E.B.

Summer
1914

FIELD NOTE BOOK

CROCKER LAND EXPEDITION

1913 - 1915

No. 4

Seřízočk

Sunday April 26th.

Paul and I rise early to a fine breakfast which Jof with his customary skill and more than his usual kindliness prepared for us; and having eaten our fill of this we went to work at once completing our preparations for our trip to Utmaunak, a trip which bids fair to be the longest and best of our stay in the North.

It was through Peter Freuchen's courtesy that this opportunity for research work in a field away from Etah came to us, and it is upon his hospitality that we will be dependent during our stay at North Star Bay. Rasmussen and he are certainly a credit to Denmark.

By ten o'clock we were ready with a farewell luncheon of canned pears and Jof's gingerbread before going, and attended to what most of the little matters that I wished attended to in my absence. Jommie Kakaheea will sleep on my bunk.

It was noon when we started, clear and warm, and bright. Tank drove my dogs & his sledge, and with him was Ella Kushtiak Oobloyah of Unanak's son, for I rode with Oobloyah who has thirteen big strong dogs. Peter and his wife were on one sledge. Sigloo and Inughito went on another. Ogurnia, Sammik & Evik were the rest of the party. I feel quite sure that Peter F. had surreptitiously sent for these men to help us get down to Unanak. It is quite characteristic of the man's kindness.

We traveled fast over young ice to the glacier. Oobloyah and I broke our sledge on the glacier and had to delay an hour to repair it. After getting down from the glacier we had proceeded but a short distance when we met Esayo and his wife, Satum and his wife, Kudlah and [illegible] Here we stopped at a cache of walrus meat for an hour and chatted with the other party.

It began snowing soon after and snowed for about an hour when we got to Sikkurdy where we stopped for half an hour to talk to Sipsoo and to let those behind catch up. It cleared up again here and in another hour we got to Petowik where we again stopped to gossip with the crowd gathered there for hunting walrus and to let the rear guard catch up. It kept getting colder from here to Nekre which we reached about 10:30, Tank coming in about 11.00. I was rather tired, and my foot ached a little, but on the whole I stood the trip better than I had expected being so soft from being confined to the house so much.

On the way we saw 3 (three) burgomaster gulls near the foot of the glacier; a gray gyrfalcon on the glacier; and three ravens, one near the glacier, and two nesting near Petowik.

I had an opportunity to observe the geology more closely. I can but note my observations. A sedimentary series from the Crystal Palace Cliffs to Nekre resting on a granite or igneous base; massive sills of basalt or some dark pyroxenic rock are intruded between layers of sandstone and a little shale, the sandstone varying from thick massive layers to thin fissile laminae; from Sulkowdy to Nekre great dykes cross the sedimentaries and the sills at varying angles; these dykes are usually dioritic, pyroxenic. At Petersalvits the point is determined by a great dyke which on the south side forms a great perpendicular wall; the sandstones are usually coarse grained, the grains rounded; pebbles of quartz, rounded by water work, and varying in size from small shot to English walnuts occur through many of the layers and are frequently abundant on stratification planes that frequently record contacts so different is the character of the stone on the two sides; the few feldspathic pebbles occur too but they are few indeed; the sandstone varies in color but in fresh fracture most of it is white; sometimes it is stained brown, chocolate, purple, or pink; I record find no fossils either in the shales or sandstone; the igneous layers or sills are coarse or less irregularly columnarly jointed, perpendicular to the stratification planes; some of the dykes and sills are "fine grained", some are megascopically crystalline; the jointing apparently determines the gullies and gulches and perhaps originally the major valleys; the strata are not much bent into folds, but they are frequently faulted, and the faults often determine physiographic features.

The glaciation is a puzzle as yet. I observed several

some are unquestionably lower smaller and less extensive than in past because lateral moraines lie far up on the slopes above the present level; others are apparently holding their own and of these I am quite sure that some are becoming larger, and occupying more of their valleys. The significance of this is what? The glaciers are usually much crevassed in their debouchure areas. Their faces show a more or less lenticular and irregular stratification; the evidences of glaciation are often lost by later weathering; the side ice moraines but little if at all as compared with the middle as the moraines and trenches along the sides show.

Rounded topography shows former glaciation, but often very sharp angular peaks occur where it is evident the ice once had possession as for instance the island just south of Alexander Cape, well in the bay.

The sandstone sedimentaries at Petersovsk very closely resemble those along Beltsledt Fiord in color, topography, stratification and ~~color~~ appearance.

Glaciation is dominant erosive agent.

At the meat cache between the glaciers and Sukkwady a black fox chased a rabbit over the cliff far up on the moraine and the rabbit rolled down a snow slope to the ice-foot where Ellakukkiak got it. I saw the whole scene from the beginning of the chase to the capture of the rabbit.

Hank and I slept in Ineghitok igloo very comfortably.

Monday Apr. 27.

Woke at eight o'clock, rose at nine, through breakfast by ten, and went geologizing until three. Up the gulch back of the village I found a sedimentary series of sandstones; varying in texture from fine to conglomeratic, from quartzite to loosely cemented, unmetamorphosed grains; shales varying from carbonaceous argillites to micaceous carbonaceous strata, these shale also varying from thin fissile laminae to bands ten inch thick; the first band of sandstone extended from sea-level to about 30 feet above where a 10 foot layer of shales came in; this was followed by a twenty foot layer of coarse loosely cemented sandstone; this was followed again by about four feet of micaceous richly carboniferous shale; next in the series was a loose gray sandstone full of brown spots, this layer of massive strata being about 30 feet thick; this was followed by a varying band of shaly strata, sandy clayey, argillaceous, and micaceous sometimes much bent and broken. Above this huge beds of massive sandstone came in. The formation much resembled the Mississippian & some parts of the Pennsylvanian of Illinois, though I found no fossils though I searched for them. The gulch itself is full of huge boulders washed down by the water. A few years ago a great mass of water suddenly swept down the gorge, as if a great dam had given way. The village was inundated and the inhabitants nearly carried away. I took two pictures of the gorge and of the shales in the valley.

Played Touch and Run; block man and scatter base in the evening - good sport.

Wrote letters & stood 1 hr

which Klynlā will take up tomorrow when he goes to Etah. This letter asks them to send me some things which I forgot, including some books, some trading-materials, some items of food, and some few other things.

The games were interesting and all gathered together here, took part in them. Petorarvik and Nekre are great gathering places for the Eskimo in the spring of the year. The same families, perhaps most closely related families, gather in each of the places from year to year. It is at these spring gatherings that the affairs of the tribe are settled for the following year, the place of residence, and the marriages arrm. After the hunting is over, just before the ice breaks up, they disperse to their various living-places for the year.

Beautiful clear day.

Tuesday April 28th

A lazy day. Rose at eleven, breakfasted from 11:30 to 3:30 and dined from 3:30 to 5:30. Took some measurements of a square flipper seal that Tauk procured for Koolotengwa and some pictures. Fed my dogs, watched the Eskimo idle away a couple of hours, and played a few games of cards with Tauk. Saw a white gyrfalcon fly southward over the bay.

Beautiful day, but since we could not see Herbert and Northumberland Islands we knew that it was very windy out on the ice, and so did not leave for Keatuk.

Koolotengwa left for Etah however with the seal-embryo and my letters to Jot & Tal.

Photographs to get next spring
Crystal Palace Cliffs;
Lenticular stratification in adjacent glacier.
Dyke wall in South side of mountain at Petorarvik.

Acacia Founders' Day —

Wednesday Apr. 29.

Rose at 8:30, breakfasted at 9:30. Splendid morning, clear as a bell and calm as a peaceful Sunday morning at home. Shortly after noon we set out across the ice direct from Keatak - six sledges in all to go today - Tauk, Peter, Qobbyah Eoquia, Samnak, and Mark. Peter left first. Tauk's dogs got away from him at start. Passed many caches of walrus meat on way out, of which we loaded on considerable to carry on to Umanak.

At 10:00 we stopped in lee of iceberg to make coffee and rest our dogs, starting on again at 11:00.

Open water confronted us near Keatak but new ice was good glare ice fast. As we came into Keatak the wind increased to a gale - cold. Pass Tungwi's family on way at corner of Keatak where they were encamped. They joined us.

Got into Keatak about four o'clock. Tolak and Koodlookoo who had cached walrus met us and greeted us. Slept in igloo of Ellaksuksuna, Napaugnaks second of two present wives. Slept well.

The geology of Keatak is more or less still a mystery to me which it would require at least a week's work to solve. The sedimentary sandstones and shales are intersected by great basaltic dykes which form the great projecting promontories of the shore, for they are extremely hard and resist erosion much more than the sedimentaries. Great sills of the same basaltic material are interpolated between the sedimentaries. The fissures and cracks in these intrusives are cemented by white and pink calcite.

In an examination of a small portion of the shore line I found the sedimentaries to be made up largely of varied sandstones of varying thickness as to bed; and of texture also quite varied; of shales, thin, fissile, crumpled and metamorphosed; of occasional thin bands of limestone

slightly metamorphosed. The igneous rocks, both sills and dykes were of a dark gray-green almost black basaltic material much fractured and jointed the fissures rather wide and occasionally filled from wall to wall by perfectly crystallized pink and white calcite, the veins often almost or quite an inch thick; by pyrite in the finer seams, and in some of the larger crevices by travertine in small stalactitic forms; and also in places by a green fibrous mineral resembling serpentine.

There is a zone of about six feet of contact metamorphism in the sedimentaries on both sides of the dykes, a zone which weathers and disintegrates very easily, leaving the intrusive projecting from a trench. The zone in the ~~d~~ porphyritic intrusive is about six inches wide, but not so profound as in the sedimentaries. The intruded rock has been very much affected; the intrusive but little

As observed before along the way the valleys and gulches seemed determined by faults or major joints; the crests and points as ridges, and terraces by the intrusives. Rounded U. shaped valleys modified by erosion and diastrophism are not infrequent, and indicate the dominant erosive force as usual to be glaciation.

A terrace about ~~fifty~~ 80 to 100 feet or more above the sea along the north and east side of the island suggest a former sea-beach but an igneous stratum outcrops there at that height and may be responsible for the phenomenon.

I saw an iceberg made up of great and small blocks cemented by snow and water - an aqueous breccia.

Before leaving Wake we saw a white gyrfalcon soaring above the village, perhaps 1000 feet up.

Deaf + partly dumb boy at this place - mistreated by relatives; Steals but does not know wrong. Roundfaced, always smiling and happy despite all this. If I ever go to Keatek again I shall take him something.

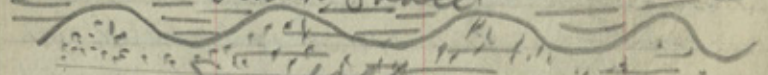
Napsanwak and his two wives: Nellica + Ell akushina. Nellica displaces " and takes her belongings.

Pooadloonahs son + Napsanwaks daughter sleeping in igloo when we enter!

April 30. - Thursday

Rose at 2:00 in afternoon breakfasted at 3:30 on tea crackers + pemmican. The Innuits being undecided as to whether or not to leave Tank, Peter + I walked a short distance up the coast to examine the rocks. Along the icefoot after passing the first intrusive dyke I examined the sedimentaries and found them limestone, sandstone and shale, the sandstone predominating, also limestone, and shale very arenaceous. All are of gray color in fresh fracture though the more carbonaceous shales are almost black. The shales are thin and fissile and between them are thin bands of sandstone often lenticular. The shales are considerable folded and contorted though the folds are ~~older~~ of minor character. The sandstones are likewise bent and broken. They often show ripple - marks and

muderacks. On the top bed of one massive sandstone great wave marks in cross section were revealed the troughs filled with carboraceous shale. The contact this old surface - was very sharp. The crests and troughs were 15 inches wide and four deep.



Many other layers with ripple marks lay among the sandstones but nowhere did I see such evidence of unconformity as this contact afforded.

The strata dip to the southwest and along the ice in the limestone layers are many small caves to which the Eskimos resort for winter camps when as happens in some years the igloos are not occupied. These caves are evidently formed by wave erosion and some of them furnish very good evidence that the coast is now rising. The

The limestone is dark gray almost blue, is intersected by a few remote siliceous or cherty stringers and by veins of crystallized calcite. Many bands of shale and a few thin bands of sandstone, from one fourth to one half inch thick are interpolated between the limestone. The beds of limestone are from one half inch to one foot in thickness and considerably fractured, rather irregularly. I found no fossils in either the shales or the limestone. Some of the limestone bands are quite pure, some argillaceous, and some arenaceous.

The sandstones that overlie the limestones are rather argillaceous and grade into pure sandstone in rather massive beds, varying in coarseness of grain, frequently almost conglomeratic. Successive layers of various texture of sandstone with varying size of grain,

The cementing substance in the sandstone is usually silica, though often the pressure alone seems to have indurated the rocks.

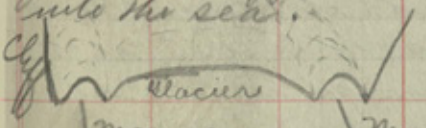
and succeeding each other in no regular order seem to indicate that they were laid down under fluctuating conditions, evidence supported by the shaly beds and the limestones as well.

Great igneous intrusions form the crests, the projecting ridges and terraces, and often the tops of the plateaus. A great network of dykes connects the layers of sills and these cut across the sedimentaries, at various angles and directions, ~~finally~~ determining to a certain extent, the contour of the island. The dykes and sills are, apparently of the same material, -a pepper-and salt effect- of a dioritic nature apparently. These igneous intrusions seem to have increased in numbers from Crystal Palace Cliffs to Keatik. The first dykes I noticed were just south of Silkwody, and the south side of the point at Petowarik is all a mass.

The dykes vary a great deal in thickness, from a few feet to several hundred. The sills are often five hundred feet or more in thickness in a single bed and the aggregate thickness at Keatik I should estimate at perhaps 2000 feet.

X

The glacier at Keatik though a small one comparatively is interesting in that it is so profoundly and minutely dissected by crevasses transverse to the direction of flow, and in its well developed distinct lateral moraines which extend quite from its emergence from the cliffs to its debouchure into the sea.



I had no opportunity to observe this glacier at close range but I could examine it superficially as we drove away.

As we left we passed a great "conglomeratic iceberg, the lower portion being of ordinary, almost

parallel-stratified ice, the upper unmelted portion a heterogeneous mass of ice-blocks of various sizes, cemented by frozen snow and water. It looked as if it had been formed at the debouchure of a glacier with the sea, the lower stratified portion having been perhaps at about the level of the sea, thus forming a sort of ice-foot upon which the sea ice had been thrown and the ice fallen from the glacier itself— the fragments were of two kinds tabular pieces of a whitish-blue ice and irregular blocks of sky-blue ice.

Another iceberg that we passed had been upturned in a previous season and the side which had been on the bottom of the sea was exposed, showing deep parallel grooving.

Still another iceberg of about an acre in area was gullied and hilled and valleyed as if of a mature cycle of erosion thus apparently having been a surface over which considerable volume of water in several streams had flowed.

In the strait between Northumberland Island and Cape Parry, the icebergs and in places the ice itself was incrusted with a pale-yellow deposit of an ice and salt-mixture, in even greater quantity than at Etah.

At Keatek we saw two snow buntings Plectrophenax nivalis nivalis 534 feeding in the dry grasses on the cliff there.

When we got less than half way to Cape Parry a violent snow-storm burst over the hills, and drove us hurriedly to shore to seek shelter. Mounting the ice-foot we built a large snow house for most of the party while 3 of the men took shelter under Meeq's snow-house lining.

Our party included Tauk, Peter and Navrana his wife, Aqqua, Qotah, Sammik, Qoblyah, Ellakushiak, Tungwa and his wife & two children, Meeq and I.

May 1st. Friday

We got to bed about two o'clock this morning and slept until about half past nine. While the Eskimo were getting tea ready I went for a short walk to study the rock exposed along the ice foot.

All that I had opportunity to examine was the gray-brown coarse, massive layered sandstone. I had a good chance here to study its texture and I made the most of the opportunity.

The sandstone in these layers was made up of coarse grained, round-worn sand, which locally became as large as peas. In places it seemed cemented by quartz deposited from solution, in others by the sand-grains themselves having flowed because of pressure. However I had no hand-lens by which to examine closely and must note only my superficial observations.

Between some of the layers, thin beds of conglomerate, made up almost quite entirely of rounded quartz pebbles from white to pink in color and from the size of peas to walnuts. These conglomerates lay in beds, of which there were several. In one of these beds which was exposed over considerable area I noted that the water depositing them must have been current-like for there were belts or streams of large pebbles, of small pebbles, and of medium sized pebbles, while in larger areas they seemed heterogeneously mixed.

What interested me most however, was that all through the sandstone were numerous rounded quartz pebbles. How they came to be so widely distributed under conditions that were favorable to the deposition of sandstone I can not understand at present.

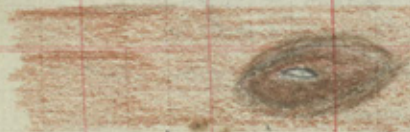
Another interesting feature of these sandstones was the numerous concretion-like masses of iron-stained sandstone. They had apparently formed before the induration of the sandstone, for the centres

of some of them were hollow as if the sand had contracted during the "concreting", and others showed a band of almost pure quartz around the nodule, probably deposited during the induration and after more or less of a cavity had formed about the concretion.

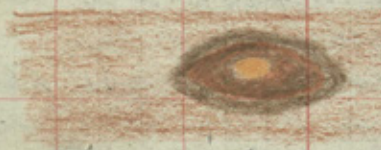
Some of these concretions had formed about the quartz pebbles, often totally enveloping them. This envelope of the iron-sandstone about the pebbles varied in thickness. About some, the thickness was uniform. About others it was greatest on the side from which the iron-leading solution came. This was usually from above and in this case there was no evidence of any direct course by which it came. It evidently seeped slowly downward through the sand and accumulated above the pebble which stopped its descent leading to the concentration of the iron and its consequent precipitation around the upper surface of the pebbles.

In other cases the solution came from one side or another, usually along a bedding plane but almost as often apparently along a line of weakness extending out from the pebble.

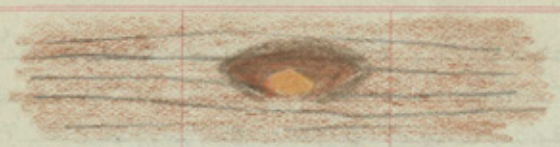
Some of the concretions were of uniform color throughout, while others were darker near the pebbles, becoming lighter toward the outside. The concretions more easily disintegrate than the sandstone in which they are set.



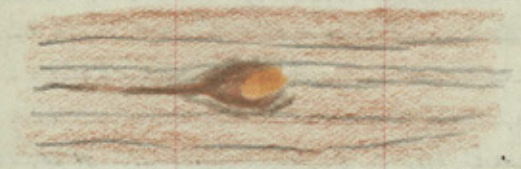
Concretion with hollow center



Concretion, with quartz pebble surrounded by uniform thickness of iron-stained and cemented sand.



Quartz pebble partly enveloped by concretion. The solution has apparently come from above.



Quartz pebble partly enveloped by concretion. The solution has apparently come along a bedding plane or along a plane of less resistance in which the pebble lies - possibly due to the presence of the pebble.

Rarely the concretions are distinctly banded.

At this place the sea "terrace" or plain along the shore seems to be the top surface of the sedimentaries or at least the contact plane between the sedimentaries and the igneous sills.

The storm having abated somewhat, we set out about noon again, but by the time we got to Cape Parry the wind was blowing hard and we were forced to make camp again, stopping at the same cove that Hendrik and I occupied in January.

While tea was being made I reconnoitered the ice-foot and the terrace above as far as my time permitted.

The projecting points of Cape Parry are a fine-grained diorite igneous rock forming great dykes that intersect the sandstone sedimentaries, and extends up to the great continuous dyke which lies upon them, at least one thousand feet in thickness. The projecting face of this dyke rises perpendicularly from the terrace of the sedimentaries in great roughly-columnar walls like some titanic castle. So perpendicular are the walls that there are few niches in which birds can nest or vegetation can find a foothold. ~~Do~~ few I have seen no greater continuous thickness of sill than this. The effect

of the intrusion of this sill upon the sedimentaries is well shown by the profound metamorphism of the sandstones. The purer are almost quartzite; the more argillaceous, are arenaceous slate. The layers here much resemble the upper members of the South Mountain quartzite of Virginia

Here again the terrace seems formed of the upper surface of the sedimentaries.

At this place two (486a Corvus corax principalis) ravens were flying about, and from my observations I concluded that they were nesting high upon the rocks.

The eskimo who went out bear-hunting also reported seeing two (86 Fulmarus glacialis glacialis) fulmars out over the open water.

I also found an old nest of (534 Plectrophenax nivalis nivalis) a snow-bunting in the rocks at this place about seven feet above the ice-foot.

We went to sleep about eleven o'clock in the evening and slept until nine o'clock of the next day.

May 2. Saturday.

About twelve o'clock we started again. It snowed considerably at first but gradually it ceased.

We drove by the great plains along the coast and Fitz-Clarence Rock and by six o'clock were well around the cape and turned toward Unanak. Fitz-Clarence Rock looks much like an igneous plug, a circular dyke; or it may be but a high mesa like butte of which the upper third is ~~a coal~~ the remnant of a sill. I could not tell which it was from the sledge.

When we got well within the Bay toward Unanak, Mene, with whom I was riding; Oolah; and Tungwe turned into a small bight at the head of which a great glacier debouched upon the sea, to examine the arsenopyrite deposit from which the Eskimo get their "fire-stone"

Tungwe led me over the plain like peninsula to the cliff like southern wall of the bight well up toward the glacier where he showed me the deposit.

The cliff was about twenty feet high, of fine-grained ~~bouldery~~ dark gray limestone, lying almost horizontally. The ~~bedding~~ vary a great deal in thickness but little in composition and texture. I found no fossils, but since I had only a few minutes in which to look for them, I did not change my opinion formed when I first saw the stone that later here would be a fine place to look for traces of organic life. The limestone is not metamorphosed, and but little disturbed apparently, though it is fractured and jointed considerably at right angles to the bedding planes.

The arsenopyrite occurs as a vein filling with calcite, and as a replacement of the limestone. When it occurs in the vein with calcite it is crystallized in small crystals - apparently pyritohedrons and octahedrons. These crystals are rarely larger in the ~~pieces~~ of samples I collected than the head of a pin.

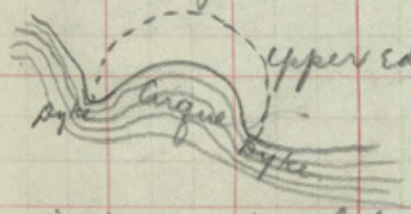
Where it replaces the limestone alone it is massive and fine-grained. The veins and stringers extend throughout a bed about four feet thick and along the joint planes it is almost pure metal. I was able to distinguish traces of the deposit for a distance of perhaps a hundred feet, and though it was visible for a shorter distance along the cliff - perhaps for 20 feet.

We saw a raven in this bight, and the excrement of an owl.

After getting back to our sledges we started out again and when we got abreast of the west side of Grenville Bay we stopped to make tea and to rest our dogs.

Near us was a small low island upon which the (159 Somateria mollissima borealis) eider duck, the (71 Sterna paradisaea, Brünn) arctic gull, and perhaps the (62 Xema sabini Sab.) Sabine's gull, nest.

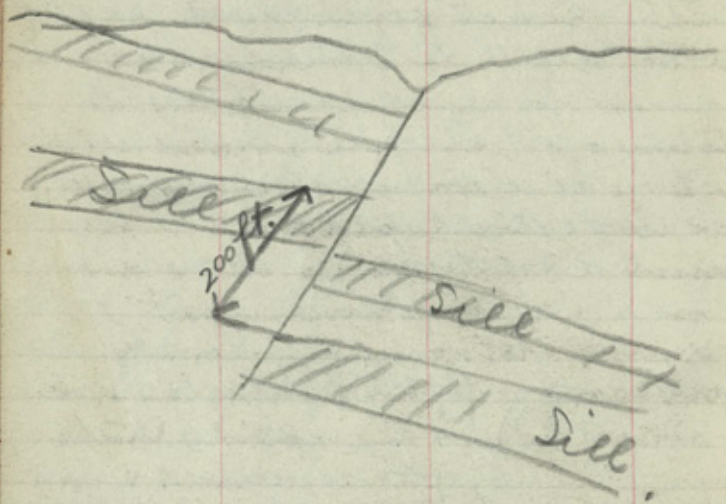
While we stopped here I noticed on the coast just south-east of the mouth of Grenville Bay a round bight, very certainly a submerged cirque, so distinct that I did not question that it was that. Both sides of it were limited by dykes.



This is another bit of evidence that while just now the Greenland coast is rising, it was once sunk far below its present level, after having been elevated considerably antecedent to its submergence. The cirque was formed at a higher level than it now stands at a time when glaciation was more extensive than it was submerged, and now it is emerging again.

Farther south-east on the side of a hill I noticed a large

fault which affected the sills as well as the sedimentaries.



We reached Umanak about half past two and after unloading our sledges, tying our dogs, and drinking some tea, went to bed about six o'clock Sunday morning May 3.

When we got to Umanak we found Eqingwah returned from S. Greenland with Rosebach, the first assistant to the station here, and his family.

May 3, Sunday.

Slept most of the day or until about five o'clock in the evening and then we resumed our unpacking and stowing away, and arranging the table at which we shall work. Did little else, except eat and drink tea and coffee, all day. Went to bed after midnight.

Found Metok and his wife Icryosoqu who has been in the States visiting here. They expect to return south the day after tomorrow, going to Cape Seddon where they will live this summer. The region about Cape Seddon is noted for the great abundance of narwhals – three families living there having killed over seventy-five in a single season; and for the relative abundance of the polar bears in the vicinity. We shall visit the place later when we go south on our reconnoissance of Melville Bay.

Tomorrow many of our Eskimo will leave, some to visit, some to establish their summer homes,

May 4, Monday.

Rose at eleven. We had tea and coffee soon after. After straightening out our belongings some more we paid a visit to the Eskimo village across the point to see Ootah leave with his new wife (I intruded upon their "wedding" today!) for Keatek and Kangerdlukssuak; Inugwe and his family, Egingwa after Innaho, Oqwia with his kayak, for Nekre. Egingwa will live here this summer.

Before this trip we paid a visit to Rossbach's house and had some newly baked bread and some coffee there. We were somewhat surprised to hear Rossbach play on the little organ very well, "Nearer, My God to Thee" and Jesus Lover of My Soul.

About eight o'clock in the evening Peter, Tark and I went for a walk across the peninsula to see the carcass of a whale that floated ashore late this summer, where we took Panikpa + Etukishoo aboard. We returned soon after and went to bed about midnight.

May 5, Tuesday.

Rose at half past nine o'clock, ate breakfast and wrote up this diary in full from Apl. 30. In afternoon Tark and I went for a walk across the peninsula to the limestone ledge on the other side. We followed this ledge for about 200 yards along the ice-foot until at the south-west it was cut out by the igneous intrusives. Since I shall work in considerable detail upon this ledge later, I hope, I shall write it up at length later.

We saw two ravens which I judge from their intimate flight are mates, probably nesting in the neighborhood.

Mene and Metok and his wife and Unga (Kopenok) who had intended to leave today for Melville Bay postponed their departure because of a high raw wind and obscured sky.

Oobloyak killed a seal early this morning, having gone out while the sun was still warm and the sky clear and calm.

May 6 Wednesday.

Very stormy windy day. Nobody rose until nearly noon and after a breakfast of oatmeal and tea, I wrote up a few geological notes, discussed some bird life with Peter, examined some of his bird skins played a few games of patch with Sanguchy, read some, ate some more. Stayed indoors all day because weather was so bad. Sank went for a short walk to plain across the bay. Not much of a day

Thursday, May 7

Rose at nine o'clock. Cloudy warm day, rather dark and gloomy. At noon 26° F. Wrote up geology notes and read some geology.

Sank and I went for walk to plain across the harbor and came down the stream bed. Nothing doing.

Old Eskimo lady told me that when she was a mere girl she saw a vein of some brown mineral that could be hammered flat like iron, along the east coast of Ellesmereland quite a way south of C. Sabine. From her description of it as she remembered it, I am convinced it was native copper in an extensive deposit.

Friday, May 8.

Rose at 8:00. Metok + Dclyashak, + Kopenok, and Metok left today. Navarana went to Agpat with my dogs after fulmars. Seleman Rossback killed small seal. Tank and I went for long walk over ridge back - East - of house at Umiwik. Studied solifluction lines, cirque and valley with moraines, spheroidal disintegration. Saw ptarmigan tracks and four ravens. Upon my return measured John Fulmars brought in by Atkilins.

Beautiful summer day. Lichens anywhere. Cassiope beginning to show green points through snow. Found rhododendron patch. Walked 12 or 15 miles

Saturday May 9.

Made up work of yesterday and went for short walk on slope east of house. Studied solifluction lines, some more; found another patch of rhododendron; studied lichens especially associations. Seem cosmopolitan in their distribution.

Measured two more fulmars. Saw four ravens. Found great shattered granite boulder near old spit.

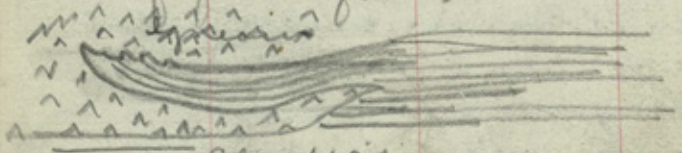
Sunday May 10.

Sunday May 10 -

Walk up the fjord.

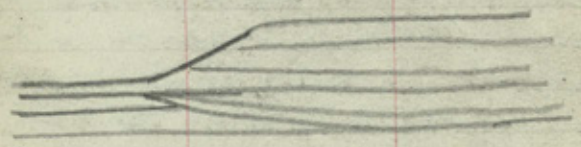
Rose at nine o'clock. Saw battle of four ravens with white gyrfalcon.

On walk saw lichens on vertical wall; igneous rock cutting into clastics deposition basin in clastics; series of fault blocks; long, straight wall of fault face;



clastics

Igneous cutting into clastics.



Passed memorial to Ewind Astrup on way back which Rasmussen and Freuchen have raised to the Danish explorer, for whose tragic death the North can hardly be blamed - rather the dark curse of civilization is responsible.

Monday, May 11

Teddylingwa comes with news from Etah. He comes with his wife, and Kishungwa from Igloodahani. All he knows from Etah is that Aklis and Nukapingwa have come back.

Koolootina's little daughter has hanged herself at Norbe while playing with the children there. It is a tragic death for she is his only child by his present wife and

Teddylingwa also brings the information that he killed two eider duck at Cape Parry day before yesterday, and Dammit says the little auks came to Saunders Island yesterday. The coming of the little auks is a sort of national holiday among the Smith Sound Eskimo.

I measured seven fulmars, three at Oobloyah's iglo which I visited with Almingwa and Navrana in the evening, and four at Igloomah.

Fierce wind blowing and cold. Almost a blizzard. Not flying out much.

May 12 Tuesday

Windy, blustry day. Harrigan brings news from bear hunters when he comes back from Melville Bay where he has been with two others who he fears have been carried out on drifting ice and lost. He also brings the news that he thinks, Uvia Iomnia Iomnia have come to the Crimson Cliffs on May 10, and that Mene has not got far on his way.

I measured sixteen fulmars at Saunniks and Cobb yak's igloos which I took, Nafrana, and I visited in the afternoon. Two of them were the dark form. I saw four ravens flying about the butte.

Had a "special dinner" to commemorate the decennial of the founding of the Acacia Fraternity at Ann Arbor. Had a glass of date nut butter, two cans of beans, a can of apple sauce, a can of deviled chicken, boiled fulmars, butter and coffee. Took pictures of crowd afterward.

May 13, Wednesday

Spent the entire day within doors writing up my scientific notes, printing pictures, and making ready for a trip to Saunders Island on the morrow perhaps. Peter and Rossback went up to the head of Granville Bay after meat and to kill seals.

Went for short walk to Butte late in evening. Examined some soliflaction lines.

May 14 Thursday

Went for a short walk to north side of peninsula to study the cliff along the shore there. The base of the cliff is hidden by snow and so is the crest but I made a rather careful differentiation of the members of the sedimentary strata, in order to study their character and relationship. The sedimentaries are capped by an igneous sill. Another sill has breached the series exposed and this lower sill has profoundly metamorphosed the sandstone lying upon it.

Peter and Sekman came back about five o'clock. No game.

Basaltic sill

U_1 4 ft. 6 in.
Blueish gray, thin-bedded sandy limestone, jointing perpendicular to bedding planes. Layers from ½ in. to 3 in. thick considerably metamorphosed for 15 inches down from sill, by hardening and greater fracture

H Thickness 2.9 ft

U_2 Green brown sandy ~~limestone~~ from 3 layers from 1 to 3 inches thick. More fractured than U_1

H Thickness 4.7 ft

U_3 Gray-brown thinbedded sandy ~~limestone~~, rather shaley in appearance but weathers like shale. Has three inch shale layers in middle and five inch shale layers at base. Shale arenaceous + calcareous.

H Thickness

.9 ft

U_4 Gray Here, arenaceous limestone in two 5 inch bands. Distinct bedding plane between.

H Thickness 1.9 ft

U_5 Blue gray arenaceous shales and shaley limestones. Limestone bands 2 to 3 inches thick.

H Thickness 1 ft

U_6 Alternate half inch bands of gray and dark shaley limestones

H. Thickness. ?

U_7 Dark shaley limestone, with alternate bands of dark shaley and lighter limestones.

Dip 65°S
Thickness 26

U8 Thick bedded blue gray limestone in 3 beds respectively .66 ft, .3 ft and .54 from top to bottom

Thickness 1.5 feet

U9 Alternate dark and light limy shales.

Thickness 2.6 ft.

U10 Blue gray massive bedded limestone Beds 3 in to 3 ft thick

Roll I

1 spoiled
2.–11 stop 1 sec – Side view of fault
3– " " – Clastics in intrusive
4–11 " 1/2 " – } Distant views up front
5–11 " 1/5 " – Front view of fault.
6–16 " 1 " – Fault in □ jointing
7–16 " 1 " –
8–16 " 1/5 – Distant view of cliff east of house
9 – 11 stop 1/10 sec – Made [illegible] east cliff
0 – 11 " 1/10 " – narrow [illegible] same

{9 and 10 5 p.m. clear}

All cloudy 3 p.m. after.

1+2
3+10 – 7 to 8 p.m. Clear Sun at back.

Roll II.

1.	Distant view southward of cliffs	32 –	10 sec.
2	" " south by east of plain	32 –	5"
3	Close view – Focus wrong –	f 1 –	1/200
4	" " "	f 11 –	"
5	" " "	f 11	"
6	Fifty feet. Cliff with lichens on stripe	11 –	1/25
7	" " Clastic-Igneous contact	11 –	1/25
8	" " Lenticular bed	11 –	1/25
9	" " Broken clastic	11	1/25
10.	100 " Fault series	16	1/10

Friday May 15

Did not rise until noon, having been up late last night. Wrote and studied until late. About eight o'clock Fauk and I went for a walk to the cliff east by south of the house. It was largely a reconnaissance trip to determine whether or not I could climb to the top of the cliff. From a distance the sudden drops visible in the sky line along the edge of the sill which crests the cliff suggested block faults, and a nearer approach confirmed this suggestion by revealing the

displacements in the clastics some of them faults of thirty or forty feet A blue green layer about four hundred feet from the base of the cliff was particularly prom.

Landslide
Snow slide
Stone slide - chute
Solifluction lines
New mineral - probably $F_n S_{n+1}$
Crumbly shale
Sharp division between grassy area and ungrassed.

Uria lomvia lomvia come always to Akpat on May 9 or 10 - to Disco April 22 Eskimo calendar. Tides. Half-hour Eskimos calendar. -

Saturday, May 16.

Sekmann and "Kanigan" left for Etah. Sent letters asking for some things and suggesting I'd's coming down because of Emilie's illness

Sigdlos came with supplies and messages from Ity and Mac at Etah. Hubbard and from Allen. Books, tobacco, chocolate, and box of miscellany came.

Attempted to climb cliff east of house. Failed. Attempted to climb down from top to obtain. I wished to examine. Failed. In both cases hazardous - in first because of precarious footing on loose rubble covered with frozen snow; in second because it would be necessary to drop thirty feet sheer down upon a narrow sloping shale covered ledge. Gave it up.

Faults expressed in gullies above on crest cap of igneous

Another waste up Ford to take some pictures of Eskimo on cliff, lenticular sediment, igneous intrusion into sediment, block fault series

Sunday, May 17 –

1 Black Iceberg	50 ft	16	1/25	3 pm
2 Cliff with Faults	100	11	1/10	5 pm
3 Comb	100	11	1/50	5 pm
Glacier face & Rock	100	16	1/25	6 pm
5 " Stratifications	100	16	1/50	6 "
6 " Column Fallen	100	16	1/50	6 "
7 " Rubble Snow	" 100	16	"	"
8 Sanddrifts	"	11	"	6:30
9 Great Iceberg	"	11	"	7:00
10 Distant Ledges.	"	16	"	7:00

Drove across fjord with
Saw two seals on way over, one on way back. Took eight photographs. Shot two ptarmigan. Dogs very fractious, trying to run away continually. Frank and Peter went seal-hunting. Shot

Hope for two bear-hunters gone out on ice about green eggs.

Interesting glacial geology across bay; moraines, outwash deposits; stratification; uprising debris; etc.

Monday May 18, 1914
Made another trip up the fjord to the first glacier which debouches directly on the northwest side above Umiarak. Frank went to Saunders Island with Sammik but the weather looked too threatening to warrant my taking the time for the birds would probably not be there that I wished to observe, and besides I wish to be there through the day rather than the night.

At the glacier I studied the Dyke with its contact zone with the clastics; the clastics; the moraine; the glacial ice itself.

Saw two seals, but got none. About 15 komatiks came, bringing the rest of the things I sent for, though as yet I haven't seen all of them.

I must make another trip up the fjord, to study there the morainal deposits which are so deeply colored by iron bearing solutions, and the zone of contact of the sill with the clastics

Tuesday May 19, 1914.

Nothing much happened today. Sebastian Rasmussen's wife is very ill indeed; Peter thinks she can not live long.

Jack and Dominick came back from Saunders Island, Jack much impressed by the grand scenery of the places they had visited. Billy had slept in a cave last night. He reported two ravens nesting on the island.

I finished developing films and found that some of my exposures were good, others not so good. I drew the following exposures as good.

In Sun. Near

Low	High
11 × 1/10 - 1/25	11 × 1/25 - 1/50
16 × 1/5 - 1/10	16 × 1/10 - 1/25

Far

Low	High
16 × 1/5 - 1/10	16 × 1/5 - 1/10
32 × 1 - 1/2	32 × 1/2 - 1/5

In Shadow

Near

Low	High
11 × 1/25 - 1/50	11 × 1/50 - 1/100
16 × 1/10 - 1/25	16 × 1/25 - 1/50
32 × 1/5 - 1/2	32 × 1/10 - 1/5

Far

Low	High
16 × 1/5 - 1/10	16 × 1/10 - 1/25
32 × 1/2 - 1/3	32 × 1/5 - 1/10

Wednesday May 20, 1914

Roll No. 4

1	Esayet Arrow	12 M.	clouds	11 - 1/25
2	" + " Embrace	12 "	"	11 - 1/10
3	Football Game	12 A.M.	clear	8 - 1/5
4	Danish Team	"		11 - 1/25 or 1/10
5	Amer "	"		11 - 1/25
6	Bluff from across Bay	"		32 - 1/5
7	Moving	7 P.M.	Bogk	11 - 1/25
8				
9	Picture of Bluff at Narrisook.	"		22 - 1/10
10	" " Nata and me.			11 - 1/50

An uneventful, sudoors day, because the wind was blowing cold and the snow packing hedvily. However I took a walk around Umanak to determine the best place to climb up to get the best geological section. I saw a rather large landslide, two snow sleds, and a number of rock glaciers. Studied the solifluction lines some more and am more puzzled than ever, for I can't even imagine how they are formed, so varied are they.

Played football on the ice for an hour or two after midnight.

Thursday, May 21

Another indoors day, with a host of visitors always about. The very doors were full, and Peter was forced to stay the tide by asking some of them to leave the room. Alinguas eyes are very sore. I have doctored Ooblayah's hand and Mayak's kooner's arm where she scalded it.

Late in the evening I went for a walk back in the hills but except for a place where the flowers are likely to bloom earliest and another where I think the ptarmigan will nest I found nothing worth noting. I did however, find a splendid place to study and photograph soli-fluction lines.

The valley is typically a glacial valley full of back tilt slopes, morabrical deposits, kettle-holes and "prostituted" drainage system. Several fine bog-plant study are set upon terraces of the slopes, and I found a ledge whereon the antennaria abounds

Friday, May 22.

Rose at nine, got breakfast at once and set out with Mene on a seal hunt. Tauk and Segdlee went toward Saunders Island, and Mene and I toward Holstenholme Island. We got into very rough ice and for eight hours we toiled through it. We saw one square-flipper seal, one falcon, and three bungomaster gulls. Mene failed to get the square-flipper. After going out almost to the middle of the south-east side of Holstenholme Island we came back. Five of our dogs broke through thin ice.

Stopped at Nansarsoak for a few moments on our way back to greet Angotalussoak, Mayak, Tauk, and several others who are going southward to take up their summer abode. Later met Peter and Ooblayah. The latter on his way to Savigsivik to trade.

Came back with great appetites for supper. Tauk and Segdlee already here.

Saturday May 23.

Because of heavy wind and cloudy sky we went neither to Akpat, or to upper part of fjord seal-hunting. Stayed indoors all day writing up notes, labeling specimens, and writing letters. Developed one film.

Sunday, May 24.

Rose at nine o'clock and made ready at once to go to Saunders Island to study birds there. Mene went with me, we taking my dogs and sledge. We got to the island shortly after eight o'clock, stopping in a great beach cave at the outermost end of the island. We came expecting to find the murres here, but none came, though thousands flew over us. A number of gulls were nesting on the island and Mene shot one.

The island is all sedimentary rock a great deal metamorphosed in some places - usually dolomitic limestone, considerable sandstone and some shale. Considerable dislocation and faulting. Interesting terraces at three places. Iron stain a subsequent feature; talus breccia; jointing; caves; faults and blocks; dips; broken end of island; disintegration; crumbling; jointing.

Vegetation on cliffs; lichens; bird guano; grass in niches of cliffs.

Came back at four o'clock in morning, after having left the Island about midnight. The wind was rising.

Monday, May 25.

Rose at noon. Tauk and rest of Akpat crowd got in at four o'clock. Tauk went to sleep and slept until ten. I prepared the skin of the Larus leucopterus killed yesterday by Mene. First large bird-skin I have ever prepared, but I got it done finally. Went to bed at 10 in order to get up early to go seal-hunting on the morrow.

Koolootingoa, Tudlooktoo, Egingwah.

was came in. All going to Akpat.

Tuesday, May 26. and Wednesday May 27.

1
2 – Drop in talus slope PC 16 – 1/50
3 Nivation noglac PS 11 – 1/25
4 " – glacier 11 – 1/25
5 ?
6 Glacial blocks – 11 – 1/25
7 Over surface of glacier 22 – 1/25
8 [illegible] " 22 – 1/25
9 Distant snows of glaciers 22 – 1/25
10 Kodootinga's wife Shadow 11 – 1/25

Roll 7

Kept no record of this roll. Used it entirely on scenes about Granville Bay.

Mene and I started at noon for Granville Bay – Mene to hunt seal, I to make reconnaissance of the geology and botany there. He killed two seal on the way to the bay which we entered at 6:00 p.m. The northwest side of Sound east of Granville Bay, made up almost entirely of igneous – sills + dykes. Block faulted in talus slopes.

South east side gullied in faults Blocks faulted to form valleys. Upper half of this side shows splendid example of nivation gradually increasing from snow drifts in upper gullies of cliffs to full mountain valley glaciers as slope comes more and more in shadow and receives more and more snow from larger area. Opposite, or west side of Bay shows much nivation and though of similar character as to rock structure shows quite different topography due to difference in erosive agents. On one side nivation is dominant force; on other insolation and differential expansion is probably dominant. Cleavages in cascading glacier on northeast side of Bay. Glacial branch tumbling over cliff on west side near mouth of Bay.

Glacial depositional phenomena about head of Bay – moraines, extent character of deposits, process of formation, origin of detrital matter (immediate and remote); kames; eskers; outwash plains; boulders on plain and in ice; debris on top of ice.

character of stratification; character of fracturing; icicles on face; rock flour; silt;

Character of glacial tongues along shores of upper bay. Three on west side, one at head, three on south side.

Luxuriant vegetation on moraine on northwest side - mosses, lichens, sedges, grasses. Much pyrola and some rhododendrons.

Killed 5 ptarmigan; saw seven snow-bunting, one glaucous gull; one raven; Killed two seals in Grenville Bay.

Started for home at 5 a.m. Got to mouth of bay at 1 p.m. Were caught by Sekmana Rosebush and got back to Umanak in wind and blind at eight o'clock, our eyes gone to the bad. Eyes very sore.

Thursday May 28

Snowblind - Cannot do nothing

Friday May 29.

Confined to bed. Eyes in bad shape. Jauk and Peter measure 3 ptarmigan and several murres. Eskimo reported puffins in considerable number about the Crimson Cliffs, greater number than ever before. Have banquet in evening

Saturday May 30.

In anguish. Eyes suffering very much.

Sunday May 31.

Eyes better. Peter leaves for Melville Bay. Can not wait for recovery of my eyes.

Monday June 1. - Eyes much better. Am able to go out and collect some lichens. Sun not shining. See tracks of ptarmigan and hear snow bunting. Mene kills four seals, all rather small. Sekmann and Harrigan leave for Akpat.

Tuesday, June 2.

Jack and I go for short walk up hill back of house. See one ptarmigan, hear several snow buntings, and collect some insects. Jack comes back to go to Akpat while I decide to stay here because of my eyes. It is snowing slightly.

Wednesday June 3

Since Jack is gone and I am not yet sleepy I strike out for another walk over the hills. I listen to the glorious "Spring-song" of the snow-bunting and the passionate wooing ~~sons~~ croak of the ptarmigan. I see several ptarmigan; of two I take pictures at very close range. Find a splendid new locality for botanical work a combination of bog, moor and heather. Collect a few lichens and numerous fungi - mushrooms and puff-balls. Find great patches of rhododendron, gaylora, and phyllodoce; and I think I have also found two or three patches of azalea. - I go to bed a 8 o'clock in the morning; Jack and Miss come back at 5 in the morning and after tea I go to bed again.

Thursday June 4.

Rise at five o'clock to breakfast. My eyes are still sore, so instead of going out as I intended I stay indoors to write up my notes, put away my collections, clean my rifle, and arrange my desk. Jack and Mary go out with Thane.

Friday June 5.

Slept nearly until noon. At three o'clock Jack and I set out for the head of the fjord. Took two at three seals on the way. We saw forty-three altogether. Saw four gulls, five ptarmigan and many snow buntings. Studied former moraines; recent sand moraine; face of glacier; and top of glacier. Came back after midnight. Fine day for exploration; little wind; bright sunshine. Killed two ptarmigan; saw one rabbit. Saw beginning of ptarmigan's nest

Saturday June 6.

Rose at 3 o'clock in afternoon after going to bed at 4:30 in morning. Wrote up notes and data. Went for short walk up hillside with Mene after grass. Did Botany. Went to bed at 12: midnight in order to rise early in the morning. Saw "Eagle" turnstone

Sunday June 7.

Rose at 6:30 to go to head of fjord.

Roll No 5

1	Left of Glacier	Larus	16	1/100
2	" Right "	"	16	1/100
3	Seals	"	11	1/200
4	Top "	"	16	1/50
5	Across Bay		32	1/100
6	Mashing		16	1/100
7	Field along shore		16	1/100
8	" " "	higher in picture	22	1/50
9				
10				

Left for head of fjord at 8:00 Mene + Kurkvaardi; Jauk and I. Jauk shot at two seal. Saw many Larus hyperboreus, two Corvus, 3 ptarmigan, several snow-buntings, 1 Falco. Killed 2 ptarmigan, Mene shot and a snipe. Came back at midnight. Cold wind down glacier. Pandrea Caught gull (L. hyperboreus) fast in trap.

Monday June 8.

Rose at 3 in afternoon. Worked all day at ornithology. Inuits brought in two Uria lomvia eggs, and young Inuit brought in a Somateria canutus. Schjelped a ptarmigan and the knot. Jauk slept until midnight. Mene prepared to go out seal hunting but high wind retarded him.

Tuesday June 9. Did not go to bed at all last night, but stayed up to take care of my bird work and to take a stroll over the hills. Saw four turnstones, a wheat-ear, two knots, two ptarmigan and several snow-buntings. Heard a burgomaster gull screaming. Saxifraga oppositifolia and Salix also in full bloom. Many spiders, flies, and caterpillars. Mene went seal-hunting, got two. Wrote several letters: decided to run down soon to the other towns. Took care of Botany

Wednesday June 10.—

Rose at 12:30 having gone to bed after midnight after a 33 hours wakefulness. Had a fine breakfast. Went for short walk. Went to bed early. Did Botany

Thursday June 11. Rose at seven o'clock. Carefully studied Saxifraga oppositifolia controls. Shot two snow-buntings but lost them. Saw 3 wheatears 1 Turnstone Dunlin saw 2 phalaropesin water. Saw 1 Lanus hyperboreus. Saw many snow-bunting. Heard several ptarmigan, Moved to Missionary's house.

Friday June 12—

Got up at 9 A.M. - Worked on Botany: Salix & Saxifraga. Heard Arenaria, Lagopus. Saw 3 Arenaria — Shot two. Mene saw four old Squaws. Dunlin & I went over to beach for tramp. Took dogs. Got back at 9:30.

Saturday June 13.

Studied Salix and Saxifraga. Found Cochlearia, Draba, Potentilla, Oxyria in bloom. Saw eleven Turnstones & four Dunlin Sanderlings, & old squaws. Tried to photograph knots. Moved to Missionary's house with puppies. Fine day. Cloudy towards evening.

Sunday June 14.

Rose at nine o'clock to very good breakfast prepared by Emelia. Studied botany, wrote up notes, Went for walk to Inuit Slope. Shot to take picture. Found Draba, Cochlearia, Potentilla, Oxyria & Saxifraga in bloom; Pyrola, Papaver, Cerastium, and Rumex with well-developed buds. Saw 15 Plectrophenax, 1 Lanus hyperboreus, 7 Arenaria, 2 Tringa, and heard several Conous. Salix both ♂ and ♀ blooming freely.

Monday June 15. - Left early for Agpat which we reached about noon after driving over much rough ice. Collected plants on small delta. Went on to camp. Saw many birds of several kinds. Killed several. Ice rather bad, leads opening, getting dangerous. All the male population of Umanak camping there. Dunlin and I started back

June 16 –

at midnight around other side of island. Found fairly good going on way back. Got back at 5 o'clock in morning, and after light breakfast went to bed and slept until seven o'clock when Mene and Ishmaun came back. Had evening anniversary banquet of birds, corn, potatoes, cranberry sauce, peaches, bread, date-nut butter and coffee. Went to bed at midnight

June 17. – Got up at nine o'clock and went to work writing up bird notes and measuring birds. Measured 10 Alle alle, 9 Uria lomvia lomvia, 6 Rissa tridactyla tridactyla, 2 Cepphus grylle, one Stercorarius longicaudis, 1 Fulmarus glacialis glacialis. Went for brief walk to pond to note fresh-water Anfauna. Saw at least 6 species.

Peter, Ligden and Bozeman all came back from Mutville Bay – No bear, bad ice, snow – blindness.

June 18

Rose at 9 o'clock. Heavy wind. Wrote up notes, cleaned rifles and worked in house all day. Peter developed pictures.

June 19. – Rose at 9:00 A.M. again. Worked at birdskins and bird records nearly all day, but helped Jans to make some collections of plankton in the little freshwater pond. Cloudy day.

June 20. Rose again at 9 A.M. Worked at plants and records and botany. Clear, rather pleasant day. Am arranging to go again to Saunders Island.

June 21. Peter left for Saunders Island with Nabraska, Alningwa and Makpornah to stay most of summer. Mene and I arranged to go tomorrow. Cloudy dull day when Peter leaves. Fog & much snow.

June 22 Left for Akpat. Made trip in good time, though ice was very bad. Saw L. hyperboreus Eggpluss, on way. Got foggy at 1 o'clock. Reached Peters Igloos at 2:00. Shot 13 murres, 3 Rissa. Studied bird life of cliffs until 8 P.M. Slept until 2 A.M.

June 23 Left by boat for Eider Duck Island after eggs. Ice not going good. Saw many duck. No eggs on island. Eskimo went after walrus. Slept awhile. Ice came in and prevented return.

June 24. Stayed all day on island. Cold, windy, disagreeable. Apparently little prospect of getting back. Studied plants and birds. At 2 P.M. - Men leads across to Akpat.

June 25 - Rowed back to Akpat. After eating a little, started back for Okmenak. Ice bad, weather cloudy. Broke through twice got wet. Reached Umaluk about 8 or 9 o'clock. Ans went to bed. Sekmann & Mene got in soon after I did.

June 26.

Worked all day at notes and Lebania. Disagreeable, cold, foggy day. Needed fire to keep warm in house. Ate two good meals today. Rather hungry after being kept so long on Kalabs with but little food. Took bath!

June 27 — Foggy in forenoon. Mene left again for Akpat, but because of fog came back. Arranged botany work, counted two quadrats and looked up some species. Dismal, cold, cloudy, disagreeable day.

J

June 28 - Foggy in morning. Went for trip to Sunshine Slope. Many plants in bloom. Cloudy, cool. Not much doing.

June 29. Monday

Spend whole day writing up notes and working on botany, making quadrat count. Write several letters

June 30
Again gloomy foggy day Made quadrat counts again. Almost completed. Collected a few plants. Saw a few birds

July 1st.
Rose early. Walk over ridge. Found 2 song sparrows' nests. Tringa canutus ~~Tringa maritima~~; Harelda hyemalis in nesting site; Chen hyperboreus nivalis Gavia; Calcarius; Turnstone. Red phalarope Murre; Somateria mollissima; Studied vegetation. Men got back.

July 2 -
Tank and I went over Uni Ridge to Bowdoin Terraces. Saw many birds found several nests.

July 3 - Very windy - Collected and worked on Drabae. Cold and disagreeable.

July 4 Again very windy Sechman found Turnstones nest. Worked on Drabae again, and wrote up bird notes. Had big dinner.

July 5 - Went up Museum Ridge to head of Fjord. Found Snow-bunting nest; Loon's nest; site of Lobates lobipes nests; many birds; believe I have found site of Tringa nests. Investigated streams coming north Got back near midnight.

July 6. Sechmann, Jester and I went for walk over University Ridge to Bowdoin Plain, Mene Hills and Yale Terraces. Saw Black-bellied Plover, Loon, Aegialitis hiaticula, Raven, Turnstone, Somateria mollissima and spectabilis, Plectrophenax, Calcarius, Stercorarius longicaudis and parasit. Larus hyperboreus, Hyemalis; Found 2 snow-b. nest, Aegialites hiatic.? Both King Eiders nests destroyed Windy day

July 7 - Cold, windy, cloudy. Worked on botany + notes. Went after seal with Sechmann but no go

July 8. Cold windy Cloudy. Worked on botany key

July 9. Repetition of yesterday

July 10. Worked on botany presses and began pressing plants

July 11. Finished plants, worked on habitat list

July 12 — Went along on walk over Univ Ridge to Acacia Pond then on across to Masonic Slopes, back over Museum Ridge to Navy Valley & Harvard Slope. Found 7 Plectophenas nests 6 with young 1 with eggs. 1 Zonotrichia caucasus nest with 2 young, and 3 young birds alone. Found site of another nest. Found nest of Ornatinia - 5 eggs. Saw many Salmon. Shot one small one. Saw Lobipes lobatus, Zonotrichia Caucasus, Plectophenas, Calcarius, Ornatinus spectabilis & Hyemalis, Savia stellata, Hercocarnus parasiticus & longicaudus, Lobipes lobatus Corvus, Adnus hyper. Sabicola, Arenaria; Lagopus, Falco island. Shot Zonotrichia Collected 2 small Zonotrichia just hatched Saw many plants. Irrigation flow.

July 13.

Worked on notes & collections all day. Sugar gone.

July 14.

Went for long walk with Sanguinary to show him Salmon Lake. Back by way Univ. Ridge, down to Moraine Lake, across the Ridge to The Brook to its outlet, then back by Secret Lake and Navy Valley home. Caught 25 salmon, found phalaropes, and plover's and eiders nests. Found arnica and autumnalis in Arnica gorge. Collected Potentilla Vahl. —

July 15 - Worked on collections, and notes.

July 16. Sechman and I took long walk over Yale Terraces up the Torrent to the Masonic Pillars, Moraine Lake, back by the Crescent, Tom Lake, Navy Valley home. Took pictures of Lakes, saw wolves, Loon's nests. Found Eiders, jaegers, and loon's nest and several plants.

July 17. Worked on collections herbaria and birds. Tuesday July 18 do.

July 19. do. - Banded four birds. Found first fern and number of other plants.

July 20 I went for a walk over University Ridge, banding. 10 Snowbuntings on the way. Visited

Purling Brook when I collected Melandrium apetalum, Ranunculus pygmaeus, Campanula uniflora, and Koenigia Islandica. And banded 3 Wheat-ears on way. Crossed over small ridge to Ptarmigan cliffs when I collected Cystopteris fragilis and shot ptarmigan. Collected quantity of Rhododendron lapponicum and Woodsia glabella on return, getting back about 10 o'clock. Banded 7 more snowbuntings and these ~~Anglites luteolus on my return~~. July 21.

Dangmang and I went for a long walk along the Brooks to Arnica Gorge, Salmon Lake, the Quartet, Secret Lake and return. Banded young Zonga canutus #12218. Collected loon's eggs. Shot ptarmigan. Collected Arnica and Ranunculus nivalis. Came back at midnight to find Peter here. Banded 3 Anglites 12215-B and 7. Studied them and got 5 factums. Went to bed at 4 a.m. of July 22.

Coffee going fast

July 22 and 23. Stayed up over night, attended to collections, collected a few plants, wrote up notes and were almost starved. Helped Jack collect some ~~lepids~~ (Sp?) Lycaenidae. Worked hard. Went to bed at 12 of the 23-24. Banded snow-bunting #12214

July 24. Went for a short walk to the Garden with Jack. Collected and looked over herbaria. Went to bed at midnight. Food supply running short and I unchew indifferent! Coffee gone.

July 25 Collected in Zonga Pond and vicinity. No more food-yet! Expect ship today but no go!

July 26.- Went for walk to Ramons Tapps. Collected some fine ~~lepids~~ and other plants. Jack found a new caddis fly. Got back. Menu left for us.

July 27- Stayed about house most of day working on collections and notes. Collected Chamaenerion latifolium.

July 28. Two ships, but Schmaun and I went for short walk over University Ridge. Saw no ship. Jack went after caddis-flies again

July 29- Tonk and I went to Pulling Brook and Ptarmigan Cliffs. Collected Pyrola in bloom, and several grasses. No ship. Mene back but no game. He has however killed a narwhal this season which helps out our food supply considerably.

July 30. Stay indoors to look over collections and identify grasses. Took 17 films up to Peter for printing. Mene leaves on long hunt again.

July 31. Went out with Siclimann to where Pingasoote had killed a great white whale. Got a share of the meat and went along to the Petowik caches. Had a corking good filling supper.

Aug. 1- My foot in bad shape. Stay about house working on herbarium; and packing up stuff. Not hungry today. Cloudy and beginning to blow. Ice starts out from shore here. Mene off to Petowik for a little.

August 2. Repetition of yesterday. Showed a little, rained a little, blew a great deal. Plenty yet to eat. Still getting ready for ship. No botany work.

August 3-

Collected about peninsula. Ice leaves the bay. No ship in sight. Lozenges at Igloocuahme. Ikchuaq brings Mene back from Petowik.

August 4.— Rainy cloudy afternoon. Fine forenoon. Tonk went for walk in hills. I worked at collections. Collected a little.

August 5- My foot still in rather bad condition, I put to press a number of grasses and sedges upon which I have been working for several days.

August 6.— Went to Petowik after meat. Collected Stipa pinis vulgaris and Plenagogon Sabinei forma aquatica. Peter announced trip to Sahkoot for morrow.

August 7.—

No go however.- Windy as the dence and ice coming in. I go across point to Igloo and take photographs. Pack up, write letters and write up notes.

August 8 — Cold & windy. Little auks come into harbor in numbers. Very, very windy and ice blown into harbor.
Killed 2 rabbits and 3 ptarmigan
August 9 — Windy as dickens still. Stayed in all day working at notes, letters & herbaria
August 10.
Nothing for breakfast. Jack and I went for trip to Alpine branch of Campanula brook, and along University Ridge. Seal for supper. Collected soil samples and plants.
August 11.
Rescue day —
I went for walk to Arnica Gorge. Collected extensively. Got back at 8:00 p.m. to find motor-boat, from Etah. Joy — Had a corking-supper — Peaches, crackers, flapjacks etc.
Mac, Hal, Jot, Arklio Etukdsho, Okpudoashaho, Nukapingwa Oobloyah, Wenie & baby, Ahningwa and Megipsu, and Alnia made up the party. I began packing at once.

August 12 — Left Umanak at 2:00 p.m. — Traveled straight back through rain reaching Etah (Ate all the way)
August 13 at 10 a.m.
Ate and unpacked all day. Raining and disagreeable.
August 14. Unpacked all day nearly. Went for walk with Fitz Coage and raw.
August 15 — Raw, foggy and raining. Sammie and I went back in hills after rabbit, of which we got five. Almost got lost.
August 16. — Motorboat took us up to Bro. Jno's glacier. Fine mild, sunshiny day. Sunday observances
August 17.

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