. 1895	73	420	6	Heavy ice in April east of Iceland
21. Nov. 1897	3. March 1898	102	400	4	Conditions of the ice in East Greenland particularly good
11. Nov. 1898	c. 15. Jan. 1899	c. 65	400	6	Ice-belt narrow — — —
20. Nov. 1899	31. Jan. 1900	72	400	5,5	— — — — —
15. Nov. 1900	c. 6. Feb. 1901[2]	c. 82	400	5	— — but conditions of the ice difficult
5. Dec. 1901	28. Jan. 1902	54	400	7,5	— middle — — —
26. Oct. 1902	20. Nov. 1902	25	400	16	— — — — rather good
22. Nov. 1903	c. 1. Feb. 1904[3]	71	400	5,5	— narrow — — heavy
c. 25. Oct. 1904[4]	12. Feb. 1905	109	400	4	— — and very scattered
5. Nov. 1906	8. Feb. 1907	95	400	4	— middling but very heavy. Angmagsalik not navigated.
21. Nov. 1908	10. Feb. 1909	81	400	5	— narrow and very scattered
1. Nov. 1909	30. Jan. 1910	91	400	4,5	— — — —
14. Nov. 1911	16. Dec. 1911	32	400	12,5	— — — —
11. Nov. 1912	25. Jan. 1913	74	400	5,5	— very narrow
Average velocity of the drift ..				6,5	

[1] End of January.
[2] Ice observed at Cape Farvel; must thus have been there for some days.
[3] Ice observed to the west of Cape Farvel 3. Feb., so the statement is not quite accurate.
[4] Cannot be given for quite certain.

The body of ice between the east coast of Greenland has an average breadth of about 200 miles. This mass of ice is continually moving from north to south, and in the drift of ships beset on the ice or the ice-drift itself (the time the pack takes to pass from Angmagsalik to Cape Farvel), we have material to determine approximately the velocity of this drift. This velocity is different in the outer and inner edge of the ice-belt, and also different in the northerly and southerly end of the ice-stream.

The material on the strength of which the velocity of the drift is determined, is much more satisfactory from Angmagsalik to Cape Farvel than further north, owing to the possibility of ascertaining when the first part of the main-pack in the autumn passes Angmagsalik as well as Cape Farvel[1].

Owing to this fact it is possible to judge of the velocity of the drift almost every year, and its average velocity for fifteen years is 6,5 miles a day (see the table on p. 206). Its greatest velocity is 16 miles a day (1902) and its smallest 4 (1897, 1904, 1906). The drift-velocity of the whaling fleet 1777 (see p. 208) and of Nansen 1888 is however greater, respectively 18 and 23 miles a day, and the drift of the "Hansa" crew 1870 (see p. 208) is smaller, 3,2 miles a day, but this drift was partly performed in the heart of the winter, and the floe on which the crew drifted was so close inland that its velocity must have been retarded by its freezing on to the land-ice.

The velocity of the drift from Angmagsalik and northward along the east coast of Greenland is, however, more complicated, and the result of a generalization cannot be considered nearly as accurate nor as close to the actual average velocity as on the stretch Angmagsalik—Cape Farvel, owing partly to the scarceness of material, but also to the fact that it is often difficult to decide, whether a drift should be considered as belonging to the inner or outer half of the ice-stream.

As a basis for calculating the rate of drifting of the ice-mass off the east coast of Greenland the following data are available:

1769. Four ships were ice-bound at 76° N. Lat. at the beginning of July. Two of them were wrecked in the pack, whilst the others liberated themselves from the ice the 16.—19. Nov. at 69° N. Lat. (Normann, Geografisk Tidsskrift, 1878.)

The ships had drifted 480 miles in 125 days, being a daily average of about 4 miles.

1777. A whaling fleet blocked at about 79° N. Lat. and 6° E. Long. on the 24th June. Drifted with the ice southward, and the last

[1] Ice-observations for the different years from 1894—1913. "The State of the Ice in the Arctic Seas" is every year published by the Danish Meteorological Institute.

ship was crushed on the 11th October at $61^1/_2$ N. Lat. The rate of drifting at the various parts of the stretch of coast, which is 1380 miles in length, was something like this:

${}^{24}/_{6}$—${}^{19}/_{8}$ drifted from about 79° to 67° 45′, a distance of 850 miles in 56 days, being an average of about 15 miles.
${}^{19}/_{8}$—${}^{30}/_{9}$ drifted from 67° 45′ to $64^1/_2$° a distance of 330 miles in 42 days, being an average of about 8 miles.
${}^{30}/_{9}$—${}^{11}/_{10}$ drifted from $64^1/_2$°—$61^1/_2$° a distance of 200 miles in 11 days, being an average of about 18 miles.

${}^{24}/_{6}$—${}^{11}/_{10}$, 1380 miles in 109 days, average c. 12,5 miles.
(Normann, Geografisk Tidsskrift, 1878.)

1869. "Hansa" blocked the 8th Sept. at 74° 10′ N. Lat. and $15^1/_2$° W. Long.—${}^{6}/_{5}$ 1870 at 61° 10′ N. lat. The rate of drifting at the various places on the stretch of coast, which is about 1100 miles long, is something like this:

${}^{4}/_{9}$—${}^{27}/_{11}$ 1869 drifted from 74°10′ N. and $15^1/_2$° W. to 67° N. and 27° W. distance 510 miles in 84 days, average 6,1 per day.
${}^{27}/_{11}$—${}^{25}/_{1}$ 1870 drifted from 67° N. and 27° W. to Angmagsalik distance 290 miles in 59 days, average 4,9 per day.
${}^{25}/_{1}$—${}^{6}/_{5}$ 1870 drifted from Angmagsalik to 61° 10′ N. Lat. distance 320 miles in 101 days, average 3,2 per day.

${}^{4}/_{9}$ 1869—${}^{6}/_{5}$ 1870, 1120 miles in 244 days, average 4,6 per day.

1895. "Stærkodder" from the ${}^{27}/_{3}$—${}^{10}/_{4}$ from $73^1/_2$° N. Lat. and 9° W. Long. to 71° 20′ N. Lat. and 6° 20′ W. Long. Distance about 140 miles in 14 days or 10 miles per day.

1899. Sealers from the end of March to 1 to 2 weeks in April from 70° N. Lat. and 13° W. Long. towards SSW. to about 68° N. Lat. Distance of about 140 miles with an average speed of about 12 miles in twenty-four hours.

"Anna" from ${}^{24}/_{5}$ to ${}^{8}/_{6}$ from 73° 6′ N. Lat. and 16° W. Long. to 71° 20′ N. Lat. and 8° W. Long., a distance of about 190 miles in a straight line, with an average speed of about 12 miles. The average rate is, however, considerably greater, the ship having drifted as follows:

${}^{24}/_{5}$—${}^{30}/_{5}$	drifted	130 miles	ESE	in 7 days,	average	19 miles	daily
${}^{30}/_{5}$—${}^{4}/_{6}$	—	35 —	SSW	- 5 —	—	7	—
${}^{4}/_{6}$—${}^{8}/_{6}$	—	60 —	SE	- 4 —	—	15	—
${}^{24}/_{5}$—${}^{8}/_{6}$		225 miles		in 16 days,	average	14 miles	daily

"Anna" was drifting somewhat on the outside edge of the ice, as a heavy swell was noticed, whilst the ship was jammed.

1903. "Søstrene" $^{15}/_{8}$—$^{27}/_{8}$ from 74° N. Lat. to 71° N. Lat.
Distance 180 miles in 12 days, average 15 miles per day.

1907. "Scotia" drifts from 79° N. Lat. towards SW. at about 17 miles daily, Wind NW.

"Laura" drifts $^{20}/_{8}$—$^{30}/_{9}$ from 72° N. Lat. to 68° 50′ N. Lat. and 17° 20′ W. Long. Distance about 190 miles in 40 days. Average 4,7.

1911. "Laura" drifts $^{4}/_{8}$—$^{9}/_{9}$ from 74° N.Lat. to 70° 57′ N. Lat. Distance 210 miles (straight line) in 36 days. Average 5,8.
If the windings in the course line are included, which are probably due to the wind, the distance will be 270 miles, giving an average speed of 7,5 miles daily.

These 10 different drifts must — as stated above — be divided into two classes, one where the drift has taken place under land, the other where the drift has taken place further out towards the edge of the pack-ice.

The material, on the strenght of which the velocity of the drift under land has been determined, consists of 4 different cases, where ships have been beset close under land, namely "Hansa" 1869, "Søstrene" 1903, "Laura" 1907 and 1911. The velocity with which these four drifts have taken place are respectively 4,6, 15,0, 4,7 and 5,8 pr. day, giving a daily average of 7,5 miles. This average is probably greater than the actual one, as the velocity of the drift of the "Søstrene"[1] is so much greater than any of the other drifts. In this connection it must be considered that the ship was only beset for twelve days, that the point of departure as well as the place of arrival is uncertain within the distance of about 25 miles, and that the year of 1903 had exceptionally good ice-conditions with much open water between the floes, which of course would accelerate the drift of a ship in a norhterly storm, as there was room for the ice to be compressed.

Leaving the "Søstrene" out of the question 5,0 miles becomes the average daily drift-velocity for ships beset under land, and this velocity can probably be taken as a fair average af the speed of the arctic current close under land.

The other drifts along the outer edge of the pack-ice are still more unsatisfactory, at any rate as far as getting a fair average is concerned, as the velocities are very variable and the material scanty.

The drift, unfortunately unsupported, which gives the best general idea of the velocity of the drifts, is the one of the whaling-fleet, which in 1777 became beset in the ice on 79° N. Lat.[2]. These vessels drifted to the south with a daily rate of about 12 miles.

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[1] Ice-observations 1903.

[2] Geografisk Tidsskrift, 2. Bd., 1878, pag. 49.

"Scotia"[1] drifted with a rate of 17 miles a day from 79° southward, but nothing is mentioned as to where the drift ended.

Some sealing vessels drifted between 70°—68° N. Lat.[2] with a daily rate of 12 miles, and this corresponds very well with the above-mentioned drifts.

Mention is made by C. NORMANN in Geografisk Tidskrift for 1878 pag. 52, of some whaling vessels (four in all) which in 1769 drifted from 76°—69°, or a distance of 480 miles in about 125 days. This gives a daily average of about 4 miles, which mean, however, is so much lower than the above-mentioned that it seems better to leave it out of the reckoning altogether, particularly as no mention is made concerning where the drift took place — that is, whether it was in the inner or outer half of the pack-ice.

The average daily set of the ice in the outer half of the pack-ice is thus about 14 miles — much greater than the set under land.

There are two more cases of ships drifting with the ice, which must be taken into account, namely that of "Stærkodder" (1895) and "Anna" (1899)[3]. These lines of drift go almost perpendicularly on the general set of the main polar current, and the daily average is 12 miles.

In both cases the ships became beset in the early spring, and the drift of the two vessels ended in a place, where there is very often a tongue of ice, and where the ice-belt has a tendency to be at its broadest. If these drift-lines are laid out on a map together with the current, it will be seen that particularly the drift of the "Anna" corresponds entirely with the latest information regarding the arctic current, where a part of this current branches off from the main current between 73° and 74° N. Lat. and runs towards the northern end of Jan Mayen. The only way in which to explain the direction of the drift of "Stærkodder" and "Anna" is to presume that these vessels have been in the grip of this branch of the main current.

The different drift-velocities are thus:

From the north to Angmagsalik 5,0 and 14,0 miles a day,
— Angmagsalik to Cape Farvel 6,5 miles a day,

which shows that the ice-drift under land takes place with about the same velocity from at least 75° N. Lat. to Cape Farvel.

The unequal velocity of the ice-drift close under land and along the edge of the pack-ice helps to prove the theory advanced by Capt. G. C. AMDRUP[4], namely that the main arctic current does not reach the east coast of Greenland on its northermost part, and that the south-going current under land is a branch of the main current. This would cause

[1] Ice-observations 1907.
[2] Ice-observations 1899.
[3] Ice-observations for the years in question.
[4] Medd. om Grønland. Vol. XXVII, pag. 141 and 142.

a difference in the drift of the ice, of which the innermost part would be stationary compared to the outermost part, thereby making it possible for the north-water to form.

This, which was only an unsupported theory, has received additional proof in the finding of very shallow water on about 78° Lat. Lat. ("Belgica", 1905). This shoal, which has also been visited by the Danmark-Expedition in 1908, comes at least within 58 metres of the surface and there is of course no reason to believe, that the absolutely smallest sounding has been taken in that vicinity, nor that eastern termination of the shoal is accurately laid down, as no one has crossed the shoal.

On the contrary, it seems reasonable to suppose that the Belgica Shoal extends considerably further to the east than is shown on the Bathymetric Chart on Pl. XII (Meddelelser om Grønland, Vol. XLI, No. 2), as the "Belgica" — as well as other vessels — has met and sailed along a seemingly unbroken body of ice, extending from about 80° N. Lat. and 2°—3° E. Long., towards the SW until 76° N. Lat. and 10° W. Long., where the southerly point was passed, and where the unbroken mass of ice once more turns northward, on a course inside the Belgica Shoal[1]).

This body of ice seems unbroken and solid, forming a large area of stationary ice, and it is probably formed by large masses of ice frozen on to the floes and icebergs grounded on the Belgica Shoal. The fact that is area is lying between the main arctic current and the probable branch along the coast of Greenland would aid the growth of the mass of ice, as the current would probably be very slack between the two branches of the arctic current.

This shoal, with the ice adhering to it, will force the main arctic current coming from across the Polar Basin down between it and Spitzbergen, thus further narrowing the not very broad strait between these two countries, whereby the speed of the current will be somewhat accelerated, bringing with it large masses of ice with a comparatively great drift-velocity.

When the current has passed this shoal and has come south of the place, where the extreme NW branch of the Gulf-Stream forces it westward, pressing the drifting ice hard on the stationary ice, then it will spread, partly outward, partly toward the coast of Greenland, where it meets the branch coming inside the shoal and the ice floating out of it, and having more space to spread in it will consequently be more open just south of the stationary ice than further down the coast, where the current will be restricted and thus compress the masses of ice within its limits.

The extent of the body of stationary ice will probably be subject

[1] Ice-observations for July and August 1905, July 1906, July 1909. Medd. om Grønland. Vol. XLI, pag. 278 and 279—281.

Facts concerning ships which have penetrated the ice to the east coast of Greenland.

	Year	Month	Name of the ship	Entered the ice on Lat.	Entered the ice on Long.	Reached land on Lat.	Reached W. Long.	
1	1822	1—11 June	Baffin	74° 39′	4° 10′	73° 43′		
2	—	August	Hercules	73° 41′	7°	74°		
3	1823	—	Griper	74°	15°	74° 20′		
4	1869	—	Germania	74° 00′	14°	74° 30′		
5	1891	July	Hekla	76° 13′	0° 04′	74° 00′		Two other ships follow the same course
6	1896	June	Lykkens Prøve	74°	11°		14°	
7	1898	July	Anna	73°	12°	74°		
8	1899	June	Antarctic	74° 30′	5°	74° 30′		
9	—	May	Anna	74° 50′	5°	73° 06′	16°	
10	1900	June	Søstrene	76° 30′	3° 30′	74° 30′		
11	—	July	Antarctic	74° 30′	5°	74° 30′		
12	—	—	Fritjof	72° 00′	10°	73°		
13	1901	—	Laura	71° 30′	12°	73°		Conditions of the ice very difficult
14	—	August	Belgica	74° 10′	12°	74° 45′		
15	1903	—	Søstrene	74°	10°	74°		
16	1904	—	Laura	72° 30′	12°	73°		Did not reach land; stopped by land-ice
17	1905	May	Exelsior	75° 40′	0°		12°	Sailed along the edge of unbroken ice
18	—	July	Belgica	76° 00′	6°	76°		
19	—	—	Magdalene	73° 00′	5°	75°		
20	—	—	Søstrene, Severin	73° 00′	5°	75°		
21	1906	—	Laura	75° 00′	3°	73° 30′	17°	
22	—	August	Danmark	75° 14′	4°	76° 20′		
23	1907	—	Laura	75°		75°		
24	1908	June	Laura	75°	7°	75°		Ice very scattered
25	—	July	Sjøblomsten, Vesterisen	75°	7°	75°		Belgica sailed on 13—14° W. Long. to 78° 10′, where it was stopped by unbroken ice. The good conditions of the ice perhaps owing to the fact that the firm ice extends so far in a northern direction
26	1909	June	Belgica	71°	7°	73° 30′		
27	—	July	Laura	75°		74°		
28	—	August	Alabama	75° 03′	11°	75° 35′		
29	1910	June	Laura	74°	13°	74°		
30	—	—	Minerva	74° 30′	10°	74°		
31	1911	July	Laura	73°		74°		
32	1912	—	Godthaab	76°	3°	77°		

to great changes owing to the meteorological conditions during the preceding winter; thus in seasons following upon a cold and calm winter the area covered with stationary ice will be very much larger than in springs following upon warmer or more windy winters. This again implies that less ice passes between the shoal and Spitzbergen, and this comparatively smaller amount of drift-ice, when once south of the Belgica

Shoal, has more space to spread in than in years when large masses of ice can drift down. The obvious conclusion of this is that the ice-belt will be more open south of the shoal with the ice adhering to it in summers following upon a cold and particularly calm winter, than in summers when the contrary has been the case.

This also corresponds with AMDRUP's theory regarding the formation of the North Bay between 74°—76° N. Lat., and when looking over the material at hand regarding this question, i. e. a list of thirty-two vessels, which we know to have penetrated the ice-belt, it will be seen that by far the greater number have penetrated the ice-belt to the coast of Greenland on 74°—75° N. Lat. There are of course many more ships, which have reached the coast of Greenland, but these are not on record.

Result of material collected in the course of these thirty-two journeys:

9 %	of the vessels	have penetrated	to the coast	between	76°	and	77°	N. Lat.
10 %	—	—	—	—	75°	-	76°	—
40 %	—	—	—	—	74°	-	75°	—
16 %	—	—	—	—	73°	-	74°	—
13 %	—	—	—	—	72°	-	73°	—
6 %	—	—	—	—	71°	-	72°	—

This list will probably undergo some changes in years to come, as more ships are likely to go through the ice further to the north, where it is known that an unbroken mass of ice exists on 76°—77° N. Lat., all the more as there is reason to suppose that better ice-conditions are to be found close under this body of ice, as the loose ice will drift away from it.

IV.

METEOROLOGICAL OBSERVATIONS ON THE ALABAMA EXPEDITION

BY

H. HANSEN

Meteorological observations are as a rule taken on all arctic expeditions, as it may be very interesting for the expedition itself to obtain numerical expressions for the meteorological conditions under which it has worked in order to reach its goal. It may also be of great value to another expedition, sent out some time in the future to the same locality, to know the meteorological conditions which a preceding expedition had to compete with, and the manner in which it has been possible for it to surmount the difficulties caused by the weather conditions.

The meteorological observations collected on arctic expeditions are however also of great value for meteorological science in general, if gathered in such a manner that they — when researches over the atmospherical conditions and changes over large areas are to be made — can be worked into the observations taken in the same interval at the permanent meteorological stations in the surrounding net.

For such researches the observations taken on arctic expeditions can be of exceedingly great value, as the material as a rule is gathered in a locality, where there is a gap in the net of meteorological stations.

The observations can furthermore give some valuable information as to the knowledge of the climate in these out-of-the-way localities, but it must be remembered that the changes in the meteorological elements are large in the arctic regions, wherefore it is necessary to have observations which cover a large span of years in order to find even approximately correct means and extremes.

The observations from the North-east coast of Greenland can be of particular value for the construction of isobarmaps over the North-Atlantic Ocean.

This is illustrated on figs. 2—10, which show some isobarmaps, constructed on basis of observations from the permanent meteorological stations on Greenland, Iceland, Norway and Sweden, all worked together with the observations taken at the headquarters of the "Alabama Expedition" on Shannon Island. The distance from Shannon Island to the nearest permanent station (fig. 1) is about 1000 kilometers.

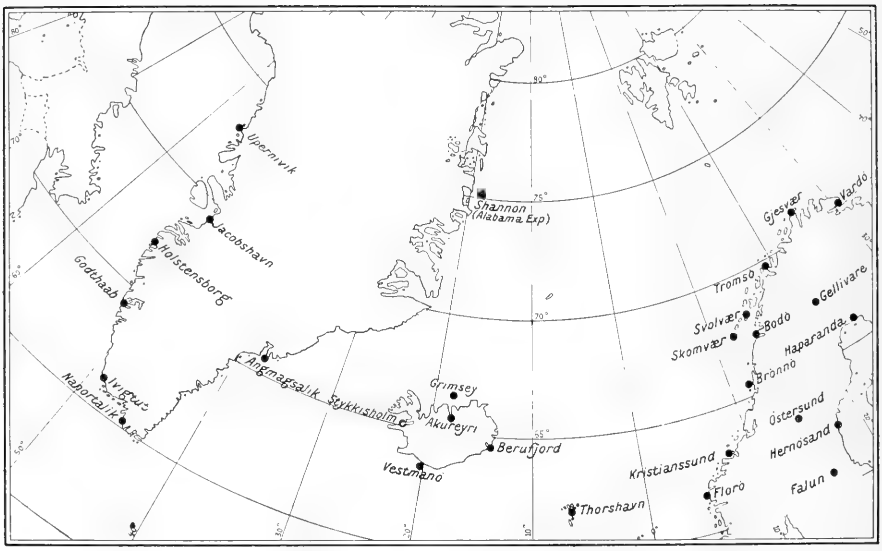


Fig. 1. Meteorological stations in the countries around the northern Atlantic and the Arctic Ocean, 1909—10.

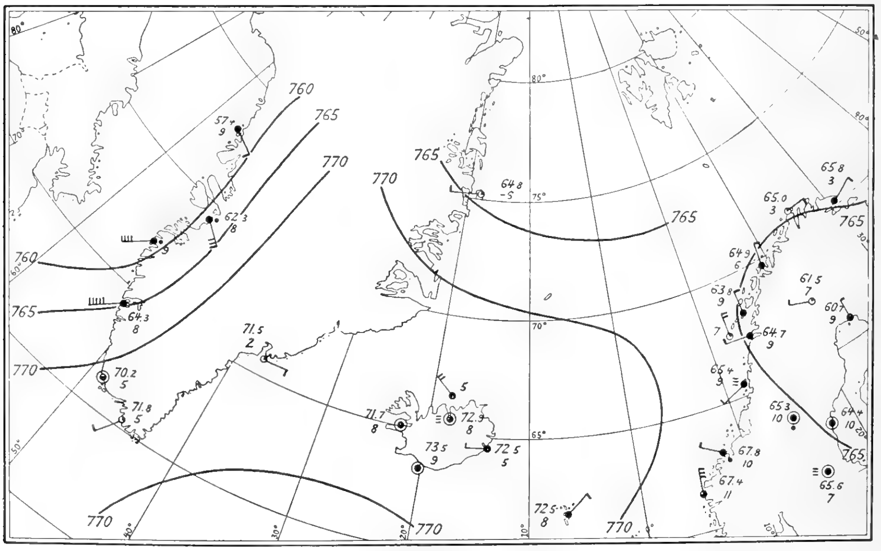


Fig. 2. September 25th 1909, 8 am.

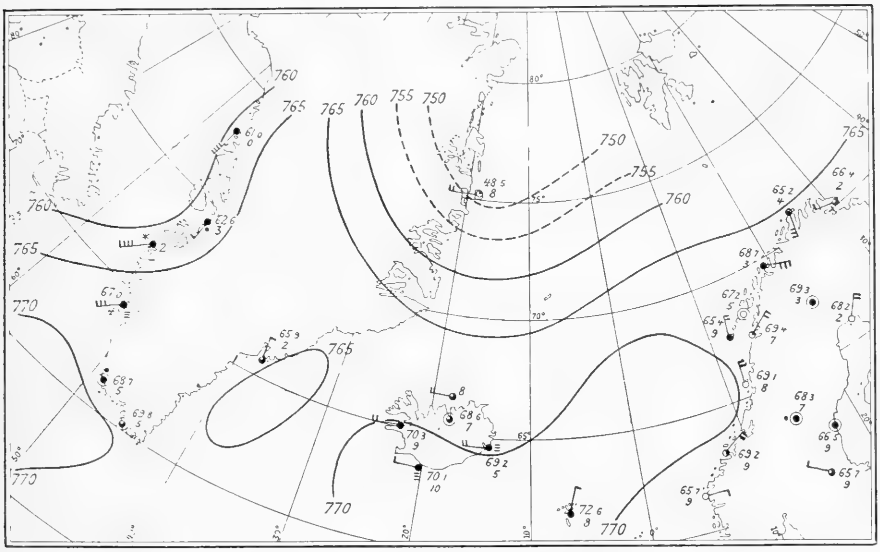


Fig. 3. September 26th 1909, 8 am.

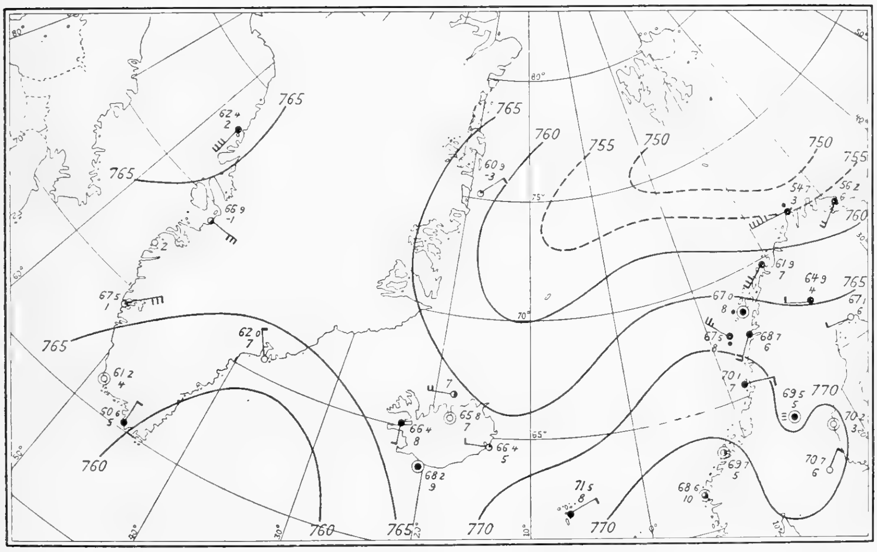


Fig. 4. September 27th 1909, 8 am.

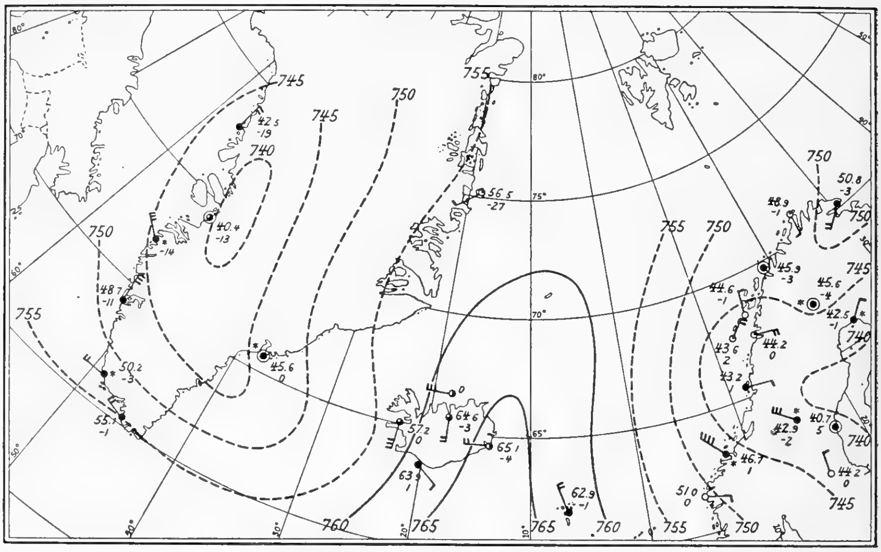


Fig. 5. March 18th 1910, 8 am.

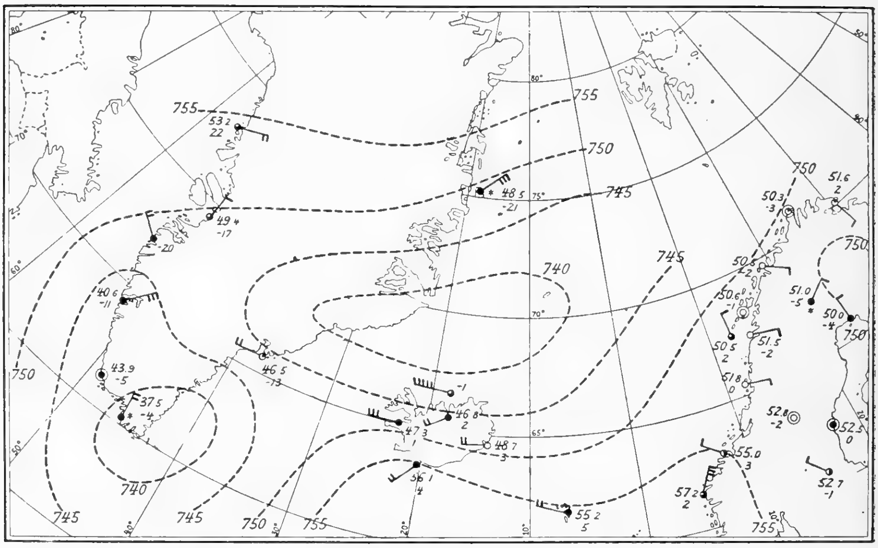


Fig. 6. March 19th 1910, 8 am.

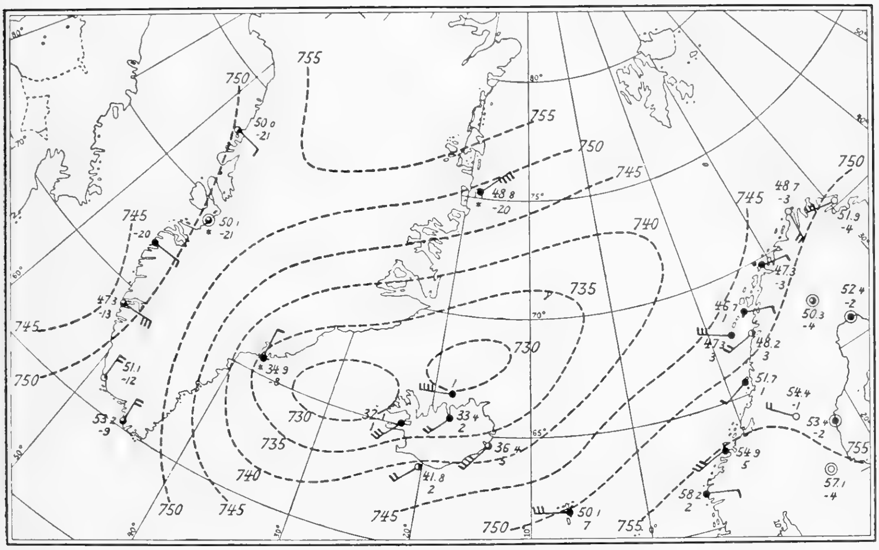


Fig. 7. March 20th 1910, 8 am.

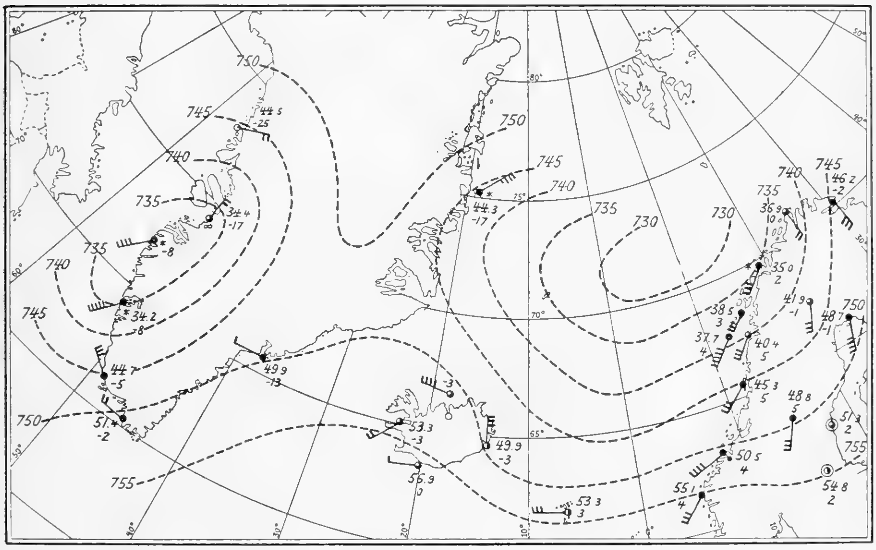


Fig. 8. March 21st 1910, 8 am.

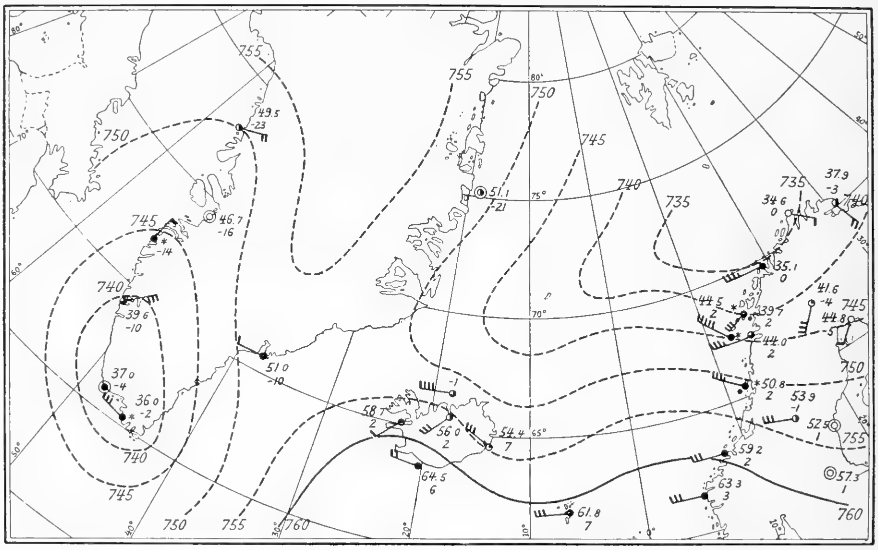


Fig. 9. March 22nd 1910, 8 am.

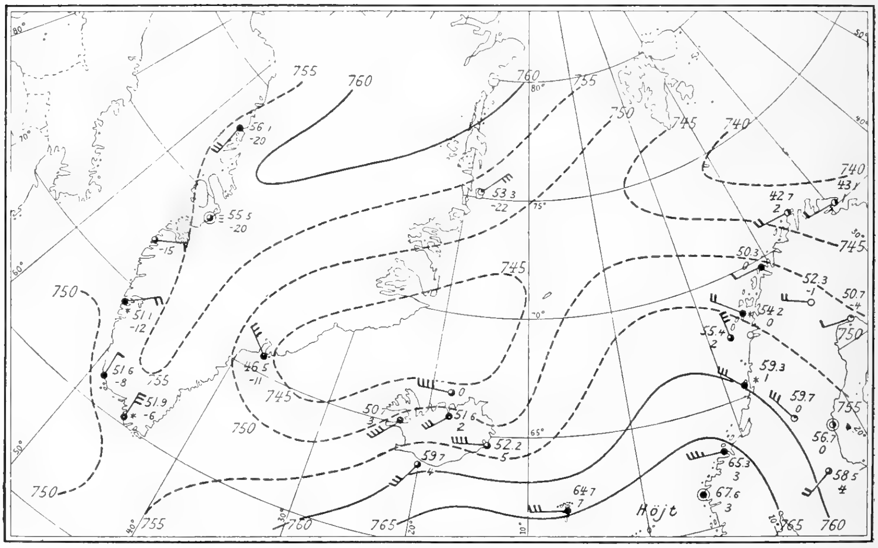


Fig. 10. March 23rd 1910, 8 am.

The "Alabama Expedition" worked in about the same localities on the Northeast coast of Greenland as did the "Danmark Expedition" in the years 1906—1908, and meteorological observations were made as well on the voyage to Greenland (Shannon Island), as in winter-quarters on Shannon Island and Bass Rock, and furthermore on sledge-expeditions across the inland-ice and along the Greenlandic North-east coast.

The Expedition had however not the same facilities nor instruments for making meteorological observations as the "Danmark Expedition" had, nor was any member of the Expedition a trained meteorologist, who could plan and carry out the daily routine work. The commander of the Expedition had himself collected the meteorological instruments, and he planned the observations made during the stay in Greenland.

Instruments.

The Expedition had the following meteorological instruments at its disposal:

1 Mercury barometer, Adie No. C. 553 (Kew pattern station barometer, with certificate).
1 Aneroid barometer (Ship's barometer).
1 Aneroid barometer, No. 977, diameter 6 cm, with certificate from Kew Observatory.
1 Aneroid barometer, diameter 4 cm.
1 Aneroid barograph, (Richard).
4 Station thermometers, mercurial, divided in half degrees.
1 Maximum thermometer, horizontally, divided in whole degrees.
1 Minimum thermometer, divided in whole degrees.
6 Sling thermometers, mercurial, divided in whole degrees.
2 Thermometer screens for placing the station thermometers.
2 Thermographs, (Fuess).
1 Pocket anemometer, (Schalenkreuz, Fuess).

The mercury barometer, the barograph, the station thermometers, the maximum and minimum thermometers and the thermometer screens, had been lent to the Expedition by the Danish Meteorological Institute, the thermographs and the anemometer by the "Danmark Expedition", while the rest of the instruments were bought at the firm of Cornelius Knudsen, Copenhagen.

The corrections on the barometers and thermometers had been found by comparison with the Normal instruments belonging to the Danish Meteorological Institute.

Comparisons between the ship's barometer and instruments belonging to the Meteorological Institute were made whenever possible on the sea voyage to Shannon Island, and while in the ports at Thorshavn, Reykjavik and Angmagsalik.

After the arrival at Shannon Island repeated comparisons were made between the mercury barometer and the aneroid barometers during the whole stay in Greenland in the years 1909—12. After the return to Copenhagen in 1912, the mercury barometer and the aneroid barometer No. 977 were again compared with the Normalbarometer belonging to the Danish Meteorological Institute, and the mercury barometer (Adie No. C. 553) had not changed its error in the interval.

Observers.

Messrs. EJNAR MIKKELSEN, V. LAUB and H. C. JØRGENSEN acted as observers through the whole time, as well at the winterquarters, as on the different sledge expeditions.

Observations.

All hours of Observations are given in local time.

The pressure of the atmosphere is reduced to 0° C., to sea level and to gravity at 45° lat. The gravity correction for latitude, C_g, is figured out according to the formula:

$$h - h_1, = h \times 0{,}00259 \cos 2\varphi,$$

which for $\varphi = 75° 17' 43''$ north. lat. (Shannon Island's North-east point).

gives $C_g = +1.65$ mm at 731.38 mm.
and $C_g = +1.75$ mm at 775.71 mm.

The temperature of the air is always taken on mercury thermometers, and temperatures below ÷ 34° C. are therefore uncertain.

The direction of the wind is given true. All observations on the sea voyage, during which the direction of the wind is given magnetic, are later on corrected for the deviation. In the tables are used the following abbreviations, viz:

N = North
E = East
S = South
W = West

The force of the wind is as a rule estimated and tabled according to the 12-divided scale (Beaufort's scale). On the sledge expedition made across the inland ice by Captain MIKKELSEN, and later on along the sea-coast from Danmark's Fjorden to Skærfjorden, the velocity of the wind is measured with a pocket-anemometer and tabled in metres pr. second.

It is considered gale, when the force of the wind registers 9 or above, according to the scale 0—12.

The amount of cloud observed on the sea voyage to Shannon Island and on Shannon Island from Sep. 1st 1909—July 31st 1910, as well as on Lieutenant LAUB's sledge expedition on the inland ice from April 10th to May 10th 1910, are tabeled according to a scale running from 0 = cloudless to 4 = overcast. All other cloud-observations are tabeled according to the customary international scale from 0—10.

The cloud-forms are tabeled according to the international classification. The following abbreviations are used in the tables:

Ci. = Cirrus
Ci.—St. = Cirro—Stratus
Ci.—Cu. = Cirro—Cumulus
A.—St. = Alto—Stratus
A.—Cu. = Alto—Cumulus
St.—Cu. = Strato—Cumulus
Cu. = Cumulus
St. = Stratus
Nb. = Nimbus.

The weather is entered in the tables for amount of cloud with the international symbols where

○ stands for Rain
∗ — - Snow
Ꙩ — - Sleet
≡ — - Fog
∞ — - Haze
♔ — - Aurora borealis

The following tables contain:

Table I. Ship observations taken on the sea voyage from Reykjavik to Angmagsalik in the interval from July 22nd to July 27th 1909. Furthermore the observations taken on the sea voyage from Angmagsalik to Iceland (Patricksfjord), from July 30th to August 4th 1909, and on the sea voyage from Iceland to Shannon Island from August 7th to August 24th 1909.

The observations were made by Lieutenant LAUB, and the hours of observation were: 4a, 8a, 12a, 4p, 8p, 12p. As barometer was used the ship's barometer (Aneroid). The temperature of the air was taken with a metal-cased thermometer, which in accordance with the instructions given by the Danish Meteorological Institute for ship's observations, was hung in a shaded spot with free access of air, not subjected to local heating or cooling.

The temperature of the surface water is also found according to instructions from the Meteorological Institute, according to which a bucket of water is taken onboard, wherein then is placed the thermometer, which is read after the lapse of a couple of minutes, in which time the water has repeatedly been stirred with the thermometer.

The direction of the wind is, as stated above, observed magnetic, but the directions in the tables have all been corrected for deviation.

In Table 2 are included all observations from Shannon Island NE point from Sept. 1st 1909 to July 31st 1910, from December 12th 1910 to April 22nd 1911; furthermore the observations from the journey along the coast to Skærfjorden from April 23rd to June 5th 1911 and at last, the observations taken on Shannon Island and Bass Rock from June 6th 1911 to July 17th 1912. The observations from Shannon Island are partly taken on the North-east point of the Island, partly at Cape Philip Broke (Shannon Island's SE point). When the Station "Shannon Island" is given in the table without any further remark, it always stands for the Shannon Island North-east point.

The position of these three stations are as follows:

Station:	N. lat.	W. long.
Shannon Island NE point	75° 18′	18° 0′
Cape Philip Broke	74° 57′	17° 38′
Bass Rock	74° 44′	18° 17′

The observations in the interval from September 1st 1909 to July 31st 1910 are all taken by Lieutenants Laub and Jørgensen and from December 12th 1910 to July 17th 1912 by Captain Mikkelsen.

The hours of observation were as a rule 8a, 2p and 9p. The pressure of the atmosphere is — where nothing else is stated — measured with the mercury barometer. Until March 25th 1910 the barometer was placed onboard the vessel, but then it was brought on shore and hung in a tent-house, about 7 metres above sea level.

There are obtained records on the barograph in the following intervals: September 1st 1909 to July 31st 1910, December 12th 1910 to March 20th 1911, April 10th to April 26th 1911, September 22nd to October 16th 1911, November 18th 1911 to February 5th 1912, February 13th to April 8th 1912 and from April 28th to July 14th 1912.

All the barometer-records in these different intervals are controlled through comparison with the record-charts on the barograph.

The temperatures from September 1st 1909 to July 31st 1910 were all read on the station thermometers, placed in thermometer screen. All other observations of the temperature are made by means of sling thermometers.

The thermometer screens were of a type used by the Danish Meteorological Institute (a description is given in "Meteorologisk Aarbog" for 1874) and they were hung on the mast from September 1st 1909 to March 25th 1910, about 1,5 meter above deck. From March 26th to July 31st 1910, the thermometer screens were hung on the northwest side of the tent-house, about 1,5 meter above the earth.

The maximum and minimum thermometers were somewhat out of order at the arrival in Shannon Island and proved to be rather uncertain.

Table 3 contains the observations made by Captain Mikkelsen in the interval from May 17th to September 15th 1910 while on the sledge expedition from Danmark's Fjord along the outer coast to Skærfjorden. The readings on the barometer are taken on an aneroid barometer, No. 977, the temperature is found by means of sling thermometers and the velocity of the wind by help of the anemometer.

In Table 4 are found all observations from the sledge expedition on the inland ice. On March 24th the sledges were brought up on the inland ice, and the journey was made on a NNW course. On April 9th 1910 the two parties separated and Captain Mikkelsen continued on the NNW course across Kong Frederik den VIII Land to Danmark's Fjord, which was reached on May 13th 1910. Lieutenant Laub travelled towards the West to Dronning Louise's Land and began the return-trip on May 1st, following about the same route as on the northbound journey.

The pressure of the atmosphere was measured with pocket-aneroid barometers and the temperature was taken with sling thermometers. The force of the wind was estimated by Laub, while it was measured on a pocket-anemometer by Mikkelsen on his journey from April 15th to May 13th.

For determination of heights by means of barometer observations, Laplace has given a formula which can be changed to[1]

$$Z\ (\text{metres}) = 18400\,(\log B_0 - \log B)\left[\begin{array}{l}(1 + 0.00367\,\theta)\\ \left(1 + 0.378\,\frac{e}{b}\right)\\ (1 + 0.00266\cos 2\,\varphi)\,(1 + 0.00239)\\ \left(1 + \frac{Z + 2h_0}{R}\right)\end{array}\right]$$

[1] S. P. Langley: Smithsonian Meteorological Tables, Washington, 1893.

Where B_0 = Pressure of the atmosphere on the lowest placed station.
B = Pressure of the atmosphere on the highest placed station.
θ = Mean temperature of the air column between the two stations.
e = Mean pressure of aqueous vapours in the air column.
b = Mean barometric pressure of the air column.
φ = the latitude of the station.
h_0 = the height of the lowest placed station.
R = the mean radio of the earth.

If this formula is used for figuring out the elevation on basis of Captain MIKKELSEN's and Lieutenant LAUB's observations on the pressure of the atmosphere, it is possible to omit the three last factors of the formula, as these, on account of the high geographical latitude (above 75°) and the comparatively small elevations here, have no influence on the ultimate results.

With the 3 last factors out of the reckoning, the formula then reads as follows:

$$Z = 18400 (\log B_0 - \log B) (1 + 0.00367\,\theta) \left(1 + 0.378 \frac{e}{b}\right)$$

In this, the e — the mean pressure of aqueous vapours in the air column — is unknown, as the vapour pressure was not at all ascertained during the expedition. Its influence on figuring out the elevations is however exceedingly small. With a temperature of f. inst. ÷ 20° and an elevation above the sea level of 1000 metres, the factor $\left(1 + 0.378 \frac{e}{b}\right)$ would only change the result with $^1/_2$ metre, even if the air was saturated with vapours.

If this factor is then let out of the reckoning all together, the formula will be reduced to:

$$Z = 18400 (\log B_0 - \log B) (1 + 0.00367\,\theta)$$

and the elevations found in table 4 are computed according to this.

In order to be able to figure out the elevation of a certain place according to above simplified formula, it is then necessary to know the barometer-reading at the spot, B.,

the corresponding barometer-reading, B_0, at sea level in the vertical of the spot and

the mean temperature, θ, of the vertical air column.

Are these factors known, the figuring out of the elevation is comparatively easy to make.

For instance:

$$B = 691.0 \text{ mm.},\ B_0 = 765.1 \text{ mm.},\ \underbrace{t = \div 24°,\ t_0 = \div 19{,}2°}_{\theta = \div 22°}$$

$$Z = 18400 (\log 765.1 \div \log 691.0) (1 \div 0.08074) = 748 \text{ metres.}$$

θ is here considered as mean of the temperature on the spot, t, and the corresponding temperature at the permanent station on Shannon Island, t_0.

For finding B_0, we have the following material from the permanent station in Shannon Island; 1) readings on a mercury barometer at 8a, 2p and 9p., 2) barograph-records from the aneroid barograph placed there, and the pressure of the atmosphere is consequently known at any moment within the 24 hours.

As however the spots, whose elevation above sea level we are to figure out, are all to be found from 200 to 600 km NNW of Shannon Island, the values for B_0 in the vertical of the different spots will be somewhat different from the corresponding barometer-readings on Shannon Island. In order to examine this I have constructed isobarmaps, computed from observations taken at the permanent meteorological stations in Greenland, on Iceland and on Shannon Island for the hours 8a, 2p and 9p, and I have endeavoured to extend the isobars to the localities of which the elevation shall be ascertained.

In some cases the isobars can be drawn with a comparatively great certainty, while in other cases it is not possible even to judge the direction of the gradient or its value, wherefore in these cases, I have been compelled to use the barometer-readings from Shannon Island.

The barometer-reading on the height-stations under debate is of course also somewhat uncertain, as the readings have all been made on an aneroid barometer. As is well known, these barometers are not so accurate as mercurial barometers, particularly when there is some disturbance in the air.

The uncertainty in the calculated elevations is largely owing to the uncertainty in B_0 and B, while the error in θ in comparison with the above is quite insignificant.

The results from the stations where observations have been made for several days indicate, however, that the difference between the different height-observations on the same spot rarely exceeds 30—40 metres.

In Table 4 are found the observed barometer-readings and temperatures, as well as the values for B_0 and θ, used for computing the calculations for the elevation according to the formula found above.

Table 5 contains monthly summaries of observations from Shannon Island and Bass Rock, covering the interval between September 1909 and July 1912.

The mean pressure of the atmosphere, the mean force of the wind, and the mean amount of cloud are without correction calculated as mean of the daily observations. The value for the amount of cloud, which from September 1909 to July 1910 were observed after the scale 0—4, is here reduced to the international scale (0—10).

For figuring out the mean temperature, the following formula has as a rule been used:

$$\frac{2\,(8a + 2p) + 5\,(9p)}{9}$$

In the cases, where observations are made at other hours than the customary ones, or have been incomplete, other combinations are used.

In Table 6 a comparison is made of the monthly means of observations as to the pressure of the atmosphere and the temperatures of the air from North-east Greenland — Danmarks Havn, Shannon Island and Bass Rock — covering a span of years from 1906—1912.

For the months from January to July, as well as for December we have now observations from these localities for 5 years, for August in 3 years and for the months September—November in 4 years.

It must however be remarked, that the figures for August 1906, July 1908, December 1910 and July 1912 are calculated on basis of observations in respectively 15, 21, 20 and 17 days, and furthermore, that the mean of the pressure of the atmosphere for the month of March to May 1912 are based on respectively 20, 14 and 18 days, and at last, that the mean temperatures for the months of January to March 1912 are somewhat uncertain, as some rather low temperatures are included in this material, which temperatures cannot be determinated with certainty by means of a mercurial thermometer.

Tab. 1. Observations taken on board ship.

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Baro-meter mm 700 +	Air Tempera-ture C°	Wind Direction and Force (0—12)	Cloud Amount (0—4) and Weather	Tempera-ture of Surface-water C°	Remarks
1909	July	22	4 p	64°15′	22°31′	51.7	12.6	N 2	4 ⊙	11.7	
			8 p	64°19′	23°2′	53.0	10.9	N 2	2	10.8	
			12 p	64°23′	23°45′	54.0	9.4	N 2	1	10.5	
		23	4 a	64°27′	24°33′	54.7	9.7	N 2	1	10.5	
			8 a	64°33′	25°28′	56.0	10.4	NNE 2	3	10.5	
			12 a	64°38′	26°48′	57.8	10.2	N 3	4 ∞	10.3	
			4 p	64°42′	27°45′	59.8	7.4	N 5	4	9.5	
			8 p	64°52′	28°55′	61.0	6.4	N 4	3	9.2	
			12 p	65°02′	29°45′	61.8	6.1	NNW 3	2	9.0	
		24	4 a	65°06′	30°20′	61.9	5.9	NNW 1	1	9.0	
			8 a	65°07′	30°45′	61.5	9.1	NNW 2	2	9.7	
			12 a	64°30′	30°57′	62.2	11.2	WNW 2	3	9.7	
			4 p	64°38′	31°17′	61.0	9.9	W 3	3	9.5	
			8 p	64°50′	31°37′	59.6	5.9	W 3	4	9.0	
			12 p	65°8′	31°57′	59.3	6.3	W 3	3	9.0	
		25	4 a	65°21′	32°25′	57.5	8.3	WSW 3	4	9.0	Saw 2 icebergs
			5 a				5.4			4.2	Passed 2 miles to leeward of an iceberg
			6 a				5.4			4.3	
			7 a				5.6			4.4	
			8 a	65°27′	32°55′	55.8	4.1	WSW 3	3	2.6	Passed a strong ripple
			9 a				6.6			3.7	
			10 a				6.3			3.5	
			11 a				6.4			3.4	

Tab. 1. (continued) **Observations taken on board ship.**

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Force (0—12)	Cloud Amount (0 4) and Weather	Temperature of Surface-water C°	Remarks
1909	July	25	12 a	65°29′	33°33′	54.8	7.3	WSW 2	3	3.7	Passed to leeward of an iceberg
			4 p	65°27′	33°55′	53.7	8.6	WSW 2	3	4.5	2 pm. Entered the ice
			8 p	65°30′	34°28′	53.5	3.6	SW 1	3	1.1	In the ice
			12 p	65°28′	34°55′	53.6	4.4	WSW 1	4 ∞	2.4	» » »
		26	4 a	65°27′	35°25′	53.9	3.4	WSW 1	4 ≡	1.5	» » »
			8 a	65°26′	36°5′	53.9	5.1	SW 1	4 ≡	2.2	» » »
			12 a	65°25′	36°20′	53.6	6.2	0	4 ≡	1.8	» » »
			4 p	65°25′	36°20′	53.4	7.9	0	4 ≡	1.8	» » »
			8 p	65°25′	36°20′	53.0	6.4	0	4 ∞	1.5	» » »
			12 p	65°20′	36°30′	52.8	1.5	0	4 ≡	1.0	» » »
		27	4 a	65°20′	36°30′	52.8	1.5	0	4 ≡	—0.5	» » »
			8 a	65°25′	36°50′	52.9	4.2	0	4 ∞	0.8	» » »
			12 a	65°30′	37°15′	52.9	4.7	0	4 ≡	0.5	» » »
			4 p	65°30′	37°30′	53.5	5.2	0	4 ≡	0.8	» » »
			8 p	65°30′	37°30′	54.0	3.0	0	4 ≡	1.2	» » »
			12 p	65°36′.5	37°33′.5	54.7	4.9	0	4 ≡	—	Arrived at Angmagsalik 11.30 pm
		30	8 a	65°30′	37°15′	56.8	5.9	0	1	4.0	Left Angmagsalik at 6 am
			12 a	65°30′	36°55′	57.1	5.4	0	1	2.5	Very slack ice
			4 p	65°27′	36°5′	57.2	6.1	S 1	3	3.8	» » »
			8 p	65°22′	35°50′	57.7	4.1	NE 1	4 ≡	1.8	» » »
			12 p	65°18′	35°5′	58.1	3.4	0	4 ≡	2.4	No ice
		31	4 a	65°20′	34°50′	58.0	4.4	S 1	4 ≡	3.2	
			8 a	65°20′	34°35′	58.0	5.6	S 1	4 ∞	3.6	
			12 a	65°23′	34°21′	58.0	9.4	S 1	4	6.5	
			4 p	65°25′	33°50′	58.8	7.8	S 1	4	2.5	
			8 p	65°27′	33°8′	58.0	6.8	S 1	4 ∞	3.5	
			12 p	65°29′	32°35′	58.1	6.4	S 1	3	4.0	
	August	1	4 a	65°30′	32 10′	57.9	7.9	S 1	4 ∞	6.6	

1909	August	1	8 a	65°30′	32°5′	57.8	5.9	SSE	1	4 ≡ ○	4.5	
			12 a	65°32′	31°50′	57.0	8.0	SSE	1	4 ≡ ○	5.0	
			4 p	65°35′	31°10′	55.5	8.1	SE	1	4 ∞ ○	5.0	
			8 p	65°41′	30°35′	54.3	7.4	SE	2	4 ∞ ○	5.0	
			12 p	65°48′	29°54′	53.0	6.4	SE	1	4 ≡	2.4	
			4 a	65°55′	29°12′	51.8	6.1	SE	1	4 ≡ ○	4.0	Temperature of surface water 0.20 a
		2	8 a	65°58′	28°35′	50.5	7.3	SSE	1	4 ≡ ○	6.2	0°7, 1.00 a 2°0, 1.30 a 2°0, 1.30 a 2°3
			12 a	66°2′	28°16′	49.6	8.9	SSE	1	4 ∞ ○	6.0	
			4 p	65°5′	28°5′	50.0	9.3		0	4 ∞ ○	6.1	
			8 p	65°5′	28°5′	50.0	9.0		0	4 ≡ ○	6.2	
			12 p	65°5′	28°5′	50.0	7.9		0	4 ≡ ○	6.9	
		3	4 a	65°5′	28°5′	49.2	6.9		0	4 ≡ ○	5.9	
			8 a	66°0′	27°45′	47.2	6.9		0	4 ≡ ○	6.5	
			12 a	66°1′	27°10′	46.0	7.3	N	1	4 ≡ ○	5.8	
			4 p	66°0′	26°35′	43.0	8.9	N	1	4 ∞ ○	10.3	
			8 p	65°58′	25°50′	43.3	8.8	N	2	4 ∞ ○	10.0	
			12 p	65°59′	25°10′	42.9	6.9	N	3	4 ○	9.9	
		4	4 a	66°0′	24°0′	42.0	8.0	N	4	4 ○	9.2	
			8 a	65°38′	24°10′	43.5	8.4	N	7	4 ○	9.5	
			12 a	65°38′	24°10′	45.1	9.2	N	6	4 ○	9.5	
		7	4 p	67°0′	22°0′	56.5	—	SE	3	1	—	
			8 p			56.0	6.1	SE	2	2	6.0	
			12 p			56.0	5.9	E	5	4	6.0	
		8	4 a			56.0	4.9	ENE	5	4	5.5	
			8 a			56.8	5.4	ENE	4	4	5.0	
			12 a	68°17′	21°30′	57.2	4.7	NE	2	4	5.0	
			4 p			57.2	3.6	ENE	2	4	4.3	2.25 pm.: Passed an iceberg
			8 p			57.2	2.7	ENE	3	4 ≡	3.0	5.30 pm.: » » »
			12 p			57.7	2.5	NE	3	4 ≡	2.5	6 p: » » »
		9	4 a			58.1	2.2	N	2	4 ≡	2.0	12 p: » » »
			8 a			58.8	2.7	NE	2	3	3.0	
			12 a	68°35′	20°00′	59.0	6.9	NE	3	3	5.0	
			4 p			59.8	4.2	NE	3	3	4.8	
			8 p			59.6	5.4	NE	1	3	5.6	
			12 p			59.7	4.2		0	2	4.7	
		10	4 a			59.5	4.4		0	1	5.5	

Tab. 1. (continued) Observations taken on board ship.

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Force (0—12)	Cloud Amount (0—4) and Weather	Temperature of Surface-water C°	Remarks
1909	August	10	8 a			59.3	6.8	0	0	6.0	
			12 a	68°41′	19°13′	58.3	9.2	SE 1	0	6.0	
			4 p			57.3	6.9	ENE 1	2	6.2	3 pm. Packice in W
			8 p			56.0	4.2	ENE 1	4	3.3	Seatemp. 5 p : 6.5, 6 p : 5.5, 7 p : 4.1
			12 p			56.3	1.8	0	3	1.0	Seatemp. 9 p : 2.5, 10 p. : 2.0, 11 p. : 1.5
		11	4 a			56.2	2.0	0	2	2.3	Seatemp. 1 a : 2.4 2 a : 2.0, 3 a : 2.5
			8 a			56.2	2.9	WSW 1	2	3.5	Seatemp. 5 a : 2.0, 6 a : 2.6, 7 a : 3.1
			12 a	69°38′.5	16°2′	56.2	4.7	0	4	4.0	Seatemp. 9 a : 3.5, 10 a : 3.5, 11 a : 3.5
			4 p			55.4	3.5	N 1	4 ∞	4.3	
			8 p			54.9	3.7	E 1	4 ∞	4.0	
			12 p			54.2	4.1	0	4 ◎	4.0	
		12	4 a			54.0	3.7	E 1	4 ◎	4.2	Seatemp. 1 a : 4.0, 2 a : 4.5, 3 a : 4.0
			8 a			53.9	3.5	NE 1	4 ◎	3.9	Seatemp. 5 a : 4.0, 6 a : 4.0, 7 a : 4.0
			12 a	70°50′.1	14°11′	54.0	—	N 1	4 ∞	—	
			4 p			54.1	4.4	NNE 2	4 ◎	4.7	
			8 p			54.4	3.6	N 2	4 ∞	4.3	
			12 p			55.0	2.7	N 2	4 ∞	4.1	
		13	4 a			55.1	3.1	NW 3	4 ◎	4.0	
			8 a			55.2	2.4	NW 1	3	3.5	
			12 a	71°36′.5	13°12′	56.0	5.7	NW 1	1	3.5	
			4 p			56.8	4.7	ENE 1	1	4.5	
			8 p			57.1	3.4	ENE 1	2	3.1	
			12 p			57.8	4.1	0	4 ∞	2.6	
		14	4 a			57.9	1.2	NW 1	4 ∞	3.0	Seatemp. 1 a : 1.2, 2 a : 3.5, 3 a : 2.5
			8 a			57.9	2.4	N 1	4 ∞	2.4	Seatemp. 5 a : 2.5, 6 a : 2.4, 7 a : 2.5
			12 a	72°32′	10°40′	57.5	4.4	N 1	4 ∞	3.5	Sailed along the edge of the packice
			4 p			57.2	3.4	0	4 ∞	1.5	
			8 p			57.0	2.9	0	4 ◉	4.0	

1909	August	14	12 p			57.0	2.9	ESE	1	4	3.6	
		15	4 a			56.1	3.5	ESE	1	4	3.6	
			8 a			56.1	4.1	SE	1	4	4.0	
			12 a	73°17′	8°21′	56.1	4.9	E	1	3	5.0	
			4 p			56.0	4.7	ESE	2	4 ⊙ ∞	4.4	
			8 p			55.5	3.4	ESE	2	3	4.0	
			12 p			54.5	3.9	E	1	3	4.0	
		16	4 a			54.1	3.4	E	2	4 ⊙ ∞	2.6	
			8 a			52.5	3.4	E	1	4 ∞	2.6	Seatemp. 9a : 2.6, 10a : 3.0, 11a : 3.1
			12 a	74°35′	9°45′	51.2	4.7	ENE	1	4 ≡	3.2	Seatemp. 1p : 3.0, 3p : 1.5
			4 p			50.7	2.9	ENE	1	4 ≡	1.5	Seatemp. 6p : 1.5, 7p : 1.5, 10p : 1.5
			8 p			50.4	2.4	ENE	1	4 ≡	1.5	
			12 p			50.2	2.4	ENE	1	4 ⊙ ≡	1.5	
		17	4 a			48.2	2.0	ENE	2	4 ≡	0.0	Seatemp. 1a : ÷ 0.5, 2a : ÷ 0.3, 3a : ÷ 0.3
			8 a			—	1.0	ENE	3	4 ∞	0.1	
			12 a	74°45′	11°27′	45.0	—	E	3	4 ⊙	—	
			4 p			43.3	—	N	3	4 ⊙ ≡	—	
			8 p			42.7	—	N	3	4 ⊙ ≡	—	
			12 p			—	—	—		—	—	
		18	4 a			43.3	—	N	3	4 ⊙ ≡	—	
			8 a			47.3	—	N	3	4 ≡	—	
			12 a	74°55′	13°9′	49.3	—	N	3	3 ∞	—	
			4 p			51.0	—	NW	1	1	—	
			8 p			53.0	—	NW	1	1	—	
			12 p			50.2	—		0	0	—	
		19	4 a			54.3	1.7		0	1	2.0	
			8 a			56.8	2.0	SW	1	1	1.8	
			12 a	75°46′	14°50′	60.0	3.4	SW	1	2	2.0	
			4 p			60.5	4.9	WNW	1	1	2.0	
			8 p			61.0	3.9	NW	1	1	2.0	
			12 p			61.1	—1.5	NNW	3	1	—1.0	
		20	4 a			61.5	0.5	NNW	3	2	—0.2	
			8 a			61.6	4.1	NNW	2	1	1.7	
			12 a	75°32′	16°35′	61.8	—	NNW	3	1	—	
			4 p			62.0	—	NW	3	2	—	
			8 p			61.3	—	N	3	3	—	

Tab. 1. (continued) **Observations taken on board ship.**

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Force (0—12)	Cloud Amount (0—4) and Weather	Temperature of Surface water C°	Remarks
1909	August	20	12 p			60.0	—	N 5	4	—	
		21	4 a			—	—	—	—	—	
			8 a			58.3	0.7	N 3	4	—0.3	
			12 a	75°8′	17°0′	57.5	—	N 3	4 ∗	—	
			4 p			56.2	1.0	N 4	4 ∗	—0.2	
			8 p			56.5	—	N 4	4 ∞	0.3	
			12 p			55.0	—	N 4	4 ∗	—1.5	
		22	4 a			53.4	—	N 5	4 ≡ ∗	—1.6	
			8 a			—	—	N 5	4 ≡	—	
			12 a			52.0	—	N 4	4 ⊙	—1.4	
			4 p			52.0	—	N 4	4 ⊙	—	
			8 p			51.0	—	N 1	4 ⊙	—	
			12 p			50.7	—1.0	N 1	4 ∞	—	
		23	4 a			50.5	—1.0	NNW 1	4 ∗ ∞	0.0	
			8 a			50.7	0.5	NNW 3	4 ∗ ∞	0.0	
			12 a			50.7	0.3	NNW 4	4 ∗	—	
			4 p			—	—	—	4 ∗	—	
			8 p			51.1	—	—	4 ∗	—	
			12 p			50.0	0.2	NW 2	4 ∗	—0.9	
		24	8 a	74°45′	17°35′	50.5	—	—	—	—	

Tab. 2. Observations on Shannon Island, sledge voyage to Skærfjorden and at Bass Rock from Sept. 1st 1909 to July 17th 1912.

September. **Shannon Island.** **1909.**

Date	Barometer mm 700 +			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—4) and Weather			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
1	56.4	56.9	56.3	— 0.3	0.9	— 0.9	NE 5	NE 2	SW 1	0	0	0	
2	54.8	53.7	52.1	— 2.2	0.6	— 2.4	0	0	0	0	0	0	
3	53.4	53.5	53.5	— 0.6	2.6	2.1	NE 2	NE 3	NE 2	1	1	1	
4	54.9	55.0	53.8	2.6	3.5	— 1.2	NE 3	NE 2	0	0	1	0	
5	56.0	57.3	58.3	0.6	3.0	0.7	W 1	NE 3	NNE 2	0	0	0	
6	60.3	62.4	64.0	0.3	0.3	— 2.7	N 2	ESE 1	0	0	1	0	
7	61.9	59.8	54.7	— 1.9	— 1.0	— 3.7	SW 2	SW 1	SSW 2	0	2	4 ∞	Fog from 12a—1.30p
8	51.0	52.3	53.0	— 1.9	— 1.3	— 4.1	NNE 4	NNE 7	NNE 6	4 ∞	4	3	
9	53.5	54.4	56.2	— 1.0	0.3	0.9	NNE 6	NNE 4	N 4	3	4	3	
10	58.0	57.4	55.4	— 1.6	— 1.0	— 2.2	NNE 2	0	0	3	3	4 * ∞	
11	56.2	58.1	60.1	— 3.2	— 2.3	— 1.6	NE 3	NE 3	NNE 3	4	2	4	
12	55.3	54.9	54.5	— 1.3	—	— 0.5	NE 5	NE 6	NE 3	4	4	4	
13	55.3	55.3	57.5	— 1.1	3.3	— 0.6	SW 1	WNW 1	NNE 1	0	0	0	
14	56.3	53.7	53.5	— 1.4	— 1.4	— 2.9	0	0	0	3	4	4	
15	59.2	61.8	63.1	— 2.4	— 0.9	— 3.9	0	WNW 2	W 1	4	3	0	
16	62.5	62.9	62.3	— 3.7	— 3.3	— 3.7	NNE 2	NNE 2	NNE 2	0	1	4	
17	62.6	63.0	62.7	— 3.9	— 3.6	— 4.7	0	0	0	0	0	0	
18	65.7	65.6	67.5	— 5.4	— 4.7	— 5.1	0	0	0	4	2 ∞	4 ∞	
19	65.4	62.4	58.0	— 4.7	— 3.5	— 5.9	0	0	0	—	1	0	
20	57.0	58.3	59.9	— 6.7	— 4.3	— 4.4	WSW 1	0	WSW 2	0	3	0	
21	64.8	64.4	59.3	— 3.7	— 1.4	— 3.7	0	0	WSW 4	4	0	2	
22	65.6	70.1	72.8	— 5.1	— 3.1	— 5.8	NNE 3	N 1	N 1	0	0	0	
23	70.4	67.9	66.6	— 4.2	— 1.4	— 2.5	SW 2	SW 2	WSW 1	3	2	0	

Tab. 2. (continued) **Shannon Island.**
September/October/November. **1909.**

Date	Barometer mm 700 +			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—4) and Weather			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
24	67.8	68.0	67.7	— 4.2	— 4.2	— 4.3	NE 2	0	W 2	0	0	0	
25	64.8	62.9	58.5	— 5.6	— 3.0	— 6.0	W 2	—	W 1	0	1	0	
26	48.5	54.0	56.8	7.6	6.4	1.4	W 3	NE 3	NE 4	1	2	0	
27	60.9	62.7	64.3	— 3.4	— 0.3	— 2.7	NE 1	NE 1	NE 1	2	3	1	
28	61.1	61.2	60.9	— 8.1	— 5.8	— 6.7	0	0	SW 1	0	4≡	4≡	
29	65.8	68.3	68.7	— 8.6	— 7.5	— 8.2	NE 5	NE 5	NE 5	3✱∞	2∞	4✱∞	
30	69.1	66.8	65.5	— 9.1	— 8.0	— 9.2	NE 1	0	W 3	3✱∞	1	0	
Oct.													
1	55.6	52.8	52.8	— 9.0	— 7.9	— 9.5	WSW 4	0	NE 3	2	1	2	
2	56.7	59.1	59.7	—14.2	—12.8	—13.7	NE 3	NE 4	NE 5	2	2	4✱∞	
3	61.1	61.1	60.4	— 9.2	—10.2	— 9.6	NE 4	NE 4	NE 3	3	2	4	
4	59.1	59.2	59.8	—11.1	—11.7	—12.2	NE 2	NE 6	NNE 5	4✱∞	4✱≡	4✱≡	
5	61.5	61.5	63.5	—12.7	—13.9	—14.9	NNE 4	NNE 2	NNE 4	3	3	4∞	
6	62.8	60.6	59.4	—15.4	—14.9	—16.1	NE 1	0	NE 2	1	1	1♔	
7	54.6	57.7	58.5	—18.4	—16.2	—17.5	NE 8	NE 8	NE 8	4✱	3✱	2✱	
8	59.8	62.0	64.2	—17.0	—16.2	—17.7	NE 5	NE 4	NE 4	2	0	0♔	
9	66.5	65.8	70.4	—18.9	—18.5	—17.9	NE 5	NE 3	NE 3	0	2	1♔	
10	67.1	65.5	64.8	—17.3	—16.4	—15.4	NE 4	NE 4	NE 6	2	3	4	
11	60.9	62.1	63.7	—15.4	—16.5	—16.4	NE 2	NE 2	NE 1	4	2	0♔	
12	68.1	69.3	70.0	—15.9	—15.2	—15.2	NE 3	NE 4	NE 4	1	3	4	
13	68.2	65.1	62.0	—13.5	—13.1	—14.3	0	0	SW 2	2	1	0	
14	63.4	62.4	61.8	—11.1	—10.2	—12.2	NE 4	NE 6	NE 7	0	0	0	
15	62.7	62.5	63.0	—13.9	—12.8	—10.5	NE 5	NE 6	NE 7	0	1	1	
16	64.0	64.4	67.6	— 9.4	—12.9	—13.8	NE 6	NE 7	**NE 9**	3	2	4✱∞	
17	68.8	69.2	65.0	—16.7	—16.4	—13.7	NE 1	0	0	1	1	0	
18	63.1	62.8	62.2	—14.5	—14.6	—17.1	W 2	NE 3	NE 7	3✱∞	4✱∞	4✱∞	
19	59.5	59.1	60.5	—16.2	—15.7	—15.9	**NE 9**	NE 8	NE 6	4✱≡	4✱≡	4✱∞	

20	62.2	62.6	62.8	—15.5	—14.4	—13.3	NE	4	NE	2	NE	4	3	3	4	
21	62.7	61.9	60.7	—12.9	—12.1	—13.2	NE	7	NE	7	NE	5	4∗≡	3∗∞	4∗≡	
22	58.2	58.1	57.9	—15.3	—13.8	—17.4	NE	6	NE	5		0	4	4	2	
23	58.2	58.9	60.1	—20.2	—19.2	—18.9		0	—		N	2	1	—	0	
24	61.5	60.9	60.8	—15.5	—13.8	—11.7	NE	1	NW	3	NW	1	0	0	0♔	
25	60.0	64.3	65.1	— 8.0	— 7.5	— 6.0	NE	3	N	3	N	2	3	3	2♔	
26	64.8	63.6	66.2	— 5.0	— 8.2	— 7.9	NW	2		0	NE	2	2	0	0	
27	69.6	69.7	71.9	—11.4	— 9.7	—10.7		0	WNW	1		0	1	0	0	
28	72.0	70.7	69.6	—14.1	—14.9	—16.2		0	W	1		0	1	2≡	2	
29	66.1	65.9	66.9	—17.9	—19.4	—19.8		0		0		0	4≡	3∞	1	
30	69.8	69.9	67.7	—17.4	—17.7	—18.0		0		0	W	2	2	2	4≡	
31	63.2	62.0	59.3	—15.4	—14.3	—14.4		0	SW	3	SW	3	2	2	3	
Nov.																
1	57.7	56.9	56.5	—20.0	—19.6	—21.5		0		0		0	1	1	0	
2	59.1	60.8	63.3	—17.3	—18.0	—18.4	NE	2		0		0	2	2	3	♔ Large halo round the moon
3	64.3	64.2	63.4	—18.2	—17.9	—14.3		0		0	NE	3	2	3	4	
4	60.3	59.6	59.2	—15.2	—14.5	—13.1	NE	4	NE	5	NE	7	3	3	2	
5	62.0	62.7	62.0	—11.3	—12.5	—14.2	NE	6	NE	5	NE	6	2	2	1	
6	56.6	55.6	57.3	—16.6	—15.2	—15.7		0	NE	1	NE	5	1	3	2	
7	52.9	50.4	46.0	—17.8	—17.9	—17.1	NE	4	NE	5	NE	7	2	4	4∗∞	
8	44.7	45.2	50.0	—10.4	— 9.2	— 8.2	**NE**	**9**	NE	7	**NE**	**9**	4∗∞	4∗≡	4∗≡	
9	58.1	63.5	63.9	—13.3	—14.5	—16.7	NE	3	NE	2	N	3	3	3	0	
10	64.8	65.4	67.8	—17.2	—16.5	—12.8	NE	2	NE	4	NE	6	1	2	3	
11	63.2	61.0	63.9	—14.9	—11.5	—11.7	WSW	4	W	5	NE	4	2	1	1	
12	67.0	68.6	74.1	—11.0	— 9.9	— 9.7	NE	1	NE	2		0	4	4∗∞	0	
13	72.5	69.6	68.6	—12.9	—12.3	—12.9	NE	1	NE	2	NE	2	0	1	2♔	
14	68.1	67.0	64.3	—16.9	—16.7	—19.7		0		0	NE	2	1∞	1	1	
15	61.1	61.3	60.6	—19.5	—18.4	—18.7	NE	4	N	4	N	4	4∗≡	4∗≡	4∗≡	
16	60.4	60.9	59.5	—20.1	—18.4	—17.5	NNE	3	NNE	3	NE	2	4∗≡	4∞	4∗≡	
17	61.5	59.4	60.1	—21.4	—21.8	—21.3		0		0	NE	1	0	0	4∞	♔
18	62.3	65.2	65.8	—20.9	—20.9	—16.7		0	S	1	NE	1	0	2	3∞	♔
19	68.6	69.7	70.6	—15.3	—14.7	—17.5	NE	3	N	1		0	3	0	0♔	
20	71.6	72.2	70.7	—18.4	—20.5	—20.9		0		0		0	0	1	0♔	
21	63.9	62.3	59.8	—18.9	—19.1	—21.1		0	S	1		0	0	3	1	
22	57.0	59.6	63.0	—15.4	—10.2	— 9.5	NE	1	N	2	NE	4	1	1	1♔	

Tab. 2. (continued)
November/December January.

Shannon Island.

1909/1910.

Date	Barometer mm 700 + 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a		2p		9p		Cloud Amount (0—4) and Weather 8a	2p	9p	Remarks
23	67.2	67.2	59.0	—14.4	—14.7	—15.4		0	SW	1	SW	2	0	1	2	
24	55.5	56.8	57.7	—16.1	—15.7	—16.3	NE	3	NE	6		0	4∞	3	0	
25	52.8	48.0	50.4	—15.9	—11.6	—12.8	SW	1	W	2	NNE	3	1	4	4∞	
26	57.9	61.7	60.7	—13.1	—15.4	—14.7	NE	5	NE	7	**NE**	**9**	4	4✱≡	4✱≡	
27	57.0	53.9	53.5	—12.9	—13.4	—11.9	NE	7	NE	7	NE	5	4✱≡	4✱≡	4✱≡	
28	47.5	50.0	54.8	—11.4	—10.4	—11.0	NE	8	NE	7	NE	8	4✱≡	4✱≡	4✱≡	
29	60.1	66.6	67.6	—14.9	—14.7	—14.4	**NE**	**10**	NE	7	NE	5	4✱≡	4✱≡	4✱≡	
30	67.4	64.7	63.8	—13.7	—13.6	—13.9		0		0		0	4∞	4≡	4≡	
Dec.																
1	63.9	63.6	62.3	—12.5	—15.9	—15.2		0	W	1	NW	3	4∞	2	0	
2	59.6	57.7	54.1	—16.6	—15.7	—16.9	W	3		0	SW	1	0	1	0	
3	59.2	62.2	68.7	—13.6	—15.3	—17.9	NE	5	NE	7	**NE**	**9**	0	0	0	
4	70.1	70.6	71.6	—20.9	—20.9	—22.2	NE	4	NE	5	NE	6	2	4∞	4∞	
5	70.6	71.7	71.3	—23.7	—24.4	—24.9	NE	8	NE	8	NE	7	4✱≡	2∞	2∞	
6	69.4	68.0	68.9	—25.9	—25.4	—25.3	NE	7	NE	6	NE	7	1∞	3✱≡	1	
7	65.8	64.3	63.8	—25.7	—26.7	—25.1	NE	4	NE	3	NE	4	0	0	3	
8	61.7	63.0	62.9	—24.7	—24.7	—24.7		0		0	NE	1	0	0	0	
9	63.9	62.0	61.0	—24.3	—25.2	—24.3	NE	4	NE	5	NE	8	0	4✱≡	4✱≡	
10	56.0	54.0	55.0	—24.2	—22.8	—21.7	**NE**	**9**	NE	8	**NE**	**9**	4✱≡	2∞	2∞	
11	59.9	65.1	68.5	—19.7	—17.9	—19.3	NE	7	NE	3	NE	3	4✱≡	2	0	
12	66.2	63.8	64.7	—19.7	—17.4	—18.1		0	NE	3	NE	2	3	4	4	
13	59.6	55.0	54.4	—19.6	—20.1	—18.9	NE	6	NE	5	NE	4	4✱≡	3✱≡	1	
14	58.0	63.8	65.3	—19.4	—21.9	—21.3	NE	2		0		0	0	1	0♔	
15	64.1	65.9	70.7	—21.7	—21.2	—19.4	NE	2	NE	2	NE	4	0	0	0♔	
16	76.2	75.0	75.3	—19.2	—19.9	—20.5	NE	1	NE	1	NE	1	0	0	0♔	
17	79.6	79.1	77.7	—21.5	—21.4	—21.4	NE	3	NE	2	NE	1	0	0	0♔	
18	77.1	76.2	75.1	—25.7	—25.4	—23.4		0		0		0	0	0	0♔	

19	69.5	64.9	61.2	—23.1	—23.6	25.0		0		0	SW	2	0	0	0	
20	56.9	57.8	60.2	—26.4	—25.2	—25.6		0		0	NE	5	0	2	3∞	
21	61.7	63.8	63.7	—24.0	—24.9	—24.1	NE	6	NE	5	NE	3	4∗≡	3∞	3∞	
22	63.5	63.4	62.5	—25.9	—26.4	—26.6	NE	6	NE	6	NE	8	4∗≡	4∗≡	4∗≡	
23	57.5	54.9	56.0	—26.2	—24.9	—23.9	**NE**	**9**	**NE**	**9**	NE	7	4∗≡	4∗≡	4∗≡	
24	52.2	53.6	51.8	—20.9	—20.4	—19.2	—		NE	4	NE	3	—	4∞	3	
25	48.7	47.0	45.0	—22.1	—21.4	—21.9	NE	5	NE	8	**NE**	**10**	4∗≡	4∗≡	4∗	
26	40.8	39.3	39.4	—19.9	—17.9	—19.5	**NE**	**10**	**NE**	**12**	**NE**	**10**	4∗	4∗	4∗	
27	45.0	49.8	54.6	—20.3	—21.7	—22.9	**NE**	**11**	**NE**	**11**	NE	8	4∗	4∗	4	
28	56.7	57.7	58.7	—26.0	—27.4	—28.7	NE	7	NE	4	NE	4	0	1∞	2	
29	57.2	56.5	58.4	—29.2	—30.4	—31.4		0		0		0	0	1	1	
30	54.8	50.8	45.8	—24.4	—24.4	—22.7	NE	4	**NE**	**9**	**NE**	**10**	4∞	4∗	4∗	
31	42.6	43.2	42.6	—16.9	—15.9	—16.4	**NE**	**9**	**NE**	**9**	NE	7	4∞	3∞	1∞	
Jan.																
1	40.8	37.5	37.3	—15.4	—14.9	—13.9	NE	7	NE	5	NE	6	3	3	4	
2	35.5	39.2	40.5	—13.8	—15.2	—16.4	NE	8	**NE**	**10**	**NE**	**12**	4∗≡	4∗≡	4∗≡	
3	42.0	42.8	46.0	—19.4	—17.8	—17.8	**NE**	**10**	**NE**	**9**	NE	8	4∗≡	4∗≡	4∗≡	
4	52.5	55.8	53.2	—18.4	—18.2	—18.2	NE	6	NE	2	NE	8	4∗≡	4∞	4∞	
5	40.7	30.8	33.5	—19.1	—15.7	—14.9	**NE**	**9**	NE	8		0	4∗≡	4∗≡	0△	
6	29.8	34.4	40.6	—17.4	—17.1	—21.7	NE	4		0		0	0	0	0△	
7	39.3	40.3	41.9	—22.9	—22.5	—23.4	NE	5	NE	3		0	0	1	0	
8	44.3	44.4	46.7	—29.2	—29.4	—25.0		0		0	W	1	1	0	0	
9	46.6	45.8	43.2	—24.1	—25.2	—24.8	NE	5	NE	7	**NE**	**9**	0	4∗≡	4∗≡	
10	45.5	47.5	49.0	—21.6	—22.2	—24.1	**NE**	**9**	NE	7	NE	6	4∗≡	1	1	
11	50.6	54.0	57.5	—24.5	—25.2	—26.1		0	NE	3	NE	7	0	0	0	
12	60.5	61.2	59.6	—25.9	—25.5	—27.9	NE	5	NE	2	NE	1	0	2	1	
13	60.1	59.1	58.9	—32.0	—32.9	—30.6		0		0	NE	1	0	0	0	
14	59.3	59.2	60.7	—31.4	—33.4	—32.7	NE	2	NE	3		0	4	0	0	
15	62.1	61.4	60.1	—35.4	—36.1	—32.9		0		0		0	0	0	0	
16	58.5	58.4	58.8	—33.9	—33.4	—31.6		0		0		0	2	2	1	
17	58.1	56.0	54.4	—32.4	—34.1	—31.4		0		0		0	0	0	0	
18	55.1	55.2	57.6	—31.1	—25.4	—21.7		0		0	NE	2	0	2	0	
19	62.0	64.0	63.4	—20.9	—23.7	—26.4	NE	2		0		0	0	0	0	
20	64.2	62.9	65.6	—29.0	—21.4	—25.2		0	NNE	1		0	0	2	0	6a : SW. 5.
21	65.4	61.0	58.5	—29.4	—22.2	—24.5	SW	1	W	3	SW	3	0	0	0	

Tab. 2. (continued) **Shannon Island.**
January/February/March. **1910.**

Date	Barometer mm 700 +			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—4) and Weather			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
22	52.6	48.5	48.9	—24.4	—25.9	—26.4	SW 1	0	NE 7	2	1	2	
23	56.9	60.8	65.4	—27.2	—23.2	—18.7	0	NE 5	NE 2	3	3∞	4∞	
24	66.7	63.1	55.5	—21.1	—20.6	—18.6	NE 1	0	SW 3	2	4∞	4∞	
25	50.5	54.6	55.7	—22.3	—23.9	—21.3	NE 4	0	NE 1	2∞	1	2	
26	61.5	64.3	65.1	—21.4	—22.5	—26.2	NE 1	NE 3	NE 3	4∞	1	2	
27	67.1	66.4	66.2	—23.9	—23.1	—22.9	NE 6	**NE 9**	**NE 10**	4∞	4*≡	4*≡	
28	67.0	67.9	68.1	—23.4	—22.9	—21.7	NE 8	NE 8	NE 6	4*≡	4*≡	4*≡	
29	64.9	62.2	58.7	—22.8	—25.2	—	0	0	0	1	1	0	
30	56.4	54.4	53.6	—26.6	—	—25.7	0	0	0	0	0	0	
31	53.1	53.9	53.9	—28.9	—28.7	—25.4	0	0	0	1∞	4≡	4∞	
Febr.													
1	53.1	53.1	54.2	—21.6	—20.6	—22.1	0	0	0	4≡	4∞	2∞	
2	56.9	54.4	55.1	—25.1	—24.9	—19.9	NE 4	NE 5	NE 6	1	3∞	4∞	
3	54.4	53.5	53.0	—22.9	—23.9	—24.4	NE 3	NE 4	NE 5	1	0	0♔	
4	51.4	48.5	46.7	—28.9	—29.9	—33.4	0	0	0	0	0	0♔	
5	45.5	46.2	48.1	—34.4	—23.9	—27.1	0	NE 5	NE 5	0	0	0♔	
6	49.6	52.7	54.3	—23.7	—23.4	—21.6	NE 7	NE 6	NE 6	3∞	0	2	
7	56.5	57.6	59.4	—24.4	—26.3	—25.9	NE 5	NE 4	NE 4	1	1	0♔	
8	60.4	63.4	65.2	—28.9	—27.4	—27.1	NE 6	NE 6	NE 4	4*	3∞	0♔	
9	67.2	67.5	62.4	—25.4	—26.6	—28.5	NE 3	ENE 1	0	0	3	0	
10	53.9	49.5	47.3	—27.4	—26.7	—27.4	E 1	NE 4	NE 7	4	4*	4*	
11	44.5	42.0	40.1	—24.4	—21.2	—19.6	**NE 10**	**NE 12**	**NE 12**	4*	4*	4*	
12	37.7	37.2	37.8	—15.7	—16.4	—16.2	**NE 12**	**NE 12**	**NE 11**	4*	4*	4*	
13	36.8	43.2	45.8	—15.9	—15.9	—16.1	**NE 10**	**NE 11**	**NE 12**	4*	4*	4*	
14	52.2	50.2	50.9	—16.3	—16.9	—19.4	**E 11**	**ENE 11**	**NE 12**	4*	4*	4*	
15	57.9	56.5	58.1	—20.5	—	—19.7	**NE 9**	NE 6	0	3*	2∞	0♔	
16	58.1	57.4	57.4	—	—23.4	—27.1	—	0	0	—	2	0	

17	55.4	58.6	57.0	—29.5	—29.6	—27.5		0		0	NE	4	3	2	0
18	56.4	56.5	55.7	—29.6	—28.4	—24.8	NE	4	NE	3	NE	5	1	1	4
19	56.2	58.3	58.8	—26.9	—27.8	—28.6	NE	3	NE	2	NE	1	2	1	0
20	59.3	58.3	56.3	—30.3	—30.5	—30.1	NE	2	NE	3	NE	4	2≡	1≡	1≡
21	54.9	55.1	54.7	—31.0	—31.6	—31.2	NE	6	NE	6	NE	4	1∞	0	0
22	52.5	55.5	55.9	—30.1	—29.3	—28.9	NE	4	NE	3	NE	2	1	0	0
23	56.6	58.5	59.2	—27.5	—28.9	—27.8	NE	3	NE	4	NE	5	1	1	1
24	63.2	65.8	67.2	—29.3	—28.8	—29.4	NE	4	NE	4	NE	2	1	1	1
25	67.3	67.3	67.1	—31.0	—30.7	—31.4		0		0		0	0	0	0
26	66.1	65.8	66.2	—30.2	—26.4	—17.9		0		0	NE	5	0	2	4
27	66.5	67.7	68.3	—18.2	—18.7	—19.9	NE	2	NE	1		0	3∞	2	0
28	69.8	66.7	71.1	—28.7	—26.4	—23.9		0		0	NE	4	0	0	0
March															
1	72.8	72.1	71.6	—19.3	—18.9	—22.4	NE	5	NE	1		0	3∞	2	1⌂
2	71.3	71.0	71.4	—26.9	—25.9	—30.7		0		0		0	0	0	0
3	70.3	68.2	66.6	—31.7	—26.5	—33.7		0		0		0	0	0	0⌂
4	57.4	63.9	67.5	—22.8	—24.6	—25.1	NE	5	NE	5	NE	3	4∗	4	0⌂
5	68.9	67.2	64.7	—31.5	—29.0	—25.7	SW	1	SW	1	NE	1	1	1	0⌂
6	61.0	58.8	60.4	—27.8	—23.0	—33.0	NE	1	NE	1	NE	1	3	2	0⌂
7	60.2	61.2	62.5	—34.0	—24.7	—29.6	NE	2	NE	—	NE	2	0	1	2
8	62.5	63.4	65.6	—23.3	—23.2	—19.8	NE	4	NE	3	NE	5	4∞	2∞	4∗
9	70.7	70.9	71.5	—25.7	—22.9	—22.4	NE	6	NE	6	NE	6	3∗	3	4∗
10	68.1	64.6	60.7	—25.7	—19.2	—19.7	NE	5	NE	4	NE	6	3∞	4∞	4∗
11	59.1	59.7	60.7	—21.5	—21.9	—26.0		0		0	W	1	3	1	0⌂
12	58.6	53.6	46.6	—20.8	—15.5	—21.8	W	1	NE	2		0	0	2	1
13	43.0	42.2	46.2	—19.6	—	—		0	NE	8	NE	8	4∞	4∗	4∗
14	53.8	53.3	54.3	—21.6	—20.8	—25.8	NE	1	NE	1		0	3	2	0⌂
15	52.7	52.3	52.4	—20.9	—24.4	—22.8	NE	1	NE	6	NE	7	3	4∞	4∗≡
16	54.3	56.5	58.5	—21.2	—21.5	—16.4	NE	8	NE	7	NE	4	4∗≡	4∗≡	2∞
17	59.5	58.3	56.6	—19.7	—17.1	—24.1		0	SW	1	SW	1	1	0	0
18	56.5	56.1	49.5	—26.6	—23.1	—19.7	SW	1	SW	1		0	1	3	3≡
19	48.5	48.5	48.9	—21.0	—20.5	—18.2	NE	6	NE	7	NE	7	4∗	4∗	4∗
20	48.8	46.8	43.9	—20.2	—19.7	—18.8	NE	7	NE	8	NE	8	4∗	4∗	4∗
21	44.3	47.0	49.4	—17.1	—17.6	—20.8	NE	7	NE	6	NE	4	4∗	3∗	1
22	51.1	51.4	54.7	—20.7	—16.1	—26.8		0		0		0	2	1	1

Tab. 2. (continued)
March/April/May.

Shannon Island.

1910.

Date	Barometer mm 700 + 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a	2p	9p	Cloud Amount (0—4) and Weather 8a	2p	9p	Remarks
23	53.3	51.5	49.7	—21.6	—21.5	—19.8	NE 3	NE 3	NE 4	1	4 ∞	4 *	
24	54.1	55.4	58.7	—18.1	—16.2	—18.4	NE 2	W 1	W 1	3 ∞	0	0	
25	57.3	53.8	43.9	—17.3	—13.7	— 9.5	W 1	NE 1	NE 3	4 ∞	4 *	4 *	
26	43.9	44.9	44.2	—11.6	—10.0	—16.4	W 1	0	NE 6	3	2	4 *	
27	44.3	50.7	51.8	—18.5	—16.4	—18.3	NE 1	0	NE 1	4 ∞	3 ∞	4	
28	51.0	54.5	56.2	—17.3	—22.6	—23.6	NE 6	NE 7	NE 2	4 *	4 *	1	
29	50.1	49.4	52.8	—23.3	—23.1	—24.5	NE 6	NE 5	NE 6	4 *	4 *	4 *	
30	62.6	63.1	63.5	—20.8	—22.6	—24.6	0	NE 1	NE 3	1	4 ∞	4	
31	71.7	73.1	73.3	—24.1	—19.2	—25.2	NE 1	0	SW 1	0	0	0	
April													
1	74.9	75.3	73.5	—18.7	—15.8	—25.3	SW 1	W 1	SW 1	1	1	1	
2	70.5	68.8	66.8	—21.6	—16.9	—21.6	0	0	SW 1	0	0	0	
3	67.5	68.5	64.7	— 9.3	—10.8	—13.5	0	0	W 1	3	2	0	
4	56.9	55.5	56.1	—13.4	—16.9	—17.8	NE 3	NE 5	NE 5	3 ∞	3 ∞	4 ∞	
5	63.6	66.7	68.4	—16.2	—13.5	—18.4	NE 2	NE 4	NE 1	2 ∞	1 ∞	0	
6	68.8	67.0	64.7	—19.5	—12.7	—20.7	0	0	0	1	0	0	
7	63.8	65.3	67.8	—20.4	—10.9	—12.5	0	NE 1	NE 2	1	1	2	
8	70.8	67.6	60.6	—17.4	—10.0	—19.9	0	0	0	0	1	1	
9	64.2	66.3	70.1	—20.1	—18.2	—23.2	NE 5	NE 6	NE 6	3 *	4 *	4 *	
10	75.8	76.3	76.0	—22.7	—20.4	—24.7	NE 1	NE 1	NE 2	2	0	1	
11	74.9	73.3	72.9	—20.8	—14.4	—19.3	NE 1	0	0	0	0	0	
12	76.5	75.0	72.6	—17.2	—11.3	—16.6	NE 2	0	0	1	1	0	
13	74.2	73.5	70.6	—14.1	—14.0	—13.6	0	0	W 1	1	3	1	
14	70.2	70.1	68.3	—14.1	—15.0	—19.4	0	0	0	1	0	0	
15	66.1	67.3	67.7	—16.6	—11.4	—15.7	0	NE 2	NE 1	0 ∞	0	0	
16	71.8	72.1	70.1	—16.5	—15.1	—19.9	NE 1	NE 3	NE 1	2	3 ∞	0	

17	66.8	64.8	64.1	—19.2	15.7	19.5	NE	2	NE	3	NE	1	0	0	0
18	63.0	62.5	61.0	—16.6	14.9	—15.0	NE	4	NE	2	NE	2	4 ∞	4 ∞	4 ∞
19	60.6	60.8	62.9	—13.9	13.4	14.2	NE	5	NE	5	NE	4	4 * ≡	4 * ≡	4 * ≡
20	61.7	64.2	62.1	—12.6	10.9	—15.2	NE	2	NE	2	NE	1	3 ∞	1	2
21	61.8	60.6	61.0	—14.1	10.9	19.3		0		0		0	1	0	0
22	61.8	64.9	63.1	—15.1	—8.8	16.5		0		0	NE	1	0	0	1
23	66.4	71.4	71.6	—12.6	—12.4	13.6	NE	4	NE	5	NE	5	3 *	3 *	4 *
24	74.8	75.2	73.6	—13.2	13.5	14.7	NE	5	NE	3	NE	4	4 *	2 *	4 *
25	69.0	65.0	64.0	—13.7	—12.4	—15.1	NE	2	NE	1	NE	2	3 ∞	3 ∞	4 *
26	60.4	60.7	60.0	—14.2	—	15.0	NE	4	—		NE	2	4 ∞	—	2
27	58.2	56.0	56.1	—14.5	—11.2	—15.6	NE	3	NE	1		0	2	2	0
28	55.5	55.0	53.9	—13.9	—7.5	—16.1		0		0		0	0	0	0
29	54.8	53.5	51.5	—15.1	—12.1	—15.3		0	NE	1	NE	5	1	1	3 *
30	47.6	49.2	52.9	—8.9	8.2	—10.7	NE	7	NE	7	NE	1	4 *	4 *	1
May															
1	48.0	46.3	44.4	—8.6	—4.6	—12.5		0		0	NE	2	4 * ≡	4 ≡ *	3 ∞
2	49.4	51.7	56.5	—11.0	—8.8	—11.4	NE	4	NE	3	NE	2	4 *	2	2
3	60.8	61.0	59.6	—9.4	—4.4	—13.9	NE	1		0	SW	1	1	1	0
4	56.3	56.2	57.6	—13.3	—4.5	—11.3		0		0		0	0	0	0
5	56.8	56.9	56.2	—11.6	—7.8	—11.3	NE	3	NE	3	NE	3	0 ∞	0 ∞	1 ∞
6	56.7	58.6	60.2	—8.9	—6.7	—9.4	NE	4	NE	3	NE	3	1 ∞	1	0
7	61.2	62.4	64.0	—10.3	—8.2	—8.5	NE	5	NE	4	NE	5	4 *	4 *	4 *
8	68.7	70.9	68.8	—8.5	—8.3	—8.9	NE	8	NE	7	NE	7	4 *	4 *	4 *
9	67.0	64.5	64.4	—7.1	—4.5	—5.0	NE	1		0		0	1	3	4
10	62.2	63.0	63.4	—2.9	—1.0	—3.6		0		0	W	1	4	4 ∞	2
11	65.1	67.3	70.3	—2.3	0.1	—3.3		0		0		0	4 ≡	3	1
12	73.0	71.5	66.3	—5.5	—0.1	—3.9		0	NE	1	NE	3	1	3	4 *
13	62.0	66.8	69.8	—4.4	—4.2	—5.0	NE	5	NE	5	NE	1	4 *	4 *	1
14	75.3	73.3	70.7	—4.6	—2.2	—4.3		0	SW	1	W	1	1	4 ∞	3
15	72.9	74.4	73.5	—4.5	—3.3	—4.7	NE	1		0		0	4 ≡	4	4
16	67.8	68.2	67.8	—3.6	1.6	—4.4	SW	1		0		0	4 ∞	3	0
17	64.4	63.3	60.2	—6.8	—2.7	—4.0		0	SW	1	SW	1	4 ≡	4 ≡	4 ≡
18	63.4	62.8	70.2	—3.6	—3.5	—6.5	NE	2	NE	2	NE	2	4 ≡	4 ∞	4 ∞
19	69.1	69.9	70.8	—4.9	—0.1	—3.2		0	NE	1		0	4	4	4 ≡
20	73.3	75.7	73.4	—3.9	0.6	—3.9	NE	1		0		0	1	1	0

Tab. 2. (continued)
May/June/July.

Shannon Island.

1910.

Date	Barometer mm 700 +			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—4) and Weather			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
21	70.3	70.9	69.7	−1.9	4.7	1.2	0	0	0	0	0	0	
22	68.5	67.2	63.8	−0.4	1.7	−1.9	0	SW 1	SW 1	0	0	0	
23	60.7	62.2	64.3	−1.5	4.1	0.1	SW 1	0	0	2	3	1	
24	67.1	68.9	66.7	−2.6	4.1	−1.4	0	0	0	4 ≡	0	0	
25	68.2	70.4	67.4	−0.2	−0.1	−2.0	0	SE 1	SW 1	4 ∞	4 ∞	4 *	
26	67.3	64.9	61.4	1.3	2.6	−0.1	0	SE 1	SW 1	4 ✱	4 ✱	4 * ≡	
27	58.9	59.1	60.6	−0.4	0.9	0.6	SW 2	SW 2	0	4 ∞	4 ∞	4 ≡	
28	61.9	63.8	63.6	0.7	1.5	−2.4	NE 2	NE 2	0	4 ∞	3	1	
29	63.0	63.5	61.9	−2.0	1.3	−4.4	NE 1	0	0	1	4 ≡	4 ≡	
30	62.7	60.3	59.0	−2.2	−1.2	−2.9	SE 1	SW 2	SW 2	4 ≡	4 ∞	4 ≡	
31	59.1	58.2	57.0	−1.9	2.7	−3.1	SW 1	SW 1	SW 1	4 ≡	1	4 ≡	
June													
1	56.7	58.1	60.1	−1.4	0.1	−2.1	W 1	W 1	SW 1	4 ∞	3	3	
2	61.9	61.9	62.0	−3.4	−4.9	−2.9	NE 1	NE 1	0	4	4	3	
3	59.4	57.4	55.5	−3.8	−2.4	−2.0	SW 1	SW 1	SW 2	3	3	4	
4	53.8	52.9	52.7	−0.2	—	−1.2	0	—	NE 4	4	—	4 *	
5	55.0	55.2	56.8	−2.2	−0.1	−1.9	NE 4	NE 3	NE 2	3 *	2	1	
6	57.0	53.4	43.7	−0.2	−1.6	−1.7	SW 2	SW 2	NE 4	3	4	4 *	
7	45.6	53.9	60.2	−4.6	−2.2	−1.2	NE 7	NE 7	NE 2	4 *	4 *	2	
8	63.7	64.1	62.4	−1.2	0.1	−3.1	NE 2	0	SW 1	2	0	1	
9	61.2	59.5	56.6	−2.7	−0.7	−3.9	NE 3	NE 3	NE 3	0	1	1	3p—5p: drizzle.
10	53.9	53.8	55.0	−3.0	−0.4	0.6	NE 3	NE 3	0	2	4	1	
11	57.2	59.4	61.0	−1.9	3.6	−2.4	SW 1	0	SW 1	1	2	0	
12	62.1	62.0	60.7	−1.1	3.1	−0.6	SW 1	SW 1	NE 2	4	4 ∞	4	
13	63.4	65.1	67.8	0.3	2.6	−2.9	NE 1	0	0	0	1	4	
14	70.5	70.3	70.2	−2.4	4.3	−2.4	SW 1	0	SW 1	2	0	0	
15	68.2	67.6	65.7	0.1	2.6	−2.1	SW 1	SW 1	0	0	0	0	
16	61.7	68.5	70.1	−1.3	5.6	0.5	0	0	0	0	0	2	
17	71.2	71.1	70.7	2.4	5.3	0.3	SW 1	0	SW 1	0	0	0	
18	68.4	68.9	68.0	0.9	5.7	3.4	SW 1	0	0	1	0	0	
19	66.8	66.8	66.3	2.6	4.7	−0.8	0	SW 1	SW 1	1	1	1 ≡	
20	65.7	65.4	65.3	−0.6	3.6	0.1	SW 1	0	0	4 ≡	4 ≡	4 ≡	
21	65.4	65.1	65.1	0.1	4.3	−0.7	0	0	0	1 ∞	4 ≡	4 ≡	
22	66.3	65.0	65.6	−0.2	0.3	−0.7	NE 1	NE 1	0	3 *	2 ∞	4 ∞	
23	66.8	66.8	66.8	1.3	2.2	−0.1	NE 1	NE 1	NE 1	4	4	4	
24	66.8	67.3	66.2	2.9	2.7	−0.9	0	SW 1	SW 2	4	2	1	
25	65.6	65.7	66.0	1.7	2.0	−0.4	SW 2	SW 2	SW 1	1	4 ≡	4 ≡	
26	66.4	66.0	64.7	−0.2	0.6	−1.3	SW 2	SW 2	SW 3	4 ≡	4 ≡	4 ≡	
27	63.3	63.2	63.2	0.8	4.9	1.2	SW 3	SW 1	0	1	0	4 ≡	
28	63.1	63.7	64.4	2.4	4.4	8.3	0	0	NE 1	3 ∞	3	2	
29	64.2	64.9	64.7	6.9	10.2	5.4	0	NE 3	NE 4	1	1	0	
30	63.6	62.8	62.6	0.4	5.5	−0.4	0	0	SW 2	1 ∞	1	2 ≡	
July													
1	62.9	63.5	62.7	1.3	4.3	1.9	SW 2	SW 2	SW 3	0	0	0	
2	60.3	58.7	56.5	1.6	2.4	0.8	SW 3	SW 4	SW 4	1	2	1	
3	58.4	59.0	61.4	1.5	8.3	3.9	0	0	NE 1	1	0	0	
4	61.1	60.9	60.3	2.8	4.5	−0.1	0	0	0	1	2 ≡	4 ≡	
5	59.4	59.7	60.1	−0.1	5.1	−1.1	SE 1	0	0	4 ≡	2	4 ≡	
6	62.0	61.7	64.9	6.1	7.9	5.4	0	0	NE 1	1	0	1	
7	66.5	66.1	65.3	2.4	6.7	2.1	S 1	W 1	0	0	0	0	
8	63.9	62.7	59.1	0.4	1.2	0.1	SW 3	SW 4	SW 5	4 ≡	4 ≡	4 ≡	
9	55.4	55.1	54.4	1.1	2.3	2.1	SW 4	SW 2	NE 2	4 ≡	4 ≡	4 ≡	
10	56.7	58.0	58.9	2.9	4.5	2.8	NE 2	NE 3	NE 2	4 ≡	3	3	
11	60.2	61.7	62.2	4.3	5.4	5.1	NE 1	NE 1	0	2 •	2	1	
12	61.5	59.9	58.2	3.5	4.1	2.6	0	0	0	4 ≡	4 ≡	4 ○ ≡	
13	59.9	61.8	65.0	2.1	3.6	3.6	NE 2	0	NE 2	4 ∞	4	4	
14	68.3	69.9	69.2	4.4	5.4	5.2	0	0	SW 1	4	3	1	
15	68.3	66.2	66.0	4.0	7.7	4.8	0	NE 2	0	0	0	0	
16	66.4	67.0	67.8	5.9	5.3	3.9	0	0	0	0	0	0	
17	67.1	66.6	66.5	4.1	4.3	2.6	SW 2	SW 3	SW 3	2 ≡	1 ∞	4	
18	65.3	66.3	65.0	3.1	4.1	1.6	0	0	0	3 ≡	2 ∞	0	
19	64.0	64.5	63.4	2.9	4.8	2.6	0	0	0	1	3	0	

Tab. 2. (continued) **Shannon Island.**
July. **1910.**

Date	Barometer mm 700+			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—4) and Weather			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
20	61.3	60.2	58.3	2.6	5.6	1.8	NE 4	NE 5	NE 6	0	0	4 ⊙ ≡	
21	56.3	56.6	57.5	1.6	1.4	0.8	NE 7	NE 6	NE 6	4 ○ ≡	4 ∞	4 *	
22	64.4	65.6	66.6	2.6	3.3	3.1	NE 6	NE 6	NE 5	4 ○	4 ○	4 ⊙ ∞	
23	64.7	64.0	62.2	1.6	2.7	2.6	NE 5	NE 4	NE 2	4 ○	4 ∞	2 ∞	
24	61.4	60.7	60.2	3.6	3.8	3.5	—	0	SW 1	—	0	0	
25	58.5	58.2	57.3	3.8	—	3.2	SW 1	0	0	1	—	3	
26	56.9	57.4	58.1	1.9	2.1	1.3	NE 1	NE 1	0	3 ≡	3 ∞	3 ∞	
27	56.3	56.5	57.7	3.7	4.1	3.6	0	SW 1	0	0	0	1	
28	59.9	61.0	61.8	3.9	4.3	2.8	0	0	SW 1	4 ≡	4 ≡	4 ≡	
29	63.2	64.4	65.7	1.3	3.6	2.8	SW 1	SW 1	0	4 ≡	4 ∞	4 ∞	
30	67.9	67.4	66.6	2.6	3.3	3.1	0	0	0	4	4 ∞	4 ⊙ ∞	
31	66.1	—	—	3.6	—	—	0	—	—	1	—	—	

Tab. 2. (continued) **Shannon Island.**
December/January. **1910/1911.**

Date	Barometer mm 700+			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—10) and Weather			Cloud-forms			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
12	64.5	63.8	64.4	—32.5	—29.4	—27.3	0	0	NE 5	0	1	0		St.		
13	67.3	65.8	63.4	—29.0	—32.7	—29.0	NE 1	0	NE 1	0	3	3		St.	St.	
14	60.0	58.1	56.9	—26.1	—	—26.0	NE 7	NE 8	**NE 10**	10	10 *	10 *				
15	55.3	55.2	55.8	—24.5	—26.1	—26.2	NE 7	NE 8	**NE 10**	10 *	10 *	10				
16	59.1	59.0	59.0	—27.0	—28.7	—29.2	NE 7	NE 3	NE 6	0	0	0				am.: Heavy snowdrift
17	57.6	58.6	59.9	—32.0	—28.0	—28.4	**NE 10**	NE 8	NE 5	4	10	8	Ci.—St.	Ci.—St.	Ci.—St.	

18	56.0	52.1	55.9	—31.5	—30.5	—32.4		0	NE	1	NE	7	8	8	8	Ci.—St.	Ci.—St.	Ci.—St.
19	56.9	55.8	56.1	—31.0	—29.0	—	NE	5	NE	8	**NE**	**10**	6	10	10	Ci.—St.			pm.: Heavy snowdrift
20	55.4	56.5	58.5	—24.5	—23.4	—19.4	**NE**	**10**	NE	7	NE	7	10	10*	10				am.: » »
21	60.5	59.9	59.8	—19.5	—20.6	—21.0	NE	7	NE	6	NE	6	10	10	10				5 a—7 a: Calm
22	54.8	51.7	50.7	—22.8	—20.0	—25.7		0		0		0	0	4	0		Ci.—St.		Heavy snowdrift
23	48.0	47.8	47.5	—31.0	—22.6	—20.0		0	NE	2	NE	4	0	—∞	10				
24	49.1	49.7	51.0	—14.4	—13.5	—12.8	NE	5	NE	3	NE	3	—∞	3	10		St.		
25	53.4	57.6	62.2	—13.5	—14.3	—20.5	NE	8	NE	8	NE	6	10*	10*	5∞				
26	62.1	61.7	62.4	—23.3	—25.3	—24.7	NE	3	NE	4	NE	4	8	8	0	St.	St.		
27	61.8	60.7	59.1	—25.5	—29.0	—28.5	NE	1	NE	2	NE	4	0	3	—∞				
28	59.5	62.3	64.9	—28.5	—29.0	—29.8	NE	4	NE	5	NE	4	—∞	—∞	0				
29	67.6	68.3	69.1	—30.5	—29.5	—35.3	NE	5	NE	2		0	0	0	0				
30	63.3	61.5	61.1	—30.5	—30.3	—27.3		0		0	NE	2	0	—∞	—∞				
31	66.5	66.4	67.7	—31.5	—29.0	—30.3	NE	5	NE	5		0	1∞	2∞	0				
Jan.																			
1	55.1	54.3	53.8	—19.5	—26.0	—26.8	SW	2		0		0	5	10	0		St.		
2	45.1	46.1	45.0	— 6.5	— 8.0	—18.5	SW	3	SW	3	NE	5	2	3	0	St.	Ci.—St.		Wind veered at 7 pm
3	35.9	37.2	43.2	—24.5	—23.4	—27.2	NE	6	NE	8	NE	5	10	10*	10*				
4	53.9	59.7	61.7	—21.5	—25.5	—26.5	NE	2		0		0	2	0	0	St.			
5	47.2	40.7	46.8	—24.6	—22.5	—20.4	**NE**	**10**	**NE**	**11**	NE	2	10*	10*	0				5.30 p: Calm and clearing
6	47.0	42.0	39.9	—21.3	—22.0	—	NE	5	**NE**	**10**	**NE**	**10**	10	10	—				
7	29.4	31.2	33.3	—19.5	—16.6	—19.0	**NE**	**10**	NE	2		0	10	10	10				11 am: Gale ceased
8	32.3	32.4	34.4	— 6.5	—19.5	—20.0	NE	6	NE	8	**NE**	**10**	10	10	10				
9	44.6	49.1	52.1	—19.0	—18.5	—17.2	**NE**	**10**	NE	8	NE	8	10	10	10				
10	60.8	62.6	63.5	—19.0	—19.5	—19.2	E	2	NE	2	NE	1	5∞	4	6		St.		
11	68.1	68.8	69.4	—22.0	—20.4	—25.2	NE	2	NE	1		0	0	0	0				
12	66.1	63.8	63.4	—25.6	—25.5	—25.3		0		0		0	0	0	0∞				
13	58.2	54.8	51.2	—24.6	—21.7	—19.8		0		0		0	10	10*	10*				
14	32.8	23.3	27.0	—22.0	—22.0	—14.7	**NE**	**9**	**NE**	**10**	SW	1	10	—	9			A.—St.	4.30 pm.: Gale ceased
15	27.0	31.0	27.3	—19.5	—20.0	—19.2	SW	5	SW	1	NE	7	7	10	10	St.	St.	St.	10 am: Gale ceased, wind SW from 12 am to 6 pm
16	11.2	25.3	28.0	— 9.6	—14.5	—16.0	**NE**	**10**	SW	1	NE	8	10	10	10				
17	40.7	50.7	55.3	—13.0	—15.5	—16.7	**NE**	**10**	NE	5	NE	3	10	2	2		A.—St.		
18	52.0	46.2	40.2	—17.5	—20.7	—19.5	NE	1		0	SW	1	10*	1	0		A.—St.		
19	34.3	37.5	41.4	—21.5	—22.0	—22.2		0	NE	7	NE	4	8	8	0	A.—St.	A.—St.		
20	51.6	54.3	56.4	—24.0	—25.2	—25.5	NE	1	NE	2	NE	4	4	0	0	Ci.			

Tab. 2. (continued) **Shannon Island.**
January/February/March. **1911.**

Date	Barometer mm 700+			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—10) and Weather			Cloud-forms			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
21	58.1	61.2	60.8	—26.0	—32.0	—31.3	0	0	0	0	0	0				
22	52.3	40.9	33.9	—27.0	—20.0	—29.0	0	SW 3	**NE 10**	10	8	0		St.		5 pm: Wind veered
23	46.3	48.6	47.4	—30.0	—25.3	—31.5	0	NE 3	0	0	2	0		St.		
24	42.5	40.5	39.3	—30.0	—29.5	—31.0	NE 5	NE 8	NE 8	4	4	0	St.	St.		
25	39.4	40.4	43.1	—24.5	—21.0	—20.7	NE 6	NE 8	NE 6	5	5	—	St.	St.		
26	50.1	55.6	59.5	—19.5	—20.2	—22.5	NE 8	NE 3	NE 4	10*	5	0		St.		
27	62.5	65.3	67.0	—29.0	—29.2	—31.3	0	0	0	0	0	0				
28	65.5	64.0	61.4	—30.0	—26.0	—21.0	0	0	0	2	8	10*	St.	St.		
29	44.6	43.3	39.9	—16.5	—19.5	—19.5	SW 5	NE 1	NE 6	10*	6	10			St.	During night fallen about 15 cm. snow
30	46.6	51.2	60.8	—19.2	—20.0	—21.5	NE 2	NE 8	NE 4	10	10	5	St.	St.	St.	
31	67.6	62.9	62.0	—26.0	—24.5	—21.7	0	SW 1	0	5	5	0	St.	St.		
Febr.																
1	59.0	58.5	59.8	—25.0	—25.5	—25.6	NE 8	NE 4	NE 1	10	6	0				Wind SW from 3 pm —8 pm; 8 pm wind veered to NE
2	47.2	42.6	41.9	—24.0	—27.8	—14.7	SW 1	0	NE 4	2	0∞	0	A.—St.			
3	52.4	58.4	60.6	—15.0	—14.7	—20.0	NE 1	0	0	0	2	0		St.		
4	51.7	56.6	47.7	—13.5	— 9.5	—14.0	SW 3	SW 1	NE 5	8	6	10	St.	Ci.—St.		
5	52.0	53.2	55.6	—18.0	—19.5	—21.0	NE 7	**NE 9**	**NE 9**	10	10	10	St.	St.	St.	
6	68.8	70.4	71.2	—29.0	—28.4	—29.5	0	0	0	0	0	0				
7	64.0	59.8	55.4	—27.2	—25.4	—26.5	SW 2	0	NE 3	10≡	10≡	10≡				
8	55.0	53.4	51.0	—26.6	—26.0	—25.4	NE 6	NE 3	NE 2	10	10	10	St.	St.	A.—St.	
9	52.7	52.3	47.4	—24.0	—25.7	—25.5	NE 4	NE 8	NE 8	10	10	10	St.	St.	St.	
10	47.9	49.6	46.8	—26.2	—27.1	—29.5	NE 3	NE 2	NE 4	3	4	—∞	St.	St.		
11	50.6	53.4	54.6	—29.0	—26.4	—32.5	NE 5	NE 2	0	—∞	—∞	0				
12	50.2	50.6	53.9	—30.0	—32.0	—30.6	**NE 9**	**NE 9**	NE 2	10	—	10				
13	56.2	54.6	56.8	—31.5	—31.0	—29.5	NE 8	NE 2	0	2	2	0	St.	Ci.—St.		
14	56.4	54.5	54.2	—34.5	—34.0	—30.2	0	0	0	3	2	0	St.	Ci.—St.		
15	56.6	60.4	62.4	—26.1	—25.4	—27.0	NE 4	NE 8	NE 6	0	0	0				

16	63.7	64.3	65.2	—29.5	—30.0	—30.5	NE 4	NE 7	NE 8	0	0	0				
17	62.2	56.8	51.2	—35.0	—30.5	—30.0	S 1	SW 2	SW 2	2	3	0	St.	St.		12a: Temp. —25.°0
18	48.2	49.5	51.2	—18.0	—18.0	—21.3	NE 8	NE 2	NE 3	0	3	—∞	Ci.—St.			12a: Temp. —15.°5
19	57.8	61.4	63.0	—22.5	—26.0	—30.0	NE 5	NE 5	NE 3	10✱	—∞	0				
20	61.8	61.0	59.9	—34.4	—35.4	—34.5	0	0	0	2	—∞	—∞	St.			
21	55.4	50.5	49.2	—38.0	—37.5	—37.5	0	0	0	2	4	0	St.	St.		
22	40.9	40.2	40.8	—35.0	—33.0	—31.2	0	0	NE 7	9	10✱	10	St.			Wind from 5 pm
23	46.3	46.3	43.3	—30.0	—25.5	—33.2	NE 4	0	SW 2	0	0	0				
24	48.7	50.8	51.7	—26.5	—24.3	—26.5	NE 1	NE 1	NE 3	0	0	0				
25	57.5	58.3	57.3	—35.0	—35.0	—36.5	0	0	SW 1	2	3	0	Ci.	Ci.—St.		
26	58.9	60.6	62.8	—37.0	—25.5	—27.5	0	NE 1	NE 5	0	0	0				
27	62.0	60.3	58.9	—34.5	—28.6	—37.8	0	0	0	0	0	0				
28	54.8	52.8	50.9	—36.6	—29.5	—	0	NE 6	—	2	5	—	Ci.—St.	Ci.—St.		
March **)																
1	47.4	46.8	46.4	—25.5	—22.0	—21.0	**NE 10**	**NE 11**	**NE 10**	—	—	—				Very heavy snowdrift
2	46.1	48.4	50.6	—16.0	—15.0	—15.6	NE 8	**NE 9**	NE 6	10	10	10				Heavy snowdrift
3	50.4	51.9	54.2	—21.5	—23.0	—24.5	NE 7	**NE 9**	**NE 9**	2	0	0	St.			
4	59.3	61.9	61.7	—26.5	—23.0	—30.0	NE 3	NE 2	0	3	1	0	Ci.	Ci.		
5	57.1	56.5	56.6	—26.5	—26.0	—31.2	0	0	0	8	10	10∞	St.—Cu.	St.		
6	45.5	45.1	50.7	—25.0	—19.0	—18.4	**NE 10**	NE 8	SW 2	10	10	6				5 pm wind veered to SW
7	56.1	53.5	45.4	—26.5	—21.0	—13.8	0	0	NE 1	10	10	10✱	St.	St.		
8	44.6	49.4	51.0	—16.0	—11.5	—14.0	0	0	NE 3	2	7	10	A.—St.	A.—St.		During night gale from SW
9	47.6	47.7	47.1	—15.0	—13.0	—14.5	NE 8	NE 8	NE 7	10✱	10✱	10✱				
10	51.1	55.1	58.5	—10.5	— 6.5	— 5.2	0	NE 4	NE 4	2	10	10	Ci.—St.	St.	St.	
11	65.1	64.3	65.0	— 8.0	— 8.8	—12.2	NE 5	0	0	10∞	5	2		A.—St.	A.—St.	
12	62.6	60.7	58.4	—17.5	—18.0	—22.5	0	SW 1	0	—∞	10≡	—∞				
13	55.7	59.1	61.8	—24.0	—19.0	—16.0	0	0	NE 3	0	0	2			A.—St.	
14	60.9	58.9	57.2	—22.6	—19.5	—21.0	SW 2	SW 1	SW 5	10	4∞	0	St.	A.—St.		
15	53.4	54.8	61.0	— 15.0	—19.5	—17.5	SW 4	NE 1	NE 8	10	10	10	St.	St.	St.	
16*)	75.9	72.7	65.1	—19.5	—16.2	—	SW 2	SW 6	—	3	2	—	Ci.—St.	Ci.		2 p—obs. taken 3 pm
17*)	64.6	66.9	66.2	—	—16.0	—	—	NE 6	—	—	4	—		Ci.		2 p—obs. « 4 pm
18*)	61.3	60.5	63.3	—21.0	—14.5	—	—	—	—	10≡	0	—				2 p—obs. « 4 pm
19*)	62.2	59.8	56.4	—17.0	—	—16.5	—	—	—	10≡	—	10≡				9 p—obs. « 7 pm
20*)	53.4	52.4	—	—18.5	—	—16.0	0	—	0	0	—	2			St.	9 p—obs. « 8 pm
21	—	—	—	—19.0	—	—17.5	NE 6	—	NE 8	10✱≡	—	10✱≡				

*) Barometer reading after the Barograph.
**) From 1—15 Shannon's NE point. From 16—19 on sledgetrip to Cape Philip Broke on Shannon's SE coast. From 19—31 Cape Philip Broke.

Tab. 2. (continued) **Shannon Island.*)**

March/April. **1911.**

Date	Barometer mm 700 + 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a	2p	9p	Cloud Amount (0—10) and Weather 8a	2p	9p	Cloud-forms 8a	2p	9p	Remarks
22	—	—	—	—20.0	—13.2	—22.5	NE 2	0	0	0	0	2			St.	
23	—	—	—	—21.0	—18.0	—13.5	0	SE 5	SE 8	8	7	5	Ci.-Cu.,St.	St.	St.	Calm from 11—12 am then SW-storm. 4 pm wind very unsteady, somet. nearly calm then a gale.
24	—	—	—	1.0	2.3	1.8	SE 6	SW 8	SW 6	0	6	2		St.	St.	
25	—	—	—	— 8.0	— 7.1	11.2	SE 4	S 6	W 3	8	8	10	St.	St.	St.	
26	—	—	—	—	—	—	**NE 10**	**NE 11**	**NE 10**	—	—	—				Heavy snowdrift all day, possibly snowing
27	—	—	—	—26.2	—16.6	—18.0	0	SW 2	0	0	6	4		St.	St.	
28	—	—	—	—26.0	—19.3	—19.0	0	0	0	0	0	3				
29	—	—	—	—18.0	—19.5	—20.3	0	NE 7	**NE 9**	10∞	10*	10*				
30	—	—	—	—26.5	—19.1	—26.5	NE 6	NE 3	0	0	2	4		Ci.—St.	Ci.—St.	
31	—	—	—	—23.0	—17.3	—24.5	0	NE 8	NE 5	10	10	6			Ci.—St.	
April																
1	—	—	—	—30.3	—19.2	—28.1	NE 2	W 2	NW 3	3	10≡	6	Ci.—St.		Ci.—St.	
2	—	—	—	—27.2	—16.0	—22.0	0	0	0	0	4	6		Ci.—St.	Ci.—St.	
3	—	—	—	—16.5	—14.1	—13.8	SE 4	SE 7	SE 7	10∞	10	2		St.	A.—St.	
4	—	—	—	—12.0	4.2	—14.7	SE 7	SW 6	NE 7	4	0	2			A.—St.	
5	—	—	—	—22.0	—10.1	— 9.3	0	SE 4	SE 6	0	6	10		St.	St.	
6	—	—	—	— 6.0	— 5.2	—13.0	SE 8	SE 8	NE 2	2	6	4	Ci.—St.	Ci.—St.	St.	9 p—obs. taken 6 p
7	—	—	—	—19.0	—19.0	—18.7	**NE 9**	**NE 9**	NE 8	10*	10*	10			St.	9 p—obs. taken 6 p
8	—	—	—	—21.0	—12.5	—18.0	0	0	0	0	0	3			Ci.—St.	
9	65.6	64.4	60.9	—21.5	—11.1	—17.8	0	0	0	0	0	4			A.—St.	
10	57.1	60.3	62.9	—16.5	—10.0	—16.9	NE 3	NE 4	NE 2	4	0	0	A.—St.			
11	64.5	66.2	65.5	—18.7	—12.4	—20.3	NE 2	NE 4	NE 2	0	0	0				
12	67.0	67.0	66.5	—19.0	—12.3	—21.5	NE 3	0	SW 1	0	0	6			Ci.	
13	59.0	55.0	55.3	—20.5	—21.0	—23.2	NE 3	NE 7	NE 8	10*	10*	10*				
14	61.1	63.4	67.4	—21.0	—19.5	—20.0	NE 8	NE 8	NE 6	10	10	8			St.	
15	71.5	72.3	72.4	—15.0	—12.2	—16.0	NE 6	NE 4	NE 3	6	6	5	Ci.—St.	Ci.—St.	Ci.	Mock suns
16	70.1	70.0	69.2	—11.5	— 8.4	—10.5	NE 6	NE 4	NE 4	10	10	6	St.	Ci.—St.	A.—Cu.	Halo round the sun

17	68.3	66.3	68.1	—10.0	— 5.2	— 9.3	NE	7	**NE**	**9**	**NE**	**9**	10	8	8	Ci.—St.	Ci.—St.	Ci.—St.
18	68.1	70.4	68.9	— 8.0	— 4.5	—11.5	NE	8	NE	6		0	9	4	2	Ci.—St.	Ci.—St.	St.
19	69.0	70.6	70.5	— 7.5	— 5.0	—10.2	NE	2	NE	4	NE	7	6	—	6	St.		Ci.—St., Ci.—Cu.
20	72.5	73.4	73.7	— 8.0	— 6.2	—11.7	NE	3	NE	5	NE	7	10*	10*	4			St.
21	72.7	72.0	68.9	—10.5	— 6.0	—11.7	NE	8	NE	4	NE	2	10	0	0	St.		
22	64.5	64.1	63.3	—17.0	— 3.5	— 8.5		0		0		0	0	0	0			

*) Cape Philip Broke: 1—7 April; Shannon's NE Point from 9—22 April.

Tab. 2. (continued) Sledgetrip from Shannon Island to Skærfjorden.

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Force (0—12)		Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1911	April	23	8 a	75°18′	18°0′	—	—13.2		0	10≡		8 a: leaving $\varphi = 75°18' N$ $\lambda = 18°0' W$
			2 p			—	—11.0		0	0		5 p: reach $\varphi = 75°30' N$ $\lambda = 17°30' W$
			7 p	75°30′	17°30′	—	—15.5		0	0		
		24	8 a	75°30′	17°30′	—	—13.0	S	1	1	St.	10.30 a: leaving $\varphi = 75°30' N$ $\lambda = 17°30' W$
			3 p			—	— 7.0	S	3	3	St.	6 p: reach $\varphi = 75°36' N$ $\lambda = 17°40' W$
		25	8 a			—	—17.3		0	0		6.30 a: leaving $\varphi = 75°36' N$ $\lambda = 17°40' W$
			4 p	75°41′	17°50′	—	—14.2		0	0		2.30 p: reach $\varphi = 75°41' N$ $\lambda = 17°50 W$
		26	8 a			—	—14.0		0	10≡		7.30 a: leaving $\varphi = 75°41' N$ $\lambda = 17°50' W$
			3 p			—	—12.5		0	10≡		4 p: reach $\varphi = 75°51' N$ $\lambda = 18°10' W$
		27	10 a			—	— 8.0	NE	2	10*		7.30 a leaving $\varphi = 75°51' N$ $\lambda = 18°10' W$
			6 p	75°56′	18°30′	—	—14.5	NE	2	0		2.45 p: reach $\varphi = 75°56' N$ $\lambda = 18°30' W$
		28	8 a	75°56′	18°30′	—	—14.0	NE	2	3	Ci.	11 a: leaving $\varphi = 75°56' N$ $\lambda = 18°30' W$
			4 p			—	— 8.7	NE	2	3	Ci.—St.	6.30 p: reach $\varphi = 76°01' N$ $\lambda = 18°35' W$
		29	7 a	76°01′	18°35′	—	—19.5		0	0		7.30 a: leaving $\varphi = 76°01' N$ $\lambda = 18°35' W$
			2 p			—	— 7.5		0	3	St.	4 p: reach $\varphi = 76°06' N$ $\lambda = 18°45' W$
		30	7 a	76°06′	18°45′	—	—14.5	S	2	10≡		
			3 p	76°08′	18°50′	—	—13.0		0	2	Ci.	

Tab. 2. (continued) **Sledgetrip from Shannon Island to Skærfjorden.**

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Barometer mm 700 + *)	Air Temperature C°	Wind Direction and Force (0—12)		Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1911	May	1	6 a	76°08′	18°50′	—	—20.0		0	3	Ci.	
			4 p	76°20′	19°00′	—	—13.2		0	5	Ci.—St.	
		2	6 a			—	—24.5		0	6	St.	5.45 a: leaving $\varphi = 76°20'$ N $\lambda = 19°00'$ W
			4 p	76°32′	19°10′	—	— 9.5	SE	3	10	St.	
		3	6 a			—	— 9.0	NE	2	10 ✶		5.45 a: leaving $\varphi = 76°32'$ N $\lambda = 19°10$ W
			2 p			—	— 7.0	NE	8	10 ✶		3.15 p: reach $\varphi = 76°37'$ N $\lambda = 18°40'$ W
		4	10 a	76°39′	18°35′	—	— 6.0	NE	4	5	St.	7 a: leaving $\varphi = 76°37'$ N $\lambda = 18°40$ W
			11 p	76°39′	18°35′	—	— 7.5	NE	4	6	Cl. and St.	
		5	8 a	76°39′	18°35′	—	— 6.5	NE	5	6	Ci.—St.	10 a: leaving $\varphi = 76°39'$ N $\lambda = 18°35'$ W
			4 p			—	— 6.5	NE	6	6	Ci.—St.	10 p: $\varphi = 76°46'$ N $\lambda = 18°45'$ W
		6	8 a	76°46′	18°45′	—	— 6.2	N	2	0		
			2 p	76°46′	18°45′	—	— 4.2		0	0		
			9 p	76°46′	18°45′	—	—10.8		0	8	Ci.—St.	
		7	8 a	76°46′	18°45′	—	— 4.2	E	6	10	St.	
			2 p	76°46′	18°45′	—	— 5.1	E	4	7	St.	
			9 p	76°46′	18°45′	—	— 6.5	NE	5	10	St.	
		8	8 a	76°46′	18°45′	—	— 5.0		0	4	Ci.—St.	
			2 p	76°46′	18°45′	—	— 6.2		0	0		
			10 p	76°46′	18°45′	—	—13.0		0	0		
		9	5 a	76°46′	18°45′	—	—13.5	N	2	3	St.	
			8 p	76°46′	18°45′	—	—10.0		0	0		9 p: leaving $\varphi = 76°46'$ N $\lambda = 18°45'$ W
		10	5 a	76°55′	18°20′	—	—16.0		0	3	St.	4 a: reach $\varphi = 76°55'$ N $\lambda = 18°20'$ W
			7 p	76°55′	18°20′	—	—12.5		0	0		8.15 p: leaving $\varphi = 76°55'$ N $\lambda = 18°20'$ W
		11	5 a	77°10′	18°15′	—	—15.0		0	2	St.	4.45 a: reach $\varphi = 77°10'$ N $\lambda = 18°15'$ W
			8 p			—	—13.5		0	2	Ci.—St.	7.40 p: leaving $\varphi = 77°10'$ N $\lambda = 18°15'$ W
		12	7 a	77°18′	18°35′	—	—12.0		0	4	Ci.—St.	5 a: reach $\varphi = 77°18'$ N $\lambda = 18°35$ W
			7 p	77°18′	18°35′	—	—11.5		0	6	Ci.—St.	8 p: leaving $\varphi = 77°18'$ N $\lambda = 18°35'$ W
		13	6 a	77°23′	19°15′	—	—12.0		0	2	Ci.—St.	Fog on land

1911	May	13	8 p	77°23′	19°15′	—	— 7.0		0	10	St.	
		14	4 a	77°23′	19°15′	—	— 7.5		0	10	St.	
			2 p	77°23′	19°15′	—	— 4.2		0	10	St.	
			9 p			60.5	— 6.0		0	10	St.	8 p: leaving $\varphi = 77°\ 23'$ N $\lambda = 19°\ 15'$ W
		15	4 p	77°27′	19°30′	62.5	— 0.5		0	0		3 a: reach $\varphi = 77°\ 27'$ N $\lambda = 19°\ 30'$ W
			9 p	77°27′	19°30′	62.0	— 4.5		0	3	Ci.—St.	
		16	7 a	77°27′	19°30′	63.3	— 5.0		0	5	Ci.—St.	
			9 p	77°27′	19°30′	64.3	—10.0		0	4	Ci.—St.	10.30 p: leaving $\varphi = 77°\ 27'$ N $\lambda = 19°\ 30'$ W
		17	7 a	77°21′	19°00′	65.3	— 6.0	NW	3	6	Ci.—St.	
			9 p	77°21′	19°00′	66.0	— 9.2		0	—		
		18	5 a			66.0	— 7.0		0	10 ≡		≡ from 1 a. 6.30 a: reach $\varphi = 77°\ 15'$ N $\lambda = 18°\ 20'$ W
			9 p	77°15′	18°20′	63.5	— 6.0	S	3	10	St.	
		19	8 a	77°8′	18°15′	61.0	— 4.0	S	4	10	St.	Glazed frost
			5 p	77°8′	18°15′	54.5	— 3.1	S	2	10 ∗	St.	
		20	8 a	76°55′	18°15′	48.8	— 2.0	NW	2	10 ∞		11 a: leaving $\varphi = 76°\ 55'$ N $\lambda = 18°\ 15'$ W
			2 p			47.5	1.7		0	10 ∞		4.30 p: reach $\varphi = 76°\ 46'$ N $\lambda = 18°\ 45'$ W
			9 p	76°46′	18°45′	46.2	— 3.8		0	10	St.	
		21	8 a	76°46′	18°45′	43.5	— 4.5		0	10 ≡	St.	
			2 p	76°46′	18°45′	42.8	— 1.8		0	8	St.	
			9 p	76°46′	18°45′	43.3	— 2.2		0	10	St.	
		22	8 a	76°46′	18°45′	45.5	— 1.7		0	6	St.	
			2 p	76°46′	18°45′	47.2	2.7	N	3	8	St.	
			7 p	76°46′	18°45′	49.7	2.0	N	5	7	St.	
		23	8 a	76°46′	18°45′	52.0	1.3	N	5	10	St.	
			2 p	76°46′	18°45′	52.9	1.0	N	8	10 ∗		
		24	8 a	76°46′	18°45′	55.5	— 0.5	—	4	10 ∗		Gale in the night
			2 p	76°46′	18°45′	54.0	1.3	NW	8	7	St.	
		25	2 a	76°46′	18°45′	52.5	— 3.2	W	5	10 ∗		
			8 a	76°46′	18°45′	53.0	— 3.0		0	10 ∗		
			2 p	76°46′	18°45′	53.4	— 1.8		0	10 ≡		
			12 p	76°46′	18°45′	51.5	— 5.3	—	2	8		
		26	8 a	76°46′	18°45′	52.1	— 3.0	N	2	2	Ci.	
			10 p	76°46′	18°45′	56.1	— 5.0		0	10 ≡		
		27	8 a	76°46′	18°45′	59.7	— 6.3		0	10 ≡		
			1 p	76°46′	18°45′	—	— 3.8		0	10 ≡		
			10 p	76°46′	18°45′	60.5	— 5.0		0	10 ≡		

*) Aneroïd barometer

Tab. 2. (continued) Sledgetrip from Skærfjorden to Shannon Island.

Year	Month	Date	Hour	Position N. lat.	Position W. lg. fr. Greenwich	Barometer mm 700 +*)	Air Temperature C°	Wind Direction	Wind Force (0—12)	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1911	May	28	8 a	76°46′	18°45′	60.3	— 5.2		0	10	A.—St.	
			11 a	76°46′	18°45′	59.7	— 4.0		0	4	A.—St.	
			11 p	76°46′	18°45′	60.7	— 7.5		0	10≡		
		29	8 a			—	— 2.0	N	3	0		1 a: leaving $\varphi = 76°\ 46'$ N $\lambda = 18°\ 45'$ W
			11 a	76°34′	18°55′	64.3	— 0.5		0	0		9 a: reach $\varphi = 76°\ 34'$ N $\lambda = 18°\ 55'$ W
			12 p	76°34′	18°55′	67.5	— 5.5		0	0		
		30	8 a			67.5	— 4.0		0	1	Ci.—St.	Fog at sea; 5 a: leaving $\varphi = 76°\ 34'$ N $\lambda = 18°$
			11 p	76°30′	18°50′	61.9	— 3.5		0	10		11 a: reach $\varphi = 76°\ 30'$ N $\lambda = 18°\ 50'$W [55′ W
		31	8 a			59.5	— 3.5		0	10≡		0.30 a: leaving $\varphi = 76°\ 30'$ N $\lambda = 18°\ 50'$ W
			12 p	76°15′	18°50′	58.8	— 5.5		0	3		9.30 a: reach $\varphi = 76°\ 15'$ N $\lambda = 18°\ 50'$ W
	June	1	8 a			54.5	— 2.5	SW	2	6	Ci.—St.	0.15 a: leaving 76° 15 N$\lambda = 18°50$W Halo round
			11 p	76°08′	18°35′	55.6	—	NE	6	10≡		9.30 a: reach $\varphi = 76°08'$N $\lambda = 18°35$W [the sun
		2	2 a			56.0	— 5.2	NE	4	10		0.30 a: leaving$\varphi = 76°08'$N$\lambda = 18°35'$W Weather
			8 a			60.1	— 1.8	E	3	10≡		9.30a: reach$\varphi = 76°08'$N$\lambda = 19°00'$W [clearing of
			12 p	76°08′	19°00′	59.7	— 2.2	NE	3	10≡		
		3	4 a			58.0	— 2.9	N	4	10✻		Snowdrift; 1.30 a: leaving $\varphi = 76°\ 08'$ N $\lambda = 19°$
			8 a			58.5	— 2.0	NW	5	10		9 a: reach $\varphi = 75°\ 50'$ N $\lambda = 18°\ 50'$ W [00′ W
			2 p	75°50′	18°50′	59.0	— 1.0	NW	3	6	A.—St.	
			12 p	75°50′	18°50′	59.7	— 2.0		0	10✻	St.	
		4	8 a			59.5	— 1.0		0	10	A.—St.	0.30 a: leaving $\varphi = 75°\ 50'$ N $\lambda = 18°\ 50'$ W
			12 a			61.0	— 0.2		0	4	A.—Cu.	0.30 p: reach $\varphi = 75°\ 38'$ N $\lambda = 18°\ 40'$ W
			12 p	75°38′	18°40′	57.1	— 2.8		0	4	St.	Fog on the Mainland
		5	8 a			58.5	— 4.0		0	6	A.—St.	11 a: reach $\varphi = 75°\ 30'$ N $\lambda = 18°\ 35'$ W
			2 p	75°30′	18°35′	60.4	— 1.0		0	10	St.	
			9 p	75°30′	18°35′	60.8	0.5		0	10✻		

*) Aneroïd barometer.

Tab. 2. (continued) **Shannon Island.*)**

June. **1911.**

Date	Barometer**) mm 700+ 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0–12) 8a		2p		9p		Cloud Amount (0–10) and Weather 8a	2p	9p	Cloud-forms 8a	2p	9p	Remarks
6	62.3	63.0	63.4	— 0.5	2.0	— 1.0		0		0		0	10	6	10≡	St.	Ci.—St.		ittle snow during night
7	63.3	64.2	63.6	— 1.2	— 0.3	— 1.0	SW	3	SW	3	SW	4	10≡	10≡	10≡				
8	64.6	65.3	64.3	— 2.9	— 0.8	— 2.2	SW	5	SW	4	SW	2	10 *	10≡	10*≡				
9	61.3	59.7	60.4	— 3.0	—	— 2.7		0		0		0	10≡	10*≡	10*≡				
10	63.5	66.7	67.8	— 2.3	— 1.0	— 3.8	E	2		0		0	10≡	3	10		St.	St.	
11	69.7	—	69.2	4.2	2.0	—		0		0	—		4	10	—	A.—Cu.	St.		
12	—	67.8	65.0	—	2.6	0.0	—			0		0	—	0	0				
13	—	65.3	—	—	2.2	—	—			0	—		—	0	—				
14	—	—	—	—	—	—	—		—		—		—		—				
15	—	66.3	65.4	—	1.2	0.6	—		SE	2	SE	2	—	3≡	0		Ci.—St.		2p: Obs. taken 4p
16	64.7	62.7	60.5	3.0	5.6	4.2		0	W	1	SE	4	0	0	3			Ci.—St.	
17	57.7	55.5	54.7	3.0	4.2	3.0	SE	3	SE	5	SE	6	4	6	8	Ci.—St.	Ci.—St.	Ci.—St.. A.—Cu.	
18	59.5	62.0	64.3	0.0	2.0	0.0	SE	7	SE	5	SE	7	10≡	10	10	St.	St.	A.—St.	
19	63.0	62.8	60.3	0.6	2.0	1.0	SE	3	SE	5	SE	5	10≡	10	0		St.		9p: few fogbanks
20	59.7	60.7	61.7	0.0	2.0	0.8	W	2		0		0	10*≡	10	10		St.	St.	
21	61.3	62.8	62.3	0.3	2.5	1.3	W	1		0	S	3	10	6	4	St.	Ci.—St.	Ci.—St.	
22	62.8	64.7	64.5	0.0	0.0	0.2	NE	2	N	1	SE	2	10	10	10≡				Fog, clear in Zenith
23	68.0	70.7	72.4	1.8	4.0	2.0	NE	1		0		0	3	5	3	Ci.—St.	Ci.—St.	Ci.—St.	
24	72.3	72.3	68.8	4.5	6.5	4.0	E	1	E	3	E	4	0	0	0				
25	64.0	64.2	62.1	3.7	4.5	3.5	E	5	E	5	E	5	0	0	0∞				
26	60.1	58.5	58.5	1.5	1.8	— 1.0	SE	6	SE	6	SE	7	10≡	10≡	10≡				
27	55.0	55.1	55.3	1.5	2.5	— 0.7	SE	7	SE	6	S	4	8	4	10	Ci.—St.	Ci.—St.	St.	

*) From 6.—15. Shannon's NE.-Pt.; from 16.—30. Cape Philip Broke.

**) From 13.—30. Aneroïd barometer.

Tab. 2. (continued) **Shannon Island.**
June/July. **1911.**

Date	Barometer mm 700 + 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a	2p	9p	Cloud Amount (0—10) and Weather 8a	2p	9p	Cloud-forms 8a	2p	9p	Remarks
28	53.5	53.0	53.3	1.2	3.2	0.0	N 1	SE 1	SE 3	10	10	10	St.	St.		Fog in south
29	54.8	55.8	56.6	— 0.7	2.5	— 1.0	E 2	E 2	E 3	10 ∗	10 ∗	10 ∗				
30	57.5	58.3	60.0	1.0	1.5	1.8	N 2	N 2	E 1	10	10	10	St.	St.	St.	
July *)																
1	59.5	60.0	58.4	1.5	3.0	0.0	0	0	NE 3	6	6	10 ≡	A.—Cu.	A.—Cu.		
2	57.5	55.7	55.5	0.5	5.0	4.0	NE 2	NE 1	0	10	10	6	Ci.—St.	Ci.—St.	Ci.—Cu.	
3	—	54.3	53.3	—	7.0	4.0	—	SE 2	SE 3	—	0	2			Ci.—St.	9 pm: Fogbank in south
4	53.0	52.5	50.5	2.5	4.5	2.0	SE 5	SE 5	E 5	10 ≡	0	10 ○				
5	50.0	49.8	49.0	2.0	2.0	1.0	NE 4	NE 3	NE 1	10 ○	10 ○ ≡	10 ○				Heavy rain all night
6	50.2	50.7	52.0	1.5	2.5	3.2	SE 2	SE 1	0	2 ≡	6	2		Ci.—St.	Ci.—St.	
7	—	55.3	53.5	—	5.8	4.0	ESE 1	ESE 2	SE 3	0	0	0				
8	50.5	49.5	50.5	1.2	1.8	0.0	SE 6	SE 5	0	10 ≡	10	10 ≡		St.		
9	55.5	59.7	63.3	1.7	2.5	2.2	NNW 6	N 3	SW 2	10	6	6	St.	Cu.	Cu.	
10	63.4	62.8	59.3	3.0	6.5	2.0	SSE 2	SSE 3	SE 3	0	0	10 ≡				
11	—	59.3	58.8	4.0	5.7	5.8	SE 3	SE 2	ESE 2	3	3	5	Ci.—St.	Ci.—St.	Ci.—St.	Mirage
12	61.6	63.0	63.6	7.2	7.8	8.0	0	0	0	7	10	10	Ci.—St.	Ci.—St.	St.	
13	64.5	65.6	65.3	3.0	4.0	5.0	0	NNE 2	0	4	8	2	Cu.	Cu.	St.	
14	65.5	65.6	66.3	5.9	7.8	4.5	N 1	0	0	6	8	8 ⊙	St.	St.		
15	67.3	67.5	66.5	2.0	3.0	1.6	NNE 6	N 4	NW 7	10 ∞	10	10 ⊙	St.	St.		
16	—	68.5	68.4	—	3.0	5.4	—	NW 3	N 2	—	6	3		Cu.	Ci.	
17	66.5	66.3	65.8	3.8	5.6	5.7	SE 1	SE 2	0	5	5	8	Ci.—St.	Ci.—St.	Ci. and St.	
18	—	65.0	65.4	2.3	4.0	3.0	0	SE 1	SE 1	3	6	10	Cu.	Cu.	A.—St.	
19	64.5	63.8	65.1	2.0	3.6	2.0	N 1	N 2	NW 2	10 ○	8	8		St.	St.	
20	64.5	64.3	62.8	1.8	4.5	1.0	SW 1	SW 1	SSE 2	10	10	10 ≡	St.—Cu.	St.—Cu.		
21	—	64.2	64.1	—	2.6	0.0	—	SSE 4	SSE 4	10 ≡	10 ≡	10 ≡				Clear in Zenith
22	65.3	65.4	67.0	3.2	4.8	1.7	ESE 2	ESE 2	E 1	10 ≡	10 ≡	10 ≡				
23	66.8	66.7	66.4	1.3	3.0	1.0	N 1	N 1	NE 2	10 ≡	10	10 ≡		St.		2 pm: Fog in south

24	67.1	67.8	67.8	2.0	3.5	1.5	N	5	N	5	N	3	10	10	10	A. Cu., A.—St.	St.	St.	
25	—	68.4	68.5	—	2.0	1.0			N	1	N	1	—	10 ○	10			St.	
26	67.6	67.2	66.4	3.0	3.8	2.8		0		0		0	10 ≡	3	10 ○		St.		
27	65.0	63.7	60.5	1.6	2.0	0.9		0	N	1	NW	2	10 ○ ≡	10 ○ ≡	10 ○				
28	59.5	58.7	58.5	0.8	1.3	1.0	NNW	5	NNW	6	NNW	7	10 ○ ≡	10 ○ ≡	10 ○			St.	
29	56.5	57.1	59.8	1.5	3.5	2.1	NNW	8	NW	5	SSW	2	10 ○ ≡	10	10		St.	St.	Wind shifted at 6 pm
30	65.5	66.0	66.5	5.2	6.0	2.5	SSE	1	SE	1	SE	2	6	8	10	St.—Cu.	St.—Cu.	St.	
31	68.0	68.2	68.0	2.5	3.7	1.2	SE	2	SE	2	ESE	1	10 ≡	10 ≡	0				
Aug. *)																			
1	—	66.0	65.5	—	4.0	3.8			ESE	2	ESE	2	—	8	3		Ci. St.	Ci.	
2	64.5	63.4	62.3	3.0	5.8	1.6	ESE	2	ESE	3	ESE	3	0	1	10 ≡		Ci.		
3	64.3	63.6	61.7	3.3	3.8	0.8		0	–	1	·	1	6	10 ≡	10 ≡	St.			
4	61.5	60.4	59.5	0.5	4.8	3.3	—	1	SE	1	SE	2	10 ≡	3	0		Ci.		
5	58.7	58.5	57.8	3.0	5.0	1.5	ESE	1	ESE	1		0	0	0	6			Ci.	
6	59.2	59.3	59.5	2.6	5.5	2.1	ESE	1	ESE	1	ESE	1	5	7	2	Ci.	Ci.—St.	Ci.– St.	
7	60.3	60.6	—	3.8	3.5	—	—	1	S	1	NW	3	10	10	10	St.	St.	St.	
8	57.5	57.5	57.7	0.9	1.2	0.5	NNW	5	NNW	5	NW	2	10 ○	10 ○	10			St.	
9	58.3	58.0	58.4	1.5	3.0	2.0	N	1	N	1	ESE	1	10 ≡	10	10		St.	Cu.	2 pm: Fog on sea
10	59.5	59.6	59.5	2.7	2.0	0.9	ESE	2	ESE	2		0	10 ≡	10 ≡	10			Cu.	
11	60.4	61.0	61.1	2.4	6.3	3.1		0	SE	1	ESE	2	8	4	0	St.—Cu.	St.		
12	58.8	59.3	62.5	2.5	4.8	6.9	ESE	2	ESE	2	N	3	0	2	4		St.	St.	
13	62.5	61.5	60.7	3.0	4.5	2.3	SE	2	SE	1		0	2	4	0	Ci.—St.	Ci. —St.		
14	–	64.7	61.0	—	4.3	2.9	- - -		SE	2	SE	3	—	0	4			Ci.	
15	60.5	59.6	60.0	2.5	5.0	4.9		0	N	1		0	5	0	0	Ci. St.			
16	64.7	65.7	66.4	2.0	4.8	2.1	NNW	1	SE	1	E	2	4	0	0	Ci.			
17	66.6	66.7	65.4	2.3	4.5	0.8	SE	2	SE	2	SE	2	0	0	0				
18	66.7	67.4	67.1	2.0	3.8	1.9	S	1	SW	1	E	1	0	2	0		Ci.– St.		
19	67.8	—	68.5	1.1	—	1.0	E	2	—		ENE	2	0	—	5 ≡			St.	
20	67.0	65.7	65.8	1.5	1.5	1.2		0	N	5	N	4	7	10	10	Ci.—St.	St.	St.	
21	66.5	66.8	66.7	0.6	1.0	0.6	NNW	5	NNW	6	NNW	4	10	10 ≡	10 ○ ≡	St.			
22	64.5	64.0	62.3	1.0	1.6	1.0	NNW	4	NNW	2	NNW	2	10 ○	10 ○	10 ○ ≡				
23	61.4	60.4	60.6	1.5	1.0	0.8	N	3	N	3	N	3	10 ≡	10 ○ ≡	10 ○ ≡				
24	61.5	61.7	61.5	1.1	1.5	0.5	NNW	3	NNW	2	NNW	4	10	10 ≡	10	St.		St.	
25	60.8	60.5	58.7	0.6	2.8	1.4	NW	5	NW	4	N	2	10	10	10	St.	St.	St.	Snow in the night

*) Cape Philip Broke.

Tab. 2. (continued) **Shannon Island.**

August/September/October. **1911.**

Date	Barometer mm 700 +			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—10) and Weather			Cloud-forms			Remarks
	8 a	2 p	9 p	8 a	2 p	9 p	8 a	2 p	9 p	8 a	2 p	9 p	8 a	2 p	9 p	
*) 26	59.1	58.6	58.4	2.2	3.0	1.7	NNW 1	NW 1	N 5	10	10	10 ○ ∞	St.	St.		
27	57.5	56.5	55.8	1.0	2.5	1.3	N 5	N 2	N 1	10 ⚹	10	10		St.	St.	Snow on the mountains
28	56.0	55.3	53.7	1.5	3.0	1.8	NW 1	0	S 2	10	—	6	St.		St.—Cu.	
29	52.0	52.6	51.4	— 1.0	2.0	— 2.5	SSE 1	SSE 1	SSE 1	1	3	10 ≡	Ci.	Ci.		2 pm: Fog on sea
30	52.8	52.5	53.1	— 1.3	— 1.0	— 0.8	SE 1	SW 1	W 1	10 ✱	10 ✱	8			St.	
31	55.3	54.7	57.1	— 2.0	1.8	— 2.1	SW 1	ENE 1	NE 1	0	6	10		Ci.—St.	St.	
Sept. †) 1	57.7	††) 57.7	57.0	— 2.5	— 1.0	— 2.1	N 5	N 6	NNW 8	10	10 ✱	10 ✱	St.			
2	56.4	55.0	54.5	— 2.1	— 1.2	— 1.0	NNW 8	NNW 8	NNW 6	10 ✱ ≡	10 ✱	10 ≡				Glazed frost 2 pm
3	50.5	51.8	53.5	— 1.2	0.4	0.0	NNW 4	NNW 3	NNW 4	10 ≡	10 ✱ ≡	10 ✱				
4	55.5	55.5	55.5	— 1.5	1.0	0.4	0	E 2	SE 1	10 ≡	6	10 ≡		St.		
5	55.8	56.5	56.8	— 0.2	0.8	— 1.0	SE 1	0	0	10 ≡	10 ≡	8			St.—Cu.	
6	57.5	57.3	57.6	— 2.8	0.0	— 2.0	0	0	0	0	2	8		A.—Cu.	St.	
7	59.3	60.1	—	— 4.0	— 1.1	—	NW 1	0	—	0	4	—		Ci.—St.		
8	60.0	58.4	—	— 2.0	— 1.1	—	0	S 1	—	0	10	—		Ci.—St.		
9	57.3	59.1	—	— 4.0	— 3.5	—	N 6	N 4	—	10	10	—	St.	St.		
10	60.4	61.5	—	— 4.3	— 3.5	—	N 3	N 2	—	10	10	—	St.	St.		
11	61.7	60.5	—	— 1.5	— 1.0	—	0	E 1	—	10	10	—	St.	St.		
12	60.8	60.0	—	— 5.3	— 4.2	—	0	0	—	10 ≡	10 ≡	—				
13	61.5	61.7	60.2	— 6.0	— 1.7	— 2.0	0	SE 1	SE 2	0	2	6		Ci.—St.	Ci. and Ci.—St.	8 a: Fogbanks
14	59.0	61.7	59.9	— 3.2	0.3	— 1.2	N 2	0	NNW 3	6	8	8	Ci.	Ci.	Ci.	
15	54.7	50.5	45.1	— 1.5	— 2.6	— 3.5	SE 1	NNW 2	0	10 ≡	10 ✱	10 ✱				Fogbanks
16	31.3	29.3	27.7	— 3.7	— 2.0	— 1.1	N 5	SW 3	SSW 1	10	10 ✱	10 ✱ ≡	St.			During night glazed frost, c. 3/4''
17	34.7	42.5	47.3	— 2.0	— 1.5	— 1.3	**NNW 9**	**NNW 9**	**NW 9**	10 ✱	10 ✱	10 ✱				8 a: glazed frost
18	52.3	53.5	53.5	— 2.8	— 2.9	— 4.0	NW 4	NW 3	NW 3	10	10	6	Ci.—St.	St.	Ci.—St.	
19	52.8	—	—	— 6.1	—	—	NW 1	—	—	3	—	—	Ci.—St.			

20	—	—	—	—	—	—	—		—		—		—	—	—				
21	58.0	—	57.2	— 7.8	—	— 9.2		0	—			0	0	10 ≡	2			St.	
22	55.7	57.2	57.6	—11.7	— 9.2	—12.3	N	6	N	4	N	5	8	3	0	Ci.—St.	Ci.—St.		
23	56.8	56.9	57.5	—12.6	— 8.2	—13.8	N	2	SW	1		0	0	0	0				
24	57.8	53.4	52.1	—10.0	— 9.0	—10.5	N	3	N	6	N	6	5	0	8	Ci.—St.		Ci.—St.	
25	51.5	51.2	50.4	—13.0	—11.0	—13.3	N	3	N	4	N	6	6	6	0	Ci.—St.	Ci.—St.		
26	49.1	50.1	51.2	—11.9	— 9.2	—11.7	N	6	N	6	N	3	4	6	8	Ci.—St.	Ci.—St.	Ci.—St.	
27	54.0	55.5	56.3	—13.8	—13.2	—11.5	N	8	N	6	N	7	3	0	6	Ci.—St.		Ci.	
29	60.8	63.8	66.5	—12.7	—11.0	—11.5	N	7	N	7	N	2	8	8	4	Ci.andSt.	Ci.	Ci.	
29	71.5	72.8	73.9	—12.7	— 7.5	— 7.6	N	2	NNE	4	NNE	3	0	10	3		St.	St.	
30	75.1	74.9	72.7	—10.3	—	—11.5	N	1	—			0	5	—	0	Ci.—St.			
Oct. §) 1	65.9	§§) 63.8	63.7	—12.6	— 9.0	—14.2	S	1	N	1		0	10 ≡	10 ≡	3			St.	9 p: Fogbanks
2	67.4	66.8	66.1	—13.9	— 9.9	—14.4		0	S	1		0	5	8	10	St.	Ci.—St.	St.	
3	63.0	67.4	68.2	—11.6	—	— 8.9	N	3	—			0	6	—	8	Ci.—St.		St.	
4	65.4	62.9	62.9	— 9.4	—	— 6.1	S	2	—		S	1	6	—	10	A.—Cu.			9 p: Glazed frost
5	61.1	53.6	42.9	— 9.2	— 6.3	— 6.2		0		0		0	10	10 ≡	10 *	St.			
6	45.0	52.4	57.7	— 9.1	— 6.5	— 9.2	N	7	N	7	N	5	10 * ≡	10 * ≡	3			St.	9 p Obs. taken 7 p
7	67.0	68.9	70.4	— 9.5	—	—11.5	N	7	—			0	9	—	0	St.			9 p Obs. taken 7 p
8	68.9	69.0	68.3	—14.2	—	—12.7		0	—			0	0	—	4			St.	9 p: Few fogbanks
9	58.9	56.9	58.3	— 5.2	—10.9	—12.0		0	N	8	N	6	10 *	10 *	10			St.	
10	57.1	55.8	55.9	—11.5	—10.2	—10.5	N	8	N	7	N	8	10 *	10 *	10 *				
11	57.8	58.5	59.2	— 6.4	— 6.3	— 5.7		0		0		0	10 *	10 *	10 *				
12	60.4	61.9	62.8	—10.6	— 10.3	—10.8	N	7	N	5		0	10 *	10 *	8			Ci.—St.	
13	61.5	62.8	64.6	—13.5	—11.6	—19.0	SW	3		0		0	8	10	0		St.		
14	57.1	55.4	54.6	—10.2	—13.7	—14.2	S	4	N	6	N	4	6	8	10 *	Ci.—St.	St.		Wind increased to 6 and shifted at 1 pm
15	50.3	41.9	36.4	—14.8	—12.0	— 9.5		0		0	NE	5	10 *	10 *	10 * ≡				
16	46.7	51.5	54.2	—17.5	—	—16.9		0		0		0	0	2	3		Ci.—St.	Ci.—St.	9 p — Obs. taken 7 p
17	58.3	59.7	62.2	—21.7	—16.0	—		0		0		0	2	4	—	Ci.	Ci.		2 p -- Obs. taken 4 p
18	56.4	—	—	—20.7	—17.2	—		0		0	N	4	3	6	0	Ci.	Ci.—Cu.		
19	—	64.7	65.2	—20.8	—24.2	—		0		0		0	0	0	0				2 p — Obs. taken 4 p
20	66.0	66.8	66.5	—25.5	—26.9	—		0		0		0	6	3	10 ≡	Ci.—St.	Ci.—St.		2 p and 9 p Obs. taken 3 p and 7 p
21	61.8	61.8	61.6	—24.0	—22.7	—19.5		0	NW	1	N	2	0	3	3		Ci.	Ci.—St.	
22	55.7	53.2	54.9	—15.4	—19.5	—	SW	2		0		0	1	3	3	Ci.	St.	St.	9 p — Obs. taken 7 p
23	57.7	60.2	61.5	—14.1	—13.0	—		0		0		0	10	10 *	10 *		St.		9 p — Obs. taken 7 p

*) Cape Philip Broke. †) From 1.—19. Cape Philip Broke; from 21.—30. Shannon's NE-Pt. ††) Aneroïd barometer from 1.—22. 8 a.

§) From 18.—31. Sledgetrips between NE-Pt. and Cape Philip Broke. §§) Aneroïd barometer from 16.—31.

Tab. 2. (continued)

Shannon Island.

October. **1911.**

Date	Barometer mm 700+**)			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—10) and Weather			Cloud-forms			Remarks
	8 a	2 p	9 p	8 a	2 p	9 p	8 a	2 p	9 p	8 a	2 p	9 p	8 a	2 p	9 p	
24	61.2	—	60.3	—24.5	—	—	0	NE 4	NE 6	0	8	10		St.	St.	9 p — Obs. taken 7 p
25	56.5	55.4	54.7	—17.7	—20.0	—	NE 2	0	E 4	9	4	—	St.	St.		9 p — Obs. taken 7 p
26	55.4	55.7	55.7	—19.2	—21.2	—	N 4	N 1	0	10	7	—	St.	St.		9 p — Obs. taken 7 p
27	55.7	54.5	—	—30.0	—28.0	—	0	0	0	3	3	10	Ci.	Ci.		
28	57.2	59.4	61.2	—22.0	—32.2	—	0	0	0	3	0	—	St.			2 p and 9 p Obs. taken 4 p
29	60.7	62.8	64.5	—30.5	—24.0	—	0	0	N 1	2	10 ≡	10 ≡	Ci.			9 p — Obs. tak. 8 p [a. 8 p
30	65.2	65.9	—	—30.2	—30.7	—	0	0	—	2	2	—	St.	St.		
31	67.8	68.7	68.0	—30.0	—31.2	—	0	0	0	0	0	—				

Bass Rock.

November.*)

Date	Barometer 8 a	Barometer 2 p	Barometer 9 p	Air Temp. 8 a	Air Temp. 2 p	Air Temp. 9 p	Wind 8 a	Wind 2 p	Wind 9 p	Cloud 8 a	Cloud 2 p	Cloud 9 p	Cloud-forms 8 a	Cloud-forms 2 p	Cloud-forms 9 p	Remarks
1	58.7	54.5	—	—33.5	—32.0	—	0	0	0	2	4	—	Ci.—St.	Ci.—St.		
2	52.7	53.0	—	—33.7	—31.5	—	0	0	—	4	6	—	Ci.—St.	Ci.—St.		2 p — Obs. taken 3 p
3	52.7	49.6	—	—21.0	—18.0	—	N 1	NE 6	—	10 *	10 *	—				
4	47.5	46.7	—	—17.5	—19.0	—	NE 8	NE 8	—	10 *	7	—		St.		
5	46.2	50.2	—	—16.8	—16.5	—	NE 8	NE 6	—	10	10 *	—	St.			2 p — Obs. taken 3 p
6	48.7	52.2	—	—12.0	—13.5	—	NNE 6	NNE 5	—	7	4	—	St.	St.		2 p — Obs. taken 4 p
7	53.2	56.2	58.3	—23.3	—20.0	—	NNE 8	NNE 8	NNE 6	10 *	10 *	10	St.			
8	60.0	61.8	—	—18.2	—18.5	—	NE 7	NE 3	—	10	10	—	Ci.—St.	Ci.—St.		
9	60.1	54.5	—	—15.0	—13.2	—	0	SSE 2	—	10	10	—	Ci.—St.	St.		2 p — Obs. taken 3 p
10	53.2	53.0	—	—20.0	—18.0	—	NNE 2	NNW 2	—	10	10	—	St.	St.		
11	59.3	61.3	—	—22.3	—21.3	—	NNW 2	N 1	—	4	6	—	St.	St.		
12	60.7	62.4	—	—21.5	—23.3	—	N 1	0	—	4	4	—	Ci.—St.	Ci.—St.		
13	65.7	67.0	—	—20.2	—18.1	—	NW 1	S 1	—	2	2	—	Ci.—St.	Ci.—St.		
14	66.8	66.7	—	—21.8	—22.2	—	N 1	0	—	6	4	—	St.	St.		
15	64.7	64.0	—	—19.0	—21.2	—	N 1	N 1	—	8	6	—	Ci.—St.	Ci.—St.		

16	63.5	—		—20.0	—19.3		SE	1	SE	1			4	6	—	St.	A.—Cu.		
17	57.7	60.7		—17.2	—15.8	—		0		0			3	6	—	St.	A.—Cu., St.		2 p — Obs. taken 4 p
18	59.5	59.3	61.2	—14.5	—13.0	—		0	N	1	N	4	6	3	—		A.—Cu.		
19	62.4	62.8	66.7	—17.3	—	—	NNW	6	NNW	7	NNW	4	2	—		St.			9 p — Obs. taken 7 p
20	64.1	64.8	64.3	—21.0	—19.5	—		0		0			0	3			St.		
21	63.3	60.8	60.8	—16.2	—16.0	—	N	2	N	4	N	4	10	10 *	10 *	St.			
22	58.2	60.8	63.6	—19.5	—21.0	—		0		0	—		8	2	—	Ci.—St.	St.		
23	65.6	62.7	60.3	—24.8	—23.5	—25.5		0	SSW	1		0	4	8	8 ∞	Ci.—St.	St.		
24	64.1	61.3	60.8	—26.2	—27.2	—26.5	N	1	N	1	N	1	3	6	0	St.	Ci.—St.		
25	55.3	51.8	51.6	—24.0	—27.5	—26.2	N	2	N	1		0	10	10	0	St.	Ci.—St.		
26	53.4	55.8	55.8	—26.3	—27.0	—28.4	N	3	N	1		0	10	0	0	St.			
27	46.8	44.1	50.3	23.2	—23.4	—29.0	S	1		0	N	3	10 *	10 *	0				Clearing: 5 pm
28	57.8	58.8	58.5	—28.0	—28.5	—27.0	N	1	NNE	3	NNE	5	5	10	10	St.	Ci.—St.	St.	
29	51.9	48.6	48.6	—25.7	—28.5	—30.8	NNE	4	NNE	4		0	10 *	10 *	0				Mock moon
30	47.7	48.6	45.6	—29.2	—29.0	—27.0		0	N	4	N	4	5	10 *	10 *	Ci.—St.			
Dec.																			
1	43.5	42.3	36.8	—23.0	—22.7	—20.0	NNW	6	NNW	4	NNW	4	10 *	10 *	10 *				
2	31.6	31.9	33.4	—16.5	—14.3	—13.0	NNW	6	SE	5	SE	8	10 *	10	1		St.	Ci.	
3	44.0	45.8	46.9	17.9	—16.5	—15.0	N	2	N	4	N	6	8	10	10 *	Ci.—St.	St.		
4	43.4	47.8	51.8	—15.1	—16.5	—18.0	N	6	—			0	10 *	6	3		St.	Ci.—St.	Gale night
5	51.9	53.7	57.6	—14.5	—16.0	—18.0	N	2	N	2	N	6	10 *	8	10 *		St.		
6	59.8	59.3	54.0	—19.0	—	—17.0	N	6	—		N	8	10 *	—	10 *				
7	53.1	53.8	54.1	— 9.0	— 8.8	— 8.2	N	3	N	4	N	1	10 *	10 *	10			St.	
8	54.3	54.7	55.6	—12.8	—12.3	—18.5		0	—	3	—	1	6	10 * ≡	5	Ci.—St.		Ci.—St.	
9	60.8	63.1	64.3	18.2	—17.5	—16.0	N	4	N	4	N	6	10	10 *	10 *	St.			
10	65.6	64.0	62.8	18.0	—15.2	—16.5	N	6	N	3		0	10 *	10 *	10			Ci.—St.	
11	64.3	65.9	65.8	—22.7	—23.2	—26.0	NNW	4	NNW	3		0	10	6	0	Ci.—St.			
12	65.8	64.8	64.9	—22.5	—24.7	—24.5	N	2	N	2		0	10	4	0	St.	Ci.		♔
13	64.9	65.8	64.3	22.0	—25.2	24.0	N	5	N	5	N	6	0	4	8		St.	St.	
14	59.7	59.0	60.9	—19.0	—16.5	—16.2	N	4	N	2	—	1	10	10	10	St.	St.	St.	
15	66.3	64.0	63.8	—22.8	—25.0	—24.5	—	1		0		0	0	4	0		Ci.—St.		
16	57.4	55.3	53.3	—13.0	— 9.8	—15.2	SE	1	SE	1	N	1	0	2	0		Cu.		
17	53.0	58.1	60.9	—22.5	—23.5	—22.1	N	2	—	2	N	1	0	2	0		St.		
18	64.7	66.6	66.6	—26.0	—29.2	—27.0	N	2	—	1	N	2	0	6	0		Ci.—St.		

*) From 1.—19. Sledgetrips between Shannon's NE-Pt. and Cape Philip Broke. From 20.—30. Bass Rock. **) Aneroïd barometer

Tab. 2. (continued) **Bass Rock.**

December January February. **1911/1912.**

Date	Barometer mm 700 +**)			Air Temperature C°			Wind Direction and Force (0—12)			Cloud Amount (0—10) and Weather			Cloud-forms			Remarks
	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	8a	2p	9p	
19	60.3	56.0	50.8	—32.0	—29.4	—25.0	NNW 2	NNW 3	NNW 5	2	10	10	Ci.—St.	St.	St.	
20	47.8	46.6	46.6	—32.2	—31.0	—30.5	NNW 5	— 2	NNW 4	3	0	0	St.			
21	46.6	48.8	49.1	—28.0	—24.5	—26.5	N 3	N 4	N 2	0	6	0		Ci.—St.		Clouds drifting rapidly from south
22	54.8	57.6	58.8	—24.2	—20.3	—23.5	— 1	N 3	N 2	8	10	10	St.	St.		
23	63.8	65.0	65.7	—28.0	—28.5	—26.0	N 2	N 4	NNE 6	6	10	10		St.	St.	
24	64.0	62.8	63.3	—28.3	—25.8	—23.0	NNE 1	NNE 3	NNE 3	10 *	10 *	10 *				
25	63.8	67.0	67.3	—27.5	—28.0	—28.0	N 5	N 2	— 1	10 *	10 *	4			St.	
26	61.5	60.9	70.7	—30.8	—29.0	—27.9	N 2	N 2	N 2	0	10	10		St.		
27	72.3	71.5	71.9	—32.2	—32.5	—34.5	— 1	0	S 1	0	0	0				
28	70.8	69.9	69.8	—32.3	—36.3	—38.0	N 1	0	0	0	0	0				
29	70.0	68.9	69.0	—30.0	—30.0	—32.0	— 1	— 1	0	3	6	0 ∞	St.	Ci.—St.		
30	69.9	67.8	65.9	—33.5	—32.0	—30.5	0	NE 2	0	8	6	10		St.	Ci.—St.	Halo round the moon
31	64.3	64.3	64.0	—31.0	—29.0	—32.1	N 4	NNW 3	NNW 3	8	10	10	Ci.—St.	A.—Cu.	St.	
Jan. *)																
1	61.8	61.8	62.8	—29.5	—30.0	—29.5	NNW 3	NW 3	NW 3	10 *	10 *	10			Ci.—St.	
2	67.9	68.8	71.0	—27.2	—26.7	—26.4	NW 4	NW 4	NW 3	10	10	10	St.	St.	Ci.—St.	
3	76.1	76.4	77.3	—21.9	—24.7	—24.2	N 1	N 1	0	10 *	10	10 *		St.		
4	74.1	72.8	70.3	—30.0	—32.5	—33.0	0	0	W 1	0	0	0				
5	67.3	65.0	63.8	—28.0	—28.0	—27.0	W 2	0	WNW 1	0	10	10		St. and A.—Cu.	St.	
6	61.9	61.3	60.2	—37.0	—33.2	—35.1	WNW 2	NNW 2	0	8	3	0	Ci.—St.	St.		
7	61.0	62.3	65.1	—36.5	—34.5	—35.0	0	W 2	W 2	0	3	8		Ci.	Ci.—St.	
8	66.5	66.7	67.0	—28.5	—27.9	—29.0	N 2	N 1	N 1	10	10	3	A.—Cu.	St.	St.	
9	63.3	62.0	60.1	—27.5	—25.4	—25.5	0	S 1	0	2	8	5	St.	Ci.—St.		
10	53.8	52.7	48.9	—29.0	—28.5	—30.0	N 1	N 1	N 1	10	10	10	St.	St.	St.	
11	42.8	42.8	40.1	—26.5	—27.3	—25.4	N 2	N 2	N 2	10	10	10	St. and A.—Cu.	St.	St.	

12	38.8	37.0	37.3	—25.5	—24.5	—25.3	N 2	N 2	0	10	8	0	St.	St.		
13	43.1	46.3	46.6	—29.0	—31.8	—29.3	N 1	NW 2	N 2	2	6	10	St.	St.	St.	
14	38.9	46.8	54.3	—23.5	—20.2	—19.5	N 6	0	0	6	10	10	St.	St.	St.	{ Gale all night { Clear from 4—7 pm
15	54.8	59.3	63.7	—26.8	—28.8	—27.5	0	0	NE 1	0	8	0		St.		
16	73.0	77.9	78.1	—29.5	—25.9	—20.8	NNW 1	NNW 1	NNW 1	8	10	10	Ci.—St.	St.	St.	
17	69.6	65.8	63.6	—20.0	—18.0	—14.4	N 6	N 5	0	10 *	10	10		St.	St.	{ Wind shifted at 9 am { and Tp. fell simul- { taneously to ÷ 20°
18	60.9	64.3	66.0	— 8.5	—20.8	—22.0	SSE 4	N 5	N 4	0	10	10		St.	St.	
19	70.4	71.6	72.5	—25.5	—26.9	—27.0	0	NW 2	SW 1	0	0	0				
20	72.3	67.9	64.8	—30.0	—26.1	—21.0	0	NW 2	SW 3	0	4	0		Ci.—St.		
21	57.7	56.5	56.3	—26.0	—28.2	—27.5	— 1	NW 1	N 2	0	8	0		Ci.—St.		
22	61.9	64.1	65.6	—27.2	—28.9	—26.2	N 1	NW 2	S 2	3	8	0	Ci.—St.	Ci.—St.		
23	63.6	63.1	63.6	—24.5	—23.8	—22.3	0	N 2	N 2	4	10	10 *	St.	St.		
24	67.0	69.0	71.3	—20.0	—24.8	—27.5	N 6	N 1	N 1	10 *	3	0		St.		Clearing 11 am
25	71.3	68.1	67.0	—29.6	—29.8	—31.5	NW 1	NW 1	NW 1	0	6	10		Ci.—St.	St.	
26	60.9	60.8	63.1	—32.0	—33.7	—34.0	W 1	NW 3	NW 1	10	4	0	St.	Ci.—St.		
27	61.8	61.9	66.7	—32.8	—32.3	—35.5	0	NW 1	NW 2	3	3	8	Ci.—St.	Ci.	Ci.—St.	
28	70.0	68.8	67.3	—30.6	—34.5	—	0	0	—	0	4	—		Ci.—St.		2 p — Obs. taken 4 p
29	72.8	73.8	74.3	—37.0	—	—	NNE 2	—	—	6	—	—	Ci.—St.			
30	71.8	71.0	74.0	—36.0	—37.5	—	0	0	—	0	0	—				
31	75.8	76.5	76.0	—37.8	—36.5	—	NW 1	NW 1	—	0	0	—				
Febr. †)																
1	73.5	72.5	68.2	—36.2	—36.8	—35.2	0	0	0	0	0	0				
2	58.7	53.4	60.0	—24.2	—24.3	—23.5	SSE 1	SSE 3	SSE 1	0	6	8		Ci.—St.	Ci.—St.	
3	61.5	62.0	62.7	—21.0	—	—	NNW 6	NNW 8	**NNW 10**	9	10 *	10 *	St.			
4	63.6	61.2	61.3	—27.0	—28.9	—29.5	NNW 2	NNW 1	0	8	0	0	Ci.—St.			
5	62.5	65.2	—	—32.5	—31.3	—	N 2	N 4	—	10	10 *	—	Ci.—St.			
6	69.6	70.3	70.0	—38.0)	—38.0)	—38.0)	N 1	N 1	N 1	8	10	4	Ci.—St.	Ci.—St.		} Mercury frozen
7	68.3	72.5	66.2	—38.0)	—38.0)	—38.0)	0	0	0	0	0	0				
8	63.2	62.4	64.0	—31.2	—34.5	—33.0	0	N 1	N 3	8	4	6	Ci.—St.	Ci.—St.	St.	
9	66.0	67.7	68.5	—19.0	—19.5	—22.0	N 7	N 5	N 3	10 *	10 *	4			St.	
10	69.2	—	—	—22.3	—28.0	—	N 3	N 2	—	8	3	—	Ci.—St.	Ci.—St.		2 p — Obs. taken 4 p
11	—	—	—	—21.5	—23.0	—	N 1	0	—	10	8	—	St.	A.—Cu.		
12	—	—	69.8	—21.2	—26.5	—31.0	N 3	N 2	0	10 *	4	0		Ci.—St.		
13	66.3	64.8	64.8	—33.0	—32.5	—	NW 1	NW 1	—	6	6	—	Ci.—St.	Ci.—St.		
14	64.6	63.0	61.5	—32.5	—34.6	—32.2	0	0	0	0	0	0				

*) 28.—31. Cape Philip Broke. **) Aneroïd barometer. †) From 1.—9. Cape Philip Broke.

Tab. 2. (continued) **Bass Rock.** **1912.**
February/March/April.

Date	Barometer mm 700 + **) 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a	2p	9p	Cloud Amount (0—10) and Weather 8a	2p	9p	Cloud-forms 8a	2p	9p	Remarks
15	53.8	53.8	54.4	—30.5	—31.2	—29.5	NW 2	W 3	0	4	2	0	St.	St.		
16	54.8	58.0	59.1	— 8.0	— 9.0	—17.0	— 1	0	0	4	10	10	Ci.	Ci.—St.		
17	59.7	59.3	57.6	—20.3	—23.1	—25.5	0	NW 2	NW 3	0	0	0				
18	60.0	61.6	61.7	—26.0	—27.2	—26.7	NW 3	NW 3	NW 2	4	6	0	Ci.—St.	Ci.—St.		
19	61.3	64.8	66.0	—23.8	—26.3	—24.5	0	SE 1	SE 3	0	6	4		Ci.—St.	St.	
20	67.8	67.3	64.1	—19.3	—14.2	—17.6	N 1	N 2	SE 2	4	5	5	Ci.—St.	Ci.—St.		
21	57.8	61.8	64.1	—19.5	—25.2	—22.3	SE 4	0	0	0	0	0				
22	68.0	67.7	65.2	—17.2	—23.7	—	NE 2	S 1	—	8	0	—	Ci.—St.			
23	64.1	62.6	62.3	—22.5	—23.1	—	NE 3	0	—	0	0	—				
24	62.6	62.1	62.6	—31.5	—24.5	—25.4	NW 2	N 6	N 6	4	10	10	St.	St.	Ci.	
25	65.8	66.0	65.8	—30.4	—31.3	—30.0	N 5	N 2	N 3	10 *	4	5		Ci.—St.	Ci.—St.	
26	63.8	63.3	62.0	—26.5	—22.6	—	N 7	N 7	N 7	10 *	10 *	10 *	St.			
27	61.8	60.8	61.4	—27.4	—28.7	—29.4	N 3	N 5	N 4	4	2	0	St.	St.		9 p — Obs. taken 7 p
28	64.1	65.0	66.3	—33.7	—34.0	—	NW 4	NW 2	—	0	0	—				
29	63.6	60.6	59.5	—31.0	—34.5	—	N 1	0	—	0	0	—				2 p — Obs. taken 4 p
March																
1	54.4	55.3	55.3	—37.0	—	—	0	—	0	0	—	0				
2	53.3	—	—	—	—	—37.5	0	0	—	0	0	—				
3	—	56.8	60.6	—37.2	—32.8	—32.5	0	0	NNE 2	0	3	6		Ci.—St.	Ci.—St.	
4	64.7	66.3	65.7	—32.5	—30.1	—33.3	NNE 3	N 1	0	8	6	0	A.—Cu.	Cu.		
5	65.6	65.2	66.9	—35.3	—32.2	—31.4	SW 3	0	NW 1	6	0	0	Ci.—St.			
6	61.7	58.2	56.8	—25.4	—23.8	—27.3	SSE 5	SSE 3	0	0	6	5		Ci.—St.		
7	60.7	59.6	57.0	—19.4	—25.0	—19.3	0	0	SE 2	10 ≡	2	0		Ci.		
8	56.9	59.0	58.0	—14.7	—13.6	—16.6	N 3	SSE 1	SSE 1	9	4	10	Ci.—St.	Ci.—St.	Ci.—St.	
9	59.0	60.9	62.0	—24.2	—24.2	—24.6	NE 4	NE 2	NE 1	4	4	2	St.	Ci.—St.	St.	
10	59.8	56.9	56.6	—23.0	—21.2	—20.7	NE 5	NE 5	NE 3	10 *	10 *	10			St.	Heavy snowfall
11	57.8	55.6	51.7	—19.5	—20.0	—20.0	NE 5	**NE 10**	**NE 10**	10	10	1	St.			Violent snowsqualls from 9a
12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NE 10	NE 6	10 *	10 *	10 *				[illegible]
13	62.3	62.2	62.8	—18.0	—13.5	—13.2	NE 2	NE 5	NE 5	6	10	10 *	St.—Cu.	St.		
14	62.5	62.0	62.6	—17.3	—16.3	—16.3	NE 7	NE 6	NE 4	10 *	10 *	10 *				Heavy snowfall
15	58.9	56.4	53.7	—16.2	—16.0	—16.2	NE 3	NE 3	0	10 *	10 *	10 *				Very heavy snowfall
16	52.0	54.0	56.0	—17.3	—16.8	—18.6	S 1	NNE 1	0	10 *	10 *	10 *				
17	60.1	62.0	62.8	—23.5	—26.2	—22.7	NNE 2	0	0	10	0	10 ≡	Ci.—St.			Thick fog 9 pm
18	59.0	58.4	59.9	—20.7	—17.8	—26.3	SSE 4	SSE 6	SW 3	10 ≡	4	0		Ci.—St.		
19	62.8	65.1	67.0	—24.7	—24.5	—27.2	NE 5	NE 4	NE 2	10	10 *	0	St.			
20	65.8	64.8	65.6	—28.0	—27.5	—28.8	NE 2	— 1	— 1	0	2	2		St.		Fog above open water
21	69.3	69.8	69.6	—28.5	—20.4	—21.2	NW 4	NW 4	NW 2	3	3	6	St.	St.	St.	
22	65.8	65.6	64.1	—21.0	—25.0	—25.2	W 2	— 1	N 3	10	10 ≡	10 ≡	St.			Thick fog
23	64.3	67.8	69.1	—25.5	—26.5	—26.2	N 3	N 3	NW 2	10 ≡	0	0				Thick fog; clearing at 12 noon
24	66.5	65.8	66.9	—26.0	—31.0	—30.6	0	NW 1	N 3	3	6	10	Ci.—St.	Ci.—St.	St.	
25	68.5	69.8	69.4	—33.2	—31.2	—31.5	N 2	N 3	N 3	0	0	0 ∞				
26	67.8	67.8	66.7	—27.2	—27.6	—29.0	N 5	N 3	N 3	8	0	3	Ci.—St.		St.	
27	64.9	65.3	68.0	—26.8	—24.7	—27.2	N 5	N 6	N 4	10 *	10 *	10			St.	
28	71.8	71.3	70.2	—31.3	—30.2	—31.0	NNE 4	NW 4	W 2	0	0	8			Ci.	Fog on sea
29	69.8	69.3	66.3	—33.8	—29.7	—33.3	NW 3	0	S 1	0	0	0				
30	68.1	68.9	69.1	—32.7	—27.2	—30.0	N 4	N 4	N 2	10 ∞	7	5	St.	Ci.—St.	Ci.—St.	Fog on sea
31	62.4	58.9	58.8	—28.0	—30.5	—30.4	NW 1	NW 2	NW 3	10 ≡	4	8		Ci.	Ci.—St.	
April *)																
1	54.0	53.3	52.0	—28.0	—21.5	—25.4	0	0	0	0	0	2			Ci.	Large mirages
2	53.8	52.7	53.4	—25.5	—24.2	—29.2	SW 1	W 2	W 4	4	6	6	Ci.	Ci.—St.	Ci.—St.	
3	50.4	46.3	46.3	—30.5	—29.5	—	0	0	—	0	4	—		Ci.—St.		2 p — Obs. taken 4 p
4	55.3	52.5	51.7	—28.0	—23.5	—24.5	N 1	0	0	0	3	6		Ci.—St.	Ci.—St.	Obs. taken 1 p and 6 p
5	55.5	57.8	57.0	—24.0	—	—24.2	N 1	—	0	2	—	6	Ci.		St.	9 p — Obs. taken 6 p
6	56.7	56.7	56.7	—23.2	—18.0	—19.5	0	0	0	8	5	0	Ci.—St.	Ci.—St.		
7	54.5	53.4	55.2	—25.2	—14.5	—20.4	W 2	NW 2	0	0	0	0				
8	55.7	55.2	55.3	—24.4	—15.3	—13.8	S 1	SW 1	0	0	0	0				
9	55.3	56.2	56.7	—13.0	—10.2	—12.0	N 2	NW 1	N 1	1	0	0	Ci.			
10	51.7	51.5	50.2	—20.5	—13.8	—11.4	SSW 1	WSW 3	NW 3	0	0	4			St.	St. appears after 6 pm
11	53.5	54.0	53.4	—10.3	— 9.8	—12.2	0	SSW 3	0	6	0	3	St.		Ci.	
12	58.3	59.5	64.2	—17.2	—18.0	—21.5	N 6	N 7	N 5	10 *	10 *	10			Ci.—St.	
13	64.6	61.5	59.5	—23.4	—22.3	—23.2	0	0	0	0	4	8		Ci.	Ci.	9 p — Obs. taken 6 p
14	56.8	51.5	48.5	—22.8	—14.1	—15.0	0	S 1	S 3	0	0	2			St.	9 p — Obs. taken 7.20 p

*) From 3.—23. Sledgetrips at Shannon Island. **) Aneroid barometer.

Tab. 2. (continued)
April/May/June.

Bass Rock.

1912.

Date	Barometer*) mm 700+ 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a	2p	9p	Cloud Amount (0—10) and Weather 8a	2p	9p	Cloud-forms 8a	2p	9p	Remarks
15	52.9	54.3	—	—15.8	—16.7	—	N 2	N 4	—	8	8	—	Ci.	Ci.		2p — Obs. taken 3p
16	58.5	60.0	—	—18.9	—17.0	—	0	WNW 1	—	2	2	—	Ci.—St.	St.		
17	58.9	61.1	62.6	—21.2	—16.7	—19.5	0	0	0	0	0	0				9p — Obs. taken 7p
18	66.5	—	62.8	—16.2	—	—12.0	S 1	—	S 2	10 ≡	—	10			St.	9p — Obs. taken 7p
19	57.0	—	54.5	—11.7	—	—	N 7	—	N 5	10 *	—	10 *				9p — Obs. taken 8p
20	53.8	54.0	54.6	—12.2	—10.0	— 9.5	N 1	0	0	10	5	8	St.	Ci.—St.	A.—St.	9p — Obs. taken 7p
21	60.5	60.2	60.5	—13.0	—11.2	—15.5	0	0	0	10 ≡	0	2			St.	9p — Obs. taken 7p
22	62.5	60.0	—	—12.3	— 2.2	—	0	S 1	—	9	4	—	St.	Ci.—St.		
23	59.9	59.8	65.5	— 6.2	— 8.5	—17.2	0	N 2	0	6	0	0	Ci.—St.			2a: Bar. 56.6, —0.8°, St. 10
24	68.8	68.7	67.1	— 6.2	— 3.9	— 5.6	S 1	S 1	S 1	0	0	6			Ci.	
25	64.1	64.6	65.0	— 8.0	— 7.5	—10.3	N 1	N 2	N 2	3	2	3	Ci.	Ci.	Ci.	8a, 2p: Fog on sea
26	64.7	64.3	61.6	— 6.0	— 4.2	— 4.7	SSW 1	SSW 3	SSW 3	0	0	8			Ci.—St.	
27	59.9	61.1	62.6	— 3.8	3.8	— 0.9	0	NNW 1	0	0	0	3			Ci.	
28	66.9	68.7	69.4	— 1.1	— 0.8	— 5.9	— 1	0	0	0	2	4		Ci.	Ci.	
29	69.1	68.9	69.3	— 1.6	— 1.4	— 5.5	S 1	NW 1	NW 1	3	7	3	Ci.	Ci.—St.	Ci.	
30	69.8	71.6	72.6	— 3.5	— 1.8	— 5.5	0	0	0	2	4	2	Ci.	Ci.	Ci.	
May																
1	72.3	71.5	71.7	—10.6	— 8.0	—10.4	N 1	0	0	0	10	2		Ci.—St.	Ci.—St.	
2	70.3	69.9	69.0	—13.0	—11.9	—10.8	0	0	S 1	0 ∞	0	10			St.	2p: Fog on sea
3	71.9	72.3	71.5	—12.9	—13.0	—15.2	N 3	N 2	0	10 *	10	2		Ci.—St.	St.	
4	70.3	70.6	70.1	—14.2	—13.5	—12.1	0	0	S 1	2	3	10 *	Ci.—St.	Ci.	St.	2p: Fog on the mainland
5	67.9	67.0	64.9	—11.8	— 9.7	— 9.6	S 4	S 3	S 3	10 *	10	10		Ci.—St.	St.	
6	61.0	60.8	60.3	—17.0	—15.9	—16.9	—	N 3	0	10	0	0	St.			During night heavy snowfall, about 6″
7	60.2	61.9	62.1	—15.9	—16.3	—16.6	0	W 2	NW 1	10	0	4	St.		Ci.—St.	
8	62.3	62.2	61.3	—12.8	—11.1	—12.0	— 1	SSW 2	SSW 2	4	4	0	Ci.	Ci.		
9	63.0	63.3	62.6	—11.0	— 4.8	— 8.2	SSW 1	0	S 1	0	0	0				
10	62.8	61.8	56.6	— 9.5	— 6.8	— 7.0	W 1	SSW 2	SSW 4	0	0	5			Ci.	9p: Fog on sea
11	[illegible]	[illegible]	[illegible]	—10.1	[illegible]	[illegible]	N 1	N 2	N 2	10	10 *	2	St.		St.	During night very heavy wind
12	54.8	54.4	54.8	— 9.5	— 5.8	— 6.1	N 5	N 4	N 4	10 *	10 *	10 *				
13	57.8	59.6	61.1	— 5.8	— 4.2	— 4.2	N 6	N 8	N 6	10 *	10 *	10 *				Very heavy snowfall
14	61.7	60.9	59.8	— 6.9	— 6.0	— 6.0	N 8	N 8	N 8	10 *	10 *	10 *				Heavy snowfall
15	54.9	54.1	53.9	— 5.2	— 4.6	— 4.0	N 7	N 5	N 1	10 *	10 *	10			St.	Wind fell suddenly 5 p
16	54.3	54.8	55.7	— 2.8	— 1.7	— 3.8	0	SSE 2	SSE 2	2	6	3	St.	St.	St.	During night snow. 2p: Fog on sea
17	56.5	55.8	56.8	— 4.0	— 4.8	— 5.0	NW 5	NW 8	NW 6	10 *	10 *	10 *				
18	59.8	58.5	57.9	— 2.8	— 1.8	— 4.0	0	S 1	S 1	10	10	2	St.—Cu.	Cu.	St.	
19	57.8	57.3	55.8	— 5.6	— 2.2	— 2.0	0	0	SW 2	10 ≡	0	2			St.	
20	59.3	62.6	62.5	— 5.0	— 3.5	— 6.0	0	0	0	0	0	10 ≡				8a and 2p: Fog in north
21	63.8	64.3	64.9	— 6.8	—	— 5.4	0	—	0	10 ≡	—	10 ≡				
22	65.1	66.0	66.8	— 5.0	— 3.5	—	0	SW 2	—	10 ≡	10	—				2p: Fog on sea
23	68.7	69.3	70.0	— 5.1	— 2.8	— 3.2	N 1	0	S 1	10	10	10	St.	St.	St.	
24	70.9	67.3	64.1	— 4.0	— 2.9	— 3.6	S 2	S 4	S 5	10	8	4	St.	St.	St.	
25	63.6	65.7	66.3	— 3.5	— 1.7	— 2.9	0	N 2	N 3	8	10	10 ○	Ci.—St.	St.	St.	
26	70.4	71.6	71.6	— 2.0	— 1.8	— 1.3	N 5	N 3	N 1	10	10 ○	10	St.	St.	St.	During night glazed frost. pm: few snow squalls
27	71.1	70.9	69.8	— 1.0	1.3	0.6	0	0	S 1	10	10	8	St.	St.	St.—Cu.	
28	68.8	67.7	67.6	0.0	— 0.4	— 1.3	S 2	S 1	S 3	10	10 ≡	10 *	St.			
29	64.9	63.1	58.8	— 0.1	0.7	0.0	S 1	S 1	SE 1	10	10	10 ❄	St.	St.	St.	
30	57.8	56.9	57.8	0.2	1.7	0.9	SE 2	0	0	10 *	10 ≡	10 ≡	St.			
31	61.3	63.5	64.3	1.6	2.3	1.0	WNW 1	NW 1	NW 1	10	10	10 ≡	St.	St.	St.	Fog on the mainland
June																
1	67.8	68.4	67.3	2.2	2.6	— 0.4	0	0	S 1	10	10	4	St.	St.	A.—Cu.	Clearing at 6 pm
2	66.1	64.5	64.7	0.1	1.0	— 1.0	S 3	S 3	S 3	8	10	10	St.	St.	St.	
3	63.8	62.8	62.4	0.0	— 1.0	— 2.1	S 2	S 2	S 2	10 ≡	10 ≡	10 ≡				
4	63.1	62.8	62.9	0.2	3.6	1.2	0	0	SSE 1	0	0	0				
5	61.9	59.1	58.2	2.0	4.1	2.0	S 1	SSW 2	SSW 2	0	0	4			Ci.	
6	57.9	55.9	55.3	2.9	2.0	3.0	SSW 2	SSW 3	SSW 1	2	10	5	Ci.	Ci.	Ci.	During night very heavy wind
7	59.5	60.9	61.8	3.8	5.0	2.4	SSW 1	SSW 2	SSW 2	2	6	4	Ci.	Ci.	Ci.	
8	61.6	63.3	63.6	5.0	11.3	5.3	NE 2	W 1	0	3	2	0	Ci.	Ci.		
9	64.3	63.6	61.6	4.9	7.6	3.2	0	0	S 1	0	0	0				
10	60.1	62.9	68.8	3.5	6.0	2.8	—	NNW 4	NW 2	10	6	0	St.	Ci.—St.		
11	67.1	63.4	58.8	3.0	3.9	1.7	0	SSW 2	SW 5	0	8	10		Ci.—St.	Ci.—St.	
12	66.0	70.1	68.8	2.1	3.0	3.0	N 3	NW 1	S 1	10	8	3	St.	Ci.—St.	Ci.	
13	64.9	64.0	63.6	2.9	3.0	1.4	S 3	S 2	S 2	10	2	0	St.	Ci.		

*) Anero d barometer.

Tab. 2. (continued) **Bass Rock.**
June/July. **1912.**

Date	Barometer*) mm 700 + 8a	2p	9p	Air Temperature C° 8a	2p	9p	Wind Direction and Force (0—12) 8a	2p	9p	Cloud Amount (0—10) and Weather 8a	2p	9p	Cloud-forms 8a	2p	9p	Remarks
14	62.8	63.3	61.3	1.0	4.7	3.8	S 3	S 1	S 1	4	0	0	Ci.			Fog on sea
15	59.1	59.9	58.8	2.3	9.0	4.0	— 1	NNW 1	— 1	8	2	0	S.—Cu.	Ci.		10.30 am: Temp. 10°1
16	56.9	57.5	56.4	0.8	2.3	— 0.2	S 3	S 3	S 4	10 ≡	10 ≡	10 ≡				
17	55.9	55.4	55.9	1.0	0.8	0.1	S 6	S 6	S 6	10 ≡	10	10		St.	St.	Fog on sea
18	57.8	59.3	60.3	1.8	1.2	— 0.7	S 2	S 1	SSE 1	0	10	10		St.	St.	Fog on sea
19	60.6	59.8	60.9	1.6	3.0	1.5	SSE 4	SSE 4	SSE 3	10	10	10	St.	St.	Ci.—St.	Fog on sea
20	61.8	61.0	62.3	0.9	1.3	1.5	SSE 7	SSE 5	S 7	10 ≡	10 ≡	0	St.	St.		9 p: Fog on sea
21	64.6	64.8	64.8	1.3	1.2	0.0	SSW 7	SSW 3	SSW 3	10 ≡	10 ≡	10 ≡				During night violent
22	64.8	63.9	63.3	0.1	— 0.6	— 0.9	SSW 22	SE 1	SE 1	10	10 ≡	10 ≡	Ci.—St.			2 p: Thick fog [squalls
23	66.1	66.3	67.1	1.8	3.0	1.2	NW 1	N 1	NW 1	10	10	10	St.	St	St.	8 a: Fog in north
24	67.8	68.3	67.4	2.5	6.6	3.0	NW 1	W 1	W 1	10	10	10 ○	St.	St.	St.	
25	65.8	66.8	67.2	2.2	2.1	2.0	W 3	W 3	NW 2	10 ≡	10 ○ ≡	10 ○ ≡				
26	70.0	69.1	68.7	4.0	4.8	2.0	0	SE 1	S 1	0	4	6		St.	Ci.—St.	8 a: Fog on sea
27	69.6	67.9	66.4	2.3	4.9	3.0	S 1	S 2	S 2	10 ≡	3	0		Ci.—St.		
28	64.7	64.3	63.8	0.1	1.9	— 0.1	S 3	S 3	S 1	10 ≡	10 ≡	10 ≡				
29	62.6	61.1	59.9	0.5	1.1	0.8	S 2	S 2	S 3	10 ≡	10 ≡	10 ≡				
30	61.0	62.3	62.1	1.0	2.5	0.5	S 5	S 3	S 3	10 ≡	10 ≡	10 ≡				Heavy wind during night
July							*)									
1	59.0	54.8	48.7	0.7	0.7	0.6	S 4	S 6	SSW 4	10 ≡	10 ≡	10 ○ ≡				Heavy wind during night
2	42.0	42.3	45.3	2.7	4.0	3.3	0	— 1	0	10	10	10 ○		St.	St.	Fog on sea
3	48.5	52.3	54.8	2.9	4.9	6.0	W 3	NW 5	0	10	10 ✱	10	St.	St.	St.	
4	61.7	59.8	57.3	7.1	5.0	3.8	SSW 1	SSE 2	SW 3	10	4	6	St.	St.	Ci.—St.	
5	60.8	61.1	60.8	3.5	3.1	1.8	NNW 2	NW 2	0	10	10	10	St.	St.	St.	8 a: Fog on sea
6	60.3	59.3	58.8	1.0	1.5	2.6	SSW 1	S 1	SW 3	10 ≡	10 ≡	5			Ci.—St.	
7	56.3	56.0	55.3	1.1	1.9	1.3	S 5	S 5	S 3	10 ≡	10 ≡	10 ≡				
8	58.6	60.6	60.2	0.4	2.7	1.5	0	NW 1	W 1	10 ≡	10 ≡	10 ≡				
9	60.3	59.3	58.2	1.8	2.1	1.7	NW 1	N 2	N 2	10 ≡	10	10		St.	St.	2 p and 9 p: Fog on sea
10	[illegible]	[illegible]	[illegible]	1.3	[illegible]	1.0	N 4	N 4	N 6	10	10	10 ✱	St.	St.	St.	
11	54.0	54.9	53.1	2.0	6.3	2.8	NW 2	0	SSE 1	10	8	8	St.	Ci.—St.	Ci.—St.	Snow all night
12	51.5	50.0	49.2	1.9	1.8	0.0	S 1	S 1	S 2	10 ≡	10 ≡	0				9 p: Fog on sea
13	54.1	54.3	55.8	1.1	1.9	1.1	S 2	S 2	S 1	0	0	10 ≡				8 a and 2 p: Fog on sea
14	53.8	54.9	55.1	4.0	5.4	5.6	NW 2	W 2	0	8	4	6	Ci.—St.	Ci.—St.	Ci.—St.	
15	54.8	55.9	57.6	3.1	7.5	10.2	0	S 1	SW 1	5	5	10	Ci.—St.	Ci.—St.		
16	56.3	51.5	53.9	11.0	8.2	9.3	0	SW 3	WNW 3	0	5	8		Ci. and St.—Cu.	Ci.—St.	9 a: SSW 1; Temp. 4°8
17	61.3	58.9	60.8	12.1	12.7	9.8	0	0	0	0	6	0		Ci.—St.		11.30 a: Temp. 14°5

*) Aneroïd barometer.

Tab. 3. Observations on sledge journey along the coast from Danmark's Fjord to Skærfjorden May 17th to September 15th 1910.

Year	Month	Date	Hour	Locality N. lat.	Locality W. lg. fr. Greenwich	Barometer*) mm 700 +	Air Temperature C°	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	May	17	3 a			60.6	—12.0	SW 2	0		
			2 p	80°35′	26°05′	60.7	— 4.3	0	0		
			11 p			59.5	—10.0	N 4	2	Ci.—Cu.	
		18	7 a			62.8	—11.0	0	0		
			11 a	80°42′	25°10′	65.5	— 8.2	0	0		
			10 p			67.6	—10.5	0	0		
		19	4³⁰ a			66.7	—12.7	0	0		Fog in north
			11 a	81°00′	24°50′	67.5	— 5.3	SE 4	2	Ci.—St.	
			11 p			69.5	— 6.8	SE 6	10	St.	
		20	4³⁰ a			70.3	—11.0	N 8	7	Ci.	
			8 a			70.5	— 9.0	N 12	10 ≡		
			9¹⁵ p	81°08′	24°30′	73.5	— 7.0	0	10 ≡		
		21	3 a	**81°18′	**23°30′	70.5	— 7.5	0	9	St.	**) noon
			10 p			69.5	— 6.0	0	4	A.—St.	
		22	3 a	81°24′	23°00′	70.5	—10.5	0	0		

*) Aneroïd barometer.

Tab. 3 (continued). **Observations on sledge journey along the coast from Danmark's Fjord to Skærfjorden.**

Year	Month	Date	Hour	Locality N. lat.	Locality W. lg. fr. Greenwich	Barometer*) mm 700 +	Air Temperature C°	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	May	22	11 a			67.5	— 4.3	0	0		
			10 p			64.5	— 5.8	N 8	7	Ci.	
		23	4 a	81°30′	22°00′	61.5	— 9.5	N 10	10 ≡		
			10 p			66.0	— 8.0	N 8	10 ∗ ≡		
		24	5 a			67.0	— 8.0	SSW 12	10 ∗		
			8³⁰ a	81°45′	21°30′	66.7	— 8.5	SSW 10	10 ∗		
			10 p			66.5	— 7.2	0	10 ≡		
		25	12 a			68.5	— 6.3	N 3	10	St.	
			6 p	81°55′	21°30′	67.8	— 7.2	0	10	St.	
		26	7 a	81°55′	21°30′	65.5	— 6.8	S 3	8	St.	
			11 a	81°55′	21°30′	64.5	— 6.2	0	5	St.	
			10 p	81°55′	21°30′	62.7	— 6.5	0	0		
		27	3 a	82°08′	21°45′	59.5	— 7.2	W 6	7	St.	
			10 p			59.6	— 6.0	S 2	10 ∗ ≡		
		28	8 a	82°0′	21°40′	60.5	— 6.0	S 2	10 ∗ ≡		
			11 p			59.5	—12.5	0	0		
		29	3 a			59.5	—13.0	0	0 ∞		
			8 a	81°45′	20°00′	59.7	— 6.5	0	0 ∞		
			10 p			57.5	— 5.0	0	3	St.	
		30	2³⁰ a			56.0	— 9.7	0	0		Mirage
			8 a	81°45′	19°20′	56.6	— 6.5	0	0		
			10³⁰ p			57.7	—10.1	0	0		
		31	3 a	81°43′	18°20′	57.0	—12.2	0	10 ≡		
			10 p			54.0	—	WSW 8	8	Ci.—Cu.	
	June	1	7 a	81°44′	17°10′	54.7	— 4.5	0	8	Ci.—Cu.	
			10 p			60.0	— 4.7	0	∞		
		2	5 a	81°45′	16°00′	60.6	— 3.1	0	10 ∗		
			10 p			58.5	4.2	0	10	St.	
		3	6 a	81°45′	15°10′	55.7	4.1	0	10	St.	
			10 p			54.7	6.0	0	4	Ci.—Cu.	
		4	3 a			54.3	6.3	0	7	Ci.—Cu.	
			8 a	81°45′	15°10′	53.7	— 5.0	0	9	Ci.—Cu.	
			10 p			55.5	— 4.6	SE 2	10	St.	
		5	4 a	81°45′	14°30′	55.5	— 3.5	NW 5	10 ∗ ≡		
			9 a			55.5	— 2.8	NW 8	10 ∗ ≡		
			11 p			55.7	—	0	10 ∞	St.	
		6	2³⁰ a			56.5	— 9.7	0	7	Ci.—Cu.	
			9³⁰ a	81°45′	14°20′	56.5	— 6.5	0	0		
			10 p			53.5	— 7.0	NE 5	8	St.	
		7	4 a			54.7	— 6.5	0	10	St.	
			8 a	81°45′	14°00′	55.3	— 5.5	0	10 ≡		
			10 p			54.7	— 4.2	NW 15	10 ∗ ≡		
		8	3 a			57.5	— 8.0	NW 5	6	St.	
			8 a	81°43′	13°30′	58.3	— 4.5	NW 12	10 ∗		
			9³⁰ p			59.1	— 6.0	0	0		
		9	5 a			59.5	— 4.0	0	0		
			9 a	81°35′	12°50′	59.5	— 3.5	0	0		
			10 p			55.0	— 4.5	SE 18	2	St.	Heavy squalls
		10	3 a			54.5	— 6.0	SW 12	0		
			8 a	81°30′	12°00′	53.9	— 4.5	NE 5	10 ≡		Fog from 6 am
			10 p			51.5	— 5.2	NE 22	10 ∗		
		11	2 a			49.7	— 6.5	NE 28	10 ∗		
			12 a	81°10′	12°00′	51.5	—	NE 20	10 ∗		
			10 p			55.5	— 5.2	NE 12	7	St.	
		12	3 a	81°03′	13°10′	57.7	— 4.5	0	8	Ci.—Cu.	
			9 a			61.0	— 3.0	0	4	Ci.—Cu.	
			10 p			61.0	— 3.3	S 5	10	St.	
		13	3 a	81°00′	13°30′	60.5	— 3.8	S 5	10	St.	
			9 a			60.5	— 2.0	0	4	Ci.—Cu.	
			9 p			64.7	— 2.0	NNE 5	10	St.	
		14	2 a	80°55′	14°00′	65.5	— 2.7	0	4	Ci.—Cu.	
			9 a			66.0	0.0	0	0		
			10 p			66.0	— 4.8	SE 4	3	Ci.—Cu.	
		15	3 a	80°50′	14°30′	65.5	— 5.1	0	5		

*) Aneroid barometer.

Tab. 3 (continued). **Observations on sledge journey along the coast from Danmark's Fjord to Skærfjorden.**

Year	Month	Date	Hour	Locality N. lat.	Locality W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	June	15	8 a			64.5	— 2.0	SE 6	0		
			9 p			64.0	— 3.2	SE 8	0		
		16	4 a	80°50′	14°30′	64.5	— 3.0	SE —	8	St.	
			11 p			66.5	2.8	0	10	St.	
		17	2 a	80°38′	15°50′	67.5	2.0	0	10	St.	
			9 a			68.5	2.2	0	0		
			8 p			66.4	1.0	0	2		
		18	4 a	80°24′	16°00′	65.5	1.0	0	0		Fogbanks comes from north
			8³⁰ a			65.0	— 1.0	0	10 ≡		
			9 p			64.3	1.0	N 3	0 ∞		
		19	3 a	80°15′	16°30′	64.7	0.5	0	0		
			9 a			66.6	1.5	0	0		
			9 p			66.0	— 0.8	0	0		
		20	4 a			66.2	— 1.2	0	0		
			10 a	80°10′	17°00′	66.0	4.5	0	0		
			11 p			65.0	— 1.0	0	0		
		21	4 a			65.5	— 0.5	NE 4	10 ≡		
			11 a	80°10′	17°00′	65.5	1.0	0	10 ≡		
			11 p			65.0	0.0	0	10 ≡		
		22	5 a			65.0	— 0.5	0	10	St.	} Fog over the mountains
			9 a	80°10′	17°00′	65.0	0.5	NE 3	10	St.	
			10 p			64.5	— 0.7	SE 4	10 ✱ ≡		
		26	4³⁰ a			62.5	— 0.5	S 3	10	St.	
			3 p	80°10′	17°00′	61.5	1.2	0	10 ✱		
		27	6 a			60.0	— 0.5	S 3	10 ≡		
			11 a	80°10′	17°00′	59.3	1.1	NW 4	10 ≡		
			6 p			58.5	0.5	W 4	10 ≡		
		28	6 a			60.6	0.5	0	0		
			2 p	80°10′	17°00′	54.5	2.2	0	0		Fog in SE
		29	7³⁰ a			63.5	3.5	NE 3	0		
			4 p	80°10′	17°00′	63.6	3.0	0	0		
		30	8 a			63.5	2.8	0	0		
			4 p	80°10′	17°00′	62.8	2.5	0	0		
			8 p			62.5	1.0	0	10 ≡		Fog since 5 pm
	July	1	8 a	80°10′	17°00′	62.4	— 0.8	0	10 ≡		
			8 p			59.5	— 1.2	SE 2	10	St.	Fog over the mountains
		2	8 a	80°10′	17°00′	55.0	— 2.0	SE 10	10		
			3 p			52.5	1.5	0	10 ≡		
			7 p			52.5	0.8	SE 4	10 ≡		
		3	6 a			52.5	0.5	SE 8	4	Ci.—Cu.	
			1 p	80°10′	17°00′	56.5	2.2	SE 10	6	Ci.—Cu.	
			9 p			59.6	1.0	0	0		
		4	10 a	80°10′	17°00′	60.5	1.0	0	0		
			7 p			60.5	0.5	0	0		
		5	2 a			60.0	— 2.0	0	10 ≡		
			2 p	80°10′	17°00′	59.5	0.0	0	10 ≡		
			11 p			60.5	— 1.0	0	10 ≡		
		6	1 p	80°10′	17°00′	63.6	— 1.1	0	10 ○ ≡		Snow and rain during night
			9 p			64.1	0.0	0	5	St.	
		7	11 a	80°10′	17°00′	62.8	1.5	W 4	8	Ci.—Cu.	
			6 p			62.0	2.8	0	6	Ci.—Cu.	
		8	11 a	80°10′	17°00′	59.0	3.5	W 2	0		
			9 p			55.5	— 0.5	0	0		
		9	3 a			54.5	— 1.3	SE 5	10 ≡		
			6 p	80°00′	17°10′	57.0	— 1.0	NE 8	0		
			10 p			56.5	— 0.1	NE 10	10 ≡		Fog from 7 pm
		10	2 a			56.5	— 0.5	NE 3	10 ≡		
			3 p	79°55′	17°20′	59.1	1.0	NE 12	10	St.	} Fog over the mountains
			10 p			59.8	0.0	NE 8	10	St.	
		11	5 a			59.6	— 0.1	NE 7	10	St.	4 am: Fog and snow
			8 p	79°48′	17°25	61.5	0.0	0	10	St.	
		12	6 p			59.5	1.0	0	10 ≡		
			11 p	79°46′	17°30′	59.5	— 0.6	0	10 ≡		
		13	3 a			59.0	— 1.0	SE 5	10 ≡		

Tab. 3 (continued). **Observations on sledge journey along the coast from Danmark's Fjord to Skærfjorden.**

Year	Month	Date	Hour	Locality N. lat.	Locality W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Velocity m/sec	Cloud Amount (0–10) and Weather	Cloud-forms	Remarks
1910	July	13	5 p	79°45′	17°33′	62.5	0.2	0	0		Fog over land
			10 p			63.5	— 2.0	0	3	Ci.	
		14	5 a			65.7	1.5	0	10	Ci.—St.	
			6 p	79°45′	17°33′	68.0	1.3	0	2	Ci.—St.	
			11 p			68.0	0.0	0	3	Ci.—St.	
		15	7 a			65.5	1.8	SE 8	4	Ci.—St.	
			7 p	79°44′	17°45′	64.5	— 0.5	0	0		
		16	7 a			64.5	0.8	0	0		
			8 p	79°43′	18°00′	66.0	0.5	0	4	Ci.—Cu.	
		17	4 a			65.3	— 0.7	0	2	Ci—Cu..	
			12 a	79°43′	18°00′	64.5	1.5	0	0		
			10 p			64.5	— 0.2	0	0		
		18	5 a			64.5	— 0.5	NE 2	10 ≡		
			12 a	79°43′	18°00′	64.5	0.5	0	10 ≡		
			4 p			64.0	1.0	0	10 ≡		
		19	6 a			63.4	0.0	SE 6	10 ≡		
			12 a	79°43′	18°00′	63.3	0.2	SE 6	10 ≡		
			6 p			62.5	1.2	SE 4	10 ≡		
		20	7 a			62.3	— 0.4	0	0		
			9 p	79°43′	18°00′	63.0	5.0	0	8	St.	
		21	4 a			62.3	7.5	NW 10	10	St.	
			3 p	79°43′	18°00′	61.5	6.5	NE 20	10 o		
		22	6 a			68.0	4.8	0	10	St.	Gale ceased about 1 am
			5 p	79°43′	18°00′	68.6	4.5	0	10 ≡		
		23	8 a			66.5	2.8	0	10	St.	
			6 p	79°43′	18°00′	64.5	4.5	0	4	Cu.	
		24	9 a			60.7	3.5	0	0		
			1 p	79°43′	18°00′	58.5	4.7	0	0		
			9 p			58.5	2.8	0	0		
		25	6 a	79°43′	18°00′	58.5	0.5	NE 5	10 ≡		
			2 p			58.5	1.8	NE 8	10 ≡		
			12 p			58.0	— 1.2	0	10 ≡		
		26	6 a	79°43′	18°00′	57.5	1.0	SE 2	10 ≡		
			2 p			57.0	1.0	0	10 ≡		
			6 p			57.5	0.1	0	10 ≡		
		27	8 a	79°43′	18°00′	57.5	0.4	0	10	A.—St.	
			2 p			57.0	1.3	SE 4	8	A.—St.	
			7 p			57.5	0.0	0	10 ≡		
		28	10 a	79°43′	18°00′	58.5	0.0	0	10 ✱ ≡		
			2 p			58.7	2.0	SE 20	10 ✱ ≡		
			9 p			60.5	— 1.9	SE 20	10 ≡		
		29	9 a	79°43′	18°00′	61.6	— 1.8	NE 5	10	St.	
			2 p			63.5	— 0.8	NE 3	10 ≡		
			10 p			64.5	— 2.0	0	10 ≡		
		30	10 a	79°43′	18°00′	65.5	— 2.4	S 5	10 ≡		
			3 p			65.3	— 2.0	S 5	10 ✱ ≡		
			9 p			64.5	— 3.4	S 1	10 ≡		
		31	8 a	79°43′	18°00′	63.5	— 3.3	0	10 ≡		
			2 p			64.2	— 2.1	S 5	10 ≡		
			8 p			65.5	— 4.4	NE 1	0		
	August	1	8 a	79°43′	18°00′	66.3	— 1.2	0	0		
			2 p			67.3	0.6	0	0		
			5 p			67.4	— 0.2	0	0		Fog after 8 pm
		2	7 a	79°43′	18°00′	67.5	— 2.2	0	10 ≡		
			2 p			68.0	— 1.2	0	10 ≡		
			8 p			68.7	— 2.0	0	10 ≡		
		3	8 a	79°43′	18°00′	70.7	— 1.7	0	10 ≡		
			2 p			69.8	0.3	0	10	St.	
			9 p			69.7	— 2.6	0	10 ≡		
		4	10 a	79°43′	18°00′	68.0	— 2.1	0	10 ≡		
			2 p			68.0	— 2.5	S 5	10 ≡		
			8 p			67.5	— 3.4	S 5	10 ≡		
		5	4 a	79°43′	18°00′	66.9	— 4.5	S 3	10 ∞		
			8 a			66.8	— 1.5	S 3	0		

Tab. 3 (continued). **Observations on sledge journey along the coast from Danmark's Fjord to Skærfjorden.**

Year	Month	Date	Hour	Locality N. lat.	Locality W. lg. fr. Greenwich	Barometer mm 700 +	Air Temperature C°	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	August	5	4 p			69.7	0.8	S 5	5	Ci.—St.	
		6	9³⁰ a	79°43′	18°00′	67.5	0.2	S 2	8	Ci.—St.	
			1 p			66.5	2.4	NE 4	0		
			7 p			65.0	— 0.2	NE 5	10 ≡		
		7	8 a	79°35′	18°30′	68.7	2.0	0	4	Ci.—St.	
			3 p			70.0	4.4	0	5	Ci.—St.	
			9 p			66.5	1.5	0	8	Ci.—St.	
		8	8 a	79°28′	18°30′	61.5	0.0	0	4	Ci.—Cu.	
			4 p			61.0	1.0	0	0		
			9³⁰ p			62.0	— 1.0	0	4	Ci.—Cu.	
		9	9 a	79°25′	18°50′	68.7	3.0	NW 10	8	St.	
			8 p			73.6	2.0	0	4	St.	
		10	9 a	79°25′	18°50′	68.6	2.5	0	0		
			8 p			65.5	3.0	0	0		
		11	8 a	79°22′	19°22′	65.3	1.0	0	0		
			9 p			65.3	— 0.6	0	0		
		12	6 a	79°22′	19°00′	63.4	— 1.2	0	0		
			8³⁰ p			62.5	— 0.6	0	0		
			12 p			—	— 1.5	0	2	Ci.	
		13	3 a	79°22′	19°00′	61.5	2.6	0	4		
			3 p			60.5	1.9	SW 3	6	Ci.—Cu.	
		14	2 a	79°19′	19°10′	61.5	0.2	0	5	A.—St.	
			9³⁰ a			62.7	3.5	0	10	St.	
		15	1 a	79°17′	19°30′	66.7	0.2	0	8	St.	
			3 p			62.7	6.0	0	4	Ci.—St.	
		16	5 a	79°17′	19°30′	62.5	2.0	0	4	Ci.—Cu.	
			5 p			61.5	5.0	S 5	6	Ci.—Cu.	
		17	3 a	79°09′	19°25′	61.3	1.8	0	4	Ci.—Cu.	
			8 a			60.9	3.2	0	10	A.—St.	
			2 p			60.5	6.5	0	10	St.	
			10 p			60.5	3.5	NE 15	10 ○	St.	
		18	5 a	79°09′	19°25′	60.0	—	NE 15	8	St.	
			7 p			54.7	—	S 4	3	Ci.—St.	
		19	9 a	79°06′	19°25′	49.0	—	0	6	Ci.—St.	
			10 p			46.5	—	N 10	5	Ci.—St.	
		20	8 a	79°01′	19°25′	56.5	—	0	3	Ci.	
			10 p			56.5	—	0	6	Ci.	
		21	7 a	78°58′	19°25′	58.5	—	0	10	Ci.	
			10 p			60.5	—	0	10 ○ ≡		
		22	10 a	78°56′	19°35′	59.5	—	0	6	Ci.—Cu.	
			9 p			59.5	—	0	10 ≡		
		23	10 a	78°53′	19°50′	60.1	—	0	10	St.	
		25	4 a	78°53′	19°50′	57.5	—	0	7	Ci.—Cu.	
			8 p			57.0	—	0	10 * ≡		
		26	4 a	78°53′	19°50′	56.5	—	0	10 ≡		
			1 p			55.5	—	0	0		
			7 p			54.7	—	0	0		
		27	4 a	78°53′	19°50′	54.7	—	0	0		
			12 a			55.0	—	0	0		
			6 p			55.5	—	0	0		
		28	4 a	78°53′	19°50′	56.5	—	0	4	Ci.—St.	
			12 a			57.0	—	0	0		
			6 p			57.2	—	0	0		
		29	3 a	78°53′	19°50′	53.6	—	0	0		
			3 p			57.0	—	N 4	8	Ci.—St.	
			11 p			58.5	—	0	3	Ci.—St.	
		30	11 a	78°53′	19°50′	60.3	—	0	0		
			11 p			60.6	—	0	0		
		31	10 a	78°53′	19°50′	60.5	—	0	5	Ci.—St.	
			11 p			60.5	—	0	0		
	Septbr.	1	12 a	78°53′	19°50′	60.0	—	0	⁻0 ∞		
			11 p			56.5	—	0	0		
		2	12 a	78°46′	19°55′	59.5	—	0	0 ∞		
		3	2 a	78°34′	20°20′	62.0	—	NE 6	8	A.—St.	

Tab. 3 (continued). **Observations on sledge journey along the coast from Danmark's Fjord to Skærfjorden.**

Year	Month	Date	Hour	Locality		Barometer mm 700 +	Air Temperature C°	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
				N. lat.	W. lg. fr. Greenwich						
1910	Septbr.	3	11 a			61.5	—	0	10	A.—St.	
		4	2 a	78°18′	20°45′	59.5	—	0	10 ≡		
			12 a			56.5	—	0	0		
		5	4 a	78°18′	20°45′	55.0	—	0	2	Ci.—St.	
			10 a			53.6	—	0	10	A.—St.	
			8 p			54.5	—	NE 8	10	St.	
		6	8 a	78°07′	20°10′	55.0	—	0	6	A.—St.	
			5 p			58.5	—	0	0		
		7	5 a	77°58′	19°50′	55.5	—	0	4	A.—St.	
			6 p			53.3	—	0	0		
		8	7 a	77°58′	19°50′	50.8	—	0	10	St.	
			6 p			49.0	—	NW 12	10	St.	
		9	5 a	77°53′	19°30′	49.0	—	NW 25	10	St.	
			12 a			52.5	—	NW 18	10	St.	
			8 p			56.5	—	NW 7	10	St.	
		10	5 a	77°48′	19°20′	59.5	—	0	5	Ci.—St.	
			10 p			58.5	—	NW —	3	Ci.—Cu.	
		11	6 a	77°48′	19°50′	55.8	—	0	0		
			7 p			52.5	—	0	0		
		12	4 a	77°30′	19°10′	49.7	—	NE 10	0		
			6 p			45.5	—	NE 18	10	St.	
		13	8 a	77°34′	19°50′	46.3	—	N 18	10 *		
			3 p			44.5	—	N 15	5	Ci.—St.	
		14	4 a	77°34′	19°50′	43.5	—	N 5	0		
			5 p			50.0	—	NW 28	10	St.	
		15	6 a	77°27′	19°40′	52.5	—	NW 20	8	St.	
			12 a			58.0	—	NW 15	2	Ci.	

Tab. 4a. Observations from Mikkelsen's sledge expedition on the Inland-ice.

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction and Force (0—12)	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	March	24	7 a	76°40'7	22°28'	61	749.5	751.0	—23.0	—20	0	10 *		
			4 p	»	»	59	749.0	754.9	—21.0	—19	0	2		
			5^{30} p	76°44'	22°38'	43	751.5	755.9	—21.0	—20	0	2		
		25	7^{30} a	»	»	45	752.0	756.6	—32.5	—25	0	2		
			11 a	»	»	41	751.5	755.8	—27.5	—23	0	10		
			1 p	»	»	41	750.0	754.2	—25.5	—20	0	10		
			3 p	»	»	46	747.1	751.8	—32.0	—23	0	5	St.	
		26	4^{30} a	»	»	53	746.5	751.8	—21.5	—20	0	10 ∞		
			9^{30} a	»	»				—29.5		0	5		
			11^{30} a	»	»				—26.8		0	2		
			12 a	»	»				—26.8		0	7		
			3^{30} p	»	»	67	736.5	743.2	—22.5	—17	0	2		
			5^{30} p	»	»	43	739.5	743.8	—19.0	—17	0	2		
		27	5^{30} p	»	»				—18.5		0	5		
			6 p	»	»				—16.0		N 9	10	St.	
		28	7 a	»	»				—24.5		N 6	10		The wind increased to storm 9 a—12 a
			2 p			62	746.5	752.8	—21.5	—22	0	10		
			4 p			52	747.8	753.2	—20.5	—22	0	5 ∞		
			6^{30} p	76°50'	22°43'	96	743.5	753.5	—27.5	—24	0	2		
		29	10^{30} a	»	»				—23.5		0	8		
			12 a	»	»				—23.5		0	10 ∞		
			4^{30} p	»	»				—24.2		N 4	7		
			7 p	»	»				—28.5		N 6	10	St.	

Tab. 4a (continued). **Observations from Mikkelsen's sledge expedition on the Inland-ice.**

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction	Wind Force (0—12)	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	March	30	7 a	76°50′	22°43′	116	748.0	759.9	—27.0	—24		0	10	St.	
			9 a			151	754.5	761.2	—23.8	—24		0	7		
			11 a			167	744.0	761.4	—29.2	—24		0	6		
			12 a	76°57′	22°50′	181	742.5	761.4	—23.8	—25		0	10 ≡		
			1 p			179	743.0	761.4	—19.0	—22		0	2		
			2 p	77°0′	22°55′	194	741.5	761.4	—24.0	—21					
			3 p			179	743.0	761.4	—28.5	—22		0	2		
			4^{30} p	77°2′6	22°55′	188	742.0	761.4	—28.0	—24		0	2		
		31	10 a	»	»	210	749.5	771.7	—20.0	—26	N	8	10 *		
			4 p	»	»						N	4			
	April	1	7 p	»	»							0			
		2	7^{15} a	77°3′	22°56′	191	749.0	769.3	—34.0	—28		0	0		
			7^{30} a			205	747.5	769.3	—34.0	—28			0		
			10 a			213	746.0	768.3		—24		0			
			10^{30} a			217	745.5	768.1	—24.0	—24		0	0		
			11^{50} a	77°9′	23°03′	253	742.0	768.0	—24.5	—22					
			1 p			243	742.5	767.5	—24.5	—22		0	0		
			3^{30} p			253	740.5	766.5	—21.5	—22	N	1	0		
			3^{50} p			253	740.5	766.5	—26.0	—22		0			
			5 p	77°12′	23°08′	257	739.5	766.0	—23.5	—24		0	0		
			8 p	»	»	238	740.5	765.6		—28		0			
		3	9^{30} a	»	»	243	741.5	766.0	—29.0	—18	N	5	5		
			12 a	»	»	256	741.0	766.3	—25.0	—12	N	4	6	Ci.	Gale all night
			4^{30} p	»	»	259	740.0	765.8	—18.0	—15	W	1	0		
			7^{30} p	»	»				—23.0			0	2		
		4	8 a	»	»				—18.5		N	2	2		
			10^{30} a						—17.0		N	2	2		
			1^{30} p			255	728.5	753.8	—19.0	—17	N	3	5		

	2^{30} p			255	728.5	753.8	—19.0	—17					
	3^{10} p	77°16′	23°16′	255	728.5			—17	N	4	6	St.	Heavy dark clouds from the north
	5^{30} p	»	»	260	728.0	753.8	—19.3	—17	N	3	8		
	6 p	»	»	249	728.7	754.0		—17					
5	4 p	»	»	268	739.0	765.8	—17.2	—16	N	8	10 *		
6	6 a	»	»	267	739.5	767.1	—27.2	—24		0	2		
	8 a	»	»	265	740.0	767.1	—22.0	—21		0	2		
	10^{30} a	»	»	255	741.5	767.1	—15.0	—16		0	2		
	2 p	»	»	275	738.0	765.3	—14.0	14		0	0		
	6 p	»	»	265	737.5	764.0	—18.0	—15		0	0		
7	7 a	»	»	257	735.5	761.5	—20.5	—20	N	3	0		
	7^{30} a	»	»	259	735.5	761.6	—17.0	—19		0			
	9 a			275	735.0	762.5	—14.2	—16	N	4	0		
	11 a	77°16′	23°16′				—14.5		N	4	5	Ci.	Clouds coming from north
	12 a			301	733.0	763.0	—17.0	—16	N	5	2		
	3^{30} p			289	735.0	763.5	—16.0	—14	N	3	5		
	6 p	77°16′	23°15′	301	735.0	764.8	—16.8	—14	N	2	2		
8	1 p	77°17′	23°14′	317	735.5	766.8	—14.0	—12		0	0		Gale all night to 10 a
	3 p	»	»	326	732.5	764.9	—18.0	—15		0	2		
	8 p	»	»	329	726.0	759.0	—19.5	—20		0	5		
9	11 a	»	»	312	732.0	763.5	—21.0	—20		0			Gale to 7.30 a
	11^{50} a			381	725.5	763.8		—20		0			
	0^{50} p			397	724.0	764.0		—20		0			
	2 p	77°26′	23°30′	458	720.5	766.6		—20		0			
10	11 a	»	»				—25.0		NW	2			
11	3^{30} p	»	»	480	723.0	770.6	—17.0	—16	NW	8	10 *		
12	3^{30} p	»	»	484	725.5	773.3		—14	NW	8	10 *		
13	1 p	»	»	489	724.0	772.0		—10					
	2 p	»	»	491	723.5	771.8	—12.0	—13		0	4	Ci.—St.	Gale to 0.30 p
	3 p			518	721.0	771.8		—13					
	4 p			526	720.0	771.5		—13	NW	2			
	5 p			548	717.7	771.3		—13					
	6 p	77°32′	23°40′	556	715.7	770.0	—13.5	—13	NW	6	10	St.	
	8 p	»	»	556	715.5	769.8		—13					
14	8 a	»	»	543	715.5	768.5		—13	NNW	8	10	St.	Gale all night and day to 2 p
	3^{40} p	»	»	540	715.5	768.4	—12.0	—14	NNW	3			

Tab. 4a (continued). **Observations from Mikkelsen's sledge expedition on the Inland-ice.**

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction and Velocity m/sec*)	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	April	14	4^{40} p			587	710.7	768.2		—15				
			6 p			625	706.7	768.0		—16				
			7 p			650	704.0	767.5		—16				
			8 p			664	701.9	767.0	—16.0	—17	NNW 4			
			9 p	77°40′	23°52′	678	700.0	766.6		—18				
			11 p	»	»	676	699.8	766.5		—19	NNW10	10 ∗		
		15	9 a	»	»	668	701.5	765.0		—17				
			11^{30} a	»	»	641	703.0	765.5	—17.5	—16	NW 8	4	Ci.—St.	
			1^{30} p			690	699.0	765.6	—15.5	—14	NW 10	6	Ci.—St.	
			2^{30} p			695	698.5	765.6		—14				
			3^{30} p	77°43′	24°0′	695	698.5	765.6	—15.5	—14	NW 6	4	Ci.—St.	
			4^{45} p			724	695.8	765.8		—15				
			6 p			729	695.2	765.8	—18.0	—16	NW 4	7	Ci.—St.	
			7^{45} p			745	693.5	766.0		—17				
			8^{45} p	77°49′	24°06′	743	693.5	766.0		—18	NNW 3	10	St.	
			10^{30} p	»	»	726	696.5	766.8		—18				
		16	5 p	»	»	728	697.5	769.4	—21.0	—20	NW 5	5	Ci.—St.	
		17	6^{50} a	77°50′	24°08′	729	692.5	765.3	—26.0	—23	0			
			8 a			748	691.0	765.1	—24.0	—22	WNW 5	2	Ci.—St.	
			9^{30} a			798	686.5	764.9		—21	NW 8			
			10^{45} a			784	687.5	764.0	—22.0	—20	NW 8			
			0^{30} p			876	678.5	763.6		—20	NW 10			
			2^{30} p	77°57′	24°20′	909	674.5	763.0	—26.0	—21	NW 11			
			5 p	»	»	906	674.5	763.0		—22	NW 15			
		18	3 p	»	»	894	674.5	761.0	—24.5	—20	NW 15	10 ∗	St.	
		19	3 p	»	»	875	678.5	762.5	—20.0	—17	WNW 20	10 ∗	St.	
		20	3 p	»	»	926	674.0	762.5	—23.0	—17	WNW 27	10	St.	
		21	4 p	»	»	913	672.5	760.0	—26.0	—18	WNW 18			

22	6 a	»	»	914	672.5	760.1		—18	WNW			Gale all night
	9^{15} a			913	672.5	760.0	—22.0	—18	WNW 15	2	St.	
	11^{15} a			1010	664.5	760.0	—22.0	—16	WNW 10	3	St.	
	12 a			1032	662.5	760.0	—22.0	—16	WNW 10	3	St.	
	3 p	78°01′	24°22′	1051	662.5	761.0	—17.5	—14	WNW 7	1	St.	
	7^{15} p	»	»	1041	662.3	761.5	—19.0	—18	0			
23	6 a	»	»	1015	666.5	764.5		—20				
	7^{45} a			1006	667.5	764.7	—27.0	—20	WNW 13			
	8^{45} a			1037	665.5	765.2	—25.0	—19	WNW 8	4	St.	
	10 a			1043	665.5	765.7	—23.0	—19	WNW 10	6	St.	
	12 a	78°4′	24°23′	1044	666.5	767.0	—25.0	—19	WNW 12	10	St.	
	6 p	»	»	1011	670.5	768.5	—26.0	—20	WNW 12	10	St.	Halo round the sun
24	4 p	»	»	1042	672.5	772.5	—20.0	—17	NW 20	10	St.	
25	6 a	»	»	1061	665.5	767.5	—24.0	—19	NW 15	4	St.	Gale all night. 4 a: 25 m/sec.
	10 a	»	»	1050	666.5	767.0	—22.0	—18	W 10	3	Ci.—St.	
	12 a			1037	660.5	764.0	—21.5	—17	W 7	4	Ci.—St.	
	3 p			1033	664.5	763.0	—23.0	—18	W 8	4	Ci.—St.	
	6 p			1037	663.5	762.7	—25.0	—19	W 6	5	Ci.—St.	
	8 p			1015	664.5	762.4	—27.0	—21	W 6	5	Ci.—St.	
	10 p	78°10′	24°27′	1002	664.5	762.0	—31.0	—23	W 4	4	Ci.—St.	
26	12 a	»	»	1003	663.0	758.7		—19	W 25	10 *	St.	Gale and heavy snowfall all night and day to 4 p
	6 p	»	»	1001	663.0	758.5	—23.0	—19	W 12	9	St.	
	7^{15} p			1025	660.5	758.5	—25.0	—20	WNW 12	9	St.	
	9 p			1030	659.5	758.3	—26.0	—21	WNW 10	10	St.	
	11 p			1032	658.5	757.8	—26.5	—22	WNW 8	10	St.	
	12 p	78°14′	24°28′	1040	657.0	757.3	—28.0	—23	WNW 3	10	St.	
27	2 a	»	»	1031	657.8	757.3		—23				
	9^{30} a	»	»	1048	656.3	756.0		—20				
	1 p	»	»	1062	655.5	755.0	—23.0	—17	WNW 14			
	2^{20} p			1054	655.5	754.3	—23.0	—17	WNW 10	∞		
	5^{10} p			1038	656.5	754.3	—23.0	—18	W 5	3 ∞	Ci.—St.	
	7 p			1031	656.5	754.3	—25.2	—20	W 5	3 ∞	Ci.—St.	
	9 p	78°20′	24°30′	1020	656.5	754.4	—27.0	—22	W 8	3 ∞	Ci.—St.	
27	11 p	»	»	1000	657.6	754.4	—28.5	—24	WNW 12	5 ∞	Ci.—St.	
28	8 a	»	»	1014	657.5	754.0		—20				
	10^{45} a	»	»	1016	657.5	753.8	—25.5	—19	W 10	4	Ci.—St.	

*) From April 15th the wind velocity is measured with Anemometer and given in m/sec.

Tab. 4a (continued). **Observations from Mikkelsen's sledge expedition on the Inland-ice.**

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	April	28	1 p			1055	655.3	753.3	—22.0	—15	W 7	5	Ci.—St.	
			3^{30} p			1064	654.2	753.3	—20.0	—16	W 4	4	Ci.—St.	
			5^{30} p			1092	651.3	752.8	—22.5	—16	W 6	8	St.	
			7^{30} p			1059	653.5	753.0	—24.7	—18	0	9 *	St.	Halo round the sun
			9 p	78°26′	24°42′	1022	654.5	752.2	—27.0	—22	0	10	St.	
			11 p	»	»	1022	654.5	752.2	—24.5	—22	0	10 *	St.	
		29	7 a	»	»	1018	656.4	753.1		—20				
			10^{45} a	»	»	1017	656.5	753.1	—24.2	—20	0			
			12 a	78°27′	24°43′	1025	656.5	753.0	—21.5	—18	NNW 4	1		Stormclouds over land
			2^{15} p			1017	656.5	751.8	—21.5	—17	NW 5	2	St.	
			4 p			1007	656.5	751.3	—21.5	—18	NW 5	9	Ci.—Cu.	Clouds coming rapidly from north
			5^{45} p			978	658.7	750.8	—22.5	—18	NW 2			
			7^{30} p			949	660.0	750.3	—24.3	—20	NW 8	2	Ci.—St.	
			9 p	78°40′	25°06′	945	660.0	749.8		—20	NW 8			
		30	5 p	»	»	966	659.5	749.0	—20.0	—14	NNW 25	10		Very heavy snowfall
	May	1	4 a	»	»	991	654.5	746.5		—16	NW 10	∞		
			6^{45} a	»	»	990	654.3	746.3	—22.0	—16	NW 8			
			8^{15} a	»	»	997	654.2	746.3		—15	NW 4			
			9^{50} a			994	654.2	745.5	—20.7	—14	WNW 1			
			11^{30} a			934	659.0	745.0	—18.0	—13	W 4			Between 11.30 a and 2 p Ci.—Cu. coming from north with great velocity
			2 p			958	657.0	744.6	—18.0	—12	WNW 8			
			3^{30} p			923	659.3	744.6	—17.5	—14	WNW 5			
			5 p			906	661.0	744.8	—18.3	—14	WNW 3			
			7^{30} p	78°55′	25°31′				—18.0		WNW 4	3	St.	
		2	8 a	»	»						NW 23	10 *		
			12 a	»	»				—16.5		NW 28	10 *		
			7^{30} p	»	»						NW 13	6	St.	
			9 p	»	»	898	669.7	754.8	—23.0	—17	NW 14	4	St.	

	3	8^{45} a	»	»	931	671.5	759.1		—14	NW	10			
		11^{30} a	»	»	930	672.6	759.5	—19.3	—12	NW	4	1	St.	
		1 p			921	673.2	759.3	—19.0	—12	NW	3			
		2^{30} p			906	674.2	759.3	—18.5	—13		0			
		4^{20} p			906	673.6	759.0	—20.0	—14		0			
		6^{30} p			891	673.5	758.5	—22.3	—17		0			
		8^{15} p			899	671.9	758.3	—23.9	—19		0			
		10 p	79°13′	25°59′	913	669.3	757.6	—28.0	—21		0			
		12 p	»	»	909	669.5	757.4		—21		0			
	4	7 a	»	»	918	667.5	755.6		—20		0			
		10^{20} a	»	»	907	668.0	755.0	—26.0	—20	WNW	2	4	Ci.—St.	Stormclouds coming from north
		11^{30} a			937	667.0	755.0	—21.0	—15		0	6	Ci.—St.	
		1^{45} p			939	667.5	755.0	—20.5	—13	NW	3	4	Ci.—St.	
		3^{20} p			934	668.3	755.5	—19.5	—13	NW	3	2	Ci.—St.	
		5 p			930	668.8	756.0	—19.5	—14	NW	2			
		7 p	79°27′	26°10′	925	668.5	756.0	—23.0	—16	NW	4	3	Ci.—St.	
		9 p	»	»	907	669.5	756.0		—18					
	5	8 a	»	»	869	672.5	755.1		—17	NNW	15			
		12 a	»	»	861	673.5	755.1	—22.0	—16	NNW	10			
		2 p	»	»	866	673.4	755.2		—15	NNW	17			
		8 p	»	»	845	673.5	754.5	—28.0	—19	NNW	15			
	6	8 a	»	»	870	673.5	755.0		—13	NNW	28			
		12 a	»	»	872	674.5	756.0	—16.2	—12	NNW	28			
		5 p	»	»	876	675.5	757.9	—18.0	—13	NNW	25			
	7	3 a	»	»	857	677.5	759.5		—17					
		6 a	»	»	847	678.7	759.5	—20.5	—16	NNW	9			
		7^{45} a			856	678.2	759.5	—19.0	—15	NNW	10			
		9^{20} a			879	676.5	759.5	—17.3	—14	NW	10			
		11 a			879	677.0	759.8	—16.0	—13	NW	12			
		1^{45} p			882	677.8	760.7	—15.5	—12	NNW	10	2	St.	Clouds coming from SE
		2^{50} p			880	678.5	761.0	—15.0	—12	NNW	7	2	St.	
		4^{30} p			864	680.0	761.3	—14.7	—12	NNW	13	4 ∞	St.	2 mock suns
		5^{30} p	79°46′	26°40′	854	681.5	762.0		—12	NNW	11	6	St.	
		7 p	»	»	844	682.5	762.2	—16.0	—12	NNW	14	6	St.	
	8	7 a	»	»	854	685.5	766.5		—12		0			
		9^{30} a	»	»	867	685.5	767.5	—14.8	—11		0	3	Ci.—St.	

Tab. 4a (continued). **Observations from Mikkelsen's sledge expedition on the Inland-ice.**

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction and Velocity m/sec	Cloud Amount (0—10) and Weather	Cloud-forms	Remarks
1910	May	8	11^{45} a			852	687.5	768.2	—14.0	—11	0	2	Ci.—St.	
			1^{30} p			841	689.4	769.2	—13.0	—11	SSE	5	Ci.—St.	
			3^{15} p			830	690.5	769.2	—13.1	—11	W 5	7	Ci.—St.	Mirage
			5^{30} p			805	692.3	769.2	—14.5	—12	W 3	7	Ci.—St.	Halo round the sun
			6^{45} p			770	693.5	767.0	—14.7	—12	SW 6	8	Ci.—St.	
			9 p	80°5′	26°51′	767	693.6	767.1	—15.5	—13	SW 6	10	St.	
		9	8 a	»	»	814	688.5	765.3		—10				
			1 p	»	»	835	685.0	762.8	—10.0	— 8	SW 8			
			2^{30} p			808	687.2	762.8	— 9.0	— 9	W 12			
			4 p			785	689.6	762.8	— 8.0	— 7	W 15			
			5^{20} p	80°12′	27°0′				— 8.0		W 20			Storm springing up suddenly
			7 p	»	»				— 8.5		W 30			
			8 p	»	»	723	695.0	762.7		— 7	0			
		10	12 a	»	»	708	696.5	762.5	—10.5	— 6	W 15			
		11	2 a	»	»	693	697.5	763.0	—16.0	— 9	W 4			
			12 a	»	»	683	701.5	765.5	— 8.0	— 6	NW 7	5	Ci.—St.	
			8 p	»	»	685	703.5	768.0	— 9.0	— 6	NW 5	7	Ci.—St.	
			12 p	»	»	700	703.5	770.0	—11.0	— 8	NW 4	5	Ci.—St.	
		12	8 a	»	»	716	703.5	771.3		— 7	0	4	Ci.—St.	
			10^{30} a	»	»	709	703.5	770.3	— 8.0	— 6	0	2	Ci.—St.	
			11^{30} a			589	714.5	770.3	— 8.0	— 5	0	2		
			0^{30} p			489	723.0	769.5	— 7.8	— 5	0	2		
			10 p						— 9.5		0			
			12 p			146	742.5	756.6	—11.7	— 8	0	4	St.	
		13	6^{30} a	80°16′	27°4′	147	741.0	755.3	—12.2	— 9	NNW 5	8	St.	

Tab. 4b. Observations from Laub's sledge journey on the Inland-ice.

Year	Month	Date	Hour	Station		Height m	Barometer mm		Temperature C°		Wind Direction and Force (0—12)	Cloud Amount (0—4) and Weather	Remarks
				N. lat.	W. lg.		Station	B_0	Station	θ			
1910	April	10	3^{30} p	77°17′	23°15′	324	742.0	775.1	—20.3	—20	NW 2	0	
		11	6 a	»	»	324	740.5	773.7		—20	NW 5	0	
			12 a	»	»	326	740.0	773.7		—18	NW 6	0	
			5^{30} p	»	»	307	739.0	770.2	—18.5	—19	NW 4	0	
		12	5 p	»	»				—17.0		W 8	1	
		13	7 p	»	»				—14.0		WNW 6	1	
		14	10 a	»	»	327	736.0	768.5		—14	WNW 7	2	
			1 p	»	»	327	736.0	768.5	—11.6	—14	N 4	2	
			8^{30} p	»	»				—18.7		0	0	
		15	8 a	»	»	283	736.0	764.4	—18.3	—17	NW 5	1	
			4 p	»	»	292	737.5	766.5	—14.5	—14	NW 3	2	
			10 p	»	»	292	738.0	767.5	—17.8	—17	NW 1	4 ∞	
		16	1^{30} p	»	»	303	740.0	770.4	—16.5	—16	NW 1	2 ∞	
			3 p			356	734.5	770.2	—16.7	—16	NW 1	1 ∞	
			5 p			367	732.5	769.4	—18.2	—17	NW 1	1 ∞	
			7^{30} p			436	725.0	769.0	—21.5	—20	NW 1	1	
		17	1 p	77°19′	23°22′	441	720.0	763.6	—18.0	—17	0	0	
			7 p	»	»	435	719.0	762.6	—21.5	—20	0	2	
		18	7^{30} a	»	»	427	719.0	761.5	—21.0	—19	W 2	2	
			11 a			434	718.0	761.0	—18.8	—18	W 2	2	
			1 p			415	720.0	760.8	—16.0	—16	W 2	3	
			4 p			443	717.0	760.5	—16.0	—16	W 2	4	
			5^{30} p			443	716.5	760.0	—17.0	—16	W 2	4	

Tab. 4b (continued). **Observations from Laub's sledge journey on the Inland-ice.**

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction and Force (0—12)	Cloud Amount (0—4) and Weather	Remarks
1910	April	18	8 p	77°18′	23°25′	436	717.0	760.0	—17.8	—17	W 3	4 ∞	
		19	8 a	77°18′	23°22′	407	719.0	758.9		—15	W 6	3 ∞	
			2 p	»	»	411	719.0	759.1		—14	W 5	4 ∞	
			5 p	»	»	414	719.0	759.5	—15.3	—15	W 5	4 *	
		20	8 a	»	»	425	718.5	760.0		—14	W 10	1	12a: Wind force 11
			2 p	»	»	444	716.0	759.0		—12	W 9	1	
			5 p	»	»	446	715.5	758.8	—15.3	—13	W 7	1	
		21	8 a			465	715.0	760.1		—13	W 5	0	
			2 p			466	714.0	759.0	—13.0	—12	W 3	0	
			4 p			477	713.0	759.0	—13.3	—12	W 3	0	
			6^{30} p			429	717.0	759.0	—13.0	—15	W 4	0	
			8 p	77°17′	24°05′	397	720.0	759.0	—13.8	—16	W 3	0	
		22	8 a	»	»	404	720.5	760.1	—15.2	—15	W 2	0	
			11 a			426	719.0	760.4	—12.8	—13	W 2	0	
			0^{30} p			448	717.5	761.0	—13.0	—12	W 2	0	
			3 p			638	700.0	761.0	—12.8	—12	W 2	0	
			5 p			723	692.5	761.5	—15.7	—13	W 2	0	
			6^{30} p	77°21′	24°52′	814	684.0	761.5	—17.0	—14	W 2	0	
		23	7 a	»	»	811	687.0	764.6		—14	W 6	3 ∞	
			11 a	»	»	813	689.0	767.0		—14	W 5	4	Thick with snow
			5 p	»	»	792	692.0	768.5	—16.0	—15	W 5	4	» » »
		24	7^{30} a	77°25′	24°45′	793	695.0	772.8		—18	W 6	2	
			12 a	»	»	798	695.0	773.0	—20.0	—17	W 6	1	
			5 p	»	»	798	694.0	772.0	—17.2	—17	W 5	1	
		25	7 a	»	»	785	691.0	768.0		—19	W 6	1	
			12 a	»	»	798	687.0	764.5		—18	W 6	1	
			5 p	»	»	811	684.5	762.8	—19.5	—17	W 3	1	
			8 p	»	»	806	684.5	762.5	—20.0	—18	W 2		

		11 p			931	672.0	762.0	—22.5	—20	SW	4	1	
	26	1 a	77°18′	25°18′	1031	661.0	761.5	—27.0	—24	W	2	1	
		7 p	»	»	1049	658.0	758.3	—22.0	—20	SW	2	1	
	27	6 a	»	»	1053	657.0	757.5		—20	SW	6		
		12 a	»	»	1065	655.0	756.5		—20	SW	5		
		6 p	»	»	1067	653.0	754.4	—23.7	—20	SW	5	2	
	28	6 a	»	»	1073	652.0	753.8		—20	SW	5		
		12 a	»	»	1094	651.0	753.0		—16	SW	5		
		4 p	»	»	1094	651.0	753.0	—21.5	—16	SW	3	3	
		8 p	»	»	1077	651.0	753.0	—22.5	—20	SW	2	2	Night between 28. and 29.: SW 6
	29	4 p			1074	651.0	751.5	—19.0	—17	SW	2		
		6 p			1229	637.0	750.5	—19.0	—17	S	1	2	
		8 p	77°03′	25°50′	1284	631.0	750.0	—22.0	—19	S	1	4 ∞	
	30	8 a	»	»	1308	629.0	748.0		—15		0	4	Thick with snow
		12 a	»	»	1320	628.0	748.0		—15		0	4	» » »
		6 p	»	»	1331	628.0	749.5	—19.0	—16		0	4	» » »
May	1	5 a	»	»	1337	627.0	749.0		—16	S	1	3	» » »
		12 a	»	»				—18.0			0	4 ∞	
		2 p			1350	623.0	744.6	—18.0	—14	S	2	3 ∞	
		4^{30} p			1111	643.0	745.0	—19.0	—15	SW	2	4 ∞	
		6 p			1006	652.5	745.5	—16.8	—15	SW	4	4 ∞	
		8 p	77°18′	25°18′	873	665.0	746.5	—17.2	—15	WSW	6	4 ∞	
	2	8 a	»	»						WSW	8	4	Thick with snow
		12 a	»	»				—17.9		WSW	8	4	» » »
		8 p	»	»				—27.0		WSW	9	4	» » »
	3	7 a	»	»	891	674.5	759.0		—15	WSW	8	4	
		9 a	»	»	906	674.0	759.5		—14	WSW	6	2	
		12 a	»	»	909	674.0	759.5		—13	WSW	6	0	
		6 p	»	»	904	672.0	758.5	—18.0	—16	WSW	3	0	
	4	7 a	»	»	902	669.0	755.0	—23.0	—18	SW	7	2	
		11 a			905	670.0	755.0	—17.0	—14	SW	6	2	
		0^{30} p			766	683.0	755.0	—17.0	—12	SW	6	2	
		2^{30} p			582	700.0	755.0	—13.0	—10	WSW	6	2	
		4^{30} p			532	705.5	756.0	—11.5	—10	WSW	6	1	
		7 p	77°19′	23°43′				—12.5		WSW	4	0	
	5	8 a	»	»	449	712.5	756.0	—15.0	—13	WSW	5	0	

Tab. 4b (continued). **Observations from Laub's sledge journey on the Inland-ice.**

Year	Month	Date	Hour	Station N. lat.	Station W. lg.	Height m	Barometer mm Station	Barometer mm B_0	Temperature C° Station	Temperature C° θ	Wind Direction and Force (0—12)	Cloud Amount (0—4) and Weather	Remarks
1910	May	5	9 a			436	713.5	755.5	—13.5	—12	W 4	0	
			11 a			349	721.5	755.0	—11.3	—10	W 4	0	
			1 p			317	724.5	755.0	—11.0	—10	WNW 3	0	
			3 p			301	726.0	755.0	— 9.5	—10	NW 4	0	
			6 p	77°16′	23°10′	265	729.0	754.5	— 9.5	—10	NW 5	0	
		6	7 a	»	»	259	730.0	755.0		—10	N 6	0	
			12 a	»	»	258	731.0	756.0	—10.5	—10	N 5	0	
			4 p	»	»	256	733.0	757.9	— 9.5	—10	N 5	0	
		7	7 a	»	»	251	735.0	759.5	—12.0	—11	N 6	0	
			9 a			207	739.5	759.5	— 7.3	— 8	N 8	0	
			11 a			186	742.0	760.0	— 9.0	— 8	N 6	2	
			1 p			169	744.0	760.5	— 9.5	— 9	NNW 6	3	
			3 p			143	747.0	761.0	— 8.5	— 9	N 3	3	
			5 p	76°55′	22°55′	129	749.0	761.5	— 9.5	— 9	N 3	3	
		8	7 a	»	»	117	755.0	766.5	— 8.7	— 9	N 3	3	
			9 a			115	756.0	767.3	— 8.5	— 9	N 2	3	
			11 a			102	758.0	768.0	— 8.2	— 8	N 3	3	
			1 p			91	760.0	769.0	— 8.0	— 8	N 2	4	
			3 p			66	763.0	769.5	— 8.0	— 8	N 1	3	
			6 p	76°49′	22°45′	78	762.0	769.7	— 5.7	— 7	0	3	
		9	7 a	»	»	87	756.0	764.5	— 8.0	— 8	0	1	
			9 a			67	758.0	764.5	— 7.5	— 8	0	1	
			11 a			65	758.0	764.2	— 3.5	— 5	S 1	0	
			1 p			42	759.5	763.5	— 3.0	— 4	0	0	
			3 p			19	761.0	762.8	— 4.5	— 5	0	0	
			5 p	76°39′	22°25′	16	761.0	762.5	— 5.0	— 5	0	0	
		10	7 a	»	»	19	759.0	760.8	— 8.0	— 5	0	0	
			9 a	»	»	16	759.0	760.5	— 6.5	— 5	0	0	

11 a	»	»	19	758.5	760.3	— 4.8	— 4	0	0
1 p	»	»	21	759.0	761.0	— 2.8	— 2	0	1

Tab. 5.

Shannon Island — Bass Rock.

Monthly Summaries of Observations from September 1909—July 1912.

Year	Month	Mean Air Pressure mm 700 +	Mean Air Temperature C°	Frequency of Wind (per Ct.) N	NE	E	SE	S	SW	W	NW	Calm	Wind Mean-force (0—12)	Mean of Cloud Amount (0—10)	Number of Days of: Precipitation	Rain	Snow	Fog	Gale	Remarks
1909	September .	60.0	— 2.7	12	33	1	1	1	10	11	1	30	1.8	4.0	3	0	3	2	0	
	October....	63.0	—14.1	5	62	0	0	0	4	4	4	21	3.2	5.3	7	0	7	6	2	
	November..	61.0	—15.4	6	57	0	0	2	4	3	0	28	3.0	6.0	9	0	9	8	3	
	December..	60.9	—22.2	0	76	0	0	0	2	2	1	19	4.5	5.0	13	0	13	10	8	
1910	January ...	53.9	—24.2	1	52	0	0	0	4	2	0	41	3.0	4.3	8	0	8	9	6	
	February ..	56.1	—25.2	0	71	4	0	0	0	0	0	25	4.1	4.3	7	0	7	2	5	
	March	57.5	—22.2	0	63	0	0	0	8	7	0	22	2.8	6.0	15	0	15	3	0	
	April	65.5	—16.1	0	59	0	0	0	3	3	0	35	1.8	4.0	7	0	7	1	0	
	May.......	64.1	— 4.2	0	35	0	3	0	18	2	0	42	1.3	6.5	8	1	8	12	0	
	June	62.7	0.1	0	29	0	0	0	36	2	0	33	1.3	5.5	6	1	5	7	0	
	July.......	62.0	3.0	0	28	0	1	1	23	1	0	46	1.5	5.8	6	6	1	13	0	
	December[1]).	58.9	—26.2	0	80	0	0	0	0	0	0	20	4.3	5.2	4	0	4	0	5	[1]) Means for 20 days
1911	January ...	48.0	—22.2	0	57	1	0	0	12	0	0	30	3.7	5.4	7	0	7	0	9	
	February ..	54.8	—27.9	0	56	0	0	1	9	0	0	34	2.8	3.5	2	0	2	1	2	
	March	56.3[2])	—17.8	0	45	0	5	1	13	1	0	35	3.9	5.9	4	0	4	4	7	[2]) Means for 20 days
	April	66.7[3])	—14.4	0	52	0	10	4	2	1	1	30	3.2	4.7	4	0	4	4	2	[3]) Means for 14 days
	May.......	56.5[4])	(—6.5)	11	10	3	1	4	0	0	4	67	1.5	6.2	5	0	5	6	1	[4]) Means for 18 days
	June	61.6[5])	0.4	5	5	15	25	3	9	3	2	33	1.8	6.6	5	0	5	14	0	[5]) Means for 29 days
	July.......	61.6	2.9	20	9	6	29	4	4	0	8	20	2.2	7.5	10	10	0	15	0	
	August	60.8	1.9	24	2	14	25	5	3	1	15	11	1.9	6.2	7	5	2	11	0	

Tab. 5 (continued).

Shannon Island — Bass Rock.

Monthly Summaries of Observations from September 1909—July 1912.

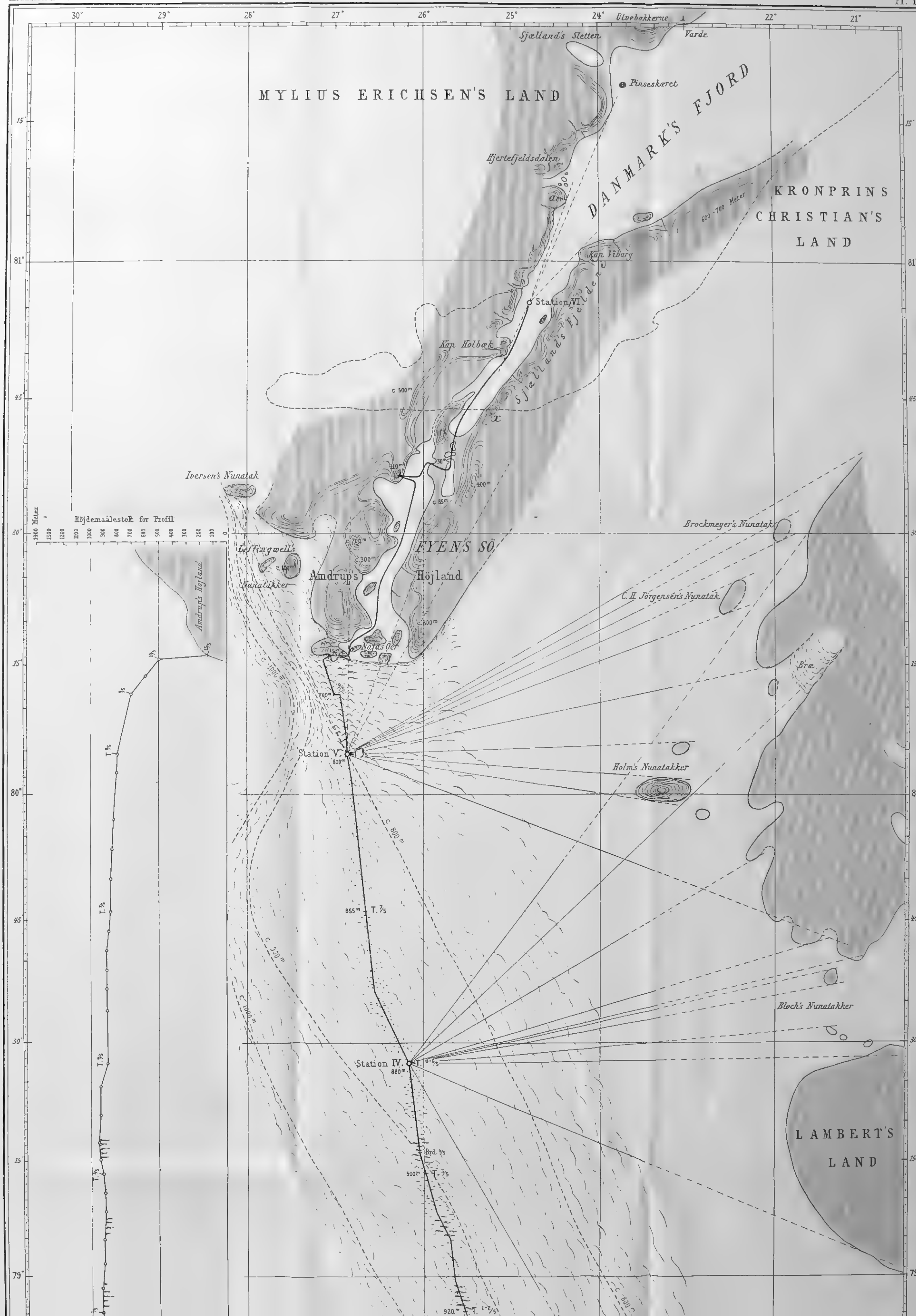
Year	Month	Mean Air pressure mm 700 +	Mean Air Temperature C°	Frequency of Wind (per Ct.) N	NE	E	SE	S	SW	W	NW	Calm	Wind-Mean-force (0—12)	Mean of Cloud Amount (0—10)	Number of Days of: Precipitation	Rain	Snow	Fog	Gale	Remarks
1911	September	56.4	— 5.3	46	1	3	7	2	3	0	15	23	2.9	6.5	6	0	6	8	1	
	October	60.2	—16.9	23	4	1	0	6	2	0	1	63	1.5	5.8	9	0	9	6	0	
	November	57.4	—21.6	40	17	0	3	4	1	0	5	30	2.3	6.2	8	0	8	0	0	
	December	58.8	—23.2	65	4	0	5	1	0	0	8	17	2.7	6.0	12	0	12	1	0	
1912	January	63.4	(—28.4)	34	2	0	1	3	2	7	26	25	1.5	5.5	5	0	5	0	1	Mean temperature somewhat uncertain on account of temp. below ÷34°
	February	63.8	(—27.4)	41	3	0	7	3	0	1	17	28	2.2	4.3	6	0	6	0	1	
	March	62.1	(—25.6)	23	31	0	5	6	2	2	12	19	2.7	5.4	9	0	9	6	2	
	April	58.8	—14.7	20	0	0	0	15	6	5	7	47	1.2	3.6	2	0	2	2	0	
	May	63.1	— 6.2	28	0	0	3	24	5	3	7	30	2.0	7.2	16	2	14	7	0	
	June	63.0	2.0	3	1	0	8	55	9	6	8	10	2.2	6.6	2	2	0	7	0	
	July [6])	55.6	3.7	11	0	0	2	31	11	7	14	24	1.9	7.8	5	2	3	7	0	[6]) Means etc. for 17 days

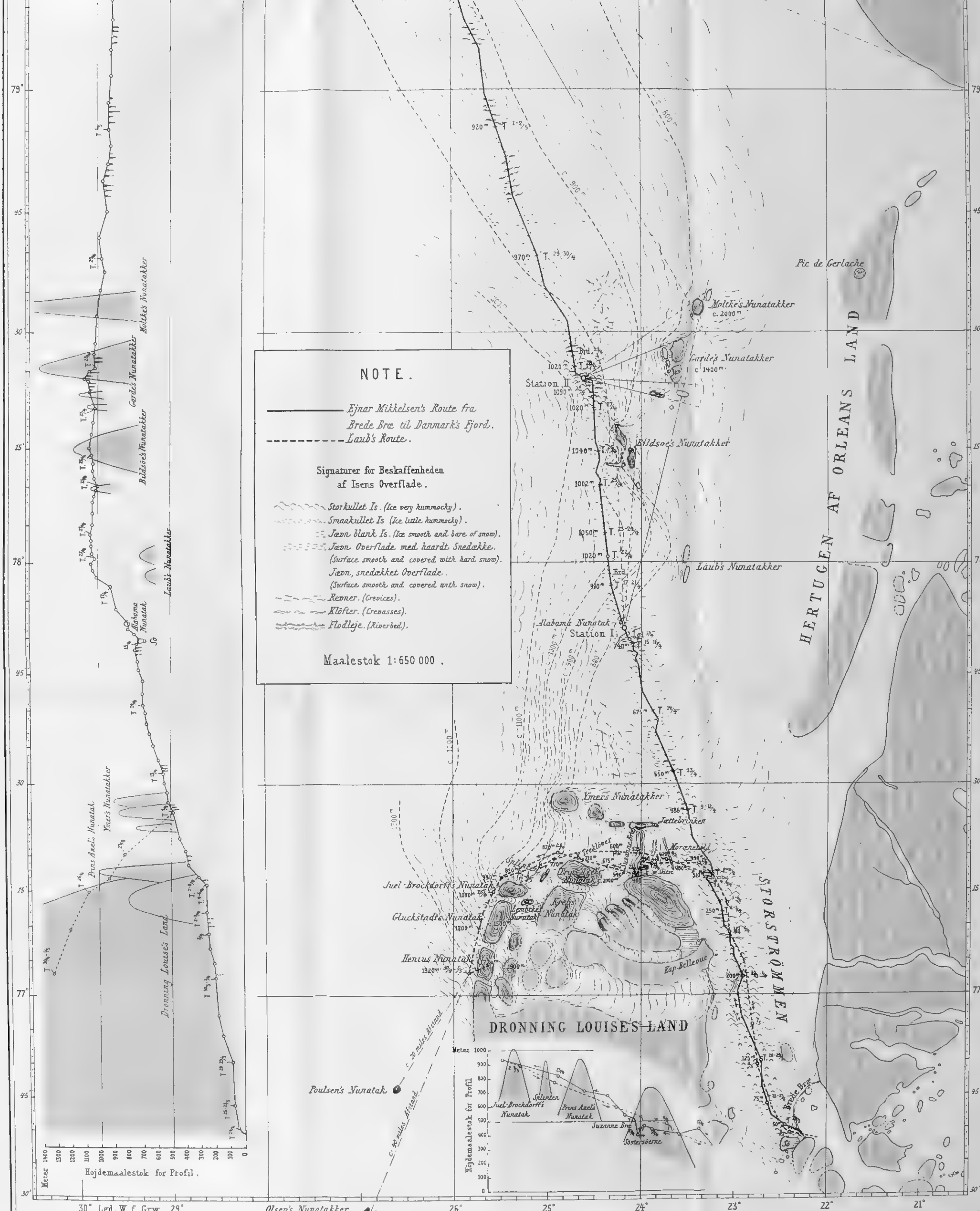
Tab. 6. **Northeast Greenland.** (Danmark's Havn — Shannon Island — Bass Rock).

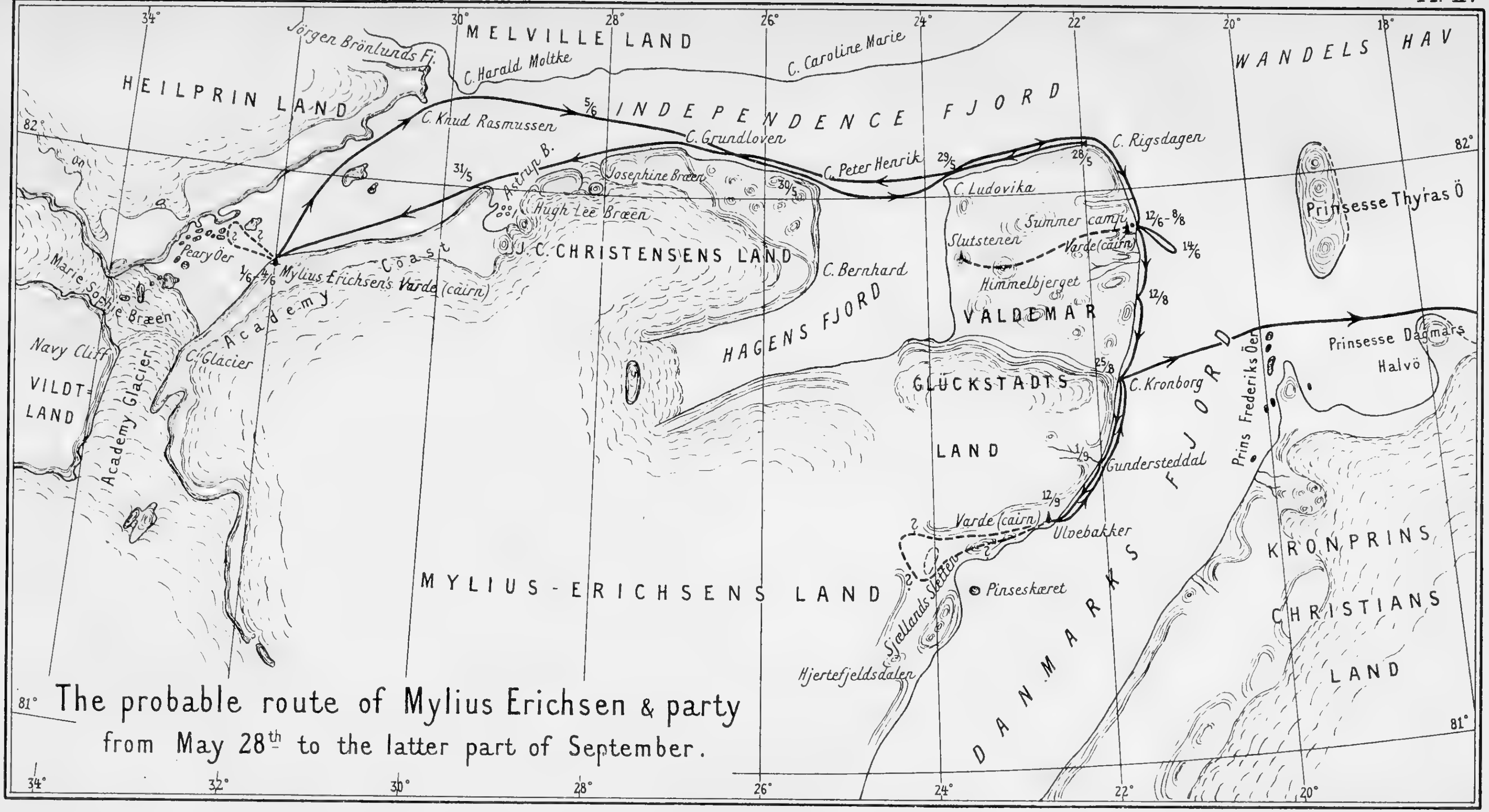
Mean Air Pressure mm.

Year	January	Febr.	March	April	May	June	July	August	Sept.	October	Novbr.	Decbr.
1906								762.5	757.4	756.5	766.2	756.7
1907	756.0	755.1	754.3	763.4	770.9	762.2	766.3	60.1	55.5	58.2	53.3	61.9
1908	52.3	59.6	61.2	68.2	63.4	59.7	60.3					
1909									60.0	63.0	61.0	60.9
1910	53.9	56.1	57.5	65.5	64.1	62.7	62.0					58.9
1911	48.0	54.8	56.3	66.7	56.5	61.6	61.6	60.8	56.4	60.2	57.4	58.8
1912	63.4	63.8	62.1	58.8	63.1	63.0	55.6					
Means	54.7	57.9	58.3	64.5	63.6	61.8	61.2	61.1	57.3	59.5	59.5	59.4

Number of years	5	5	5	5	5	5	5	3	4	4	4	5
Highest monthly mean	63.4	63.8	62.1	68.2	70.9	63.0	66.3	62.5	60.0	63.0	66.2	61.9
Lowest monthly mean	48.0	54.8	54.3	58.8	56.5	59.7	55.6	60.1	55.5	56.5	53.3	56.7
Mean Air Temperature C°												
1906								2.1	—3.7	—14.3	—21.0	—24.6
1907	—23.0	—26.0	—23.7	—19.4	—8.2	1.1	3.3	2.3	—4.4	—14.6	—19.7	—17.2
1908	—20.8	—28.9	—21.0	—19.6	—6.4	1.1	5.4					
1909									—2.7	—14.1	—15.4	—22.2
1910	—24.2	—25.2	—22.2	—16.1	—4.2	0.1	3.0					—26.2
1911	—22.2	—27.9	—17.8	—14.4	—6.5	0.4	2.9	1.9	—5.3	—16.9	—21.6	—23.2
1912	—28.4	—27.4	—25.6	—14.7	—6.2	2.0	3.7					
Means	—23.7	—27.1	—22.1	—16.8	—6.3	0.9	3.7	2.1	—4.0	—15.0	—19.4	—22.7
Number of years	5	5	5	5	5	5	5	3	4	4	4	5
Highest monthly mean	—20.8	—25.2	—17.8	—14.4	—4.2	0.1	2.9	1.9	—2.7	—14.1	—15.4	—17.2
Lowest monthly mean	—28.4	—28.9	—25.6	—19.6	—8.2	2.0	5.4	2.3	—5.3	—16.9	—21.6	—26.3

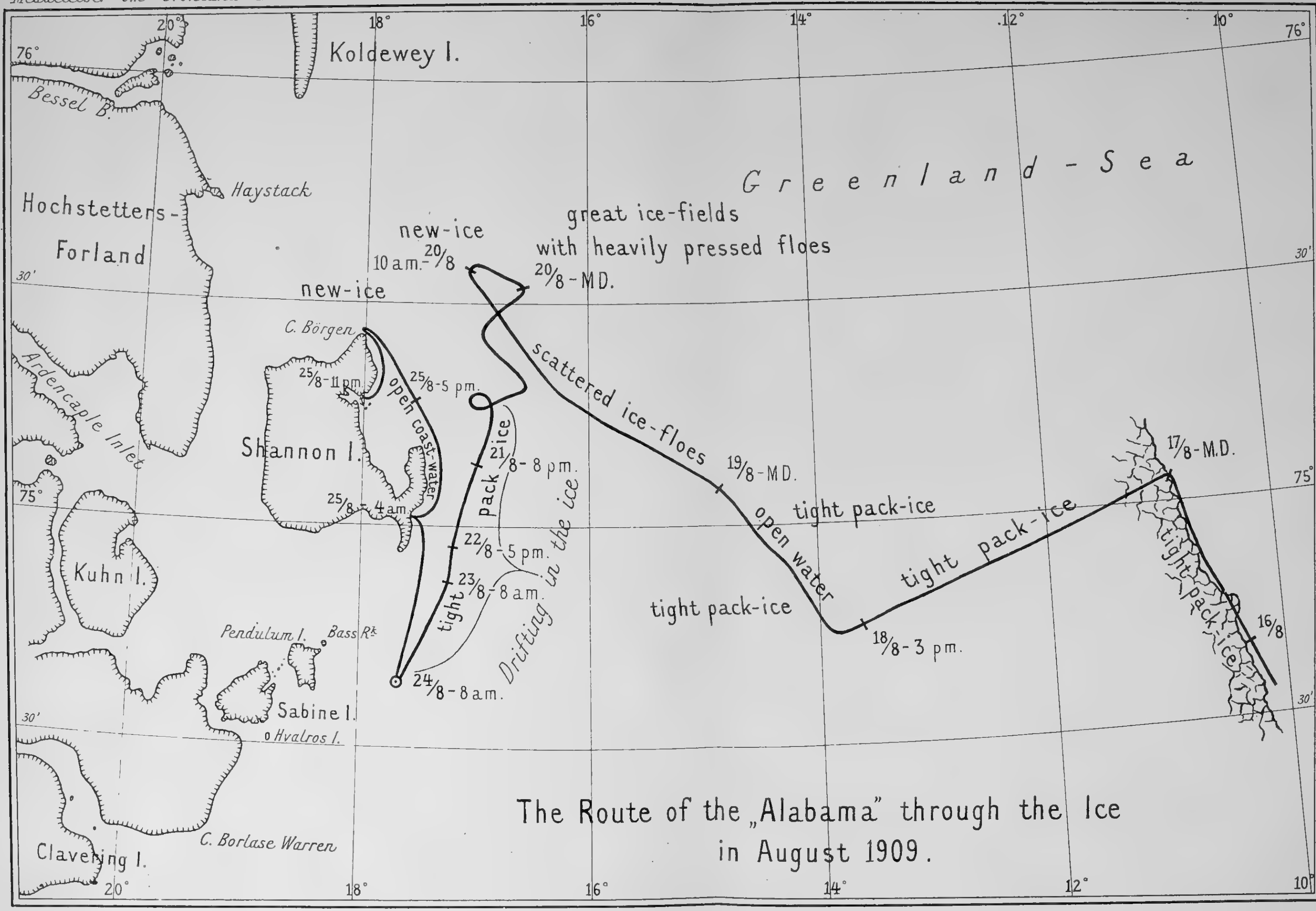

MYLIUS ERICHSEN'S LAND
DANMARK'S FJORD
KRONPRINS CHRISTIAN'S LAND
Ulvebakkerne
Varde
Sjælland's Sletten
Pinseskæret
Hjertefjeldsdalen
Kap Viborg
Station VI.
Sjællands Fjeldene
Kap Holbæk
c 500m
600-700 Meter
Iversen's Nunatak
Höjdemaalestok for Profil
Meter
FYENS SÖ
Höjland
Amdrups
Leffingwell's
Nunatakker
Amdrup's Höjland
Najas Öer
Brockmeyer's Nunatak
C. H. Jörgensen's Nunatak
Bræ
Station V.
Holm's Nunatakker
855m T. 7/5
Bloch's Nunatakker
Station IV.
880m
LAMBERT'S LAND
Brd. 9/5
910m T. 3/5
920m


NOTE.
Ejnar Mikkelsen's Route fra Brede Bræ til Danmark's Fjord.
Laub's Route.
Signaturer for Beskaffenheden af Isens Overflade.
Storkullet Is. (Ice very hummocky).
Smaakullet Is (Ice little hummocky).
Jævn blank Is. (Ice smooth and bare of snow).
Jævn Overflade med haardt Snedække. (Surface smooth and covered with hard snow).
Jævn, snedækket Overflade. (Surface smooth and covered with snow).
Revner. (Crevices).
Kløfter. (Crevasses).
Flodleje. (Riverbed).
Maalestok 1:650 000.
HERTUGEN AF ORLEANS LAND
STORSTRÖMMEN
DRONNING LOUISE'S LAND
Pic de Gerlache
Moltke's Nunatakker
Garde's Nunatakker
Bildsoe's Nunatakker
Laub's Nunatakker
Alabama Nunatak
Station I.
Station II.
Ymer's Nunatakker
Jættebrinken
Morænebild
Juel-Brockdorff's Nunatak
Gluckstadt's Nunatak
Henius Nunatak
Lembcke's Nunatak
Kreb's Nunatak
Kap Bellevue
Brede Bræ
Poulsen's Nunatak
Olsen's Nunatakker
c. 20 miles Afstand
c. 40 miles Afstand
Hojdemaalestok for Profil.
Suzanne Bræ
Søstersberne
Splinten
Prins Axel's Nunatak
Dronning Louise's Land
30° Lgd. W. f. Grw. 29°
26° 25° 24° 23° 22° 21°
79° 78° 77°



The probable route of Mylius Erichsen & party from May 28th to the latter part of September.


PEARY LAND
MELVILLE LAND
HEILPRIN LD.
Jörgen Brönlunds Fj.
C. Eiler Rasmussen
WANDEL'S HAV
INDEPENDENCE F.
C. Rigsdagen
J. C. CHRISTENSEN LAND
VALDEMAR GLÜCKSTADTS LAND
Prinsesse Thyra
Navy Cliff
Academy Glacier
Hagens Fj.
C. Kronborg
ERIK S. HENIUS LD.
Nordost Rundingen
Sjællands Sletten
MYLIUS ERICHSENS LAND
DANMARKS FJORD
KRONPRINS CHRISTIANS LAND
C. Holbæk
C. Viborg
Alexandrine Bjerge
Antarctic F.
Depot
AMDRUPS LAND
Sophus Müller
Iversen's Nunatak
Amdrups
Höjland
FYENS SÖ
Leffingwell's Nun.
Brockmeyer's Nunatak
C. H. Jörgensen's Nun.
Ingolfs Fj.
Eskimonæsset
Fældestrand
HOLMS LAND
Depot
Mallemukfjeldet
Najas Öer
Holms Nunatakker
KONG FREDERIK D. VIII's LAND
C. H. N. Andersen
HOVGAARDS Ö.
C. Anna Bistrup
Bagatellerne
Bloch's Nunatakker
NIOGHALVFJERDSFJORDEN
GREENLAND SEA
LAMBERTS LAND
Brønlunds Grav
Depot
Norske Öer
Zachariaes Isström
Schnauder Ö
C. Bourbon
Pic de Gerlache
Moltke's Nun.
JÖKEL BUGTEN
Franske Öer
C. Bergendahl
Gardes Nun.
DUC D'ORLÉANS LAND
Pariseroerne
Nordre Depot
C. Mérite
Bildsoes Nun.
Laub's Nun.
Hagen's D.
Alabama Nunatak
Ile de France
C. Louise
Kofoed-Hansens Bræ
Penthièvre Fj.
C. Philippe
Ymer's Nunatakker
C. Amélie
Skærfjorden
STORSTRØMMEN
Rekvedøen
Rosco
C. Marie Valdemar
Glückstadt's Nun.
Henius Nunatak
GERMANIA LD.
Fyrretyvekilometernæsset
C. Steensby
Poulsen's Nunatak
DRONNING LOUISE'S LAND
Danmarks Havn
Tyvekilometernæsset
C. Bismarck
L. Koldewey
Olsen's Nunatakker
Brede Bræ
DOVE B.
L. BISTRUPS BRÆ
KOLDEWEY I.
C. Peschel
Paaskenæsset
C. Beurmann
Depot
Trums Ø
C. Arendts
Bessels F.
HOCHSTETTERS FORLAND
Haystack
Bredefj.
Smallefj.
C. Oswald Heer
C. Borgen
Ardencaple Inl.
Alabama Havn 1909-10-11
C. Pansch
SHANNON I.
C. Rink
C. Philip Broke
C. David Gray
Kuhn
Bass Rock 1911-12
Pendulum
L. Pendulum I.
Sabine I.
Hvalrosøen
ROUTE-CHART.
Autumn 1909.
Spring and Summer 1910.
Spring and Autumn 1911.
Spring 1912.
Lgd. W. f. Greenw.


Koldewey I.
Bessel B.
Haystack
Hochstetters-Forland
Greenland-Sea
great ice-fields with heavily pressed floes
new-ice
10 am.-20/8
20/8-MD.
new-ice
C. Börgen
25/8-11 pm.
25/8-5 pm.
open coast water
Ardencaple Inlet
Shannon I.
scattered ice-floes
19/8-MD.
17/8-M.D.
21/8-8 pm.
tight pack-ice
25/8-4 am.
tight pack-ice
open water
tight pack-ice
22/8-5 pm.
Drifting in the ice
Kuhn I.
23/8-8 am.
tight pack-ice
tight pack-ice
16/8
18/8-3 pm.
Pendulum I.
Bass Rk.
24/8-8 am.
Sabine I.
Hvalros I.
C. Borlase Warren
Clavering I.
The Route of the „Alabama" through the Ice in August 1909.

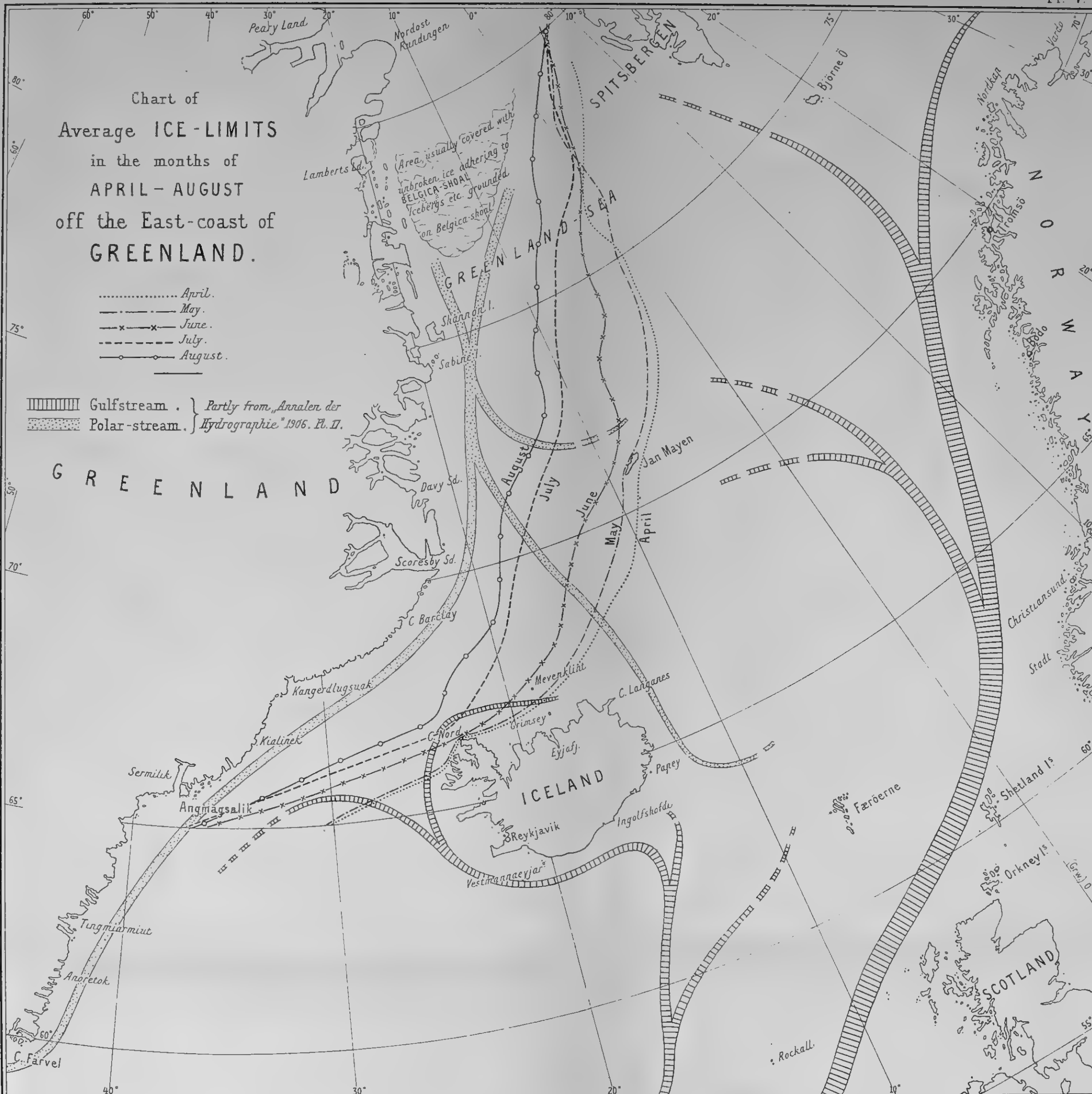
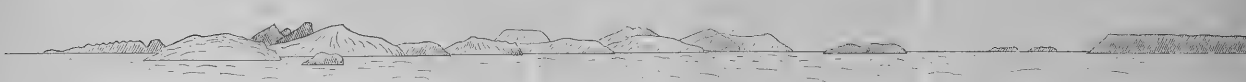


Chart of
Average ICE-LIMITS
in the months of
APRIL – AUGUST
off the East-coast of
GREENLAND.
April.
May.
June.
July.
August.
Gulfstream.
Polar-stream.
Partly from „Annalen der Hydrographie" 1906. Pl. II.
Area usually covered with unbroken ice adhering to BELGICA-SHOAL
Icebergs etc. grounded on Belgica-shoal
GREENLAND
GREENLAND-SEA
SPITSBERGEN
NORWAY
ICELAND
SCOTLAND
Peary Land
Nordost Rundingen
Lamberts Ld.
Shannon I.
Sabine I.
Davy Sd.
Scoresby Sd.
C Barclay
Kangerdlugsuak
Kialinek
Sermilik
Angmagsalik
Tingmiarmiut
Anoretok
C. Farvel
Jan Mayen
Björne Ö
Nordkap
Vardö
Tromsö
Bodö
Christiansund
Stadt
Shetland Is
Orkney Is
Færöerne
Rockall
Mevenklint
C. Langanes
Grimsey
C. Nord
Eyjafj.
Papey
Reykjavik
Ingolfshofdi
Vestmannaeyjar
August
July
June
May
April

Moltke's Nunataks. Garde's Nunataks.

Moltke's and Garde's Nunataks as seen from Station II (78°24' N. Lat. & 24°34' W. Long.) at a distance of about 11 miles, from a height of 1090 metres.



Holm's Nunataks. Bloch's Nunataks. Lambert's Land.

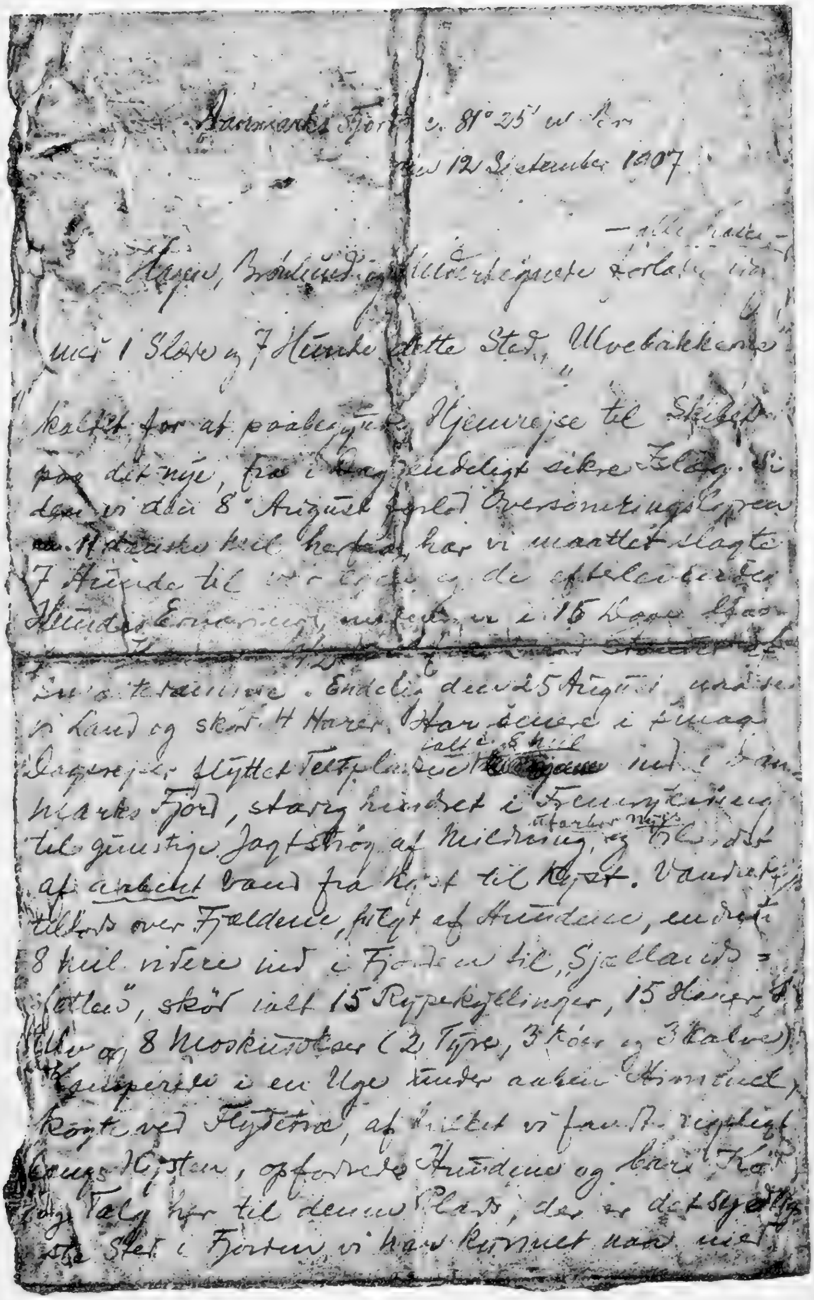
The land to the East and Northeast as seen from Station IV (79°27'4 N. Lat. & 26°09' W. Long.) at a distance of about 45 miles, from a height of 880 metres.

Brockmeyer's Nunatak. C. H. Jørgensen's Nunatak. Holm's Nunataks.

The land to the East as seen from Station V (80°04'8 N. Lat. & 26°51' W. Long.) at a distance of about 45 miles, from a height of 800 metres.

Iversen's Nunatak. Leffingwell's Nunataks. Fyen's Lake.

Amdrup's Højland as seen from Station V (80°04'8 N. Lat. & 26°51' W. Long.) at a distance of about 10 miles, from a height of 800 metres.



Danmarks Fjord c. 81° 25' n. Br.
den 12 September 1907.

Hagen, Brønlund og Undertegnede forlade i Dag med 1 Slæde og 7 Hunde dette Sted, Ulvebakkerne kaldet, for at paabegynde Hjemrejse til Skibet paa det nye, fra i Dag endeligt sikre Slædeføre. Siden vi den 8. August forlod [illegible] 11 danske Mil herfra, har vi maattet slagte 7 Hunde til vor Føde og de efterlevendes Hundes Ernæring, medens vi i 16 Dage laa [illegible] Endelig den 25 August naaede vi Land og skød 4 Harer. Har senere i firedages Dagsrejser flyttet Teltpladsen ialt 8 Mil ind i Danmarks Fjord, stadig hindret i Fremrykningen til gunstige Jagtstrøg af Nedisning og [illegible] af aabent Vand fra Kyst til Kyst. Vandet tillod os over Fjeldene, fulgt af Hundene, endnu 8 Mil videre ind i Fjorden til Sjællands Sletland, skød ialt 15 Rypekyllinger, 15 Harer, 8 Ulve og 8 Moskusokser (2 Tyre, 3 Køer og 3 Kalve). Kampierede i en Uge under aaben Himmel, kogte ved Flyttetræ, af hvilket vi fandt rigeligt langs Kysten, opfodrede Hundene og bar Kød og Telt her til denne Plads, der er det sydligste Sted i Fjorden vi har kunnet naa med

have altid paatænkt mulig Hjemrejse via [illegible]
vestfra Danmarks Fjord, Bræen til Fjorden ved 77° N.
Slæde. Men videre ud i ukendt usikker, Formener
i sidst forløbne Uge
at have haft indtil 15 [illegible] [illegible] (Maanen) [illegible]
Flytning til 8 Dage [illegible]
fra Slæderejser 500 [illegible] Kort, der er [illegible]
Ernæring til os selv i 16 Dage og til Hundene
i deca 36 dansk Miler
8 Dage. Følger Bugten ud til Yderkysten og
i Forvejen
ved Støtte af de der [illegible] Depoter samt Bjørne-
jagt haaber vi paa 5–6 Uger at kunne naa
Skibet i god Behold.

L. Mylius-Erichsen.

Leder af „Danmark Ekspeditionen“.

FOTOTYPI. PACHT & CRONE.

Premierløjtn. Hagen, Grønlænderen Brønlund og Undertegnede forlod 28 Maj 1907 ved Nordostnæsset af dette Land (c. 82°4 n. Br., c. 22° v. L.) Premierløjtnant Kochs Slædehold, der havde naaet Grønlands Nordspids og var paa Tilbagerejse til Skibet ved Kap Bismarck. Vi kørte med 23 Hunde mod Vest indtil 1 Juni og naaede Pearys Kap Glacier, opdagede, at Peary-Kanalen ikke eksisterer: Navy-Cliff er i fast Landforbindelse med Heilprinn Land. Vi omdøbte Independence Bay til Independence Fjord og byggede Varde (med Beretning) paa en lav Odde ved Kap Glacier. Undervejs ud gennem Fjorden opdagede og undersøgte vi to Bi-Fjorde – Brønlunds Fjord mod Nordvest og Hagens Fjord mod Sydvest og byggede Varde (med Beretning) ved S. Udmunding. Opdagede gamle Eskimo-Teltringe.

Pludselig indtraadt Mildning i Vejret, dyb Sne, Smeltevand paa Isen, Mangel paa Storvildt og Brændsel og Afkræftede udmattede Hunde besværliggjorde og forsinkede Rejsen, saa vi først den 12 Juni ankom her til Pladsen. Enhver videre Fremkomst ad Isen var da umulig. Kun 15 Hunde levede da, nu er seneste død. Vi har siden ernæret os udelukkende ved Jagt (7 Moskusokser og 1 Kalv, 15 Vildgæs, 4 Harer og 3 Ryper), Landopmaalingen suppleret, de naturvidenskabelige Samlinger suppleret, nemlig med blomstrende Planter og Plante- og Dyreforsteninger. Fra Landet Kronprins Christians Land.

Blottede for yderligere Ernæring til os og Hundene og uden at have faaet Storvildt siden 16 Juli maa vi i Dag – efter at have forget os ud med 14 Hunde, to Slæder og alt vort Gods til den faste Is paa en Isskosse – søge kort til muligt vildtrigere Kyststrøg fra denne fuldstændig vildtforarmede Lokalitet, som vi har gennemstrejfet i indtil 5 danske Mile Omkreds. Er alle tre fuldstændig raske. Vil stræbe at naa nogle Mil længere ind i den her sydvestfor beliggende, af os i Maj Maaned berejste Fjord „Danmarks Fjord", i hvilken vi den Gang gjorde udbytterig Jagt paa Harer og Moskusokser. Lykkes det os at skaffe tilstrækkelig Kødforsyning, agter vi, naar Isen, antagelig hen med Slutningen af indeværende Maaned, bliver brugbar, at køre de ca. 125 danske Mil tilbage til Skibet, hvor vi haaber at kunne ankomme inden Septembermaaneds Udgang med eller uden Hunde.

De i denne Vardes Nærhed byggede Varder er opførte af Hagen i trigonometrisk Opmaalings Tjeneste og rummer ingen Beretninger.

I en eller flere Varder længere inde i Fjorden vil vi nedlægge Beretning om vor senere Skæbne.

Den 8' August 1907.

L. Mylius-Erichsen

Leder af „Danmark-Ekspeditionen til Grønlands Nordøst-Kyst 1906–08".

MEDDELELSER OM GRØNLAND

UDGIVNE AF

KOMMISSIONEN FOR
LEDELSEN AF DE GEOLOGISKE OG GEOGRAFISKE
UNDERSØGELSER I GRØNLAND

BIND LII

MED 26 FIGURBLADE OG 8 TAVLER

KØBENHAVN
I KOMMISSION HOS C. A. REITZEL
BIANCO LUNOS BOGTRYKKERI
1922

PRIS: 15 KR.

Blottede for yderligere Ernæring til os og Hundene og uden at
Storvildt siden 16 Juli maa vi idag – efter at have forgjet os ud med 14 Hunde, to Slæder og alt vort Gods
Ft. paa en Fiskekost – søge kort til muligt vildtrigere Kyst-
ene fuldstændig vildttomme Lokalitet, som vi har gen-
i indtil 5 danske Mile Bukrer. Er alle tre fuldstæn-
Vil stræbe at naa nogle Mil længere ind i den her
liggende, af os i Maj maaned berejste Fjord „Danmarks „
Kan vi den Gang gjorde udbyttelig Jagt paa Harer og
-. Lykkes det os at skaffe tilstrækkelig Kødforsyning,
naar Isen antagelig hen med Slutningen af inter-
maaned, bliver brugbar, at køre de ca. 125 danske Mil
Skibet, hvor vi haaber at kunne ankomme inden
maaneds Udgang med eller uden Hunde.

i denne Varde i nærhed. liggende Varder er opførte
i trigonometrisk Opmaalings Øjemed og rummer ingen
ger.

I en eller flere Varder længere inde i Fjorden vil vi ned-
Efterretning om vor senere Skæbne.

– den 8' August 1907.

L. Mylius-Erichsen

der af „Danmark-Ekspeditionen til Grønlands Nordøst-Kyst 1906–08".

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FORTEGNELSE

over de af

KOMMISSIONEN FOR
LEDELSEN AF DE GEOLOGISKE OG GEOGRAFISKE
UNDERSØGELSER I GRØNLAND

udgivne

MEDDELELSER OM GRØNLAND

udkommer som Regel 1 Gang aarlig og faas

portofrit tilsendt ved Henvendelse til Hovedkommissionæren

C. A. Reitzel, Boghandel,
Løvstræde 7,
København K.