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ANCIENT ESKIMO SETTLEMENTS IN THE KANGÂMIUT AREA

BY

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WITH 42 FIGURES IN THE TEXT AND 8 PLATES

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I. INTRODUCTION.

As the commencement of a systematic archaeological investigation of the Eskimo remains in Greenland I made excavations on the island of Inugsuk, Upernivik District, in 1929; the result was published in "Inugsuk, a mediaeval Eskimo settlement in Upernivik District, West Greenland" in Meddelelser om Grønland, Vol. 77. That excavation gave a preliminary insight into the archaeology of the most northern part of the west coast, and showed that a later off-shoot of the Central-Eskimo Thule Culture, the so-called Inugsuk Culture, had existed there; by relics of the Norsemen the period is indicated as being in the thirteenth and fourteenth centuries.

When the work was to be continued in 1930 I selected as my field of operations the Sukkertoppen District, my aim being to similarly secure a preliminary idea as to conditions on the southern west coast. I chose that area for several reasons: It lies close to — a little to the south of — the boundary between the arctic and the subarctic cultures on the west coast; consequently one might expect still to find traces of the old culture from the north with its arctic traits. Furthermore, it is known to be one of the first places where the whalers landed and came in contact with the Eskimos. And finally, it seems to be one of the localities in South Greenland that are richest in old ruins. For instance, ex-Inspector O. Bendixen writes in "Grønland", Vol. II, p. 120: "In the course of time the district has been very densely populated, and there are more house-sites and old, demolished settlements there than perhaps anywhere else in this part of the country (ie.: South Greenland). This is especially true of the stretch between Tuno and Ûmánat...". I have since been able to add very considerably, from verbal communications, to Inspector Bendixen's list of ruins in "Grønland". And from Mr. N. L. Nielsen, the fishing master of Sukkertoppen, formerly outpost manager at Kangâmiut for many years and still taking very great interest in archaeology, I received a list of ruin sites in Kangâmiut District.

It was these circumstances that determined my choice of Sukker-

toppen District for examination. I soon discovered, however, that an investigation of the whole area was impossible in the time, and so I elected to confine myself to the Kangâmiut area, or more exactly the territory between the mouth of Søndre Strømfjord and Hamborgerlandet, a district that is now under the administration of Kangâmiut Outpost. Outside this area I only visited ruins while on short reconnoitring trips up Søndre Strømfjord and to Ũmánaq on the south of Sukkertoppen.

I travelled up to Greenland on the m.s. "Disko", leaving Copenhagen on June 14th; Helge Larsen, M. A., accompanied me to assist. We were already at Sukkertoppen on June 25th. I spent the days from June 27th to 30th having a preliminary look round the Kangâmiut area, proceeding by the motorboat "Okutak" with Mr. Nielsen as my guide; on that trip I visited 10 old settlements in the territory between Ũmánat and Hamborgersundet. On July 2nd we went with all our baggage by the schooner "Narhvalen" to Kangâmiut, and on July 3rd camped at the largest settlement in the vicinity, *Utorqait* on the mainland opposite Kangâmiut. There we excavated until July 27th, when we moved to *Igdlutalik*, a small island at the foot of Sukkertoppen Mountain on Ũmánat; there we excavated both at Igdlutalik itself and also at Ũmánat close by. On August 31st we proceeded to the island of *Qeqertarmiut* in Hamborgersundet, just off Agpamiut, where we worked until August 24th. The next three days were spent on a motorboat excursion up Søndre Strømfjord for the purpose of examining supposed Norse remains at Narsaitsiaq near the head of the fjord; however, they turned out to be two Eskimo winter houses. On August 28th I returned to Agpamiut, where I lived until September 18th, continuing the excavations on Qeqertarmiut; a small excavation was also made on the island of *Ukîvínguaq*, close by Agpamiut. September 18th I went back to Sukkertoppen in order to pack, ready to sail with the "Disko". On the 20th I went by motorboat to Ũmánaq, south of the Colony. We left by the "Disko" on September 22nd and on October 7th arrived at Copenhagen.

The work was performed with the help of two or three Greenlanders, and the method employed was the same as in 1929. Compared with the excavations of that year it was a great relief that the ground was nowhere in a permanently frozen state; only here and there at Utorqait and Qeqertarmiut did we meet with a thin, frozen layer at a depth of half to one metre, but thereunder the soil was thawed. But though this was an advantage from a digging point of view, it was not so fortunate from others, as the specimens recovered were not nearly so well preserved; what is more, the houses were often dug down into sand, gravel or stony moraine, which again was not in favour of a good state of

preservation. Only in the deeper layers of the midden at Qeqertarmiut were there some specimens of wood and baleen, whereas at the other places such things had usually perished; and very often the objects of bone were badly weathered and in a state of disintegration.

At Utorqait we excavated 15 house ruins and 180 sq.m of different middens, resulting in the finding of 842 specimen-numbers[1]); 6 graves were also examined, these yielding the remains of 8 skeletons. At Igdlutalik 4 house ruins were excavated and 88 sq.m of a midden, the finds totalling 65 specimens; 3 graves were examined and 4 skeletons were recovered. At Ũmánat we examined one house ruin and 78 sq.m of the adjacent midden, these giving us 193 specimens. On Qeqertarmiut we excavated an area of 262 sq.m of a large midden, which yielded 1631 specimen-numbers, as well as 6 graves, which yielded 32 skeletons[2]). And finally, on Ukîvínguaq there were excavated 20 sq.m of a midden that gave 125 specimens. From other localities we have other 92 specimens, some of them found on making small sample excavations, others purchased from Greenlanders, and others again presented by Mr. Nielsen; while in the National Museum, where the whole collection now is[3]), there were already 86 specimens from this region — they will also be referred to occasionally in the following. Thus in all there is a collection of about 3,000 specimens from which to judge the culture conditions of the Kangâmiut region[4]).

The whole expense of the 1930 investigation was defrayed by the Danish Government.

When dealing with the various forms of implements and their distribution reference will constantly be made to my book on Inugsuk in Meddelelser om Grønland 77, 1930; so as to avoid unnecessary reiteration it will be cited as "Inugsuk". Furthermore, as in that work, my "Archaeology of the Central Eskimos I—II" will be cited as M 1927, "Material Culture of the Iglulik Eskimos" as M 1928, and "Archaeological Collections from the Western Eskimos" as M 1930. Birket-Smith's works "Ethnography of the Egedesminde District" and "The Caribou Eskimos", will be cited as B-S 1924 and 1929 respectively.

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[1]) Comprising rather more than this number of specimens, as several worked pieces of bone, wood, glass beads, stone chips, etc. from the same square and layer appear under the same museum number.

[2]) The skeletal material has been handed to the Normal-Anatomical Museum of the Copenhagen University.

[3]) The small Igdlutalik collection, which contains no type that does not occur in the bigger finds, has, however, been given in exchange to the Museum of American Indian, Heye Foundation, New York.

[4]) A preliminary account of the results of the expedition has been published in Geografisk Tidsskrift, Dec. 1930.

II. ESKIMO RUINS IN THE KANGÂMIUT AREA.

Present habitation; hunting; history.

In this area, which forms the municipality of Kangâmiut, there are the large outpost of *Kangâmiut* (with more than 300 inhabitants), the large settlement of *Agpamiut* (about 70 inhabitants), and the smaller settlements *Narssarmiut* and *Timerdlit*; in all, the present population of the district is about 450, so that according to Greenland standards it is a fairly thickly populated area.

As to hunting, O. Bendixen[1]) has given a summary of what the district has to offer: whales, especially the bowhead whale, were very common in earlier times. Walruses occur, but in no great numbers, to the north of Kangâmiut in the period from November till April—May, and are occasionally caught. In the same period white whales are present in large numbers, particularly in Hamborgersundet and Evighedsfjorden; on the initiative of the Greenland Trading Company they have been fished systematically with nets since 1918 at Agpamiut, motorboats being employed, Agpamiut being the locality in Greenland where most white whales have been caught in late years. Of seals the bladder nose passes Kangâmiut from the end of March till well into May; the harp seal, which formerly was of great importance, lasts from the end of May till into July and in autumn in September. The bearded seal is only met with singly off Agpamiut, whereas the fjord seal was once numerous everywhere, but nowadays has greatly decreased in number. At the various villages in the area about twenty seals per hunter was the tally about the year 1915; at Kangâmiut itself, whose sealers were among the most skilful and daring kayak men on the west coast, relatively large numbers of the big seals were caught. The method employed is mostly kayak-hunting, whereas nets and the other methods from the ice play a very small part. In the course of the last ninety years prior to 1915 it is estimated that the decline in aquatic-mammal hunting has been about sixty per cent. There are still fairly large numbers

[1]) Grønland II, p. 115 and p. 120 seq.

of caribou round about the inner part of Søndre Strømfjord, where some of the largest ice-free regions in Greenland are. In former times nearly all the inhabitants of the Kangâmiut area travelled by skin boat into Strømfjord to hunt the caribou; now only a few boats go there. Some foxes are trapped in winter, some eider ducks, gulls and guillemots are shot, especially in winter round Agpamiut; there are salmon rivers both north of Kangâmiut and in the vicinity of Agpamiut, some in Hamborgerlandet and others in Kangerdluarsuk.

In recent years, however, all these occupations have retired into the background in favour of the sea fisheries, which are now the prevailing means of obtaining a livelihood in the District. The principal fish is the cod, which is simply taken by jigging from yawls, and within the past year or two from motor boats. Whereas about ten years ago there was scarcely a codfish in the neighbourhood, their numbers now are almost overwhelming. In 1929 more than 400,000 kg of cod were traded at Kangâmiut and Agpamiut, and in 1930 far beyond half a million. A number of halibut were also caught last year.

On the whole it must thus be said that, according to Greenland standards, the Kangâmiut area has offered and still offers abundant chances of making a living. And indeed the people there are known as intelligent and independent.

A brief summary of the history of the region may be given at this point.

There are no definite records of Norsemen having lived in this district, and the ruins that have been ascribed to them[1]) either have been impossible to identity or have proved to be Eskimo remains; the latter for instance applies to a supposed Norse ruin at Narsaitsiaq near Angujârtorfik in Søndre Strømfjord, which I had an opportunity of examining. But of course the Norsemen on their voyages have now and then been in these areas, whence the distance to the West Settlement in the fjord regions of Godthaab is not very great.

On the other hand this region is one of those that first came in contact with Europeans after the rediscovery. In the English revised issue of Davis' voyages[2]) it is stated that the spot in 66°33′ where Davis went ashore on August 1st, 1586 and had intercourse with the Eskimos must be Old Sukkertoppen (Kangâmiut); judging from the latitude, however, it would better fit in with Itivdleq in the Holsteinsborg District, as in fact is observed in the latest Danish edition[3]); still, even this place is not far away. Hall[4]) in 1612 passed through the Kangâmiut region

[1]) Grønland II, p. 87.
[2]) Davis 1880, p. 26.
[3]) Davis 1930, p. 56.
[4]) Bobé 1917, p. 84.

in a boat, and Danell[1]) in 1652 traded with the Greenlanders at "Kvindefjorden" in lat. 65°35′ N (apparently Hamborgersundet), bought halibut for fish hooks and nails; Danell's description of the Eskimos' round whale-bone houses is from Itivdleq, i.e. not far away either.

It was already in the first half of the seventeenth century that Dutch, English and Hamburg whalers began to come to the District[2]). The name of Sukkertoppen originates from the Dutch name for Ûmánaq, "Zuykerbrood". Narssarmiut and Kangâmiut were populous settlements in the seventeenth century; when Hans Egede went to Narssarmiut in 1724[3]) an almost deserted Dutch galliot lay there, full of trade goods; this place is given by Dalager[4]) as being the most southerly of the spots where the Dutchmen set up their shops, and it was of such importance that in 1730 Major Paars suggested the forming of a lodge there. Agpamiut, too, was visited by Hans Egede[5]) and is mentioned in 1724 as a well-populated place: "... och i denne Circumferentze ere mange Vild Mands Boeliger og en temmelig stor Forsamling af Folch"; the place is again mentioned by Glahn[6]) and Thorhallesen[7]). In a house ruin there was found a medal issued in commemoration of Gonsalvo de Cordova, the victor in the Battle of Cerignola 1503 — presumably a relic of the visit of Basque whalers[8]).

However, it was at Kangâmiut, also a place that was often visited by the Dutch[9]), that the Colony was established in 1755 and received the name of Sukkertoppen; in 1781, however, it was removed to its present situation on the island of Manîtsoq, while Kangâmiut, or old Sukkertoppen, continued to be an important outpost.

In 1802 Bull[10]) mentions four hunters in Narssarmiut and five in "Kangerloksweitsiak" (Evighedsfjord).

In Evighedsfjord at Igdlut lived the "prophet" Habakuk, whose wife Maria Magdalena pretended to be in communion with the dead, who revealed to her that God became angry with those who opposed her. In 1789 the couple gathered a crowd of supporters round them and moved into Evighedsfjord, where Habakuk ruled absolutely. The missionary at Sukkertoppen was powerless against the movement, which gradually degenerated; one or two women were put to death as witches,

[1]) Lund, p. 213.
[2]) Bobé in Greenland III, p. 82.
[3]) Hans Egede, Relationer, p. 117.
[4]) Dalager, p. 78.
[5]) Hans Egede, l. c., p. 116.
[6]) Glahn, pp. 109 and 121.
[7]) Thorhallesen, p. 78 and 85.
[8]) See Greenland III, p. 84.
[9]) Wallóe, p. 57.
[10]) Bull, p. 19.

and sexual excesses were practised. In 1798 Habakuk died, followed by his wife in 1802, and the movement gradually died out.

Giesecke (1807—10) refers to the settlement of Agpamiut[1]) ("Die Stelle ist für Grönländer eine der nahrhaftesten und war ehemals stark bewohnt, welches die vielen zerfallem Häuser und Gräber beweisen"), Narssarmiut[2]) and Manîtsoq at Kangâmiut, presumably the place that is now called Manîtsorssuaq (see below); he also mentions the legend from Ingik on Hamborgerlandet, where a woman from Qarusuk threw herself down from the peak of the mountain with her child in order to escape her husband[3]), a legend that was also related to me.

Rink (1857)[4]) indicates the following inhabited places: Kangâmiut with 109, Maneetsok (not the present Sukkertoppen Colony, which in Greenlandic is called Manîtsoq) with 49, Narssarmiut with 42 and Evighedsfjord with 14 inhabitants; Manîtsoq and Igdlut in Evighedsfjord were outposts for a time.

Old Habitation Sites.

In the stretch between the mouth of Søndre Strømfjord and Hamborgersund there are ruins of houses in at any rate forty different places; I have only examined twenty-three of these, however, the other seventeen having been located by the help of Danes and Greenlanders, especially Mr. N. L. Nielsen, Mr. O. Bendixen and the Greenlander Søren Petrussen in Kangâmiut.

The position of these ruins will be seen from the map, fig. 1. Owing to considerations of space they are only indicated by figures, the signification of which is:

1. Qeqertausaq
2. Qorqait
3. Tasiusánguaq
4. Narssarmiut
5. Ikerasak
6. Qutdlugisat
7. Ũmánat
8. Igdlutalik (at Ũmánat)
9. Ingik (at Kangâmiut)
10. Sarqarmiut (at Kangâmiut)
11. Utorqait
12. Timerdlit
13. Igdlutalik (at Timerdlit)
14. Manîtsorssuaq
15. Qeqertaq
16. Akunermio
17. Ikardlumiut
18. Igdlut (in Evighedsfjord)
19. Nûk
20. Kujatdleq (the head of Evighedsfjord)
21. Kangiusaq (Evighedsfjord)

[1]) Giesecke, pp. 50, 132 and 283.
[2]) l. c., p. 131.
[3]) l. c., p. 50.
[4]) Rink, II, p. 309.

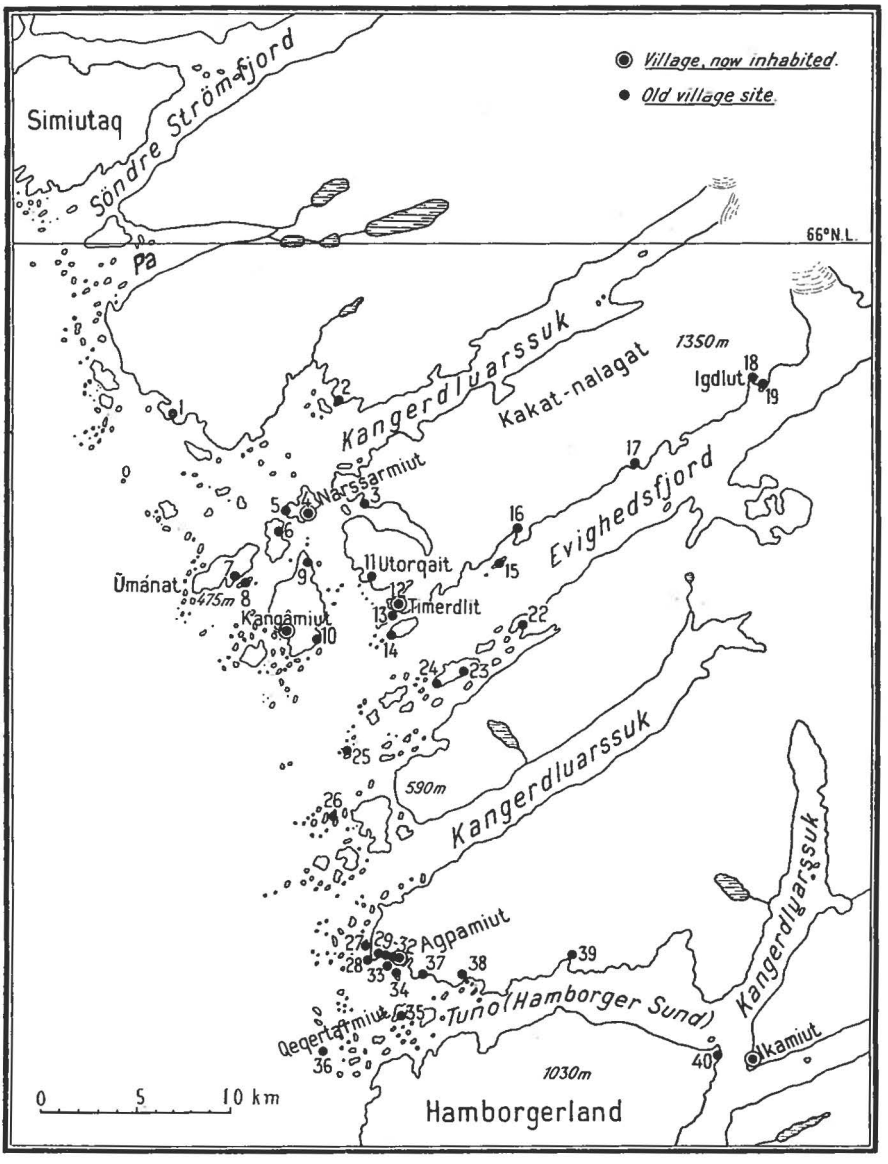

Fig. 1. Map of Kangâmiut area with its ruin localities.

22. Kùk
23. Ikánaq
24. Kangermiut
25. Sãtut
26. Kangánguaq
27. Qatdlingajoq
28. Isarut
29. Upernivik
30. Sarqarmiut (at Agpamiut)
31. Sarfánguit
32. Agpamiut
33. Quiage

34. Ukîvínguaq
35. Qeqertarmiut
36. Kingigtut
37. Nutârmiut
38. Qavdlunâtsiait
39. Igdlut (in Hamborgersund)
40. Ingik (on Hamborgerland)

The two sites deep in Evighedsfjord cannot be seen on the map; of these Kujatdleq lies at the end of the southeast branch at the head of the fjord, while Kangiusaq is further out, at the second sharp bend of the fjord coming from the mouth. Three sites in Søndre Strømfjord are not included as they are outside this slight geographical area; only one of them, at Narsaitsiaq, was examined: it was one of the square, fairly large houses, not very old and scarcely inhabited very long; there is no reason for assuming that it is a Norse ruin, as the Greenlanders thought; both the construction of the house and the few objects found are pronouncedly Eskimo.

Thus we see that, on a piece of country barely forty kilometres from north to south, there are forty habitation remains, a number that it will presumably be difficult to surpass in any other area of similar size on the west coast of Greenland. In the Upernivik District, for instance, we scarcely ever exceed about twenty remains to a corresponding area, and yet this region is otherwise rich in ruins.

I will now turn to a description of the principal ruins.

Utorqait.

This settlement, whose name means "The old folks", is mentioned by Bendixen[1]) as being one of the places where there are ruins of houses of the earliest type. It is the biggest collection of ruins in the Kangâmiut area.

Utorqait lies on the mainland east of Kangâmiut. The ground is rather uneven and consists of rounded ridges of gneiss, rising to three or four hundred metres; the coast is very indented, and outside lie several islands and reefs. A very narrow creek cuts in below the settlement; it bends northwards and forms an excellent little boat harbour, protected from every wind; its innermost part, however, is quite shallow. Fig. 2 is a picture of the settlement looking from the west. From the head of the creek a cleft with a little brook running through it leads eastwards, and there lies the ruined village on an even slope, sheltered on the north and east by smoothly contoured heights. The picture shows the settlement as the slightly rough, thickly overgrown terrain which stretches from a little above the high-water mark at the head of the creek (the white line) upwards towards the tents; two of the ruins (1—2)

[1]) Grønland II, p. 120.

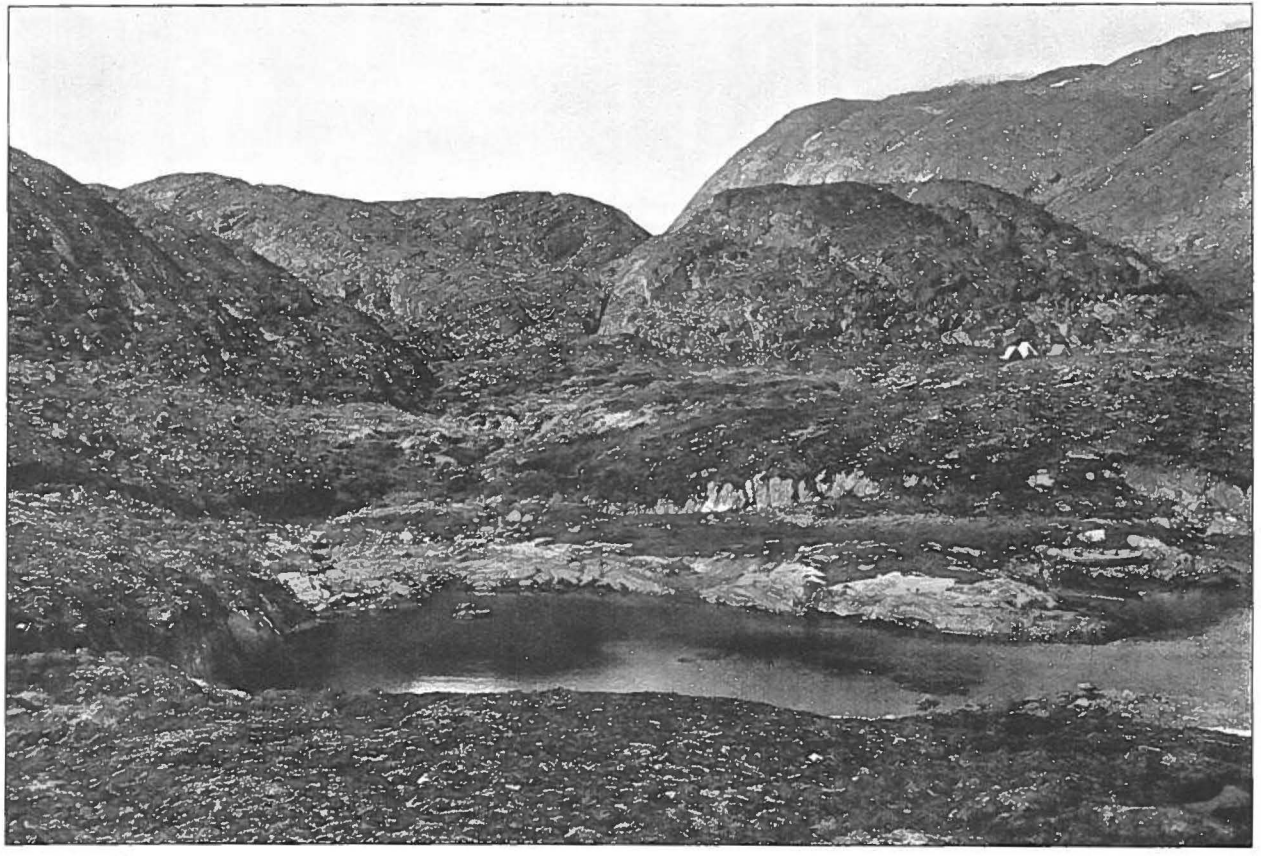

Fig. 2. The ancient settlement of Utorqait from the southwest.

lie just to the right of and a little in front of the tents. In the valley on the right of the tents is a burial ground; through this valley a pass leads over to another creek about two kilometres away, whereas the other end runs down to a small bay.

Fig. 3 shows the settlement seen from the ridge to the east of it. In the right background is the south end of Kangâmiut Island. In the left foreground is a ruin lying by itself (3); for the rest the terrain is a confused mass of hollows and hummocks, thickly overgrown with

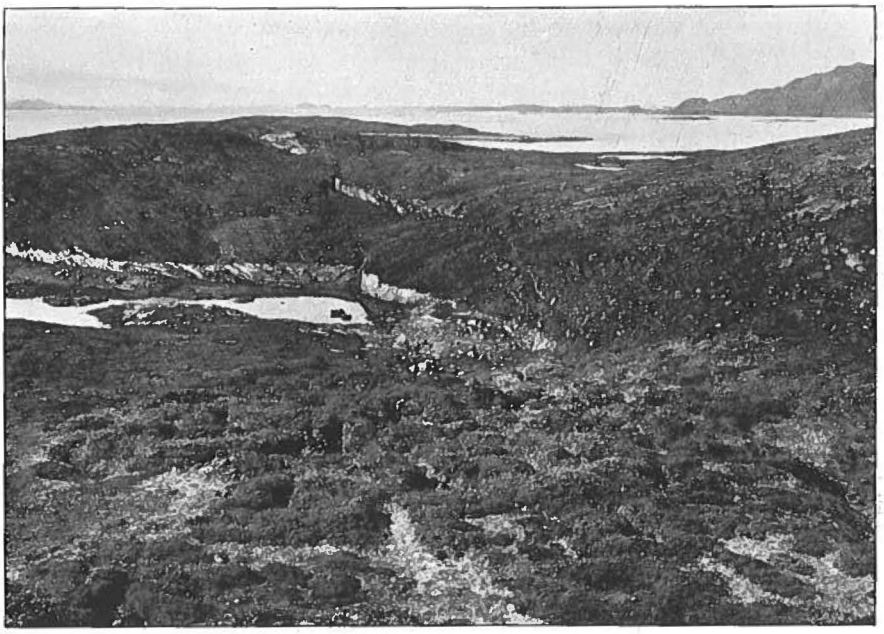

Fig. 3. Ruins at Utorqait, from East.

knee-high willow scrub, Elymus, Empetrum and other vegetation. The hollows represent the ruins, but it is often impossible to determine their shape as they have fallen in so much, become levelled out and overgrown. On this terrain are in all 24 ruins of houses. The ground is of sand, mostly mixed with broken shell; at the highest part the ruins are dug down into almost pure sand, whereas lower down the ground under the houses has more the character of broken shell; these shells are principally Saxicava arctica and Mya truncata, i.e. forms that still live in the sea. Thus the Utorqait settlement was built into old beach terraces.

The map Pl. 8 shows the situation of the various ruins, their shape, and (with small figures in brackets) their height above sea level (high-water mark) in metres. The heights were measured to the lowest point inside the house (not the passage). It will be seen

that the houses lie between 10.6 (houses 3 and 4) and 4.3 m (house 7) above the sea. The ruins furthest up thus lie at a considerable height above the sea; this was necessitated by the terrain if all the many houses were to find room in this really limited area of loose soil, which narrows off sharply down towards the creek. South of the ruins is a fairly level plateau, consisting on the east of Empetrum heath, on the west of partly naked flat rock, on which there are three graves.

The houses described.

Houses 1—2. These lie isolated, somewhat to the south of the others. They are built together and have a common wall but separate entrance passage. As a result of the thick overgrowth the shape is very irregular, with deep holes and large tussocks, so that without excavation it is impossible to see its original form. The total width of both ruins is about 9.30 m; the passage is about 5 m long, rather deep — up to one metre below the surface; in the doorway to house 2 a roofing stone is still in position.

These ruins were not excavated; a sample taken seemed to indicate that they do not contain culture deposits of any thickness. But we did excavate four squares, each of 4 sq.m, in a row across the front of the doorways (Main Square A). There the culture deposit was rather thin, mostly from 10 to 20 cm only, and contained a number of bones fairly well preserved, a quantity of mussel shells and specimens, including a mounting for the fore end of a bladder dart shaft, the side prong of a bird dart, a trace buckle, a knife handle with a seating for the blade, a blade of angmaq with oblique edge (Pl. 3. 18) and a piece of edge-mounting for a wooden dish[1]).

House ruin 3. Lies isolated, more to the north east than any in the settlement. It is oblong in shape, square with rounded corners, but it is a smaller house than oblong houses usually are, measuring only 3.8 × 2.5 m inside, so that it has scarcely been intended for more than one family, or two at the most. The south and east walls, and the easterly part of the north wall, were built of stone, of fairly large stones irregular in shape, up to a height of about 1 metre; the west wall and the remainder of the north wall are of turf. On the floor lay a number of large, flat stones, but they did not entirely cover the gravel bottom; about a metre from the rear wall we found an erection of stones, about $2^1/_2$ metres long and up to 20 cm above the floor — presumably the edge of the platform. The entrance passage was 4 m long, some of the side stones and a single roofing stone still being in position; the bottom is

[1]) In describing the specimens found in the various ruins, only identifiable specimens will be mentioned, not indeterminable fragments, material, etc.

deeper than the floor in the house; the entrance faces south and terminates in the middle of the south wall of the house.

The culture deposits were everywhere thin and poor. Besides a number of bones, mostly seal, some of the specimens found were:

A fragment of a barbless bone arrow head; fragment of a neck piece for a towing line (?) with three holes; two small whetstones; a mattock blade; toy lamp with the wick-ledge indicated.

Houses 4 and 5. These two ruins lie close together, a little to



Fig. 4. House-ruin 4, Utorqait, after excavation.

the west of No. 3. In shape and size they are much alike. Prior to excavation they both appeared as round or slightly oval mounds, covered with willow scrub, and a depression in the middle from which the entrance passage runs. They were both dug into sand, and therefore nearly all the culture remains had perished.

Ruin 4 after excavation was 2.9 m long (measured from the doorway), 2 m wide. When we carefully removed the turf and culture deposit the edge of the platform became distinct, 1.25 m from the rear wall, the platform having been 10 cm higher than the floor; in no part was it set with stones; on the west side of the platform there was black, greasy earth about 15 cm deep, this apparently having been the lamp place. There were no stones in the walls and their height was 80 cm above the platform. The passage was 2.8 m long, at the same depth

as the floor; there were a few stones in it. The culture deposit was very thin and poor; in the floor area we found 16 badly disintegrated seal bones, and on the platform we only found a round stone, which bore no marks of hammering.

Ruin 5 was of exactly the same size, 2.9 × 2.0 m, with a passage 3 m long. In this the platform was not marked, but the substratum sloped evenly upwards to the rear wall; the passage had been sunk 60 cm below the surface of the ground and about 30 cm below the floor. In it we found a few bones, some of them disintegrated into powder; in the house itself nothing at all.

Fig. 4 is ruin No. 4 after excavation, seen from above; the spade, with a length of 1 m, lies near the edge of the platform, while the excavator's knife stands on the lamp place; below is the doorway.

Houses 6 and 7. These two, lying lowest of all (about $4^1/_2$ m above the sea), lie by themselves just to the west of the cleft. They seem to be rounded, with a common wall and separate passages opening towards SSE. Their total width is 6.5 m and their lengths 3 and 2.6 m respectively. The thick overgrowth makes it impossible to decide what their original shape has been. They were not excavated, as they seemed to contain hardly any culture deposit. In front of No. 7's doorway a square of 2 sq.m was excavated; at the upper end the deposit was 70 cm thick, but contained only few, badly weathered, bones; the ground slopes steeply towards the brook, where the deposit tapers off sharply.

Houses 8—10. These lie furthest east in the upper row of the large, almost continuous group of ruins in which these and all the following houses lie. None of them were excavated, as they did not seem to contain any thick culture deposit.

Ruin 8 seems to have consisted of three compartments with a common entrance; they are, however, thickly overgrown, and if these compartments have had separate platforms, they must have been larger than the hollows that are there now.

Ruin 9 is a large round depression, from which the entrance passage in the form of a hollow runs southwards.

Ruin 10 is of the rectangular type, 7 × 3 m, with a number of stones in walls and passage; in the side of the latter is an extension, presumably a kitchen.

House 11. Greatly resemble Nos. 4—5, consisting of an oval mound, 2.8 × 1.8 m and a passage 3 m long; just west of the end of the passage there is, however, an extension of the house wall about one metre deep, thus forming a space for a kitchen or the like. The platform in the rear part of the house is clearly marked in the sand substratum, 20 cm higher than the floor, which again is 20 cm higher

than the bottom of the entrance passage; a few stones support the edge of the platform and black earth indicates where the lamp has stood.

The culture deposit in this house was very thin and contained only a few bones in an advanced state of disintegration. Of specimens we found a small thin harpoon foreshaft with conical butt and one hole, and a fragment of a slender, two-edged angmaq blade.

House 12. Built down into the sand like the foregoing, with no stones in the walls or passage. In shape it is rather irregularly round,



Fig. 5. House-ruin 13, Utorqait, after excavation.

slighter wider than long, about 4 × 3 m. On the floor were a number of flat stones; in one part of the floor was a fairly deep patch of black earth, apparently where the lamp has stood. The platform does not stand out distinctly. The entrance passage is rather long and gradually disappears.

The culture deposit was extremely poor and brown patches were almost all that was left of bones. Of specimens there was only a stone ball, although this may possibly not have been used.

House 13. This is a double house, consisting of two round rooms with a common entrance passage. Fig. 5 shows this ruin after the excavation had been carried down to the floor stones. On the right is the entrance passage, which is 5.5 m long, half a metre wide and one metre deep, set with regular stones and with one roof stone in position. In

the middle distance to the left is the fairly wide, stone-set wall that divided the two rooms, A to the rear, B in the foreground. These rooms are rounded, but their shape cannot be definitely determined, as there are no wall stones anywhere in the circle and the sand walls are apparently a good deal collapsed. In that part of both rooms that is nearest the passage is a regular paving of stones, whereas there is none in the rearmost part, which slopes evenly upwards and consists of sand, presumably the site of the platforms. The total width over both rooms was 4.5 m; the length of room A was 3.3 m, and of B 2.8 m.

Under the turf in A there was a culture layer 10 to 20 cm thick, thickly packed with bones and mussel shells and also a number of specimens (called Layer 2); in B there was also a culture deposit, but much thinner and less productive.

House 13 contained the following specimens: An unfinished flat harpoon head with one spur; harpoon head, slightly flat, two spurs, neither barbs nor separate blade; harpoon blade of bone; butt end of a whale-harpoon head (Pl. 2. 6); foreshaft for an ice-hunting harpoon head; two mountings for the fore end of harpoon shafts; fragments of wound pins; two heavy weapon points with one and two barbs; three arrow heads with two knobs, and one with screw on the tang; two of them have one barb, one has none. Four side prongs for a bird dart; a fish hook of seal bone (Pl. 1. 15). A rest for a kayak harpoon; the handle of a kayak scraper; a fragment of a hollow bone knife; a fragment of the blade of a snow shovel; two knife handles with the blade socket at the end, and one with the blade groove at the side (Pl. 3. 6). Two whetstones; four wedges; two mattock blades; one chopping block; two bow-drill mouthpieces, of caribou astragalus. Tang and edge of an ulo with iron blade (Pl. 3. 11); two two-handed scrapers. Fragments of lamps with rudimentary wick ledge; wick trimmer of asbestos; two round fragments of cooking pots, one with a hole for the suspension cord on the inside; a marrow extractor; a spoon of antler (Pl. 5. 5); an ice scoop (Fig. 29); an oval soapstone bowl (Fig. 32 b). Ajagaq's of seal radii and penis bone; toys: arrow head and side prong of a bird dart; a pierced bear's tooth; bone edging; bell metal (Fig. 41 a).

House 14. Fig. 6 shows a plan of this house. It consists of two small, almost circular houses whose entrance passages merge into one with a common opening; accordingly these two houses have preserved their independence to a greater degree than the foregoing. House A is 2.0 m in diametre, with no sign of a platform; in the bottom was pure shell gravel under a thin culture deposit; in a wall a few stones. House B was 2.5 × 2.4 m; the platform, the edge of which was set with stones, was raised about half a metre over the floor, and there were several flat floor stones. In the passage to B two roof stones were in position,

and there was also one over the common entrance; from the south end the passage drops steeply in under this lintel.

In this house were the following specimens: two harpoon heads of the Inugsuk type; fragment of a harpoon head with blade slit; blade of a snow knife; knife handle with blade socket at the end, handsomely ornamented (Pl. 3. 5); a wedge; a mattock blade; tang of an ulo with an iron blade; lamps with and without wick ledge; a round fragment of a cooking pot; a pendant with dot ornamentation (Pl. 6. 6); an ajagaq of seal radius; pointed end mounting for a toy paddle.

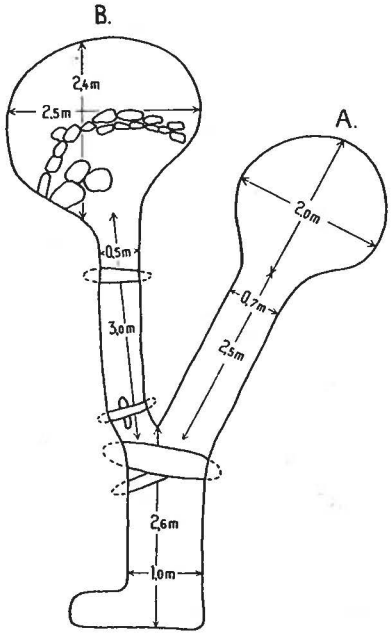

Fig. 6.
Plan of House-ruin 14, Utorqait.

House 15. A double house of a character similar to 13, but more irregular. The entrance passage, $3^1/_2$ m long, 1 m wide and sunk a half metre into the ground, is set with regular stones and continues into the house almost to the partition wall between the two rooms, this wall being of turf with a stone here and there. The east room A has irregular angles, about $3 \times 2^1/_2$ m, with a regular flooring about the middle; on the north side this room is bordered by a step about 20 cm high, partly set with stones, and behind this is a flat surface of pure sand, possibly the platform, though it runs smoothly into the terrain surrounding the house. The west room, B, is about 2.9×2 m; in this case, too, the shape cannot be determined; in two places ashes and slag indicate where cooking was done. Below the floor in this room, about 20 cm down, we found a round setting of stones, possibly the remains of a still earlier house over which this one has been built; if so, it has had its centre near the west side of room B.

The culture deposit in this ruin was thin and the specimens badly weathered. Of specimens we found: two harpoon heads of the Inugsuk type; a harpoon finger-rest; a ferrule for the butt of a weapon shaft; a wedge; a drill shank; a stone scraper with convex edge; a rounded fragment of a cooking pot; an ajagaq of seal radius; bone edging; large curved piece of whale bone with several notches and the remains of a large hole.

House 16. Of the large, rectangular type and about 6×4.2 m.

Two depressions lead out of the house, and it is uncertain which of these has been the entrance passage. The house was thickly overgrown and had a number of stones in the walls, and did not seem to contain any thick culture deposit, for which reason it was not excavated.

House 17. This was so flattened out and overgrown that it was impossible to decide its original shape. The passage, about 30 cm deeper than the floor, extended about 60 cm into the house; from there to the rear wall of the house measured about $3^1/_2$ m, whereas the width was about 4 m. Prior to excavation the whole ruin formed a basin-like hollow. There were only few stones in the walls, and otherwise it was impossible to determine their limits. In the front part of the house were some rounded flooring stones; in its rear part the substratum, sand, lay somewhat higher, but there was no sharp boundary to be seen.

In the middle of the ruin was a rich culture deposit, about 50 cm deep, with quantities of bones (especially of caribou and seal), mussel shells and ashes. Of specimens we found: Two harpoon heads, slightly flat, one with and one without blade slit; a leister-harpoon head; two fragments of harpoon foreshafts and one foreshaft for an ice-hunting harpoon; a finger rest; a swivel; a bow-backing twister; two arrow heads with screw tang (Pl. 1. 11); bird dart head with conical, notched tang and a side prong for a bird dart; a gorge (Pl. 1. 13); a leister prong. Two legs for a ring-shaped kayak stand (Pl. 3. 1); two knife handles, one with an iron blade and one with the blade socket at the end; a whetstone; two wedges; two hammer stones; a round fragment of a cooking pot; two spoons of antler; a meat stick; a pendant made of the bowl of a spoon (Pl. 6. 5); playthings of two bird bones (Pl. 6. 12); bone edging.

House 18. Also seems to have been a double house of a type similar to 13, but more irregular, especially in the fact that the entrance passage runs from the middle of the west room, B. The passage is 3 m long, dug deep down, and set with stones. Round about its opening into the house is a regular flooring of flat stones, and on the north and east of it are extensions with an evenly sloping sand bottom, presumably platforms; from each of these a small extension runs northwards, and in these again the sand bottom lies about 30 cm higher; these extensions are apparently store rooms. In the wall between the two rooms were some stones, but otherwise there were only stones here and there in the house wall, which at other places could not be definitely identified. The total length is about 5 m, and the breadth of the two rooms (not counting the store rooms), is about 3.10 and 2 m.

House 18 contained the following specimens: A flat harpoon head with three spurs; two fragments of harpoon foreshafts; the point of a bladder-dart head with barb and blade slit; fragment of an arrow head

with three barbs; the head of a bird dart with knobs on the tang; two side prongs of a bird dart; two leister prongs. A sledge cross slat; four whetstones; a hammer stone; an adze head; a wedge; a mattock blade; a drill with iron bit, and the foreshank of a drill; a two-handed scraper; the handle of a stone scraper (Pl. 3. 15); two fragments of lamps with wick ledge and one of a cooking pot with the suspension hole on the inside; a comb (Pl. 5. 6); an ajagaq of seal radius; an ornamented ajagaq

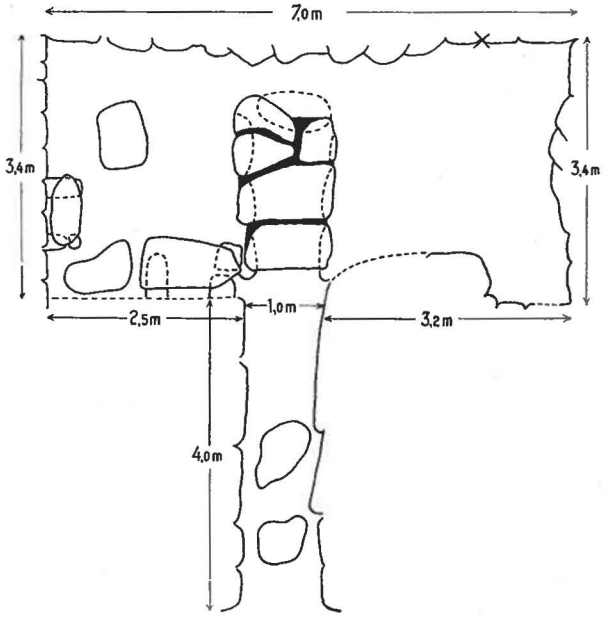

Fig. 7. Plan of house-ruin 19, Utorqait.

pin (Pl. 6. 13); two toy weapons of bird bone; a toy lamp with wick ledge; bone edging.

House 19. One of the oblong ruins. A plan of it is given in fig. 7. It is 7 m long, 3.4 m wide, with an entrance passage 4 m long, 1 m wide and up to $1^1/_2$ m deep; where it opens into the house its floor is 60 cm lower than that of the house; four flat stones lay across the top of the passage, and two of these were bounded with a stone placed lengthwise and a whale bone. The passage continued into the house in a cavity covered with flat stones. On the floor was a quantity of fallen-in wall stones, only few real flooring stones. At the south and west walls large flat stones had been set over two smaller stones, thus forming a small repository. In the southeast corner thick layers of ashes indicated a cooking place. The south wall was of earth with only few stones; the west wall was constructed of flat stones to a height of 1 m at the highest

point; the north and east walls, too, contained stones but had collapsed more. The thickest culture deposits were found in the cavity in prolongation of the passage and at the cooking place; on the floor it was only a few centimetres thick with few bones. Right in under the north wall, near the northeast corner, there was, however, a fairly thick deposit, but the objects recovered from there are of a considerably older type than the rest of the find and are presumably of earlier date than the house itself.

This ruin yielded the following: The rear end of a thin harpoon head; two mountings for the fore end of a harpoon shaft; two ice picks; an arrow head with screw tang; tang of a bird dart head, with screw; a side prong of a bird dart; a fish hook with an iron point; a trace buckle; two knife handles, one with a long iron blade; an adze head; large scraper blade of slate; fragments of rounded cooking pots; fragment of a wooden tray; a pot hook; spoons of antler and bird breast bone; a comb; a pierced bear tooth; pendant, with seal-tail ornament (Pl. 7. 20); toy harpoon shaft with two holes and short tenon (Pl. 7. 19); a drum handle; a piece of iron, potsherds, and two glass beads (Pl. 7. 13).

In under the north wall were (older than the house): A long fusiform harpoon foreshaft with one hole (Pl. 2. 1); an arrow head with one barb; a bird dart head with no screw on the tang; a mattock blade; two wedges.

House 20. This ruin was in such a state of collapse that its original form could not be discerned; but in any case it is one of the small houses, scarcely bigger than three or four metres each way. The entrance passage is 4.7 m long, sunk to a maximum of 1.2 m below the surface of the terrain, with stone-set walls and several roofing stones in position. Only a few stones here and there on the floor of the house, and otherwise there was mostly sand below the culture deposit. It would seem that the deposit on the floor stretches in under the west wall of house 19, which is of later date. Apart from a small blue glass bead (Pl. 7. 18) in the turf, apparently from house 19, house 20 contained the following: A harpoon head of the Inugsuk type; the rear end of a harpoon foreshaft; a swivel; the rear end of a bird-dart head with a notched tang; five side prongs of bird darts; a knife handle with the blade groove on the side; two whetstones; two wedges; two mattock blades; an adze handle; an ulo handle without tang; a convex-edged stone scraper blade; a two-handed scraper; a lamp of a hollow piece of gneiss; pieces of a rounded cooking pot; two sticks of asbestos; toys formed of two gull bones; two lengths of bone edging; a penis of antler (Pl. 5. 9 and fig. 35); a bone nail.

House 21. Prior to excavation appeared in the form of a depression, thickly overgrown with dandelion. It eventually proved to be very

similar in shape to No. 18, but without the two "store rooms" on the north side. A plan of it is given on fig. 8. It consisted of two round rooms, one large one on the west (B) and a slightly smaller one on the east (A); the walls seem to have consisted mostly of turf, so that its limits are indistinct. In the larger room is a regular floor of flat stones, and in the small room too there are some flat stones; on the site of the platform, however, there was only sand. The total length of the house is 7 m, the width of the two rooms $3^1/_2$ and $2^1/_2$ m respectively. A large flat stone, now overturned, seems to have separated them. The

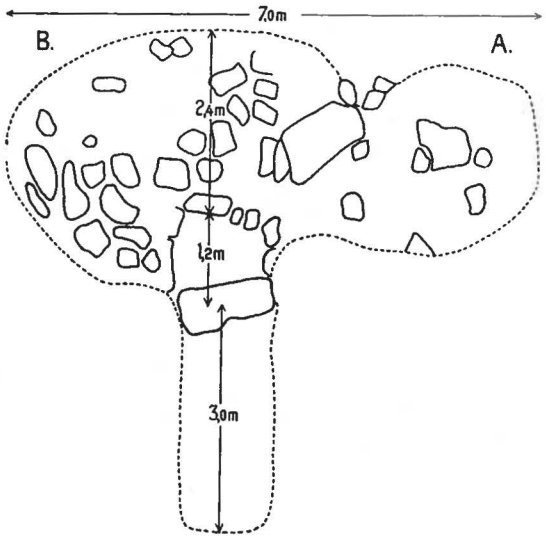

Fig. 8. Plan of house-ruin 21, Utorqait.

passage ran from the south side of the larger room, 3 m long, one of the roofing stones still being in position; it extended about 1 m into the house, where it was about half a metre lower than the floor. Possibly room B has been divided into two by a projection, as the flooring stones extend well towards both west and north; in that case the house has had three platforms, but whether this was so or not could not be definitely established. The richest culture deposit was in A, it having a 10 cm layer of bones and mussel shell (layer 3), over which was a 20—30 cm layer of sandy earth with bones (layer 2), and over this again was turf (layer 1).

The specimens found in house 21 were: Harpoon head, slightly flat, with no blade or barb; a harpoon blade of bone; a swivel; an arrow head with notched tang; the rear end of a bird-dart head, without screw; two side prongs of a bird dart; two knife handles with the blade

socket in the end; two mattock blades; an ulo handle without tang; a lamp with the partition across the middle; three fragments of a rounded cooking pot; a pothook; a meat stick; a comb.

House 22. A round house, about 3.8 m (in the direction of the passage) × 3.2 m, inside measurements, with a passage about 4 m long and 80 cm wide. The walls were principally of turf with a few stones, and were up to 1. 2 m higher than the floor, on which several flat stones had been laid direct on the ground, consisting of fine beach sand with



Fig. 9. House-ruin 22, Utorqait, after excavation

shell fragments; on the site of the platform the substratum lay about 10 cm higher, but there was no sharp boundary. In the passage were large numbers of stones, but none of them in position; the upper end was about 30 cm below the floor level.

In both house and passage we found large numbers of bones and mussel shells, whereas the only specimen implements were a heavy weapon point, apparently of a bird dart, without screw, a wedge, and a spoon of antler (Pl. 5. 4).

Fig. 9 shows this ruin after excavation; on the left is the passage opening.

House 23. Before being excavated the surface here was very flat, thickly overgrown with *Elymus arenarius*, and with two deep holes of meter-depth down into the ground; several large stones and a single

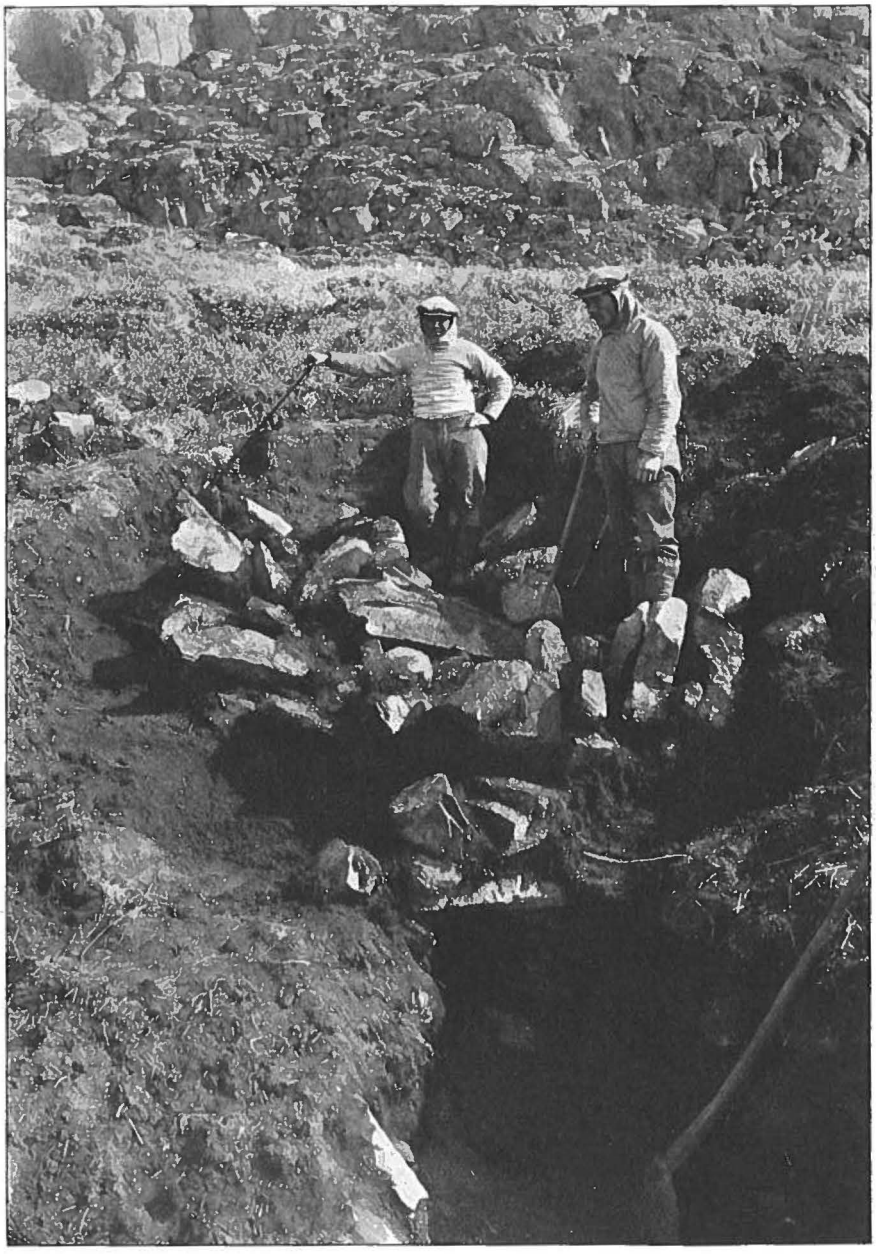

Fig. 10. House-ruin 23, Utorqait, during excavation, from south.

whale bone were to be seen near these holes; there was really nothing to indicate that it was a house ruin. When excavating the turf and earth were carefully removed down to the stones; by this means we uncovered an elongated heap of stones, about 4.4 × 2.5 m, consisting of all possible sizes, but mostly flat stones, as well as three large whale bones: two pieces of jaw and a rib, as well as very decomposed remains of wooden roof beams; south of this heap a very deep passage was revealed, its bottom being about 1 m below the surface of the ground, and it ended at a stone-set doorway about 65 cm high and 50 cm wide. A picture of the ruin at this stage of the excavation is given on fig. 10. In the foreground is the passage, and behind it the heap of stones and one of the whale bones.

We were now no longer in doubt that this was a collapsed house and that the stones in the pile were from the fallen walls and roof. After the uppermost layer of stones had been removed other stones were constantly appearing, likewise all in disorder. Under these was a regular, paved floor. The entrance passage turned out to have continued 1 m in under the floor as far as and a little way under a large, flat flooring stone; this cavity, however, was open at the top, the covering stone having fallen into it; its bottom was about 1 m below the floor level. At the sides of the house we then found remains of stone-set walls, including two stones that together formed a straight piece 1.9 m long. Of the rear wall there were only one or two stones; the back part of the house was full of dark culture soil, a metre deep, seemingly running smoothly into the surrounding terrain. If anything the house seemed to have been oval, about 3.5 m long and 2.2 m wide. Fig. 11 shows this house after the fallen-in wall and roofing stones had been removed.

Inside the house were a quantity of bones, mostly weathered, and some mussel shells. Between two of the roofing stones in the upper layer, in the southeast part of the house, was the iron adze fig. 42. In a small lump of moss found at the top in the cavity of the prolongation of the passage, at the place where there had been an opening up to the floor, was a small blue glass bead, which thus may have been left there at some later period.

Otherwise house 23 yielded the following:

A harpoon head of the Inugsuk type; a thin harpoon head with two barbs, with no separate blade, and a fragment of a third, thin harpoon head; a harpoon head, slightly flat, with one barb and blade slit (Pl. 1. 6); a harpoon blade of angmaq, unpolished, with a notch in the rear end; the foreshaft of an ice-hunting harpoon(?) with conical tang and knobs (Pl. 1. 9); an ice pick; a wound pin; a swivel. Two bird-dart heads with screw; two bird-dart side prongs. A leg for a ring-shaped kayak stand; three knives, one with an iron blade, ornamented,

two with the blade socket in the end; a wedge; a whetstone; a hammer stone; an ulo handle without tang; a twohanded scraper; two scraper blades of angmaq (Pl. 3. 12); an unfinished lamp with a rudimentary wick ledge; two fragments of rounded cooking pots; a lamp trimmer of asbestos; a pendant of asbestos; ajagaqs of seal radius and antler; a toy comb (Pl. 6. 16).

House 24. Up against the east wall of house 16 is a round, sandy depression, $4^1/_2$ m in diameter, from which a hollow runs southwest;



Fig. 11. House-ruin 23, Utorqait, after excavation.

presumably this is the ruin of a house too; it does not seem to contain a culture deposit of much importance and was not excavated.

Excavation Area B. Below the large group of ruins at Utorqait, in front of the entrance-passages to ruins 19 and 20, we found the largest midden in that locality; there we marked out Excavation Area B, consisting of 25 squares of 4 sq.m, or in all 100 sq.m; this was also the spot that produced most specimens, 275 being recovered.

This midden lies on fairly even terrain sloping gently towards the southeast and towards the gully in the south west. The depth of the culture deposit varies from a half metre, being at some places 60—70 cm nearest the doorways and in the middle of the area; at the sides it tapers off to 10—20 cm. The layer containing the Eskimo relics was, however, much thinner as a rule. Take for example the profile in the east wall

of square B 7: the upper 20—30 cm are turf and sandy earth, containing very few bones; below a layer about 10—15 cm densely packed with bones — here and there with many fish bones and mussel shells; below this again a thin layer of sand, under which was a 5 cm layer of black, greasy deposit, presumably deposited by percolating water; it contained neither bones nor specimens. In the northwest corner of square B 2 was the following profile: 20 cm turf and earth with few bones; 10 cm rich culture deposit, full of bones and mussel shells; 20 cm black striated earth; below this sterile beach sand.

The rich bone layer was rarely more than 10—20 cm thick, often only 5 cm, and sometimes it was entirely lacking; often it was mixed with streaks of ashes; in many places there were whole layers of fish bones and mussel shells.

Midden B must of course be taken as having been formed from houses 19 and 20, two houses between which there is a considerable age difference. As will be seen from the following, there are specimens that characterize themselves as being later, originating from house 19, distributed over the midden in such a manner that they are scattered from the entrance to house 19, some lying outside it, others over layers containing earlier objects; on account of the thin culture deposit, however, no complete separation of the specimens from the two houses could be established.

Earlier specimens from Midden B are shown on Pl. 1. 2, 3, 7, 8, 10 and 14; 2. 4; 3. 9 and 19; 5. 7 and 10; 6. 7, 15 and 19, and Fig. 32a. Later specimens are shown on Pl. 7. 6, 8, 9 and 12.

Excavation Area C. This lies on the slope on front of houses 13 and 21; its lower row of squares forms the westerly continuation of B's upper row. The area covers 52 sq.m, and on the whole was poorer than B, containing only 46 specimens. The culture deposit was thickest, about 40 cm, in the most northerly part, squares 3 and 4, but at no place did we find compact layers of bones as in many parts of B. A spoon from C. is shown on Pl. 5. 3.

Excavation Area D. Is only 8 sq.m in size and lies before the entrance to house 17; the culture layer was thin (5—10 cm), poor, with bones very decomposed. Of objects we found the side prong of a bird dart and two fragments of cooking pots.

Besides the house ruins in the Utorqait settlement there are some meat caches. Just to the east of house 16 there is one, round, set with stones, and another one like this, dug deep down, lies a little to the northwest of house 3. Two smaller, but deep holes in the settlement, one being southwest of house 16, have apparently been meat caches too.

Finally, in the terrain round about the settlement were some graves; they all look old and are apparently of similar date to the ruined houses.

On the gneiss plateau south east of the large ruin group are three graves (shown on the map, Pl. 8.). No. 1 is a handsome, regular cist of flat stones, 1.6 × 0.9 m; it was almost undisturbed. In it were the remains of two very decomposed skeletons and, of grave goods, a leister prong, a wooden stick, and a few seal, walrus and caribou bones. No. 2 is apparently a child's grave, measuring only 1.1 × 0.5; it was only slightly disturbed and had a covering stone lengthwise over it; it contained a child's skeleton in a huddled up position, with the head towards the

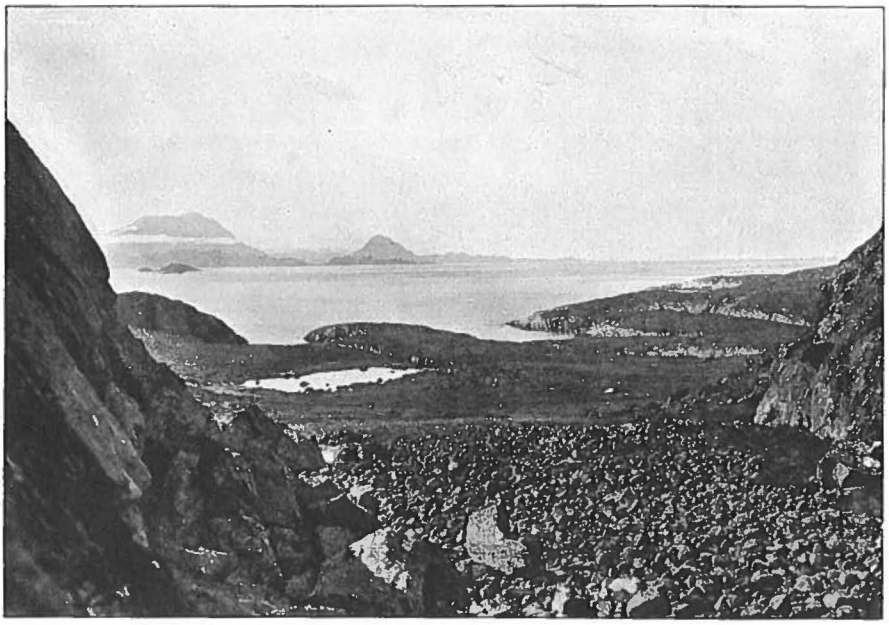

Fig. 12. Burial valley at Utorqait.

east. No. 3 is a large grave, 2.0 × 0.9 m, also fairly well preserved. Only a piece of the skull was found, however. At the south end was a disturbed chamber for the grave goods.

Most of the graves, however — eight in number — lay in the gully, shown on the picture fig. 2 southeast of the tents. The bottom of this gully is covered with pebbles, of which the graves are built. Fig. 12 shows this gully seen from above; a number of the graves will be seen in the middle distance. Five of them were entirely destroyed and emptied. Of the others one was undisturbed, placed alongside a large boulder; its inside measurements were 1.6 × 0.8 m; a piece of a umiak oar had been used in constructing the roof, otherwise it contained no grave goods, and there was one skeleton. Another was 1.4 × 0.7 m, slightly disturbed, with remains of three skeletons. The third was only 1.1 × 0.5, with a skull.

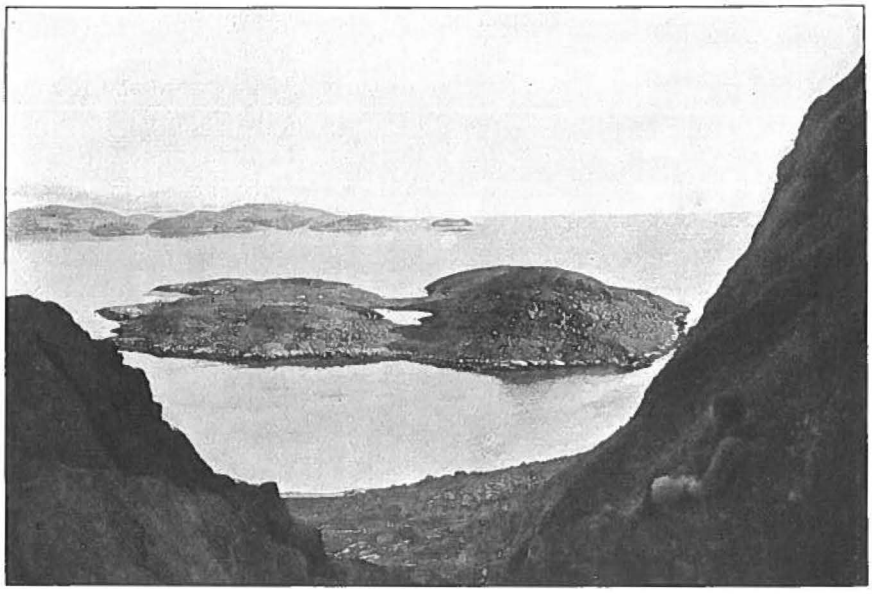

Fig. 13. Igdlutalik Island, looking from the shaman cave on Ûmánat.

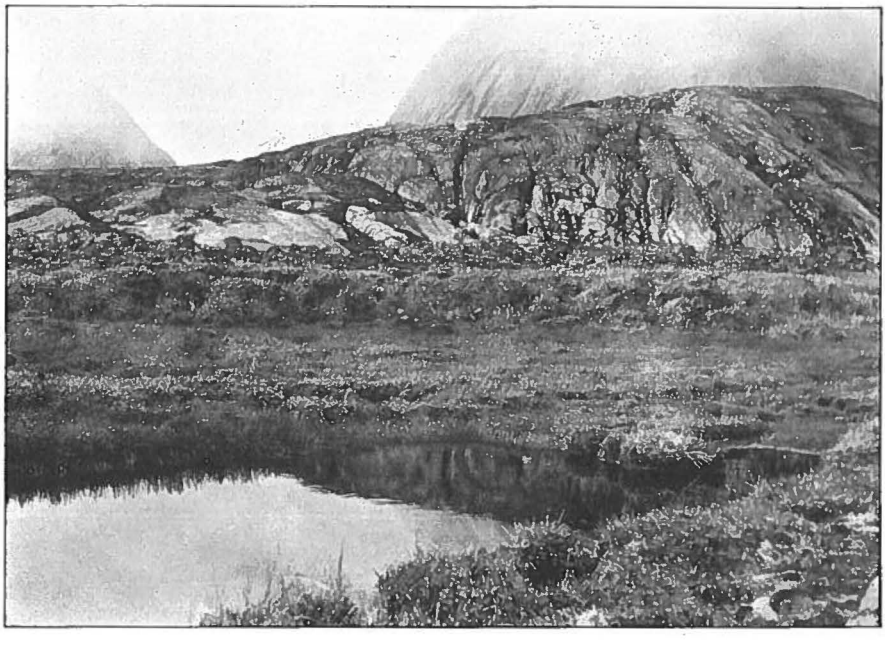

Fig. 14. Ruins at Igdlutalik, from southeast.

Igdlutalik.

Igdlutalik is a small island just south of Ũmánat, the island with the Sukkertoppen mountain a little to the north of Kangâmiut. Fig. 13 shows this island seen from a shaman's cave up on Ũmánat; in the background are the Kangâmiut islands. The south side of Igdlutalik is indented by a small bay, and this continues in the form of a valley with a lake in it right across the island, dividing it in two parts. On the west side of the valley, just below the lake, are five ruins of houses,

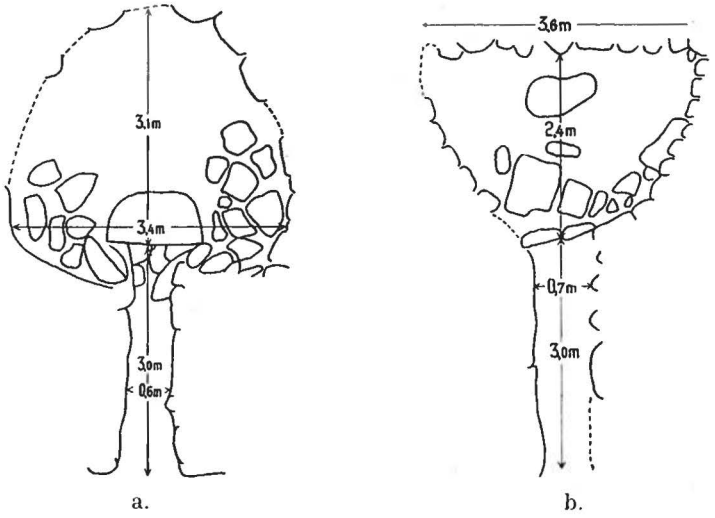

Fig. 15. Plans of house-ruins, Igdlutalik; a. Ruin 1; b. Ruin 5

and on the plateau to the east of it (near the tents shown on the picture) are three graves; more to the east, and lower down, are three tent rings. Fig. 14 shows the house ruins from the east side of the valley. They are dug into the bank of moraine that forms the west side of the valley and lie in the form of a row, No. 1 to 5, No. 1 being the ruin nearest the bay. Before the ruins stretches a swampy depression; in the background Ũmánat can be seen enveloped in mist.

The ruins lie 58—85 m from the sea and at a height of 3—4 m above HWM. They were all thickly overgrown, especially with Elymus, so that they were almost unrecognizable. The entrance passages faced ESE.

House 1. Fig. 15a is a plan of this ruin. Along a deep and fairly steep passage one comes up into the house, which has a paved floor and especially a large sill stone with a cavity below; in the wall are a few stones. The shape of the house is rounded, the greatest breadth — as in the Cape York houses — being near the passage; the platform is not distinctly marked.

House 2. In shape it is more irregular, round cornered, the back wall being almost straight and containing a few stones; in the fore part is a regular floor. The entrance passage is 3 m long, collapsed in places, with one roofing stone in position, and it extended some way into the house where its bottom is 55 cm below the floor level. The length of the house (in the direction of the passage) is 2.05 m, the breadth 4 m.

House 3. Was not excavated; consists of a hollow filled with stones, the original shape being impossible to ascertain.

House 4. Almost circular (about $3 \times 2^1/_2$ m in diameter), with some stones in the walls and a few flooring stones. The entrance passage, which is sunk to a maximum of 1.20 m, has a roofing stone in position and extends a little way into the house; the platform was not indicated.

House 5. Of rounded-triangular form, with a stone-set, almost straight, back wall, 3.6 m long, and slightly curved side walls; the depth of the house is 2.4 m, and in the fore part there is a regular floor. The entrance passage was 3 m long, 70 cm wide, and set with stones. At one place near the rear wall we found ashes and slag. A plan of this house is given on fig. 15b.

There was extremely little culture deposit in these ruins; the few bones seen were very decomposed, the very dry, stony moraine earth providing the worst possible conditions for preservation.

The Excavation Area was sited in the depression in front of the entrances to ruins 1—3 and sideways as far as there was any culture deposit worth the name. In front of 4—5 there was nothing at all, the ground there being more dry, and the same applied to the upper row of squares, which to some extent were full of large stones. The area had a length of 14 m and a width of up to 7 m; 88 sq.m in all were excavated. The squares opposite the entrances to 2—3, a little way out in the depression, were richest. There we found, under the turf, a 5—10 cm layer of culture deposit with many bones, particularly bird bones, some fish bones and mussels, and below this was muddy peat. As at Utorqait, objects of wood and baleen had perished.

Of specimens found at Igdlutalik there were in all 65; a list of them is given on page 65—70. Most of them were found in the midden. House 1 contained the rear end of a bladder-dart head, a bird-dart head with screw, two bird-dart prongs, a fragment of a knife handle, an ulo handle, a lamp with a rudimentary wick ledge. House 2: an unfinished cooking pot and fragments of lamps. House 4: fragment of a whetstone, of a cooking pot, and of a toy pot. And house 5 produced only an unfinished toy pot.

The graves had all been disturbed. Two contained two skeletons each, the third only a few remnants. In one of them was the mounting (with socket) for the butt end of a weapon shaft.

Fig. 16 shows a large tent ring, formed of a mound of stones for the purpose of holding the tent sheet out or as a foundation for the tent walls; this one is round, whereas another at the same place was rectangular with rounded corners. Tent foundations, for giving more room inside the tent, are still in use. At Angujârtorfik, a long way up Søndre Strømfjord, I saw in a caribou-hunting camp several European canvas tents with a foundation of this kind, and in addition a small wind screen of turf was built before the doorway. As will be seen in



Fig. 16. Tent foundation at Igdlutalik.

the following, four of these tent foundations were found at Qeqertarmiut, but they are scarcely very old either.

Peculiarly enough these tent foundations are rarely referred to in the literature on Greenland, though they are known from both the southern coasts[1]). Conditions at Igdlutalik show that it cannot be any modern phenomenon, associated with the canvas tent, for the Igdlutalik settlement does not seem to have been inhabited after the arrival of the whalers in the country. Their round shape might indicate that they have something to do with, possibly a further development of, the big tent rings that are so common on the settlements of the Thule Culture in the Hudson Bay area[2]).

[1]) Graah, p. 73; Thalbitzer 1914, p. 365. B-S 1924 p. 156.

[2]) M 1927 I, p. 101, and II, p. 129.

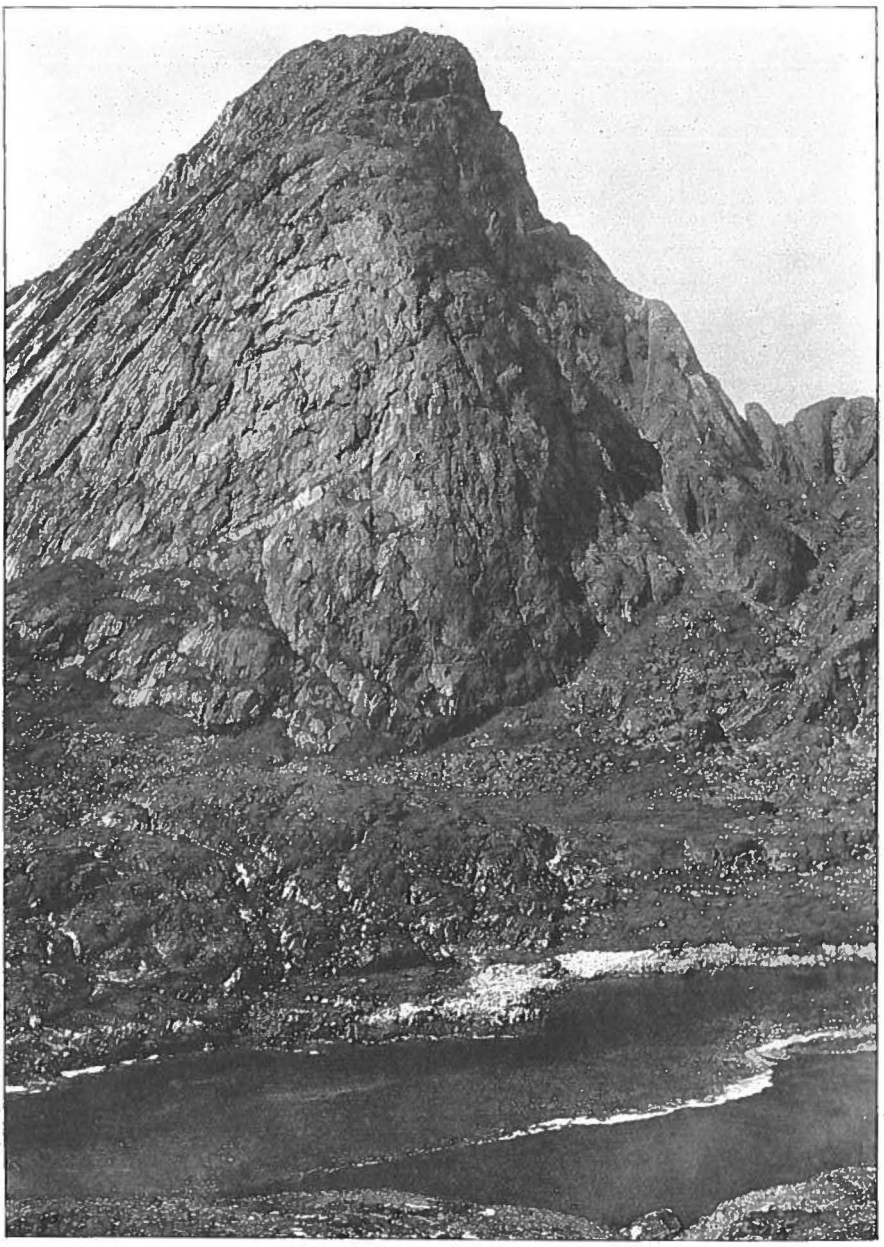

Fig. 17. Sukkertop Mountain on Ũmánat, with ruin, seen from Igdlutalik.

The Igdlutalik settlement gives the impression of having been inhabited only a short time; the accumulations of refuse are not deep and, as will be seen later, the objects found are very heterogeneous; there is no reason for assuming that all the habitation remains are not of about the same period.

Ũmánat.

On the south side of the island of Ũmánat, at the very foot of the Sukkertoppen, lay the ruin of one of the large, rectangular houses; the



Fig. 18. The ruin on Ũmánat during excavation.

floor lay at about 4 m above HWM, whereas the midden extended right down to the beach, where at several places it fell sheer down. Fig. 17 shows Sukkertoppen, seen from the highest point on Igdlutalik island; the ruin lies at the bottom to the right; the broad, dark tongue stretching down into the light beach is earth thrown out from our excavations.

The ruin was rectangular, 11 m long, 3 m wide inside. Of the walls only the west and northwest were fairly well preserved, built up to about 1 m of flat stones; the other walls were partly fallen in. The entrance passage opened into the south side of the house, 3 m from the east side; it was sunk 25 cm below the floor level, and one of its roofing stones was in position; only at the top was there any regular

stone wall, the rest of it falling away gradually. Inside, the house contained quantities of stones that had fallen in; when these had been removed we found at five different places, more especially in the west part of the house, sections of flooring of flat stones; there has been no continuous flooring throughout the whole length of the house, and we found no trace of platforms or partitions between the platforms of the various families. Fig. 18 shows the house seen from the west end, before the floor was entirely uncovered. Below this floor was a layer, 15—30 cm deep, of dark culture earth containing quantities of glass beads, pieces of iron and other objects; there were only a few decomposed bones and one or two mussel shells. Below this layer another floor came to light, but only in one or two places; in the middle of the west part of the house, for instance, there was an area, about 2 × 2 m, where a flooring of flat stones rested on the moraine gravel; the same was the case with an area about 1 sq.m just inside and on the right of the entrance passage.

In front of the house, on ground sloping rather steeply down towards the stony beach, a very considerable accumulation of rubbish had been formed, and of this we excavated an area of 72 sq.m. The terrain was very uneven, the result being that the layers of refuse were of very different thicknesses, being thickest, over 1 m, in a cleft which ran through the middle of the area; there the culture deposits were densely packed with bones, especially of seals, caribou, birds, some fish, and many mussel shells; as a whole the bones were well preserved, whereas nearly all wood had decomposed. At most places, however, the deposits are much thinner, 10—40 cm.

On p. 114—16 is a list of the specimens found in this midden and house. Fairly large numbers were found in both. They all gave the impression of being very heterogeneous; the house seems to have been inhabited for a relatively short time. The specimens from Ũmánat are shown on Pl. 7. 1, 2, 11 and 14-17.

Qeqertarmiut.

The island of Qeqertarmiut (i.e. the island dwellers) lies in Hamborgersundet opposite the present settlement of Agpamiut. It is a fairly large, but not very high island of rounded gneiss. On its south side there is a low foreland, and there lies an old settlement of considerable dimensions. Fig. 19 shows the Qeqertarmiut settlement, seen from the northwest. Behind the tent is a large, rectangular house ruin right down on the beach and partly demolished by the sea; a little way from the water and forming the entire foreground of the picture, is a rather uneven stretch of ground, overgrown with a vigorous covering of grass, which proved to be a large and very old midden — of a thick-

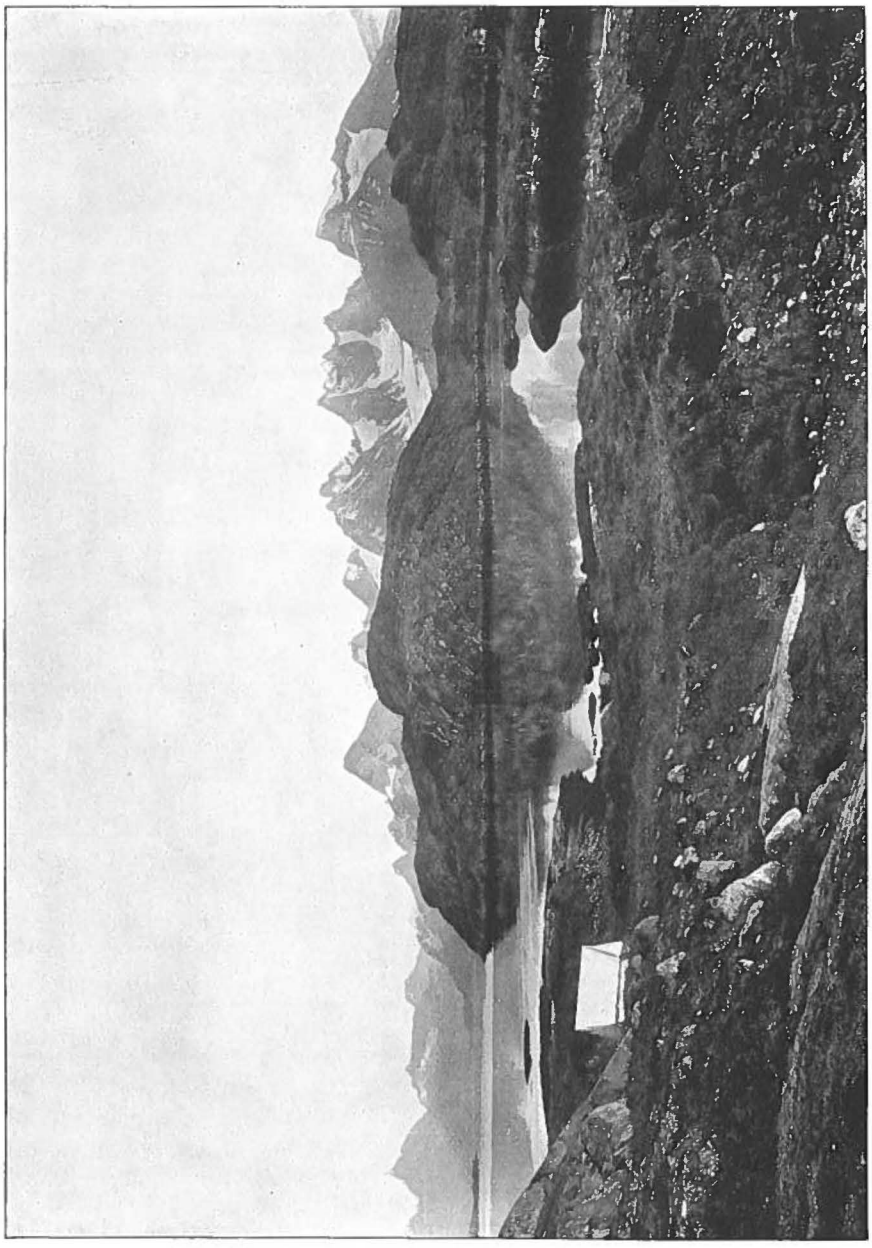

Fig. 19. The settlement Qeqertarmiut during excavation.

ness of $1^1/_2$ m in many places; scattered about the settlement were also eight graves, although none of them appears on the picture.

The long ruin was of very considerable dimensions, about $12 \times 5^1/_2$ m;

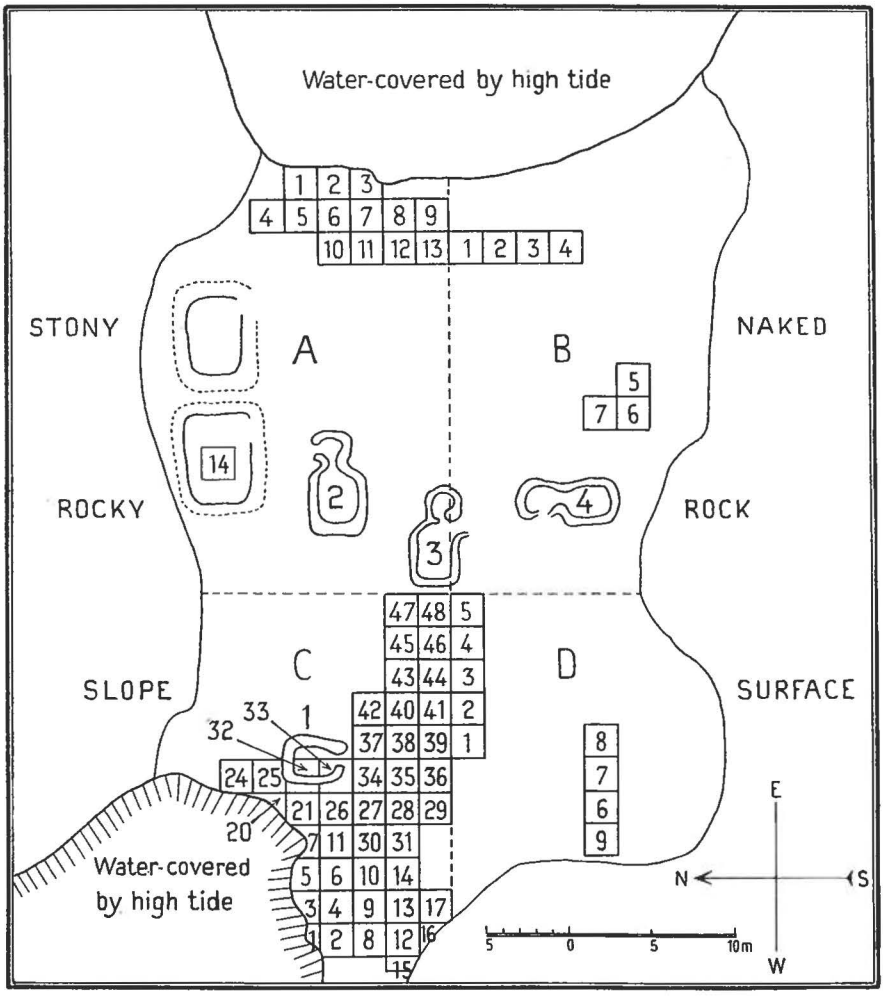

Fig. 20. Plan of the large midden, Qeqertarmiut, with the excavated squares.

the entrance passage and most of the south wall are washed away; at the end of it lay a store-room, dug into the ground, $1^1/_2$ m wide. In this ruin only a small sample excavation was made at the east end; there proved to be a culture deposit about 1 m thick, earthy, with many stones, but almost devoid of bones and specimens; only a few fragments of broken glass were found.

The large midden, which has nothing to do with this ruin, is

shown in plan on fig. 20. It is an area of about 40 m in length from east to west and 30 m wide from north to south. On the north side it is bordered by a stony slope which a short distance away runs into a naked cliff; on the south it runs up against naked, smooth rock; on the east and west it extends as far as low stony stretches that are submerged at high water; on the west the sea had formed a steep bluff about 1 m deep, and this was partly overgrown with grass. The surface was fairly even, to a great extent owing to the four modern tent foundations that have been built on it. The highest point of the midden, 4.10 m over HWM, was almost at the middle near tent foundation 3; the whole of the middle part of the midden was of about the same

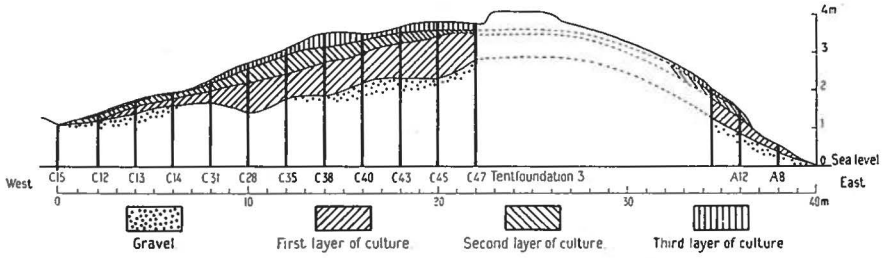

Fig. 21. Cross section through the Qeqertarmiut midden.

height; towards the east the slope here and there was fairly steep, but otherwise very even. Fig. 21 shows a section through the midden from east to west; the profile cuts the wall of fundament 3. The southeast corners of the squares that were cut are indicated, as also the approximate position of the three culture layers that were established, as will be described later.

In most places the substratum was moraine gravel; over fairly large areas, however, especially in the thickest part of the midden, the deposit lay direct on the surface of the rock; at one place, in D 8, there was clay under the layers of rubbish.

Of this midden we excavated in all an area of 276 sq.m, divided into four main sections, A, B, C and D. These, and the numbers of the various excavation squares, will be seen on fig. 20. The most extensive excavation was made in section C and the adjoining squares of D; but, as will be seen, only a fraction of this large midden has been examined, and especially its middle and thickest portion; the great masses of earth that had to be removed, and in particular the many stone constructions belonging to houses that we met with, had the effect that our excavations here proceeded only at a very slow pace. It was indeed these stone constructions that persuaded me to abandon my idea of digging a trench right through the midden; in the first place it

would be very difficult to dig, and secondly, it would destroy the remains of the houses we might come across. But by supplementing the big excavation with a number of smaller ones I nevertheless believe that I have obtained an insight into the whole of the midden and its composition.

At the edges, for instance in the squares A 1 and 4, B 5, C 2, 8 and 12 and D 9, the culture deposit was very thin, mostly from 15 to 30 cm, but very rich, thickly packed with bones and mussel shells, in which objects of wood and baleen had decomposed; conditions there were just the same as in Midden B at Utorqait. At places, as in section A, the bones were badly preserved and often formed quite a bony pulp. In most places, however, both bones and bone objects were well preserved. In the fairly high bluff on the west, in squares 20, 24 and 25, the layers were much thicker, up to 1 m, of an earthy-sandy nature, but in this both bones and bone objects were very decomposed and weathered. From the edges the thickness of the deposits grew in towards the middle. In the west wall of squares A 12—13 the layers were 80—90 cm thick, but poorly preserved; in the east part of D 8 it was 60 cm thick. The profile fig. 21 gives an idea of the thickness in C. It grows steadily until in the east wall of C 28 it reaches 1.20 m; and in all the squares C 34—48 it has considerable thickness, culminating in D 3, where the south wall had a height of 1.9 m; in the profile we find the greatest thickness, 1.7 m, in the east wall of C 38. The profile in this wall may be used as an example of the composition of the midden at its thickest part: The upper 20 cm are turf, with faint traces of bones in an advanced stage of decomposition; underlying this is a culture deposit of sandy soil, with a few remains of bones and bits of wood, including a large piece of driftwood; below this again 40 cm of darker, richer culture deposit, having at the top a thin layer rich in bones and wood; further down the bones are badly decomposed. The next 10 cm are occupied by flat stones belonging to the floor of a house, and below these is a thin, very rich deposit with wood shavings, heather, pieces of baleen, hair, etc. Below this are 30 cm of dark culture earth, with a lot of refuse of various kinds and a few large stones; at the bottom of this layer was a few flat stones, and in the middle of it a layer of moss, 5 cm thick. Below this was about 40 cm of dark, sandy earth with streaks of sand, under which was sterile sand.

In the lower strata of the thickest part of this midden we often came across remains of houses, which had become buried under the metre-thick deposits of refuse. The deposits in and round about these ruins were often extremely productive of culture relics; in particular, quantities of wood and objects of wood were preserved, as well as some objects of baleen, pieces of skin, and the like. The lowest strata of the

midden at the places where it lay on rock were particularly rich; the surface of this rock was often uneven, so that small hollows were formed from which the water could not drain or percolate away, and at such places these usually so perishable objects had kept well.

Some brief reference must be made of the most important of the remains of the houses found there. In the squares C 24—25, in layer 2 (from the top) there was a paving of flat stones, apparently the remains of a floor; not a trace of walls was to be seen, but a number of large



Fig. 22. House ruin buried deep in the squares C34—35, Qeqertarmiut.

stones lying about in disorder. There the midden was about one metre thick.

In C 26, in the bottom just over the gravel, were three flat stones and a length of wall 1.3 m long and 70 cm high, formed of two to three courses of large stones.

In C 31, 20 cm above the rock, was a portion of a floor of flat stones; between it and the rock was a rich culture deposit.

In the lower layers in squares C 27—28 and 34—36 was a much disturbed house ruin, directly overlying the rock in the 5—6th layers. In the south half of C 27 we found at the bottom a deeply-dug entrance passage, 90 cm wide, 65 cm deep, about 2 m long; in the bottom of it was an extremely rich culture deposit with a quantity of wooden objects. In squares C 34—36 at the end of this passage was a regular floor of

flat stones, and over it, in C 34, lay a number of flat stones that seemed to have been piled one above the other — presumably a collapsed wall. Fig. 22 shows this ruin before the broken-down wall was removed; the passage can be seen in the foreground. At the sides of the floor were remains of walls formed of several layers of stones; the south wall had a maximum height of 80 cm, whereas the north wall was lower. On the east side the floor was bordered by a very low edging of stones. The floor thus covers a rectangular surface, about $4^1/_2$ m × 1.20 m; the $4^1/_2$ m would thus appear to be the width of the house. We found nothing definite to show where the house terminated at the back. In squares C 40—41 there were a few large stones set on edge, but it is uncertain whether they may be connected with the floor in C 34—36 or not.

In squares 37—38 were the remains of a floor in the fourth and partly in the fifth layer, but this one is apparently of later date; it was found 25 cm lower than a kayak paddle and other later objects found together at this spot. About 20 cm below this floor, in C 37, was another floor, and under it lay four human limb bones and a skull.

In layers 6—7 in C 41, east of the aforementioned stones set on edge, was a confused mass of flat stones and large pieces of wood, extending into C 43; below this were several very thin, flat stones and the natural rock.

The remains of another house ruin were found at the bottom of the midden in the squares C 46—48 and D 4—5. It is shown in course of excavation in fig. 23. In the foreground to the left is a deep entrance passage, in C 46, the bottom being formed by the natural rock. On the right is D 5; the bottom of this square, on which the shovel rests, also consists of rock, which here lies higher; the midden profile, about $1^1/_2$ m deep, is also shown. Behind the passage begins a regular floor of flat stones, bordered on the left by a row of stones; behind this is a kitchen, formed of stones set on edge, and a number of pieces of wood collected together on the floor. The back wall of the house seems to have been formed of a row of stones, slightly curved, just at the rear wall of the square; the picture also shows two other stone erections inside the house, but these are apparently of later date than the house, as there is a distinct layer of earth under them. On the right there are no remains of any wall. Thus the shape and size of this house cannot be determined either, but it seems to have been 4 m wide. The earth in and round the house (layers 6 and 7) was extraordinarily rich, especially in objects of wood; twelve large pieces, up to 1.1 m long, were taken from just over the floor, presumably all that was left of the roofing.

As already stated, there were four tent foundations on top of the midden, four-sided turf mounds with a wind screen at the door



Fig. 23. House buried deep in the squares C 47—48, Qeqertarmiut.

opening. Some of them are known to have been built by people from Agpamiut, who fished here in the summer months of the 1880's. In the northeast part of the settlement were also two oblong depressions surrounded by low earth mounds, presumably of similar, rather earlier tent foundations. A square was excavated in the middle of the one farthest west (A 14), where there was only about 20 cm of culture deposit with traces of decomposed bones, a little charcoal, a soap-stone sherd

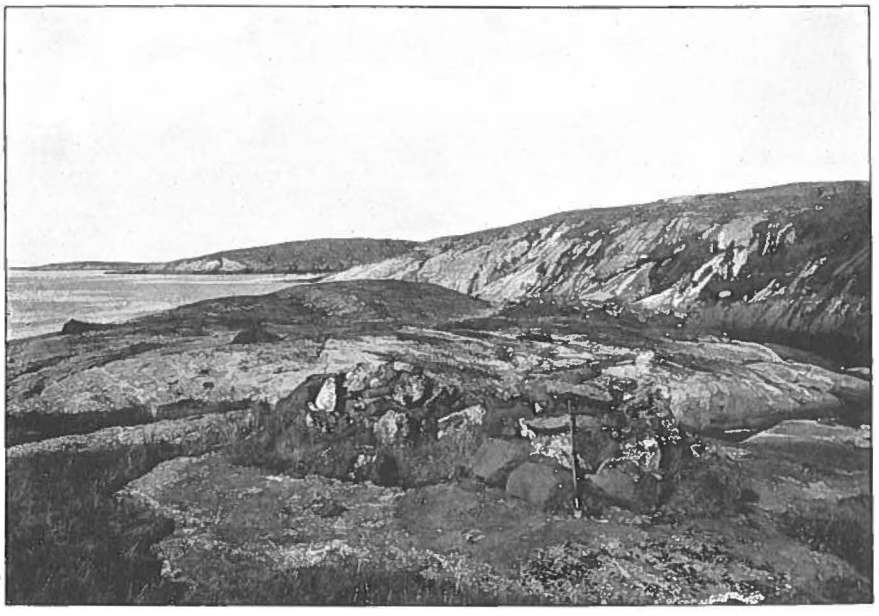

Fig. 24. Graves 4—6, Qeqertarmiut.

and a light-blue glass bead; below was a paving of flat stones resting on the gravel.

Round about the Qeqertarmiut settlement were eight graves; three (Nos. 1—3) were on the slope to the northeast of the large, oblong ruined house; from one of these, one that was much disturbed, we took a number of skeletal remains; among other things another contained seven skulls.

The other five lay just west of the large midden; they are all shown on fig. 24, two in the foreground (Nos. 4—5), three in the background (Nos. 6—8); they rest on the bare rock, just a metre above the high-water mark, so that with a southwesterly gale the sea can wash up around them. No. 4 measured 1.5 × 0.9 m, with six skeletons, a modern harpoon head, fragments of wood and sealskin. No. 5 was 1.1 × 0.6 m, and had five skeletons; in the bottom of the grave was a layer of seal-

skin; the grave goods consisted of a wooden spoon, scarcely very old. No. 6 was 1.2 × 0.8 m, with five skeletons, sherds of a faience cup and pieces of wood; No. 7 was 1.1 × 0.9 m, with five skulls, very much disturbed; No. 8 was 1.5 × 0.9 m, with seven skulls and two small lamps, rather modern in appearance (Pl. 7. 22).

The skeletal material of all these graves was brought home. The grave goods would not seem to indicate that their age is very great. Lists of the specimens from Qeqertarmiut are given on p. 65—71 and 114—16, and the finding places of the objects figured from this locality are indicated on p. 141—44.

Ukîvínguaq.

This is a low little island outside the harbour of Agpamiut. In the middle of it lies a large, oblong house ruin, measuring $9^1/_2 \times 5^1/_2$ m, with a stone wall 1 m high; in the passage was an extension, apparently a kitchen. The ruin was in an advanced stage of destruction as a result of the efforts of relic-seeking Greenlanders. In front of this ruin a fairly extensive midden had been formed, with a maximum thickness of 60 cm, in which five squares were excavated, forming a row parallel with the house, No. 1 nearest the entrance passage and No. 5 furthest from it. This midden contained many bones, mussel shells and much refuse; European objects were prominent in the find. A number of things were also acquired from the Greenlanders, found in the house itself. There is a list of the specimens from Ukîvinguaq on p. 114—16, and some of them are figured on Pl. 7. 3, 7, 10 and 23.

There are three other ruins on the island. A little to the west of the above there is, just above HWM, a thickly overgrown ruin, at any rate 5 m long; a little more to the south, on the far side of a small cove, is a ruin, four-sided, $5 \times 4^1/_2$ m, partly rebuilt into a turf house; and finally, on the southeast point on the beach are the remains of what are perhaps two four-sided house ruins.

According to tradition, Ukîvínguaq was deserted owing to the population having gone with the "prophet" Habakuk into Evigheds-fjorden (ca. 1790).

Other ruin localities visited.

Besides the foregoing places, where more or less extensive excavations were made, a number of localities were visited on reconnaissances, where only a hasty measuring, photographing, and sometimes a sample excavation, were made. They were as follows:

Tasiusánguaq.

Here are house ruins at two different places at a distance of about a kilometre from each other. On the north is a large, oblong ruin, about

10 × 4 m, with fairly high stone walls and a sunken entrance passage having a roofing stone in position; it is divided into two rooms by a partition wall. Beside this ruin lie two others, thickly overgrown and partly washed away.

With this spot is associated the legend of the Greenlander Kinake, who was killed by whalers in the seventeenth century: When they were expecting whalers the Greenlanders kept a look-out and had things ready for bartering. Kinake was out on a ship to trade, and, when he returned home, a whaler was lying with his wife; a fight was the outcome, and Kinake was killed. His son was given the name of Qavdlunât issigingisatdlat — he whom the whites could not see, so he could steal on board unhindered.

A small sample excavation in the large house ruin yielded a piece of a heavy weapon head, soapstone sherds, a fragment of a clay pipe and a porcelain sherd.

On a site more to the south is a four-sided ruin, 5.2 × 3 m, as well as seven small round houses, $2^1/_2$ to 4 m in diameter, all dug into a sandy terrace and having scarcely any deposit of refuse. They lie five of six metres above the sea and are thickly overgrown.

Narssarmiut.

This place, which is still inhabited, was a large village in the time of Hans Egede. On both sides of the valley in which the settlement lies there are ruins of houses. On the east side, standing back a little, are two entirely overgrown and collapsed ruins, and still higher up the valley, close to a large grave, another collapsed house in which we found a wooden bead, a small leister prong, and a wedge.

On the west side of the valley are several ruins, overgrown and almost obliterated. There is at any rate one of the large, oblong houses; glass beads are said to have been found in a bluff in the midden, where it is about a metre high.

On the other side of the island, high up, there is a burial cave under a large, flat rock. According to Mr. Nielsen, twenty to thirty skeletons once lay there, but now only one or two skulls were to be seen. Originally the cavity was closed by a stone walling, and alongside it was a cavity with animal bones — caribou and seal. Now it is much disturbed and is used for drying peat.

Ikerasak.

On the island of Narssarmiut.

Just on the edge of the beach lie two ruins of houses: one large, oblong, 13 × 4 m, with collapsed walls, mainly of turf; the midden and most of the entrance passage have been washed away. The other

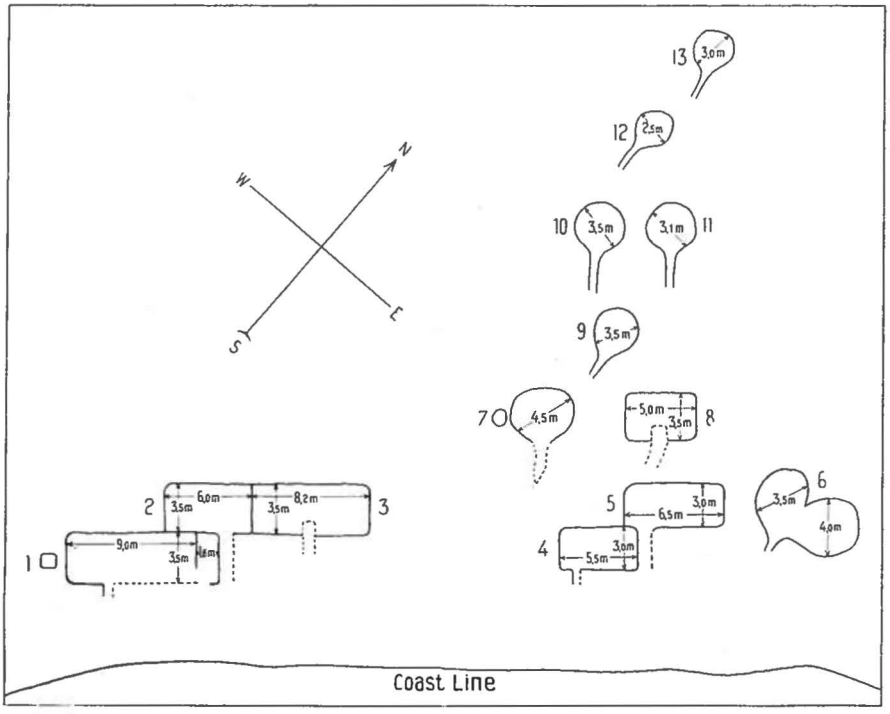

Fig. 25. Sketch of the village site Ingik on Kangâmiut Island.

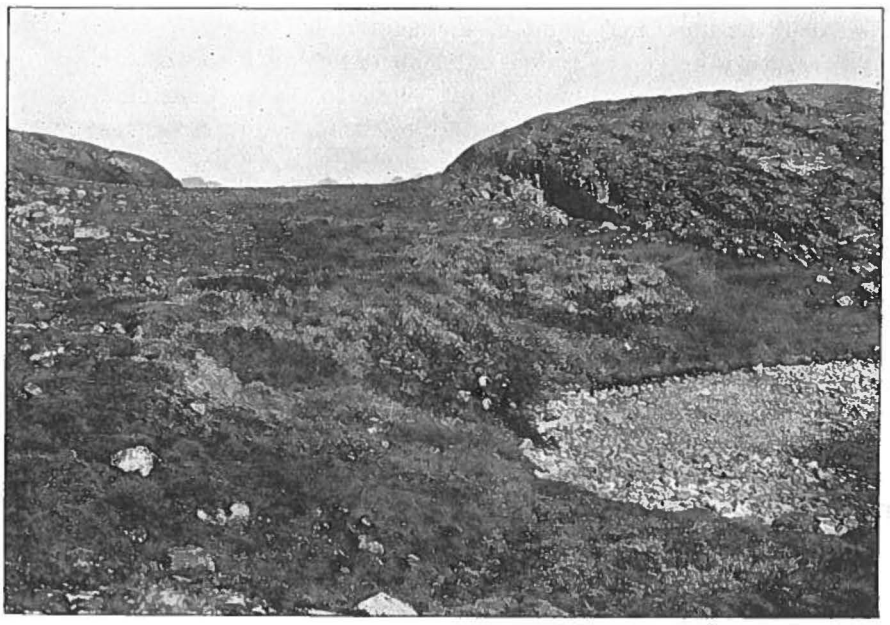

Fig. 26. Ingik village site from south.

is smaller, four-sided, about $4^1/_2 \times 4$ m; a more recent tent fundament seems to have been built in it.

More to the east, on the other side of a ridge, is a thickly overgrown ruin, about 8 m above sea level. It measures about 10×3 m, and has the entrance passage on the south side. Neither in nor outside the house did we find any bones.

Qutdlugisat.

On the island of Akutdleq, just opposite Narssarmiut.

On a terrace near a small cove surrounded by steep cliffs lie two ruins. That on the west is a large, oblong house with stone-set walls, $13 \times 3^1/_2$ m, the passage being in the middle; several of the roofing stones are still in place over the passage. The other ruin is smaller, $3^1/_2 \times 2.8$ m, but four-sided too.

In front of the ruins stretches a fairly large, flat area, thickly overgrown, extended out to a low but steep bluff facing the cove. This area has a covering, 10—20 cm thick, of refuse with many bones, well preserved in some places, weathered in others. Our excavation of an area, 8 metres square, in front of the entrance to the big ruin resulted in the finding of a faience sherd, a piece of iron and a dog's jaw; in front of the smaller ruin we found a cylindrical glass bead.

Ingik.

Near the northeast point of Kangâmiut island.

This very extensive ruined settlement lies on a southern slope on the east side of Kangâmiut island, close to its northernmost point. The houses lie sunken in a sandy terrace, from two to six metres above sea level. Fig. 25 is a sketch of this locality; fig. 26 shows it from the south. The ruins lie clumped together, very much resembling the large group of ruins at Utorqait. It includes houses of both types. Lying lowest are 6 large, oblong houses, and higher up are 7 ruins of the round type; several of the latter seem to have been double houses.

A little further south, fairly low down, lies a single house just above HWM; it seems to be one of the round, double houses, but contained hardly any culture deposit.

The round houses in this locality seemed on the whole to contain very little refuse owing to their having been built into sand; in many of them our sample excavations produced no bones at all.

One of these round houses was excavated; it was round and measured 4.2×3.6 m, with walls of turf; there was no regular flooring, only a few stones here and there; the passage first ran 3 m southwards, then formed a bend and again ran 3 m in the same direction. Over the floor

was a rather sandy, dark coloured culture deposit about 20 or 30 cm thick, with a number of bones, of seal, caribou, dog, many birds, many small fish bones, and a quantity of mussel shells. The objects we found were two cooking-pot sherds, a small, flat, ornamental bodkin, an ajagaq of seal penis bone and two of seal radius, a handle of antler, chips of quartzite, rock crystal and asbestos, and a little blue glass bead.

We also excavated 4 sq.m in front of the entrance passage to one of the large, oblong houses, and there found a culture deposit having



Fig. 27. The ruined settlement Sarqarmiut.

a thickness up to half a metre, with many bones. In this were found a harpoon foreshaft, with three holes and a short tenon in the rear end, a drill shank, a whetstone, a cooking-pot sherd, and a chip of angmaq.

Sarqarmiut.

On the southeast corner of Kangâmiut Island.

This, too, is a settlement of considerable size, with 21 ruins of houses, 6 of which seem to have belonged to the round type, 14 to the square type, 6 big and 8 small. They lie in five groups on a sandy plain, a little way from the sea and about 10 m higher, on both sides enclosed by rounded gneiss hills. The round houses seem to have diameters of 3 to 5 m, and the oblong houses lengths up to 11.5 m. Conditions of preservation seemed to be poor owing to the sandy ground; we found only thin, very decomposed layers of refuse. In one of the oblong ruins were a drum handle and a piece of iron.

Fig. 27 is a picture of Sarqarmiut; the fairly even, overgrown terrain in the foreground is the ruins.

Timerdlit.

The present settlement lies surrounded by middens and house ruins all covered with overgrowth, and cannot be distinguished one from the other.

Igdlutalik near Timerdlit.

Lies on an island just west of Timerdlit, whose inhabitants use it for the summer fishing. On the east side of the island lies a large oblong ruin, 8.3 × 4.1 m, with a passage 5.8 m long joining the front of the house a little way from the middle. The wall is about 1 m higher than the floor, and near the northeast corner it is interrupted, apparently by a window. At each end of the house is a long, stone-set meat cache. The midden would seem to have been partly washed away.

This ruin is called Qavât, and, according to tradition, was built by a man from the south "who would show the people here in the north how to build houses".

Igdlut in Evighedsfjord.

This is the village of the "prophet" Habakuk, to which he removed in 1789 with a crowd of devotees. It is finely situated, in a luxuriant little cove. There are the ruins of three large oblong houses with high stone walls, and also another ruin, now almost entirely demolished and overgrown, with a midden terminating at a bluff. Round about the settlement are eight stone-built graves. Various objects were found in the midden, including bone edging for paddles, cooking pot sherds, the hammer of a flintlock, and a porcelain sherd with floral decoration in red.

In the first part of the nineteenth century there was an outpost here; according to the church records at Sukkertoppen people were still living at Igdlut in 1856.

Qatdlingajoq.

On the coast northwest of Agpamiut, and on the small islands outside, is quite a number of small ruined villages. The most northerly of these is Qatdlingajoq, lying on the northwest side of a small island, quite near the water edge. There is a large oblong ruin, measuring about 11 × 4 m; at the northeast corner the wall is a metre high, of stone; at most other places it is overgrown. Almost all the front wall, the passage and the midden are washed away. Among the stones on the beach lay a piece of an iron boat hook.

Isarut.

On an islet just off the naze a little to the south of the foregoing locality is a house ruin, about 6 × 3 m, four-sided, with a deep passage and a transversal partition wall; in some of the walls, which are rather low, are a number of stones. The ruin lies about a metre higher than HWM, and in front of it are layers of refuse with many seal and bird bones, as well as mussels; a piece of antler that was to have been split by drilling was found.

Upernivik.

On the mainland a little south of the above. About a metre above HWM is a large oblong house ruin, $14^1/_2$ × 4 m, almost levelled out so that the walls only appear as low mounds; in the northeast corner was a flooring stone, and two courses of stone in the wall. The passage is nearest the southeast end of the house. Before the passage is a midden, at least 30 cm thick, containing bones of white whale, seal, bird and fish, and also mussels and worked antler; most of the midden had, however, been washed away.

At the southeast end of the ruin was a small round mound, about 3 × 2 m, presumably a store-room.

Sarqarmiut.

About one kilometre to the southeast of the above, about three kilometres northwest of Agpamiut. On a naked point, just by the high-water mark, lie two square ruins with walls of stone and turf. One measured 5 × 3 m inside, with walls about 1 m high and the passage on the southwest; the other was only 3 × 2.2 m, and its passage joined the northwest side of the passage of the other house, so that the two houses lie at rightangles. Facing the southeast end of the large ruin are two stone-built store-rooms. The midden has been washed away, and a number of bones of the white whale lie scattered about.

Sarfánguit.

This locality is on a point at the entrance to a small fjord about 1 km northwest of Agpamiut. There lie two oblong house ruins, both much disturbed owing to a modern Eskimo house having been built there, although it was vacated again last year. The best preserved ruin lies about 1 m above HWM, is about 6 × $2^1/_2$ m, with its passage at the middle of the front and facing southwest; the other ruin is entirely destroyed. Round about the houses are thin culture deposits with bones.

Agpamiut.

The present settlement of Agpamiut lies in a valley through which runs a stream; on both sides of this stream are thick midden

deposits, and several of the houses of today are said to have been built on old sites. I acquired a number of objects found at the spot, some of them the gift of Mr. Nielsen, others bought from the Greenlanders, among them being two-edged weapon blades of angmaq, a crooked knife blade of quartzite, a drill bit of angmaq, and one of the small angmaq blades with oblique edge, as well as a Dutch copper coin dated 1739.

In the valley in which Agpamiut's modern cemetery is situated are three house ruins, two or three metres above the sea, all thickly overgrown and apparently very old. One is of the rounded type, about 4 × 3 m, with the edge of the platform indicated by a row of stones; the second is a round, somewhat smaller shallow depression; the third one seems to be four-sided with rounded corners, $2^1/_2 \times 3^1/_2$ m, with stones in the wall at one corner; the passage is sunk into the ground and has a roofing stone in position. Neither in nor in front of these houses does there seem to be any culture deposit.

About two kilometres north of Agpamiut there is a burial cave, or rather an entire system of caves and passages under an enormous detached rock. In one of these holes there were at any rate four graves with at least seventeen skulls, in another one grave with two skulls; it is said that formerly there were many more, but they are now plundered or disturbed and covered up, as the holes have been used for storing peat. From this burial cave, which quite resembled that at Narssarmiut (see p. 47), there are several finds in the National Museum, received on former occasions[1]), while I acquired several objects from Greenlanders at Agpamiut. Some of the objects from these finds at the burial cave are: a harpoon shaft and foreshaft, the foreshaft having a short tenon and one hole; a throwing board; a bird-dart head with screw (fig. 28); two plugs of wood for a harpoon bladder; a bow stave of wood; several bone arrow heads with screw tang, and a flint arrow head; two fragments of a ring-shaped kayak stand. There was also a Dutch tobacco box, oval, of brass, in which were: wings for a toy harpoon, four bead pendants of ivory, a variety of trifles of bone, a piece of tin, a Dutch copper coin dated 1720, two tin buttons, the mouthpiece of a clay pipe, and 24 glass beads. Thus these interments would seem to date from the first half of the eighteenth century.

Quiage.

This is the most northerly of the islets forming the harbour of Agpamiut, being separated from Ukîvínguaq only by a narrow belt of water. On the southwest side are two house ruins about 50 m apart. The one on the north is a large, four-sided ruin with a sunk passage,

[1]) L 8364—72 from Cathechist L. Berthelsen; L 9303—18 from Mr. O. Hastrup.

6 × 4 m, with walls more than 1 m high and set here and there with stones; at the north end were two meat caches. The ruin is somewhat spoilt by seekers of relics. In front there is a fairly extensive midden with well-preserved bones.

The other ruin is smaller, but so much overgrown that its shape is impossible to discern; there is also a midden outside this one. Both ruins lie about two metres above HWM.

In the wall of the largest of these ruins a Greenlander found the lid of a Dutch tobacco box of brass, rather similar to the one from the burial cave; on it is a scene with the inscription: "Elias fed by the ravens of the sky".

As in the case of Ukîvínguaq, tradition says that the inhabitants left Quiage to move into Evighedsfjord with Habakuk.

Nutârmiut.

In Hamborgersund, a little to the southeast of Agpamiut. A short distance above HWM are four house ruins. The most northerly one is rectangular, 6.5 × 4 m, with the passage at one end. To the south of this are two, close together; they seem to have been double, four-sided houses with a common wall but each with its own entrance passage. One pair is 7 and 5 m long respectively, 4 m wide, and the other $2^1/_2$ and 3 m long, $3^1/_2$ m wide. Still more to the south is a thickly overgrown ruin, seemingly rounded in form with a straight rear wall and a sunk passage. All the ruins here have a number of stones in the walls.

In the latter ruin there seemed to be scarcely any refuse; but in front of the four-sided houses are fairly large middens in which were found a fragment of a weapon blade of angmaq and a blue glass bead; on the whole Nutârmiut is said to be a good finding place for stone objects.

Qavdlunâtsiait.

This ruined settlement, lying like the above in Hamborgersund, but more to the east, was first mentioned by the Rev. V. C. Frederiksen[1]), who drew attention to the fact that the ruins there were of houses of an unusual type, one that he compared with the house of the Polar Eskimos.

The settlement of Qavdlunâtsiait (whose name means "Norsemen") lies on a slope in a valley running southwest and surrounded by low hills; a little way from it a brook drops down over the cliffs; from the uppermost ruins, which lie about 10 m above the sea, the terrain falls to both sides; the lowest ruins are about 6 m above the sea.

There are eight ruins of houses. Form and size are in many cases

[1]) 1912.

difficult to determine, partly because they are so levelled out and overgrown, and partly because they were disturbed by the Rev. Frederiksen's excavations. On p. 395, however, he gives sketches of how three of the ruins looked before excavation; one of these (fig. 3) is apparently a round house with a kitchen in the passage, while the other two seem to have been triple "clover-leaf" houses, though probably somewhat sketched-up in the drawings. One of these houses was excavated during my brief stay; it proved to be a ruin very similar to the round double-houses at Utorqait; it measured $5 \times 3^1/_2$ m approximately, and had one or two flat flooring stones and a stone-set partition wall between the two platform spaces. There was only little and badly weathered refuse, and of specimens I found two rounded cooking-pot sherds, three small round pierced beads of soapstone, 0.5—0.9 cm in diameter, and a flat piece of gneiss polished on one side, where two grooves were scratched in at rightangles, as if for the purpose of breaking a piece off, for instance for a whetstone.

The shape of the other ruins is very indistinct, though there does not seem to be any of the oblong ruins there.

During the Rev. Frederiksen's excavations he found a piece of a cooking pot[1]); and on the beach I am told a piece of bell metal was found, weighing about one kilogramme.

Ruin localities not inspected.

As already indicated, I only succeeded in visiting a part of the numerous ruin localities during my three months' stay there; the time was of course to be devoted principally to excavation. But with the aid of Danes and Greenlanders I was able to localize other seventeen places besides the twenty-three I myself had examined. Their situation is shown on the map p. 10 and is as follows:

Qeqertaussaq and Qorqait, north of Narssarmiut; Manîtsorssuaq near Timerdlit; Qeqertat, Akunermio and Ikardlumiut on the north side of Evighedsfjord; Nûk, quite close to Habakuk's village of Igdlut and presumably inhabited simultaneously; Kujatdleq, the southern cove at the head of Evighedsfjord; Kangiusaq near the second turn in Evighedsfjord; Kûk, Ikánaq and Kangermiut on the south side of Evighedsfjord, near the mouth; Sãtut and Kangánguaq, a little to the south of the mouth of Evighedsfjord; Kingigtut, northwest of Hamborgerland; Igdlut, on the northside of Hamborgersund; Ingik, on the northeast point of Hamborgerland.

As far as I was able to learn, most of these settlements are very small with a single or a few ruins; at none of them do I know with certainty of the presence of the small round type.

[1]) Nat. L 7476.

General observations on the house ruins in the Kangâmiut Area.

I have made this chapter on the house ruins in the Kangâmiut area so detailed because, first and foremost, material was lacking at Inugsuk that would throw any light upon the type of house used in the period of the early culture; in the old midden at Inugsuk I found only small traces of house ruins, fragments of flooring, etc.[1]), which said nothing definite as to the shape and size of the houses there. It was therefore to be regarded as one of the most important objects of later investigations, to learn to know with certainty what were the various types of houses used in West Greenland and the culture that has been associated with them.

In Geografisk Tidskrift 1930[2]) I gave a brief summary of the results of my reconnaissances in the Upernivik District, where I visited twenty-six ruin localities apart from Inugsuk. I considered that my material enabled me to set up three different types of houses: 1) Small, round houses dug into the ground, sometimes two or three built together with a common entrance passage. 2) Oblong houses with a sunk entrance passage. 3) Smaller, four-sided houses with walls of turf, with no sunk entrance passage. Of these I regarded the first as being the oldest; the second belonged mostly to the whaler period and the eighteenth century, while the third and latest was nineteenth century, principally the latter half. This, however, was merely a preliminary estimate, based upon a very slender material: Very brief visits with hasty measurements, now and then supplemented by small sample excavations. An important defect in the material was the lack of thorough excavations of the ruins of the earliest type to ascertain their shape and construction, whereby the culture that had been connected with them could have been elucidated. It should be observed that these earliest ruins are as a rule so collapsed and overgrown that their original shape is mostly difficult to decide without a close examination.

A great many ruin localities have now been visited here in the Kangâmiut area, but in this case large numbers of these ruins — at Utorqait, Igdlutalik and Ûmánat — have been subjected to careful excavation, supplemented with sample excavations in many others. Thus the conclusions that may be drawn in their case rest upon a much firmer foundation.

It may be stated at once that it is the same three main types of ruins we find here as those at Upernivik. I shall now proceed to a closer examination of them.

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[1]) Inugsuk, p. 163 seq.

[2]) Arkæologiske Undersøgelser i Upernivik's Distrikt i Sommeren 1929, p. 11.

1. Small round house ruins.

This is a small type of house, 3 to 5 m in diameter, built down in the ground and having a sunken entrance passage. In shape it is usually round, but sometimes it is oval or irregular, never a regular rectangle; occasionally two or three houses are built together, and one entrance passage then serves them all.

Attention to the occurrence of this type in this district — in fact in the whole of West Greenland — was first drawn by the Rev. V. C. Frederiksen in his aforementioned paper[1]). Later O. Bendixen, who wrote the topographical chapters on the south part of the west coast in "Grønland"[2]), mentioned the presence of small, semi-subterranean house ruins, which he called "the earliest type of house", in every district in South Greenland, but more numerous than anywhere in Sukkertoppen District[3]). In a report to the Greenland Administration, Fishing Master N. L. Nielsen also mentions these ruins in the Kangâmiut area. Consequently it was only natural that I devoted my attention principally to them.

An examination of the ruins investigated and inspected in the Kangâmiut area will show that this earliest type of house occurs in the following localities:

Utorqait, about 20 ruins; Igdlutalik 5 ruins; Tasiusánquaq 7 ruins; Ingik (near Kangâmiut) 7 ruins; Sarqarmiut (near Kangâmiut) 6 ruins; Agpamiut 3 ruins; Qavdlunâtsiait 8 ruins; one ruin apparently at Nutârmiut. Finally, the deeply sunken ruins at Qeqertarmiut apparently belong to this type, though nothing certain can be said on this point. It will be seen that this type mostly occurs in the largest ruin settlements in the district, and in such cases a fairly large number occur together; only at Agpamiut, and possibly at Nutârmiut, are there less than five ruins; at Agpamiut, of course, there may be many ruins below the refuse of the modern settlement.

No general rule may be drawn up from the situation of these ruins in relation to the later types. At Ingik the earlier ruins distinctly enough lie higher up than the large, oblong ones, and the same is the case at the only spot visited south of Sukkertoppen: Ûmánáq. At Utorqait, however, the two types are intermingled; both those lying lowest and those lying highest are of the earliest type. And at Sarqarmiut and Tasiusánguaq they also lie together, and at Nutârmiut they lie at the same level. At Qavdlunâtsiait all the ruins lie fairly high up, at Agpamiut and Qeqertarmiut low. It is true that a fairly large number of ruins

[1]) 1912.
[2]) 1921, II p. 30.
[3]) Ibidem, p. 120.

of the earliest type lie high, but this may be due to considerations of ground; and where they distinctly all lie higher than the later houses, as at Ingik, one cannot, without further investigation, reject the possibility that the later houses may have been built on old sites; possibly the earlier habitation has consisted of many houses which had to go high up the slope to find room, whereas the fewer houses of the later habitation have been able to build further down where access to the sea was easier. But there may reason for observing one fact: that none of the earliest houses lies so low that it is partly washed away by the sea, whereas this is the case with several of the oblong houses: Qeqertarmiut, Tasiusánguaq, Ikerasak, Qatdlingajoq. Whether or not this means that when the earliest houses were built the land was lower than when the oblong houses came there, I shall not attempt to say; it would mean that the submergence of the land that is now going on has not been of any long duration, but only began at about the time of the building of the oblong houses, which means, as we will see later, probably in the latter half of the seventeenth century; prior to that time there had, then, been an emergence — in this case the last phase of the emergence that left the strand gravel in which the Utorqait houses are built — up to its present height; on the terrain behind Utorqait there are rich layers of shell up to a height of at any rate 30 m. The material at hand, however, is much too slender to answer these questions; future geological investigations must settle them. In any case conditions at the Norse settlements on the southern west coast indicate that there has been a marked submergence since the buildings were erected in the Middle Ages; and the same was apparently the case at Inugsuk[1]); but there, too, conditions indicate — especially by the speed at which the later ruins have been washed away — that the submergence has only become serious in recent years.

As regards the construction of these early houses, the walls were built of turf and stones; sometimes, as in Nos. 4 and 5, and 11 and 12 at Utorqait, scarcely any stones seem to have been used; on the other hand the sides of the entrance passage have mostly been set with stones, and in several cases there is one or more roofing stones still in position in the passage. The bottom of the passage is usually deeper than the floor level in the house; in most cases the latter is paved with flat stones. On the other hand the platform as a rule was not paved, though sometimes the edge, as in No. 14 at Utorqait, was indicated by a row of stones; in other cases, as in Nos. 4 and 11 in the same locality, the platform was indicated merely by the fact that the ground lay higher there; whereas the edge of the platform can be clearly seen

[1]) Inugsuk, pp. 160 and 171.

in these two houses, in most cases it merges imperceptibly with the floor, in which cases it has presumably been marked by wood which has mouldered away. With regard to roof construction, house 23 at Utorqait is the only one that really gives any enlightenment; it has been of flat stones, whale bones and wood; in most cases it has apparently been of wood and turf, and thus cannot be identified by an excavation when the wood has rotted away. A circumstance that recurs in several of the houses at Utorqait is that the entrance passage extends a little way into the house where it is sometimes (No. 23) covered with a flat stone, thus forming a cavity under the floor, presumably for storing various possessions. The shape of the house is usually round, sometimes circular (Utorqait, No. 14), more often oval (Utorqait, Nos. 4—5, 22 etc.); in some cases (Igdlutalik, Nos. 2 and 5) the rear wall is straight so that the house has a rounded-triangular form; others are four-sided with rounded corners (a ruin at Agpamiut); one of the ruins at Igdlutalik (fig. 15a) recalls the Cape York houses in having its greatest breadth in front of the platform.

Very often two houses are built together and have a common entrance passage. At house 14 at Utorqait the two houses are separate and each has its own entrance passage, though they run together and have a common opening; as a rule, however, we have really double houses with two platforms and one passage (Utorqait, Nos. 13, 15 18, 21). Both at Ingik and at Qavdlunâtsiait there seem to be ruins with two and three platforms, but none of them was examined closely, and the same applies to the only Utorqait ruin that seemed to be of this type (No. 8); but as a matter of fact there were several of the other ruins at Utorqait that looked as if they were of this type, but on being excavated proved to have only two platforms.

These small round houses, which have now for the first time been brought to light in large numbers in West Greenland, are well known in the Eskimo culture. They are the whale bone house of the Thule Culture, found transplanted here on Greenland soil, with no whale bones, or only very few it is true; the type is easily recognisable, however. I have recently[1]) gone at length into the distribution of this type of house: in West Greenland we had only uncertain evidence of it; the houses referred to by Birket-Smith as being at Umiarfik in Upernivik District and at Tugtutûp-Isua, Julianehaab District, and by the Rev. Janssen and Riis Carstensen in Holsteinsborg District, are uncertain in the absence of closer examination; the most certain seems to be the description given by Danell (ca. 1650) of houses he saw in Holsteinsborg District. But over the whole of arctic Canada this type is

[1]) M 1927, II p. 132 seq.

commonly distributed, and we find it again in the most easterly parts of Siberia. The house of the Polar Eskimos is apparently a modification of it, and we find similar forms in Northeast Greenland. In North Alaska it has not been definitely identified; but in the aforementioned work I have endeavoured to show that the Point Barrow house in reality is the same fundamental type, being arranged in the same manner in design, except that with the use of wooden beams it has become four-sided, so that this type in North Alaska, where the round house is not known, takes the place of the whale bone house. This hypothesis has been subjected to criticism by Hatt[1]) and Birket-Smith[2]). Naturally I have expressed myself too definitely in saying[3]) that round wooden houses and square whale-bone houses are self-contradictions, for there are such houses; but this does not alter my opinion that easy access to wood, especially large beams, may be part of the reason why an otherwise round house-form has become rectangular. Birket-Smith[4]) says that I am "most inclined to regard the rectangular wood house as the original form"; this I have not said anywhere, but on the contrary said expressly[5]): "Whether this (the whale bone house) or the square Pt. Barrow house is the eldest, cannot be determined until archaeological investigations are made in Alaska". Were I to say which of the two types I believe is the oldest, it would be the whale bone house if anything. But for the rest I consider it useless to start a new, prolonged discussion on these forms of houses until new archaeological investigations have shown the chronology of the various house-types in Alaska.

2. Large rectangular houses.

These are four-sided houses, 3—4 m in breadth and up to 14 m in length, all inside measurements. Like No. 1 they are built some way down into the ground and have a sunken entrance passage; the walls are of stones and turf, the passage set with stones; as a rule there is a paved floor but no platform; this and the platform partitions and roof, have apparently been of wood. They are houses that apparently have served as a dwelling for several families, although sometimes we find alongside them small four-sided houses which can only have been occupied by one family.

There were house ruins of this type in all the ruined settlements visited in the area with the exception of Igdlutalik (near Kangâmiut),

[1]) Geografisk Tidsskrift 1928, p. 7.
[2]) 1929, II p. 45.
[3]) M 1927, II p. 153.
[4]) l. c., p. 45.
[5]) l. c., p. 155.

Agpamiut and Qavdlunâtsiait. It is easily the commonest type. Many settlements seem to have consisted of one of these only (Ũmánat, Igdlutalik near Timerdlit, Qatdlingajoq, etc.). At most of the large settlements they occur together with ruins of the earlier type (Utorqait, Tasiusánguaq, Ingik, Sarqarmiut, Qeqertarmiut, Nutârmiut). Ruins of this type were excavated at Utorqait and Ũmánat.

It is thus a very well-known type in West Greenland[1]), where it was in use at the commencement of the Danish colonization in 1721 and was still in general use round about 1800[2]), while it is in use at Angmagssalik at the present time. At Inugsuk one of them was excavated at Qamaneq[3]), and the latest houses at Tunúngassoq[4]), which had been inhabited up to about 1850, were also of the same type, though smaller. How far back this type goes has not been known with certainty, but I shall revert to this question later.

The youngest house type, a four-sided turf house with no sunken entrance passage, is met with now and again in ruined condition at the present settlements, for instance at Timerdlit and Agpamiut; it apparently belongs to the nineteenth or twentieth century; it is of course in use still, though of late it is more and more being superseded by wooden houses which the abundance of money earned by the people from the great fisheries enables them to build. In Upernivik District[5]) ruins of houses of this kind were found in numbers of ruined settlements, whereas in Kangâmiut we only found them in present-day settlements. This means that the people of the Upernivik District during the course of the last century have moved about a lot, whereas here they mostly seem to have lived at the same places.

Regarding the other permanent habitation remains in the area there is not much to say.

The graves are of the usual Greenland type, an oblong stone cist covered with flat stones; in some there was one skeleton, in others more, up to seven. Most of them were disturbed and, without exception, seem to have been plundered of funerary objects. Of interest are the two burial caves at Narssarmiut and Agpamiut; the latter at any rate seems to date from the first half of the eighteenth century.

Meat caches built of stone and sunk into the ground were seen everywhere in the settlements. There were also box traps for foxes in many places, but they are in general use today.

[1]) Birket-Smith 1924, p. 146 seq.
[2]) Graah dwelt in such a house at Nanortalik 1828 (Graah, p. 49).
[3]) Inugsuk, p. 177.
[4]) Ibidem, p. 160.
[5]) Geografisk Tidsskrift 1930, p. 11 seq.

III. THE OLD CULTURE.

Introduction: Two stages of culture.

The finds from the earliest, round type of house, and those that seem to be contemporary to them, will be treated as a separate group. These finds have proved to be very closely related to one another, and earlier than the finds from the large, oblong houses. On the whole the finds of this earliest group are prior to the whaler period, whereas in the oblong houses objects are found showing that the inhabitants have been in contact with Europeans, whether these may have been whalers or the Danish colonists.

Thus this group comprises the finds from most of the ruins at Utorqait (with the sole exception of houses 3 and 19, and the latter's portion of Midden B), all specimens from Igdlutalik, and the finds from Qeqertarmiut except the very latest, superficially found objects. And finally, a few small finds from round houses at Ingik and Qavdlunâtsiait. All in all, the specimens of the old culture found in the Kangâmiut area number about 2300.

An examination of the finds from these different localities shows that they are very homogeneous; in the main it is the same types of implements that recur in them all. In this respect, however, the Qeqertarmiut find forms an exception on account of the many objects of wood and some of baleen, which there have held out longer on account of their better chances of being preserved in the thick culture layers; but the objects of bone and stone are of the same types as those in the other localities.

Nevertheless, although this great material at a cursory glance would give the impression of being homogeneous and seem to belong to the same period of culture, close study of the occurrence of the various forms of implements shows that we have two clearly defined stages of culture; in the following these will be described as the first (the earliest) and the second stages.

The key to this is provided by the Inugsuk find; in that we had for the first time a large, ancient, chronologically-determined find from West Greenland. If we now make a comparison between the early Inugsuk find and the old finds from the Kangâmiut area, we shall see that the latter contain a number of types that are absent in the Inugsuk find but otherwise are well known in West Greenland, principally from later finds, and thus must be of later date than Inugsuk. These types are: Bladder dart heads with one or more bands of barbs (Pl. 2. 10-11), arrow and bird-dart heads with screw tang (Pl. 1. 11; 2. 17 and fig. 28), wound plugs of wood (Pl. 2. 7), fragments of the modern kayak stand with the ring (Pl. 3. 1) and angmaq blades with oblique edge (Pl. 3. 18). These six types of implements occur here in fairly large numbers and consequently must have played a certain role in the culture. If we then examine their occurrence it will be seen that they were found in a number of ruins at Utorqait and Igdlutalik, and also in middens at Utorqait and Qeqertarmiut; at the latter place, however, they do not occur at all in the lowest layers. There we had a midden up to $1^1/_2$ m deep; but in that midden these types did not occur deeper than the fourth layer from the top; thus nowhere did we find them lower than 80 cm, and in most places they did not go nearly so deep. We must conclude from this that the midden at Qeqertarmiut is clearly separated into two layers, one over with, and one below without these later types; the lower layers, which did not contain these types, comprised for instance the remains of the ruins of the sunken houses where the richest finds in the whole area were made. Conditions there at Qeqertarmiut thus indicate that there are two culture layers, an earlier one without these types, and a later one with them.

At Utorqait there is a number of ruins where these types occur, and others where they do not; nor did they occur in the lower layers of the large midden B.

Naturally, the occurrence or non-occurrence of an implement type in a house ruin or an excavation section is to a certain degree accidental; and one must especially be careful about drawing conclusions from the non-occurrence of a type, especially if the material one builds upon is not particularly large. But when the material is large, and when the occurrences at the various localities point in the same direction as the chronological position of the types themselves, then we have some probability that occurrence at some places and not at others is not accidental, but really means a difference of time, and I am of the opinion that this is the case here.

With the occurrence of these types as a criterion we will now endeavour to separate the whole material found into two stages, the

first and the second. First of all we will take out all the house ruins and excavation squares that contain these later types; but with this we cannot with certainty — in fact scarcely with probability — conclude that all the others belong to the first stage. As stated, the occurrence of a type will always be bound up with a certain degree of accidentality; and if, for example, the upper layers of a square do not contain any of the types, whereas in the neighbouring square they go down into the second layer, one must take it that the 1st layer of the first square (and perhaps the second one too) also belong to the same (second) stage, even if it contains none of its guide forms. There is always some uncertainty, however, especially where the culture deposits are fairly thin.

By taking everything into consideration we arrive at this conclusion: that the following localities belong to the first culture stage:

At Utorqait house ruins 11, 14, 15, 18, 20, 21 and 22; the find in under the wall of 19: the squares B 1—2^{1-2}, 3, 4^{2-3}, 5—6, 7—8^{2-3}, 9—15^{2}, 16^{1-3}, 17, 18—19^{1-2}, 20—23^{2}, 24—25. At Qeqertarmiut squares A 1—3^{1-2}, 5, 6^{2}, 8^{2}, 9^{2}, 10—11^{2-3}, 12^{2-4}, 13^{2-3}; B 1^{2-5}, 2^{2-4}, 3^{2-3}, 4^{2}, 5—6^{2}, 7^{3-4}; C 1, 2^{1-2}, 3—4^{2-3}, 5^{2-5}, 6—7^{2-4}, 24—25^{2-5}, 26^{4}, 27—28^{3-6}, 29^{3-4}, 30^{2-4}, 31^{2-3}, 33^{4-5}, 34—36^{3-6}, 37—42^{5-7}, 43^{3-6}, 44^{3-7}, 45^{3-5}, 46^{3-7}, 47^{2-6}, 48^{2-7}; D 1^{4-5}, 2^{3-5}, 3^{3-7}, 4^{3-6}, 5^{2-7}, 8^{2-3}.

As has been stated, these squares and layers contained only types of the first culture stage, and must thus for the most part be regarded as originating from it. Possibly still more belong to it; in particular where the layers are thin, the boundary between the two stages may very well lie in the middle of an excavation layer. Thus none of the squares in Section C at Utorqait are mentioned in the list, as this midden has been formed from ruins 13 and 21, each of which belongs to its own stage of culture and the finds from them are impossible to separate.

Thus the second stage is represented by the house ruins 13, 17 and 23 and the sections A, D, and a part of C at Utorqait, all the finds from Igdlutalik, and the upper layers in the Qeqertarmiut midden down to and including Layer 4, although in most places only Layers 1 and 2; of the uppermost layers, however, some are much later and will be dealt with further on.

Now we have the find-material divided into two parts, representing an early and a later stage of culture. However, the criterion for this division has been the occurrence or non-occurrence of a minority of types, so that even if stratigraphical and chronological conditions indicate the justification of this partition, there must still remain some slight doubt about it. As a new criterion, however, we will see how two of the most important — chronologically — and most varying

types appear on the two culture stages. These two elements are harpoon heads and lamps.

Harpoon heads have on former occasions proved to be one of the finest indices to cultural relationship in Eskimo culture. We will examine which harpoon heads occur in the two parts into which we have divided the material. The following list shows the number of different harpoon types contained in the finds from the two stages:

	1st stage	2nd stage
Thule harpoon heads	1(?)	—
Inugsuk harpoon heads	13	4
Thin, barbless and bladeless	4	2
Thin, one barb	1	1
Thin, two barbs, no blade	—	1
Thin, two barbs, blade	1	—
Undeterminable, thin	2	2
Total thin harpoon heads	21	10
Flat, barbless and bladeless	3	6
Flat, barbless, blade	2	5
Flat, 1 barb, no blade	1	1
Flat, 1 barb, blade	1	2
Flat, 2 barbs, no blade	2	—
Flat, 2 barbs, blade	—	1
Total flat harpoon heads	9	15

This shows that in reality there is a great difference between the harpoon heads of the two groups; in the earlier one we have 21 thin as compared with 9 flat, and in the later one 10 thin as against 15 flat. In the earlier group the thin harpoon heads thus predominate, in the later group the flat ones. This is one of the all-important points in the systematics of harpoon heads; that the two stages are different in this respect must, then, mean an actual difference of time; and as the thin harpoon heads are older than the flat ones, it confirms what we had previously believed as to the mutual ages of the two groups. And this is strengthened by the fact that it is built upon a very large material, 55 harpoon heads, whereby accidentalities are to some extent balanced.

Of the types of lamps occurring in the two groups the following table gives a summary:

	1st stage	2nd stage
With wick ledge (near front edge)	10 + 5 toy	1 toy
With rudimentary wick ledge	2	5
With longitudinal partition (at the middle or near the back)	7	3
Without ledge or partition	4 + 2 toy	2 + 1 toy

This list shows how the lamp with the wick ledge, the lamp type of the Thule Culture, which at Inugsuk prevailed almost to the exclusion of all others, still dominates the first group whereas it has almost disappeared from the second one, where it is only represented by one toy lamp (from Igdlutalik). The next group, with a rudimentary wick ledge, a decidedly younger type which also occurs at Inugsuk, is on the contrary very prominent in the last group; of the last two types there are some in both groups. Thus as far as the lamps are concerned, too, there is a very marked difference between the two groups, and a difference that decidedly indicates that the first is the oldest.

We thus see that a detailed study of two of the principal types, harpoon heads and lamps, confirms the stratifying that we had arrived at by other means. Consequently there can be no doubt that in the finds from the old culture at Utorqait and Qeqertarmiut we can distinguish between an early and a later stage of culture. And an examination of the other forms of implements will show that differences can be proved between the two stages in several other respects.

List of specimens of the Old Culture.

Below is a list of the types of implements we have of the old culture, showing the number of specimens (and fragments) from each of the three principal finding places, Utorqait, Qeqertarmiut and Igdlutalik.

Harpoon heads.	Utorqait	Qeqertarmiut	Igdlutalik
Thule type	..	1	..
Thin, barbless, bladeless	1	5	..
Inugsuk type	12	4	1
Thin, one barb	..	2	..
Thin, 2 barbs, bladeless	1	..	..
Thin, 2 barbs, blade	1	..	..
Thin, fragments or unfinished	3	1	..
Flat, barbless, bladeless	2	7	..
Flat, barbless, blade	3	2	2

	Utorqait	Qeqertarmiut	Igdlutalik
Flat, 1 barb, bladeless	1	..	..
Flat, 1 barb, blade	2	1	..
Flat, 2 barbs, bladeless	2	..	..
Flat, 2 barbs, blade	1	..	..
Unidentifiable fragments	1	1	..
Leister harpoon heads	1	2	..
Ituartit harpoon head	1	..	..
Whaling harpoon head	1	..	..
Other Parts of Harpoons.			
Harpoon blades of stone, triangular, notched	1	1	1
Harpoon blades of bone, holed	3	1	..
— — iron	2	..	..
Foreshafts of ice-hunting harpoon	4	4	..
— of kayak-harpoon, 1 hole	2	4	1
— - — 2-3 holes	1	7	..
— - — unidenti. fragments	6	..	..
Unidentif. fragments of harpoon foreshafts	4	1	1
Shaft mountings	7	3	1
Finger rests	3	1	..
Ice picks	4	5	..
Mouthpieces for harpoon bladder	4	2	.
Wood plugs for harpoon bladder	..	6	..
Wood plug for mouthpiece	..	1	..
Tension piece for harpoon line	..	2	..
Swivel for harpoon line	4	1	..
Other Implements for Hunting Aquatic Mammals.			
Throwing boards	..	5	..
Wound needles, of bone	7	..	..
Wound plugs of wood	..	2	..
Neck pieces for towing gear	..	2	..
Wooden toggles for towing gear	..	1	..
Bladder-dart heads with single barb	2	1	..
Bladder-dart heads with belt of barbs	..	4	..
Butt end of bladder dart head	1	..	1
Conical mounting for bladder-dart shaft	1	..	..

Bow and Arrow.	Utorqait	Qeqertarmiut	Igdlutalik
Wooden bows	..	9	..
Baleen bow	..	1	..
Sinew-twisters for bows	1	1	..
Arrow head with knobs on tang, barbless	1	..	..
Arrow heads with knobs on tang, 1 barb	5	2	..
Arrow heads with knobs on tang, defective	4	1	..
Arrow head with screw, one barb	1	..	..
Arrow heads with screw, smoothly tapered, or defect	3	3	..
Defective arrow heads, barbless	4	1	..
— — 1 barb	5	2	..
— — 2 barbs	1	4	..
— — blade slit	2	..	..
Unidentifiable arrow-head fragments	2	1	..
Lanceolate stone arrow heads	1	5	1
Wooden arrow shafts	..	2	..
Knife for pressing out water	1	..	..
Bird Catching and Fishing.			
Bird dart heads, conical tang, no screw	5	7	..
Bird dart heads, with screw	2	5	1
Side prongs for bird dart	27	31	3
Fragments of bird dart shaft	..	2	..
Ferrules for bird dart or other shaft	3	1	1
Bola ball	..	1(?)	..
Gorges for bird catching	2	2	..
Leister prongs	10	14	..
Fish hooks	3	1	..
Ice scoops	3	1	..
Means of Conveyance.			
Sledge runners	..	2	..
Sledge cross slats?	3	3	..
Sledge shoeing	1	2	..
Trace buckles	2	3	..
Umiak ribs	..	4	..
Umiak paddle	1	..	..
Fragments of kayak gunwale	..	3	..
Kayak deck-beams, forward of manhole	..	3	..
Legs of ring-shaped kayak rack	3	2	..

	Utorqait	Qeqertarmiut	Igdlutalik
Rests for kayak harpoon	1	3	..
Fragments of kayak paddles	..	4	..
Kayak scrapers	4	3	..
Men's Tools.			
Snow knives	3	3	..
Snow shovels	1	1	..
Knives with blade socket in end	21	12	1
Knives with blade groove in one side.	3	6	..
Two-edged stone blades for knife	1	2	..
Single edged stone blade for knife	..	1	..
Saw, of bone	1	..	..
Whetstones	16	49	1
Adze heads	1	8	..
Adze helves	1	3	..
Chopping blocks	1	4	..
Hammer stones	4	14	..
Mattock blades	11	15	..
Wedges	25	28	..
Bow drill shanks	2	4	..
Other drill shanks	2	3	..
Drill bow	..	1	..
Mouthpieces for bow drill	2	3	..
Drill bits of stone	..	2	..
Hand drill of bone	1	..	..
Women's Tools.			
Ulo handles	6	14	1
Skin softeners	1	2	..
Small convex-edged blades of stone scrapers	3	7	..
Handles for stone-scraper blades	1	..	1
Two-handed scrapers	8	4	..
Winged needle case	..	1	..
Anchor-shaped thimble holders	1	1	..
Cutting boards	..	5	..
Creaser, of stone	1	..	..
Rectangular box for tools	..	1	..
Household Utensils.			
Lamps with wick ledge	5	5	.

	Utorqait	Qeqertarmiut	Igdlutalik
Lamps with rudimentary wick ledge	3	2	1
Lamps with longitudinal partition	1	9	..
Lamps without ledge or partition	1	5	..
Indeterminable lamp fragments	1	3	1
Cooking pots with inside suspension hole	7	34	..
Cooking pots with suspension hole from side to side	..	11	..
Indeterminable fragments of cooking pots	16	57	4
Lamp trimmers of asbestos	3	8	1
Oval soapstone bowls	2	..	..
Pot hooks	1	1	..
Fire-drilling "hearths" of wood	..	17	..
Oval baleen cup	..	1	..
Oval bowl and cup bottoms	..	35	..
Rounded wooden dishes	..	15	..
Four-sided wooden dishes	..	4	..
Staves of coopered vessels	..	22	..
Bone spoons	7	6	..
Wooden dippers	..	7	..
Ladles	2	4	..
Meat sticks	4	1	..
Marrow extractor	1(?)	..	..
Bladder-bag	..	1	..
Clothing and Ornaments.			
Kamik sole	..	1	..
Baleen "boot straw"	..	1	..
Combs	3	5	..
Ornamental bodkins of bone	1	6	..
Ornamental bodkins of wood	..	9	..
Tooth beads	2	1	..
Pierced bear tooth	1	..	..
Chain-link trinkets	1	1	..
Bead pendant of asbestos	1	..	..
Pendants of bone	2	2	1
Games and Pastimes.			
Ajagaq of seal humerus	..	1	..
— seal tibia	..	1	..
— seal radius	8	17	..

	Utorqait	Qeqertarmiut	Igdlutalik
Ajagaq of seal penis bone	1	2	..
— antler	1	3	..
— stick?	1	..	..
Top disks	..	5	..
Pegs for tops	1	1	..
Dolls	..	46	..
Toy harpoon head	1	..	..
Mounting for fore end of toy harpoon.	1	..	..
Toy harpoons of wood	..	4	..
Toy bows	..	2	..
Tow arrow heads of bone	4	1	..
Toy arrow shafts	1	4	..
Side prongs of toy bird dart	1	4	..
Toy weapons of gull bone	5	2	..
Toy umiaks	..	4	..
Toy kayaks	..	19	..
Toy Norse ship?	..	1	..
Toy kayak paddles	..	12	..
Mountings for toy kayak paddles	..	4	..
Cross slat for toy sledge?	..	1	..
Toy sledge runners	..	2	..
Toy knife handle with end blade	1	..	..
Toy lamps with wick ledge	1	4	1
Toy lamps without ledge	..	1	..
Toy lamps, unfinished	1	1	..
Toy cooking pots	..	6	1
Toy wooden dishes	..	2	..
Toy comb	1	..	..
Toy drum handles	..	2	..
Objects Connected with Intellectual Culture.			
Drum handles	1	3	..
Amulet box	..	1(?)	..
Penis of antler	1	..	..
Miscellaneous.			
Bone mountings	16	16	2
Hexagonal bone game "piece"	1	..	..
Heavy bone rivets	4	1	..
Ferrules for thin shafts	1	3	..

	Utorqait	Qeqertarmiut	Igdlutalik
Baleen point with barbs	..	1	..
Baleen cords with knots	..	7	..
Cut pieces of baleen	..	27	..
Bell metal	1	1	..
Iron adze head	1	..	..

Observations on the various Types.

Some observations may now be made as to the various types of implements, especially those from which some chronological conclusion may be drawn, those which differ from the corresponding implements at Inugsuk, or those that are of particular interest in some other manner; the remainder will be very briefly dealt with.

Harpoon Heads.

Of harpoon heads there are in all 57, besides the special forms: whaling harpoon heads, ituartit and leister-harpoon heads. Compared with the forms used in recent times in West Greenland they are rather small. The lengths of the complete specimens lie between 5 and 9 cm; most of them are about 7 cm. As a rule the material is antler; one only, the longest of them all, is of whale bone. Within the two main groups these 57 harpoon heads are divided with 32 thin and 23 flat, while two are unidentifiable fragments. How the various types are distributed over the two culture stages has already been discussed in the foregoing; it was there seen that the thin harpoon heads predominate in the first stage, the flat ones in the second.

Of Thule harpoon heads, thin, open socketed, there is only one specimen, Pl. 1. 1; it is a very roughly made, unfinished head; the point has not been sharpened, and around the socket is a roughly cut groove; it is a specimen that has never been used; indeed, was scarcely ever intended for use; but it shows that the idea of these Thule harpoon heads still lives, even if they have fallen into disuse in practice. This specimen was found in C 8 at Qeqertarmiut, a square that had only a thin culture deposit — a mixture of types from both stages; but presumably it belongs to the first stage.

The dominating main group of harpoon heads is the thin, closed-socketed heads; and of these again it is the Inugsuk harpoon head, with the blade parallel to the line hole, that is most common (Pl. 1. 2); this, however, only holds good as far as the first stage is concerned; in the second they are compelled to give pride of place to the flat forms. The specimens here do not differ in any way from the

corresponding forms from Inugsuk[1]). One has a groove, and the one figured has a belt of notches for a reinforcing lashing round the socket; three have bifurcated spurs: all have a rivet hole.

The still more primitive type, the thin head, barbless and bladeless, is also richly represented, especially in the earlier layers. The specimens, however, are either very much weathered or so crudely made that they have scarcely been used for sealing, but more probably for salmon fishing.

Of the few thin harpoon heads with barbs two of them have one barb (one of them having bifurcated spurs), while one has two barbs and a blade slit (Pl. 1. 3).

The flat harpoon heads are all closed-socketed and mostly belong to the slightly flat, almost round forms; but there are all stages of transition to the more flat types with two spurs. The most common type lacks blade and barbs (Pl. 1. 4); several of these are, however, so small and cursorily made that they too have possibly been used for salmon fishing. Of the specimens with a blade (Pl. 1. 5) one, as an exception, has three spurs. Two of the forms with barbs will be seen on Pl. 1. 6-7; by their slight size, slenderness, and absence of shoulders they differ from the later West Greenland heads of the same type (see Pl. 7. 1 and Inugsuk, Pl. 23. 2), and very closely approach the only one of this type in Inugsuk's earlier culture[2]).

These various harpoon heads are almost all known from Inugsuk; when describing that find a summary was given of their occurrence[3]), so that it would be superfluous to repeat it here; the only ones not found at Inugsuk are some of the variants, like Pl. 1. 6.

Harpoon heads are among the most important types in Eskimo culture, chronologically, and consequently we may undertake a preliminary appraisement of the old culture in the Kangâmiut area on the basis of these 57 specimens. As has been shown, this old culture has proved to be divisible into two stages. It now appears that the harpoon heads of the first (and earliest) stage are very closely related to those in the early culture at Inugsuk. Nevertheless, the oldest forms of that culture, the Thule harpoon heads, are almost entirely lacking, and another ancient group, the flat heads with open socket, has quite disappeared. But otherwise it is the same forms that dominate both finds, i. e. the thin heads with closed socket, and here again the type that has been called the Inugsuk harpoon head. Of the flat forms, too, we find most of them again at Inugsuk, especially the almost round forms, both barbed and barbless.

[1]) Inugsuk, p. 182.
[2]) Ibidem, Pl. 5. 19.
[3]) Ibidem, p. 182 seqq.

In the finds of the second, later stage it is this latter, later group that has gained superiority, while the thin heads retire more into the background; still, the Inugsuk harpoon heads are a frequently used form. We have here left the Inugsuk culture some way behind, although the relationship to it is still discernable.

Thus a study of the harpoon heads shows us that the first culture stage in the Kangâmiut area is very closely akin to the Inugsuk Find, but rather later, while the second stage is somewhat later again.

The number of collective finds from the whole Eskimo region has in course of time become a very considerable one, and some of them have now been published in detail. Most of these finds contain large numbers of harpoon heads, and it might now be of interest to throw a retrospective glance over them in order to see how these heads vary from place to place and as time has advanced. To do so we may introduce a new term, "The Harpoon-Head Spectrum", which means the figures that indicate what percentage of the total material is given by the heads of the four main groups. These four groups are:

I. Thin, open socketed (The Thule group).
II. Thin, closed socketed.
III. Flat, open socketed.
IV. Flat, closed socketed.

The finds that will be discussed are as follows: the Van Valin collection from Point Barrow in North Alaska[1]), Malerualik[2]) on King William's Land, Naujan[3]) in Repulse Bay (North of Hudson Bay), Qilalukan[4]) in Ponds Inlet in the north of Baffin Land, Comer's Midden[5]) at Thule, in the Cape York District, Inugsuk in Upernivik District, both the early and the later cultures, and finally the finds from the Kangâmiut area, both the two stages of the ancient culture (Utorqait, Qeqertarmiut, the second stage Igdlutalik as well), and the eighteenth century finds (Ũmánat, Ukîvínguaq).

These finds give us the following table:

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[1]) J. A. Mason 1928.
[2]) M 1927, I p. 311.
[3]) Ibidem, p. 23 seq.
[4]) Ibidem, p. 146 seq.
[5]) Ibidem, p. 194, Wissler 1918, p. 149, supplemented by written communication from Dr. Wissler.

	Group I %	II %	III %	IV %	No. of harpoon heads
Pt. Barrow (Van Valin)	94	6	0	0	31
Malerualik	100	0	0	0	7[1])
Naujan	84	11	0	5	67
Qilalukan	76	9	11	4	60
Thule (Comer's Midden)	53	24	6	17	45
Inugsuk, early culture	27	54	4	15	82
Kangâmiut area, 1st stage	(2)	70	0	28	39
— — 2nd stage	0	40	0	60	25
— — 18th Century	0	29	0	71	7
Inugsuk, 1st half 19th Century	0	0	0	100	28

If statistics of this kind are to convey anything they must be built upon a considerable quantity of material; for this reason I have shown at the end of the row of percentages for each find the total number of harpoon heads on which these figures are based. It shows that the two figures that allow of our building least are the finds from Malerualik and the latest in the Kangâmiut area; and indeed it is the former of these whose figures are most outside the line of development.

Taking it all round, this series of finds, in the order they are placed, show the development of the Eskimo culture from west to east, from Alaska across the Central region to the Cape York District, and from there down to West Greenland, where we find five different stages represented right up to the nineteenth century. During this migration from west to east, and from ancient to modern times, the harpoon-head spectrum displays very characteristic changes. The Thule harpoon heads, the earliest group, were originally almost supreme in the west and the Central regions, but then disappear gradually; at Thule they are still predominant; in the early Inugsuk find they are still very prominent, though pushed back by the second main group, and in the Kangâmiut area they disappear.

The second main group, thin with closed socket, begins in the west in very ancient times, occurs sparsely in the Central Thule Culture (that it was not found at Malerualik is apparently merely accidental, owing to the slight volume of that find), becomes predominant at Inugsuk and in the earliest culture in the Kangâmiut area, but then gradually disappears. The third main group, flat with open socket, attains no great importance anywhere; it arises in the later, Central Thule Culture

[1]) At Malerualik a Cape Dorset head was also found, but these are quite outside the system under discussion and have not been included, as apparently they have had some special use.

(Qilalukan), and still occurs at Inugsuk, but then disappears together with the other heads with open socket, the Thule heads. Finally, the last group, closed socketed, flat, makes a faint first appearance in the early, Central Thule Culture (Naujan), begins to gain a little ground in the early cultures at Thule and Inugsuk, becomes prominent in the first stage at Kangâmiut, to take the lead in the second stage there and in modern West Greenland's culture (the later Inugsuk finds) is all-prevailing.

Actually it is surprising that so much may be concluded from the variations of a single element of culture; it shows how splendid an index to culture relations the harpoon heads are if only we have a sufficient number of them for comparison. But as a matter of fact there are not many elements that differ so much and at the same time occur so frequently as harpoon heads.

Three groups of harpoon heads fall outside the general scheme owing to their having been used for some special purpose or other.

Pl. 2. 6 is the broken rear end of a whaling harpoon head, of whale bone, very thin, with a sharp back; it is broken at the large line hole; it has a closed socket and spurs. I have previously discussed the distribution of whaling harpoon heads[1]); it is associated with the Thule Culture. It happened that it was not found at Inugsuk, where nevertheless whaling has been carried on on a large scale; it has not occurred at all previously in Greenland finds where it might have been dated, but of course it has occurred individually. But now we have it in the Kangâmiut area, in a find that points emphatically towards Inugsuk.

Pl. 1.8 is an unfinished ituartit harpoon head, of antler. As a matter of fact its occurrence was to be expected; we have it in Comer's Midden[2]), but not from Inugsuk; it occurs, however, in the very closely related find from Skærgaardshalvø on the east coast[3]); and in the National Museum there is a specimen, found in Upernivik District. As a matter of fact it is a form peculiar to Greenland. At Angmagssalik it has been in use up to the present day[4]), and the method of hunting was mentioned by Hans Egede, Cranz and Fabricius[5]). Nevertheless, this is the first time this particular head has been found on the south part of the west coast.

Leister-harpoon heads, principally for salmon spearing, are also

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[1]) M 1927, II p. 27.
[2]) Ibidem I, Pl. 78.6.
[3]) Thalbitzer 1909, fig. 7.
[4]) Thalbitzer 1914, fig. 131 e-g, and 135 d.
[5]) B-S 1924, p. 322.

known from Inugsuk[1]). They are small, thin harpoon heads, with no barbs or separate blade, cut obliquely at the butt, no spurs, and with one opening of the line hole widened out to hold a knot. All three specimens are of antler, rather small, and of poor workmanship.

Other Parts of Harpoons.

Harpoon blades. The stone blades, two of unpolished angmaq and one of chalcedony, are triangular, with a pair of notches for a lashing near the base; the specimen from Igdlutalik has wide notches, giving the impression of a tang.

The bone blades are of caribou limb bone or of whale bone; most of them are handsomely facetted and have from one to three holes.

The iron blades, both from Utorqait, square C, are fairly big and very rusty; one of them may have been for a lance. There are similar forms of harpoon blades in Inugsuk[2]).

Of the foreshafts for ice-hunting harpoons four are of whale bone, three of antler; the longest is 19 cm; whereas they otherwise have a scarf-face at the rear end, Pl. 1. 9 has a conical tang with two knobs like the arrow heads, and three holes for lashings.

Of the foreshafts for kayak harpoons three types are represented, corresponding to their age. The first has one hole and a conical butt (Pl. 2. 1), the second one hole and a short, pronounced tenon in the butt (Pl. 2. 2), and the third has 2—3 holes (Pl. 2. 3). All the complete specimens, with lengths from 11 to 39 cm, have only one hole; of these, four have a conical butt, and of these again three are from the first culture stage, whereas the fourth may be the same; on the other hand the two with the tenon are of the second stage; here again, then, is a distinct difference. The specimens with two or three holes are all defective, so that some of them may be the broken butts of bladder-dart heads. They seem to occur at both stages, although it should be observed that they do not occur in the earlier ruins at Utorqait or in the deepest layers (5—7) in the thickest part of the Qeqertarmiut midden; the figured specimen alone has a distinct tenon in the butt.

Two of the broken ends of foreshafts have the same narrowing a little way from the point that we know from Inugsuk[3]).

The conditions under which the foreshafts were found would thus indicate that the type with one hole and the conical butt is the earliest. It is the well-known form of the Thule Culture, which also dominates at Inugsuk[4]). The type with a single hole and a short tenon is apparently

[1]) Inugsuk, Pl. 1.20.
[2]) Ibidem, p. 187.
[3]) Ibidem, Pl. 6.2.
[4]) Ibidem, p. 188.

a little younger; there is one specimen from Inugsuk, found uppermost in the old layers, and there they predominate in the second stage. There is also one of these foreshafts in a grave find from Agpamiut[1]) together with arrow heads with screw, legs for a modern kayak rack, a wooden bow, etc. And on one of Cranz's illustrations there seems to be one of these foreshafts. Thus they seem to have been in use right into the eighteenth century.

As stated, the types with two or three holes are all defective, even the one figured, which possibly may have been used on towing gear. We have not found them in the early Inugsuk Culture, but they are very close to modern harpoon foreshafts except that the latter have a socket in the butt instead of a tenon.

Shaft mountings. All are of antler; most of them vary from $3^1/_2$ to 7 cm long, although one or two are 11 cm; one of the long ones has a scarf face at the back end, whereas all the others are cut straight and hollowed out (Pl. 2. 4). They are exactly like the corresponding specimens from Inugsuk[2]).

The finger rests have one to three holes and are more or less bent back; on these, the ice picks, and the mouthpieces and wood plugs for harpoon bladders, there is nothing that calls for special remark; they resemble those from Inugsuk[3]); one of the oval wooden plugs has a cord of baleen resting in the groove. Pl. 1. 18 is a plug for a bladder mouthpiece, whipped with baleen cord. One of the mouthpieces is rather large, of antler, whereas the others, mostly small, are of ivory.

One or two small objects belonging to the harpoon but not found in the early layers at Inugsuk are the tension piece and swivel, both used for the harpoon line, though the latter may also have been used for fishing lines.

The tension piece (Pl. 1. 17) occurs here, and in the earliest layers too. But as it is familiar to us from the Thule Culture[4]), it is undoubtedly a mere chance that it was not found at Inugsuk, at I have in fact stated[5]).

The position is rather different as regards the swivel. It occurs here in five specimens, and of these three were found in houses of the first culture stage at Utorqait, and one (Pl. 1. 16) in C 46[5] at Qeqertarmiut, i. e. in the earliest layers of the midden; there can thus be no doubt that the swivel has been in general use in the oldest culture in

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[1]) L 8364—72, presented by the Rev. V. C. Frederiksen.
[2]) Inugsuk, p. 188.
[3]) Ibidem, p. 189—90.
[4]) M 1927, II p. 36.
[5]) Inugsuk, p. 322.

the Kangâmiut area. Only one of the swivels found is complete — the one figured.

At Inugsuk the presence of the swivel was uncertain in the early culture; we found it in the later deposits[1]), however, and one specimen found in fallen earth is doubtful. As it has not been found in the early finds of the Thule Culture I have hitherto hesitated, like Birket-Smith[2]), to include it in the Thule Culture. Actually the finds at Kangâmiut rather tend to increase my hesitation; when among the 2300 objects from the Kangâmiut area we find five swivels, whereas among 3700 from Inugsuk there are none, nor among about 6000 from the Central Thule Culture, this does not seem to indicate that it has been used there, but rather that it is something new that has appeared; and as it is fairly widespread in the later Eskimo culture it has scarcely been invented in West Greenland but must be an intrusion.

Of the two broken pieces of harpoon shafts, one has a tenon for the shaft mounting and a pair of lashing holes, whereas the other is a butt end (Pl. 2. 5), in which is a flat bone stud inserted obliquely, apparently for the stud of the throwing board; thus the throwing board has been used with the harpoon, a feature as to which we were uncertain as regards the harpoons of the Thule and Inugsuk cultures; the same is the case with modern West Greenland harpoons[3]); but on these the stud is not near the rear end. The Central Eskimos never use the throwing board for their harpoons, whereas several of the Western Eskimo groups use it for the sealing harpoon.

All the throwing boards are very defective; two of them are shown on Pl. 2. 12 and 16. One is a handle, with a groove for the thumb and a hole for the index finger, a feature that seems to be repeated on all the specimens. The other is a broken fore end, wide, bent over, with a triangular notch, groove and hole for the stud; thus this specimen has apparently been used with a bird dart. This one, and a smaller fragment with a finger hole, are certainly — and the figured handle presumably — of the first culture stage. At Inugsuk we found similar throwing boards at the boundary between the old and the new deposits[4]); now that these finds have been made it must be regarded as probable that they belong to the early deposits, though perhaps the later part of them, and that in these we have the throwing-board type of the Inugsuk Culture. In the National Museum there are several old West Greenland throwing boards with a similar hole for the index finger[5]),

[1]) Inugsuk, p. 306.
[2]) 1929 II, pp. 75 and 159.
[3]) B-S 1924, p. 298.
[4]) Inugsuk, Pl. 23.9 and p. 308.
[5]) See B-S 1924, p. 299.

from the Egedesminde and Holsteinsborg districts; two are from a grave find at Sermermiut; outside Greenland we find this feature in Labrador, Baffin Land, among the Iglulik Eskimos, and also among several of the Western Eskimos[1]); it is not known in the Thule Culture, whose throwing board we really know very little about.

In the National Museum there is an ancient throwing board with a fore end exactly like Pl. 2. 16, but unfortunately no particulars accompany it.

Other Implements for Hunting Aquatic Mammals.

Bladder-dart heads. Some of the fragments seem to be of the Thule Culture type, with a single barb[2]); one of them has a blade slit. In addition, however, in the layers of the second culture stage at Qeqertarmiut there were four bladder-dart heads of another type, heavy, of whalebone, with one or more belts of barbs.

Pl. 2. 10-11 shows two of them. No. 10 is a fragment, has a blade slit and two pairs of barbs at the same side but at different heights; an iron rivet goes through the lowest. No. 11 is complete, has an iron blade, a belt with four barbs, two holes for the line, and a conical butt interrupted by a step; this specimen was found rather superficially at Qeqertarmiut and possibly belongs to a still later culture. A third specimen has three belts with four, two and two barbs respectively. Two broken butts, one of which is from Igdlutalik, has an end shaped like No. 11.

These heavy bladder-dart heads with barbs in belts were not found at Inugsuk, where they presumably belong to the period between the two occupations; but they are otherwise very familiar in West Greenland. On the picture in the National Museum[3]) of the Greenlanders whom Danell brought with him from Godthaabsfjord in 1654, one of them has a bladder dart of this kind in his hand; and in the National Museum there is one of these darts that also dates back to the seventeenth century, indeed perhaps to its first half[4]). There are large numbers of these bladder darts in the Museum[5]), mostly from the northern part of the west coast, although a few are from the south; and in the Pfaff collection from North Greenland, in Stockholm Museum, there are many of them[6]). Throughout the seventeenth and eighteenth centuries these weapons have apparently been in general use in West Greenland; when in the beginning of the nineteenth century Fabricius described the sealing

[1]) Krause, p. 132.
[2]) Inugsuk, Pl. 7. 13-14.
[3]) B-S 1924, p. 185, fig. 144.
[4]) Fig. Thomsen 1928, fig. 23c.
[5]) See Porsild 1915, fig. 19. B-S 1924, figg. 33a, 35 and 214.
[6]) Swenander, Nos. 140-159.

implements of the Greenlanders they were no longer used. Outside Greenland they are unknown.

A conical, hollow ferrule, of antler, covered with notches on the outside, 3.8 cm long, is apparently a shaft mounting for a bladder dart. In the National Museum there is a similar specimen from the Egedesminde District[1]), found together with a bladder-dart head with bilateral barbs and its wooden shaft.

Of towing gear we have a few neck pieces, with from one to three holes, all somewhat larger than those from Inugsuk[2]); none of them may be said with certainty to have been found in the oldest layers. The same applies to Pl. 2. 8, a piece of wood, qissugtaussaq[3]), for the towing gear; it is not known from Inugsuk and on the whole is not known outside of West Greenland, to whose later Kayak Culture it belongs[4]). Thus here in the second stage the towing gear is at a more advanced stage of development than at Inugsuk.

Wound needles of bone, used in hunting from the ice, have been found in large numbers at Utorqait, but not in the other localities, this presumably being accidental; one is of ivory, the others of antler[5]). They are well-known from Inugsuk[6]).

Of wound plugs of wood, used in kayak hunting, we have two, found in C 38[4] and C 39[4] at Qeqertarmiut, i. e. in fairly deep layers, though according to what they contained we must take it that they belong to the second culture stage. One of them (Pl. 2.7) has a flat side, whereas the other is divided into three steps; the second specimen is rather flat, with rounded edges, and two pairs of notches in the sides. We have not these wound plugs from Inugsuk's early culture, but doubtless from the later one; the present finds show that they date far back in time, though not to the first culture stage. The distribution was discussed in the paper on Inugsuk[7]).

The sealing stool is a small and poorly made specimen, with a slightly concave front edge and more convex rear edge, and with three oval holes for the legs; the length is $30^1/_2$ cm. It is from Qeqertarmiut, D 1[4].

Bow and Arrow.

There are nine specimens of bowstaves of wood, all from the lower layers at Qeqertarmiut in which wood was so abundant. The

[1]) No. L 7460.
[2]) Inugsuk, Pl. 7.8.
[3]) Porsild 1915, fig. 36h.
[4]) But see Mathiassen, Washington & Hall Land, fig. 7.3.
[5]) One figured Geogr. Tidsskr. Dec. 1930, fig. 2.4.
[6]) Inugsuk, p. 192.
[7]) Ibidem, p. 307.

longest is shown on Pl. 2. 14; on it we find the constant alternation of narrow, thick, and wide, thin portions that is so characteristic of Greenland bow staves[1]). Another specimen has had reflex wings. They both seem to have been made of one piece of wood, whereas others were of several pieces joined by dovetailing[2]) as at Inugsuk[3]).

Pl. 2. 9 is the only baleen bow in the collection, from Qeqertarmiut too, of course, where all the baleen objects came from. By its notches in the edges it resembles the baleen bow from Inugsuk[4]), but it is narrower, and has reflex wings.

Of twisters for the sinew backing of bows one is of ivory, the other of antler; the only specimen from Inugsuk was of wood[5]).

The bone arrow heads are very like those from Inugsuk, although besides the usual knobs on the tang we also have examples of the screw; the latter, however, have only been recovered from layers belonging to the second culture stage, whereas all the heads of the first stage have knobs, as at Inugsuk and in the Thule Culture. One of the arrow heads with knobs is shown on Pl. 1. 10, and one with the screw on Pl. 1. 11.

These Greenland arrow heads with screw tang have often been discussed before, especially by Porsild[6]), who considered them to be an independent Eskimo invention. On account of their fairly restricted geographical distribution — West and East Greenland, but neither in the Cape York District nor in Arctic Canada — I have previously viewed this opinion with some scepticism[7]); and the later finds have certainly strengthened my doubts: At Inugsuk we did not find the screw in the old culture, although we did in the new and also in the house at Qamaneq, which must be assumed to date from about 1700. In the Kangâmiut area we did not find it at the first culture stage, but at the second. The culture in which the screw first appears goes back to before the whaler period, and this encourages me in the belief that the Eskimos have learned the principle of the screw from the Norsemen[8]). But it would seem to be about the last thing they did learn from them.

Of stone arrow heads we have some rather wide, defective, and sometimes doubtful specimens, two of angmaq and three of quartzite (as well as one from Qavdlunâtsiait), as well as two slender, lanceolate, handsomely cut specimens of angmaq; the best of them is shown on

[1]) Thomsen 1917, p. 399. Mathiassen, Arch. Coll. Cambr. E. Greenland Expedition, p. 151.

[2]) See Thomsen 1928, p. 321.

[3]) Inugsuk, Pl. 6. 17.

[4]) Ibidem, Pl. 21. 2.

[5]) Ibidem, p. 195.

[6]) Porsild, screw.

[7]) M 1927 II, p. 45.

[8]) Inugsuk, p 298.

Pl. 1. 19. In contrast to the only specimen from Inugsuk[1]) these are not polished, in which respect they are like most of the other West Greenland arrow heads of this type[2]). As I said in "Inugsuk"[3]), this is a local West Greenland type.

There still remain to be mentioned a broken, very much weathered handle with two grooves for the fingers, and a whole bone knife, which possibly, like one from Inugsuk[4]), is a knife for pressing water out of caribou skins when the animals are caught from the kayak; a specimen from Naujan has similar finger grooves[5]).

Bird-catching and Fishing.

In this area, too, the bird dart has been an important weapon, as we have found many specimens of both heads and side prongs.

The heads are all of whalebone, thick and blunt; some have a screw-thread on the tang (Pl. 2. 17), whereas others instead have knobs, notches, transversal rolls or the like. The former, with screw, was only found in the second stage, nor have we found it in the old culture at Inugsuk; in this respect it exactly corresponds to the arrow heads with screw tang. The only two heads that are more or less complete are 25—26 cm long, a little longer than the specimens from Inugsuk; later on these heads become longer, as in fig. 28, which came from the burial cave at Agpamiut (first part of the eighteenth century). The arrow heads seem in fact to have gone through a similar development, as the later heads with screw tang (see Pl. 7. 4) are usually much longer than the older ones.

These heavy bird-dart heads are a local West Greenland form. The later form with screw tang is especially common in finds from there; in the National Museum there are many, particularly from the northern part of the west coast but also from the districts of Holsteinsborg, Sukkertoppen and Godthaab. That they sometimes have barbs is seen from a bird dart of the seventeenth century in the National Museum[6]). How long these heavy bone heads continued in use is seen from the fact that they were only replaced by iron heads in the time of Fabricius[7]) (the early part of the nineteenth century); on the other hand we have one on the boundary between the old and the new occupation of Inugsuk, presumably dating from the beginning of the new (latter half of the

[1]) Inugsuk, Pl. 8. 2.
[2]) Solberg, Pl. 12. 1-29.
[3]) p. 196.
[4]) Ibidem, Pl. 6. 18.
[5]) M 1927 I, Pl. 13. 14.
[6]) Thomsen 1928, fig. 23b.
[7]) Fabricius 1818, p. 244.

eighteenth century). And in Kangâmiut we have it from both Ũmánat and Ukîvínguaq, and of these the latter at any rate extends to almost the year 1800. Thus it would seem that this date forms the approximate limit of the use of this type.

Side prongs for bird darts are among the commonest relics; no fewer than 62 were recovered from the three old settlements. Only a few are of ivory, whale bone or wood, antler being the usual material; they are all barbed only on the inner side; the Thule Culture type, with barbs on both sides, of which reminiscences still existed at Inugsuk[1]), had quite disappeared at Kangâmiut. Of the 43 specimens on which the rear end is preserved, 21 have a feature not found at Inugsuk: on the inner side of the rear end is a notch; thus the part behind this notch, often sharpened, went into the shaft whereas the foremost part rests on the shaft (Pl. 1. 12). Both forms appear indiscriminately in finds from both culture stages, indeed often in the same house ruin; this, then, is one of the few features whereby the early culture in this area differs from Inugsuk. By the way this feature recurs on many of the bird dart side prongs in the National Museum from Ũmánaq, Godhavn, Jakobshavn, Sukkertoppen and Godthaab; it has also got round to the east coast at Angmagssalik[2]).

The shafts and ferrules for bird darts are like those from Inugsuk[3]).

Of bola balls we have only one, a rather doubtful specimen, a roughly made lump of antler with a hole through a projection in one edge; it is rather bigger, 6.4 cm long, than bola balls as a rule[4]). The only place in Greenland where the bola is known to be in use today as a toy is in fact Kangâmiut[5]).

Gorges for bird catching occur in the same forms as at Inugsuk[6]); Pl. 1. 13 is an unusually long specimen, but otherwise of typical shape.

Of leister prongs there is not much to be said;



Fig. 28. Bird-dart head, Agpamiut. 1:2.

[1]) Inugsuk, p. 198.
[2]) Thalbitzer 1914, fig. 142.
[3]) Inugsuk, Pl. 8.10 and 15.
[4]) Ibidem, p. 200.
[5]) B-S 1924, p. 421.
[6]) Inugsuk, p. 200.

they vary considerably, having from one to five barbs, oftenest single-rowed, with a scarf face in the rear end; some of them, with or without lateral barbs, are presumably for the centre point.

Of the fish hooks there are two, from Utorqait and Qeqertarmiut, that are of the type shown on Pl. 1. 15; it is cut out of a seal's pelvis

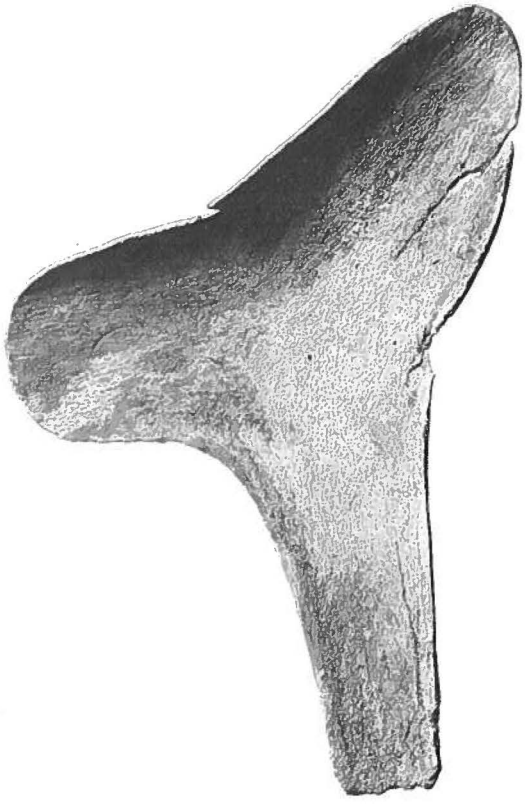

Fig. 29. Ice Scoop? Utorqait. 1:2.

the natural opening having been utilized to form the inner edge of the hook. Pl. 1. 14 is another fish hook, composed of two pieces of antler; the fourth is a small hook of antler in one piece; none of the hooks have barbs. Fish hooks seem to have played only a small part on the whole in the early Eskimo culture; there are very few in Thule Culture finds, and only one, of baleen, was found at Inugsuk[1]). At Kangâmiut they have apparently been more widely used, apparently because there sea-fishing has begun to assume importance, as is evidenced by the many fish bones in the middens. That the fish hook was used in the seventeenth

[1]) Inugsuk, Pl. 21. 20.

and eighteenth centuries in West Greenland appears from the literature cited by Birket-Smith[1]); it may be added that Johann Anderson[2]) (1746) mentions that formerly they used fish hooks of bone.

Fig. 29 is possibly an ice scoop; it is of antler, hollow, and has been lashed on to a handle; two fragments are possibly of similar implements. Ice scoops, which are used for removing pieces of ice from the hole when fishing from the ice, are known in the Thule Culture[3]), but not from Inugsuk, although this is doubtless accidental. The ice scoops used in West Greenland when netting seals are of another form[4]).

Dog Sledges.

Of sledge runners we have the fragment of the fore end and also a small runner, 40 cm long, presumably for a child's sledge. The nose is not upturned and at both ends the breadth is about 3 cm; in the under edge of both are nail holes, and in the child's sledge runner two pairs of holes for cross slats.

A number of wide pieces of whalebone, with one or two pairs of notches in the edge, may be sledge cross slats; this identification is uncertain, however.

Of sledge shoeing we have three definite fragments, one from Utorqait[5]) and two from Qeqertarmiut (Pl. 2. 15); they are all of whale bone, $3^1/_2$—4 cm wide; the nail holes are placed irregularly; there are distinct marks of wear, so there is no doubt that their identification as sledge shoeing is correct. At Kangâmiut this shoeing is a little narrower than in the old culture of Inugsuk[6]), but wider than the modern Greenland shoeing[7]).

Of trace buckles five are of whale bone (Pl. 2. 18)[8]), one of baleen; they all have two holes running in the same direction.

Whereas the sledge runners may be toys and the cross slats are uncertain, the finds of sledge shoeing and trace buckles cannot be misunderstood; they show definitely that in ancient times there has been dog traction in the Kangâmiut area. The many dog bones found during the excavations indicate the same thing: Dog bones were found in 27 different places at Utorqait and at 52 different places at Qeqertarmiut; in all we recovered 13 skulls, 22 jaw bones, 10 shoulder and

[1]) 1924, p. 363 seq.
[2]) p. 253.
[3]) M 1927 II, p. 57.
[4]) B-S 1924, p. 331.
[5]) Fig. Geogr. Tidsskr. Dec. 1930, fig. 2.7.
[6]) Inugsuk, p. 203.
[7]) Ibidem, p. 309.
[8]) Another fig. Geogr. Tidsskr. Dec. 1930, fig. 2.8.



Fig. 30. Umiak rib. Qeqertarmiut. 1:3.

pelvis bones, and 97 limb bones. This shows that the dog has been a common domestic animal in that area; and the finding places show that this has been the case at both stages of culture.

At the moment the lateral boundaries of dog traction in West Greenland are at Sarfánguaq in Holsteinsborg District. There are no dog sledges in Sukkertoppen District, and in fact the poor and unreliable ice there does not invite this mode of travelling. In ancient times, however, there has apparently been dog traction in the Kangâmiut area, even if it naturally has not played such an important part as further north; it is only necessary to compare the number of sledge shoes found there and at Inugsuk. But as the people there came from the north they have of course tried to retain their arctic culture as long as possible, and in this was the dog sledge. Birket-Smith[1]), based upon the finding of a toy sledge and two trace buckles in Julianehaab District, has previously advanced the hypothesis that the culture in South Greenland has formerly been more arctic; these finds can only confirm this, though only as far as the most northerly part is concerned.

Umiak.

Fig. 30 is an umiak rib of wood. At the top is a semi-circular groove in which the gunwale has rested, a drilled hole and a notch for lashings; a little further down is a step that has rested on one of the stringers; two of these were found in C 39[2], one in C 42[4] and one in C 38[5], all at Qeqertarmiut. These ribs have thus been in use both in the first and second culture stages in this area.

Of the shape of umiak frames at Inugsuk or in the Thule Culture we know nothing at all; those under review are the earliest known Eskimo umiak ribs. It is otherwise the form that has later been used in West Greenland[2]), and now at Angmagssalik too, where formerly the ribs had holes through which the stringers ran[3]).

Of umiak paddles we have only one specimen, used in the roofing of a grave at Utorqait. It is a central portion, with a circular groove for the thong that held it to the gunwale.

[1]) 1917, p. 15.
[2]) B-S 1924, p. 254.
[3]) Thalbitzer 1914, p. 378.

Kayak.

The fragments of gunwale are quite like those from Inugsuk[1]), with sockets in the under edge for the ribs and in the sides for the deck beams, with scarf-face and wooden nails; one has fragments of baleen cord on it.

As to the shape of the deck beam in front of the manhole we now have a better idea than Inugsuk gave us, only a small fragment having been found there[2]). Pl. 2.19 is one of these deck beams, a little defective only at one end. It is a piece of drift wood, with a pronounced curve; in the complete end are two holes with grooves for lashings; there is also another pair of holes, one containing a remnant of baleen cord, presumably for holding the skin. Very characteristic is the powerful "hand grip", a projection on the underside, in which is a deep socket; apparently this was to serve the purpose of a handle when the kayak had to be carried. Both of the other fragments have a similar hand grip, which apparently has been characteristic of the kayaks of the first culture stage, all three specimens belonging to it. Hand grips of this sort are still met with now and again on West Greenland kayaks; I saw it on one in Agpamiut, and it was also on the West Greenland kayak that was found in Washington Land in most northerly Greenland[3]); it is often used at Angmagssalik too; it seems to be a special Greenland feature, and this find shows that it dates a long way back.

The original length of this deck beam has been about 48 cm, and it thus indicates the width of the kayak, which is very nearly the same as that of modern West Greenland[4]).

The modern West Greenland kayak rack with a ring has been in use, though only in the second culture stage; we have it from Houses 17 and 23 at Utorqait, and the later deposits at Qeqertarmiut, but not from the oldest houses at Utorqait or the deepest layers at Qeqertarmiut. Pl. 3. 1 shows one of the characteristic legs of it, of antler; of the others, two are of antler, two of whale bone; one of the latter has a thick, distinctly marked head.

In the early culture at Inugsuk we have found nothing to indicate that this kayak rack has been known; we have, however, two legs from the later finds[5]). It is one of the most typical objects of modern West Greenland kayak culture[6]). The introduction of the modern ring-shaped

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[1]) Inugsuk, p. 206.
[2]) Ibidem, p. 206.
[3]) Mathiassen, Washington and Hall Land, fig. 3.
[4]) Ibidem, p. 197.
[5]) Inugsuk, p. 310.
[6]) See B-S 1924, p. 305.

kayak rack means great progress in the direction of using the kayak for hunting in more disturbed waters; it raises the coiled harpoon line above the deck so that it is not easily entangled when water washes over it.

Besides this ring-shaped kayak rack a cruciform rack was used, without a ring[1] — a type that has been used at Angmagssalik up to our time. Apparently it was this that was used in the early culture in the Kangâmiut area and at Inugsuk, whence we have a specimen, though with no connection with the remainder of the find[2]. This form seems to have been still in use in the eighteenth century, judging from a drawing — a poor one, it is true — in J. Anderson[3]. But according to the finds now made the ring-shaped kayak rack came into use much earlier.

Pl. 3. 2-3 show two specimens, the former of antler, the latter of wood, shaped like Inugsuk Pl. 21. 12, which I have identified as rests for the kayak harpoon. These rests occur in the layers of both first and second cultures; it is a special West Greenland form that has only been in use a short time.

Pl. 2. 13 is a kayak-paddle blade of wood, thin, pointed, terminating at the upper end in a swallowtail scarf. It is the same pointed form that we also find on the toy paddles of the old culture (Pl. 6. 20); these all have rhombic or lanccolate blades. Pointed paddles were also characteristic of the early deposits at Inugsuk, and their distribution was discussed when describing them[4]; in the Kangâmiut area they have thus predominated too in earlier times. As an illustration of how recently such pointed paddles were in use it may be mentioned that on the picture on Hall's map of Itivdleq Fjord[5] (1612) is a kayak paddle, with fairly broad, pointed blades, whereas Cranz's picture[6] (1770) shows the later blades cut square at the end; the latter we also have in all the eighteenth century finds from the Kangâmiut area.

From the early layers there is no bone mounting for paddles[7], though one or two were found for toy paddles; of these some are pointed, and others, which all date from the second culture stage, are rounded. Apparently the paddles of the first stage have always been pointed.

Of kayak scrapers only one, of antler, 35 cm long, is fairly com-

[1] B-S 1924, p. 306.
[2] Inugsuk, p. 309.
[3] p. 254.
[4] Inugsuk, p. 207.
[5] Bobé 1916, p. 88.
[6] Cranz, Pl. VII, p. 199.
[7] Inugsuk, Pl. 20. 14.

plete; the others are fragments, sometimes doubtful. We also have the kayak scraper from Inugsuk[1]).

Men's Tools.

Pl. 3. 4 is a snow knife of whale bone, with one pronounced shoulder on the inner edge and the point broken off; the others are all more or less defective; they are all of whale bone, and on the only one where there is any indication left, it has only one shoulder. All these snow knives are of the first culture stage.

It is the same type that predominated at Inugsuk[2]); but in these southern regions the snow knife has never been of such importance as further north; as a matter of fact it is surprising that it has been used at all — that snow houses have at all been built in Sukkertoppen District. By the way a snow knife was found a little more to the south, in a grave find at Ũmánaq, south of Sukkertoppen[3]); the specimen that was found on the Norse settlement Igaliko[4]) was apparently brought there from the north.

The other implement for building snow houses, the snow shovel, is also represented, though only in the form of very weathered and spoiled fragments; both have seatings for the handle and holes for its lashing. One of these came from House 13 at Utorqait, i.e. from the second culture stage. We have the snow shovel from Inugsuk too[5]).

Knives with end-blade. Five of them have a small, oftenest triangular iron blade, while the others lack the blade. The material of the handle is usually antler, though some are of whale bone. Nearly all are fairly short; all are for holding with one hand. Fifteen of them have a hole for the suspension thong, as a rule drilled from side to side; four have it drilled through the end knob, from side edge to the end. Six have an end knob, most of these being the best shaped specimens. Pl. 3. 5 shows a handsome knife handle of antler decorated with longitudinal lines and on the back edge regular transversal grooves; it has thong holes drilled in both ways. Of the other knife handles one is decorated with longitudinal lines and a transversal row of dots, one has a longitudinal row of dots, and one is covered with notches; one has a longitudinal row of five holes drilled right through.

In every respect, including the decoration, these knives resemble those from Inugsuk[6]).

[1]) Inugsuk, p. 208.
[2]) Ibidem, p. 208.
[3]) See Ibidem, p. 277.
[4]) Nørlund 1929, fig. 101.
[5]) Inugsuk, p. 209.
[6]) Ibidem, p. 211.

Knives with blade at the side. Pl. 3.6 is a knife handle of antler, on which the part with the thin blade slit in the side is thinner, narrower, and distinctly separate from the handle like Inugsuk Pl. 10.17; another is like this one. Two others, on the other hand, have the blade end wider than the handle, like Inugsuk Pl. 10.16. Pl. 3.7 is a foreshaft of antler with a long, narrow blade groove in the concave edge; the blade has been held in by ten rivets; at the rear is a dovetail for lashing on the handle. These knives must necessarily date from a time when there was only access to small quantities of iron. A rather thin stick of wood, 9 cm long, has a small, very weathered blade, doubtless of iron, in the side at one end.

Of stone knife blades we have three defective, two-edged angmaq blades, one wide, polished, with a tang, the other two are small and unpolished. Pl. 3.8 is a polished, single-edged slate blade with a tang and the point broken off. At Inugsuk, too, there were both single and two-edged stone blades for knives[1]).

Pl. 3.9 is a small, pointed blade of a tubular bone; in the broad end there is a hole for fastening it to a handle, and in its one sharp edge is a row of notches making it a serrated edge. There can scarcely be any doubt that this specimen is a small hand saw, used for wood-working. Saws do not seem to belong to the original Eskimo culture; at Inugsuk, however, several small saws of baleen were found[2]) and these are of similar shape to this one; it is interesting to find this form again here, due I suppose to Norse influence[3]), in bone.

Of the numerous whetstones only one, from Utorqait, has a thong hole, which is situated in a knob-like projection at one end. A fairly common form, of which there are 29 specimens, is quite slender, oftenest of greyish slate, and with four whetting surfaces (Pl. 3.10). The others are flatter, often irregular in shape. Sometimes the material is slate, sometimes sandstone, gneiss, quartzite or rock like basalt.

These very slender whetstones were not found in their pronounced form at Inugsuk, whose whetstones the present ones otherwise resemble[4]). It seems to be a local form, possibly a result of the way the rock splits.

Of the adze heads, all of antler, most are very defective; only two have vertical holes through the neck, whereas most have only a flat face for the handle and notches or a groove for the lashing. On at any rate four of them the blade socket is so wide that they must

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[1]) Inugsuk, p. 213.
[2]) Ibidem, p. 214, Pl. 20.16 and 21.6.
[3]) Ibidem, p. 297.
[4]) Ibidem, p. 214.

have had stone blades. We have exactly similar adze heads from Inugsuk[1]).

Of adze helves three, all from Qeqertarmiut, are of wood and very decomposed; they resemble those from Inugsuk[2]); one has marks from fire drilling. One from Utorqait, is of antler, and at the fore end, instead of a hole, is widened out to both sides thus forming a large seating for the head.

The chopping blocks are all of whale bone. Three are of vertebra,



Fig. 31. Chopping bolck. Qeqertarmiut. 1:3.

the ends more or less hollowed out by wear (fig. 31); one is a vertebral epiphysis and one is an irregular lump of whale bone. Whale vertebrae used as chopping blocks are known from Inugsuk and the other finds of the Thule Culture[3]).

The hammer stones are of the same kind as at Inugsuk[4]), where they occurred in large numbers for the first time in Greenland. They are pebbles, usually of basalt or diabase rock, on which there are now

[1]) Inugsuk, p. 215.
[2]) Ibidem, p. 215.
[3]) Ibidem, p. 217.
[4]) Ibidem, p. 216.

facets caused by hammering; the stone chosen was for preference regular, elongated, rounded, and these are facetted at each end through hammering; more irregular stones were, however, used too. They are common in both culture stages. From one of the "clover leaf houses" at Ũmánaq, south of Sukkertoppen, we have one of these hammer stones, and another is from Sermermiut[1]).

Mattock blades and wedges are present in large numbers, but not varying greatly and differing in no respect from Inugsuk specimens[2]). The mattock blades are all of whale bone, the wedges of whale bone and antler, though one is of wood, and of every possible size. None of the mattock blades have a hole in the rear end like a specimen from Inugsuk[3]); one, however, has a groove instead; most have merely a flat seating for the handle and notches in the sides; the edge in many cases is only slightly sharp.

Of the drills two have an iron bit, and one of these is from one of the earliest ruins at Utorqait. The shanks are of whale bone, round; one has been prolonged and has a dovetail scarf face. Two drill shanks are pointed at the butt and have a fairly large socket, presumably for a stone blade. All the mouthpieces are of caribou astragalus; one has a hole drilled through the edge. The hand drill is a small flake of bone with a very thin point. Of the stone bits one is like Solberg Pl. 5. 20, whereas the other is a broken point, likewise wedge-shaped, a special West Greenland form that also begins to occur at Inugsuk[4]).

Women's Tools.

Ulos. Pl. 3. 11, 14 and 16 show three different types of ulo[5]). Nos. 14 and 16 are of whale bone and are types familiar from other old finds[6]); the latter has the remains of an inserted bone blade and deep marks of wear owing to having been used as a scraper; these ancient ulos were, of course, used both for cutting and scraping. Other specimens are rather irregular, flat pieces of antler with a groove in one edge. Most of the variants found at Inugsuk recur here, though not the latest of them[7]), with a hand grip and a thinner part for the blade, in which was a narrow groove for the chips of iron that have formed the blade. However, in the National Museum there is an ulo of this form, with remains

[1]) Nat. No. L 7475 and L 5837.
[2]) Inugsuk, p. 217.
[3]) Ibidem, Pl. 9. 11.
[4]) Ibidem, p. 218.
[5]) A fourth is figured in Geogr. Tidsskr. Dec. 1930, fig. 2. 16.
[6]) Inugsuk, p. 220.
[7]) Ibidem, Pl. 12. 18.

of the iron edge, from Utorqait; thus it is merely accidental that it was not found during the summer's excavations; it has been known.

However, we found another, closely related type which must also be regarded as being later than the others: Pl. 3. 11. This ulo has consisted of three parts lashed and rivetted together; the hand grip is missing; in the lowest part, that in which the edge was set, is a groove with a thin, continuous iron edge. Besides this specimen we have an edge piece with an iron blade, and a wooden handle with the remains of a baleen cord. We have this type from both the first and the second culture stages. We have not found it in the early midden deposits at Inugsuk, but in a grave find there was one[1]). In the National Museum are several of these ulos, from Ũmánaq, Godhavn and Egedesminde districts[2]); several, with blades of laminated iron, are contained in K. J. V. Steenstrup's large grave find from Eqaluit, which closely resembles the Inugsuk find[3]) but is a little later.

Of scrapers, too, we have principally the same forms as at Inugsuk. Three pieces of antler have apparently been used for softening skins. One is rather thin, hollow, and widens out towards the edge; a groove and a pair of notches might indicate that it has been lashed on to a handle. Two others are large, rather irregularly shaped specimens with a wide, curved edge; one of them bears the distinct marks of wear, while the other is too weathered to show any such indications.

The small, convex-edged stone scraper blades, with a flat and a very rounded side, are the most common here; they occur in both the early and the later layers. Two are of angmaq, four of rock crystal, two of chalcedony, two of flint. One only, Pl. 3. 12, is polished at the edge. Pl. 3. 13 is one of rock crystal.

Of handles for these small scrapers we have Pl. 3. 15, from Utorqait, and one exactly the same but smaller, from Igdlutalik; there is a similar specimen from Inugsuk[4]).

The two-handed scraper, occurring in West Greenland for the first time at Inugsuk[5]), is well represented here too, in both culture stages. Most frequently the material is caribou limb bone, especially metatarsus[6]); one is of the limb bone of one of the large seals; and Pl. 3. 19 is of antler.

Pl. 3. 18 is a small stone blade with an oblique edge, of polished angmaq; the edge has been painstakingly made, but is not sharp; a

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[1]) Inugsuk, fig. 51.
[2]) See B-S 1924, fig. 63.
[3]) See Inugsuk, p. 278.
[4]) Ibidem, Pl. 13. 2.
[5]) Ibidem, p. 222.
[6]) Geogr. Tidsskr., Dec. 1930, fig. 2. 24.

corner is broken off. It was found in square A at Utorqait and thus belongs to the second culture stage. There is a similar specimen from Qavdlunâtsiait.

What has this little implement been used for? Its shape is familiar; it is true that from Inugsuk we have no specimen that may with certainty be classified with it (Pl. 14.8 has a short transversal edge, but it is not oblique and the specimen is defective); but it is a well-known type in the "West Greenland Stone Age"[1]); there are many of them in the National Museum, especially from the two prolific finding places for stone objects, Sermermiut and Qeqertaq; there are also two from Sukkertoppen District. Solberg makes a distinction between two implements with an oblique edge, one with almost straight sides and a short edge, the other tapering at the back and a long edge; the first group, which is nearly always broken in the same manner as the specimen under review, he places among the drills, while he believes the other group[2]) to have been used as a sewing knife and boot creaser. I am not sure that this distinction can be maintained; a large number of those which Solberg figures on Pl. 6 (for instance 10-12) seem to have been of a similar shape before breaking to those figured on p. 42; what is more, the first-named with their really long, crooked edge would seem to be useless as drills; they would break before they had done any good. I consider Solberg's identification of the specimens on his p. 42 as creasing implements, prototypes of the boot creaser, as probably being near the truth, and I am inclined to transfer this identification to the other group as well. The edges are not sharp as on a knife, but rounded and worn smooth, as they would be through working in leather; and the breaking of the many specimens is explained by the heavy pressure this very slender stone blade has to exert against the stiff leather sole in order to crease it; the breakage is always at the corner that would lead during the work. It is possible that some of them have also been used to cut the skins into small pieces, like the modern sewing knife[3]), but this would require a sharper edge than this one has.

These creasers do not occur outside of West Greenland.

Pl. 3.17 is a small cutting board of wood, with marks of cuts on both sides; at one end it is carved like a human figure, of the usual type without arms or facial features, and there are decorative notches in all the corners. Another cutting board of similar size seems to have had a head, now broken off, and two others are cut to an angle at one end. We shall revert to these cutting boards below.

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[1]) Solberg, Pl. 6.1-16.
[2]) Ibidem, figg. 15—23, p. 42.
[3]) B-S 1924, fig. 90.

A Woman's Sewing and Trinket Casket.

In the Qeqertarmiut midden, in C47[3], in a layer that apparently belongs to the first culture stage, we found the remnants of a wooden box in an advanced state of decomposition, and with it the following objects: Two cutting boards, a needle case, a thimble holder, a comb, four ornamental bodkins, a trinket consisting of three chain links, another small pendant, three small carved pieces of bone, including the rear end of a prong for a bird dart, a worked piece of rock crystal, a piece of black mica, and three animal teeth (dog's canine and front teeth and a seal molar). They all lay so closely grouped that there can be no doubt of their belonging together and that they have lain in the box; they are all feminine things, some used when sewing, others toilet and ornamental articles, so they must be taken to have belonged to some woman. This find is shown on Pl. 4.

Of the box (1) all the fragments are not shown. The longest is 15 cm. The box has been rectangular and held together by wooden nails. No four-sided box was found at Inugsuk; but in a grave find from Melville Bay, very closely resembling this one, there is one of these rectangular boxes[1]).

Of the cutting boards one (3) seems to have had a head, while the other (2) terminates in a tenon with a transversal groove; on the edges this latter specimen is decorated with zig-zag lines. At Inugsuk[2]) similar small cutting boards were found, and these, in analogy with conditions among the Western and Central Eskimos, I interpreted as feather cutting boards; the occurrence at Kangâmiut together with other women's things shows clearly, however, that they have at any rate sometimes — if not always — been used by the women when sewing.

The needle case (4), of ivory, is one of the winged type so well known from the Thule Culture[3]) and Inugsuk[4]). In "Archaeology of the Central Eskimos" I endeavoured to show that this type of needle case had come about through the conventionalizing of a needle-case type in the form of a human figure that we find in Alaska. This interpretation has not been accepted everywhere, having been opposed by Hatt in his review of my work in Geografisk Tidsskrift 1928, and also by Collins[5]). Hatt's objections are to the effect that it is not convincing that the wings represent arms, and that the interpretation of the needle

[1]) Inugsuk, p. 276.
[2]) Ibidem, p. 196.
[3]) M 1927 II, p. 92.
[4]) Inugsuk, p. 224.
[5]) Collins, p. 32.

case as a human figure thus becomes problematical; that realistic human figures are scarcely very old in Alaska, as they are not known from the Thule Culture, whose human representations are very primitive, and finally, that such a conventionalizing of a realistic figure was no longer in vogue among ethnographers. In an article in Geografisk Tidsskrift 1929 I tried to meet Hatt's objections, partly supported by two intermediate forms between the realistic human figure and the "winged" needle case; one of these is from Pt. Barrow, a specimen belonging to the Van Valin Collection in Philadelphia Museum[1]); furthermore, I expressed the opinion that as in this old Eskimo culture we had in fact several other examples of a conventionalizing of a more realistic figure as we move from Alaska eastwards (dolls, combs, etc.), it was permissible to imagine the same thing as regards the needle case; and since then I have further discussed this degeneration of art from west to east[2]). Collins figures a needle case from St. Lawrence Island[3]), which seems to be an intermediate form between the winged needle cases from Pt. Barrow which I have figured[4]) and the type discussed by Boas from Alaska[5]). After the appearance of this latter specimen it may seem as if these two forms were related all the same, that Boas thus is right in saying that they are variants of the same fundamental type. But another question is: which of them is the earliest, and what is it they are intended to represent? This will scarcely be answered before more material, chronologically classified, has been found in Alaska. But one thing at any rate seems to be certain enough: that the origin of the winged needle case must be sought in Alaska.

The thimble holder (5) has lost one of its flukes, but the fracture has been smoothed over; this is also a type well-known from Inugsuk[6]); the same applies to the handsome comb[7]) (6), of whale bone, with the tapering handle, and the ornamental bodkins, of which three (7, 9-10), two complete and a fragment, are of ivory while a small, very decomposed fragment (11) is of wood; these ornamental bodkins will be discussed further down; they are also among the most characteristic types of the Inugsuk Culture. A small, slender pendant (12) is of ivory.

It is most interesting to find here again the small trinket consisting of three links (8), of ivory, a specimen of which we had from Inugsuk too[8]); here, however, the three links are separated, the eyes of the middle

[1]) J. A. Mason, 23th Congr. of Americanists Fig. 1.
[2]) 1930, p. 82.
[3]) Collins, Pl. 9.3.
[4]) M 1927 II, p. 95, fig. 4.
[5]) Boas 1908.
[6]) Inugsuk, p. 224.
[7]) Ibidem, p. 248.
[8]) Ibidem, p. 251.

piece being broken. As I have previously stated, the only place (apart from Inugsuk) where this characteristic little trinket has been found, is Skærgaardshalvø on the east coast, a little to the south of Scoresby Sound[1]). The presence of such a special little object as this trinket must indicate a very close cultural association. Thus the find at Qeqertarmiut points to a station on the road that has brought the Eskimos from Upernivik District round Cape Farewell and round to the east coast.

What the other trifles (13-20) have been used for is uncertain; some of them, such as the teeth, may be material for making beads. One might also imagine amulets; in particular the handsomely formed piece of rock crystal might be one: When whaling the women of both Alaska and the Central Eskimos[2]) had to wear a crystal in a brow band as an amulet.

This small find with its many characteristic objects is of great chronological importance, not only as showing what one woman has possessed and what types have definitely been contemporaneous, but also as forming a part of a large collective find and thereby being placed to a certain culture horizon.

Household Utensils.

With regard to the lamps, a summary has already been made at the beginning of this chapter of the occurrence of the various main types in the two culture deposits.

The earliest type, with a wick ledge, the Thule Culture form, occurs almost exclusively in the first culture stage; but at Kangâmiut it is, on the other hand, the type that occurs most frequently; of the lamps from the second culture stage only one, a toy lamp from Igdlutalik, has a fully developed wick ledge. The extreme form, wider than it is long, is represented by fig. 32a; on it the wick ledge is broken by a cut, and its ends do not reach the side walls; we find the same feature on the toy lamp Pl. 6. 17. On two other fragments, and on the toy lamp from Igdlutalik, the ledge does not reach the sides either, but it has no cut. Two fragments, for instance fig. 33a, are of lamps that have not had a continuous ledge but a row of knobs as on the lamps of the early Thule Culture finds[3]). Finally, four large and four miniature lamps have had continuous ledges, from side to side, and some, principally from the second culture stage, a rudimentary wick ledge. All these forms are known from Inugsuk[4]) except the one with the row of knobs, and this is, as already stated, familiar in the Thule Culture, especially in its

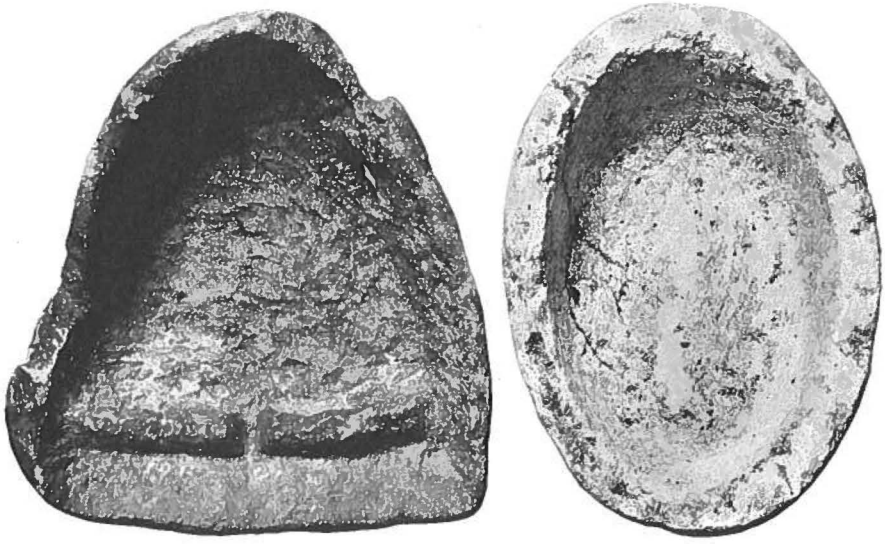
[1]) Thalbitzer 1909, fig. 31.

[2]) Knud Rasmussen 1929, p. 188. M 1930, pp. 48 and 69.

[3]) M 1927 I, Pl. 25.13-14, 26.3, 52.3 and 53.11.

[4]) Inugsuk, p. 228.

earliest part; and thus it is doubtless the earliest of them. The type with the continuous wick ledge that does not reach the sides occurs at Qilalukan[1]); possibly the type on which the ledge extends out to the sides is a little later still; at any rate it first appears in Comer's Midden[2]), and it is the most common form at Inugsuk and Kangâmiut. Somewhat later again is the form with the rudimentary ledge, which we also found at Inugsuk but which becomes especially common in the



a b

Fig. 32. Soapstone lamp and bowl. Utorqait. 1:3.

second culture stage in the Kangâmiut area. Among the Thule lamps it would thus appear that we can show an entire development-series; the early forms, however, have obviously remained long in use, as these finds show.

But besides the Thule lamps there are large numbers of lamps with no wick ledge at all, or with a longitudinal partition at or behind the middle; a fragment of one of the latter is shown on fig. 33b. Both these forms are apparently later; we do not know them in the Thule Culture, and only have one or two specimens of them from Inugsuk. Here at Kangâmiut they are more frequent, from the first and the second culture stages, and they are also well known both among the present Central Eskimos and later Greenland finds[3]) (see also the grave find from Qeqertarmiut, Pl. 7. 22). In the large grave find from Eqaluit, in

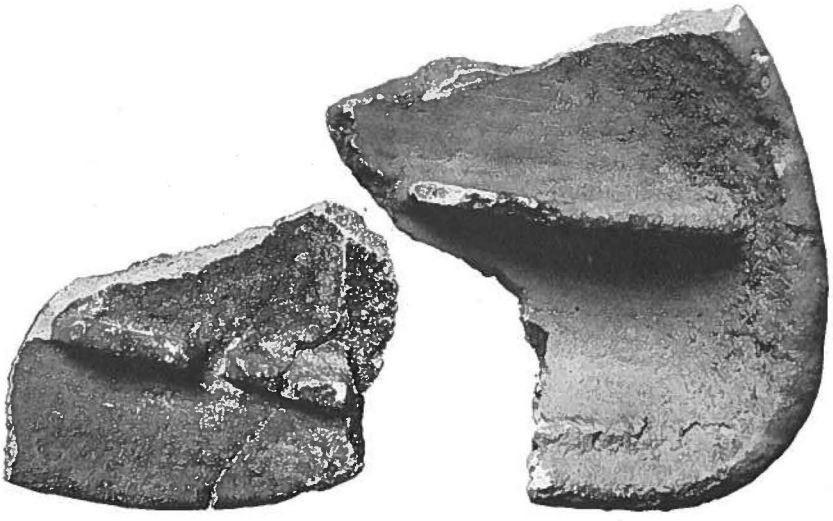
[1]) M 1927 I, Pl. 52.4.

[2]) Ibidem, Pl. 78.15.

[3]) See for instance Hough 1898, Pl. 1-6. Inugsuk, Pl. 24.11.

Ũmánaq District, which is a little later than Inugsuk, there are two of the lamps with the longitudinal partition.

The general occurrence of these two types of lamp at Kangâmiut indicates that these finds are a little later than the old midden at Inugsuk, where Thule lamps quite predominated; at Kangâmiut we no longer have the fixed, time-honoured form, but forms that are more varying as among the later West Greenland lamps. The frequent occurrence



a b

Fig. 33. Fragments of soapstone lamps. Utorqait and Qeqertarmiut.

of the lamp with the wick ledge at the first culture stage shows clearly, however, the connection with Inugsuk and, through this, with the Thule Culture.

One or two fragments are of lamps with a transversal partition, a feature we meet with now and again both among the Central Eskimos and the West Greenlanders.

As to the width of the lamps, the few specimens on which this can be measured have the following proportions between length and breadth (the breadth shown as the percentage of the length):

Lamps with wick ledge: 106, 78, 75, 89; the latter unfinished.
Lamp without wick ledge: 55.
Toy lamps with wick ledge: 84, 80, 76, 61.
Toy lamp without wick ledge: 64.

It will be seen that on the whole the lamps with a wick ledge are wider than those without one, a circumstance that we also find among the Central Eskimos, where the lamps of the Thule Culture are wider than those of the present-day Central Eskimos[1]). As a rule, however,

[1]) M 1927 II, p. 100.

these Greenland lamps are wider than the Central Eskimo lamps, where the proportions of the Thule lamps are about 60, and of the modern lamps less than 50. The very loose, coarse-grained soapstone has, however, in many cases undoubtedly been the cause of a crude, rounded form.

Lamp trimmers. Asbestos sticks were fairly numerous everywhere, and many of them are blackened at the end or all over the surface, and thus have apparently been used as lamp trimmers (Pl. 5.1). That asbestos was a favourite material for lamp trimmers in Greenland is well known[1]), and it was also used now and again by the Central Eskimos[2]); at Inugsuk only a single stick, not blackened, was found[3]).

Sherds of soapstone cooking pots are extremely numerous. The special West Greenland feature of the suspension holes in an inner projection is much more prominent at Kangâmiut than at Inugsuk[4]) and can be seen on 42 specimens, whereas 11 only have the holes bored from side to side as is usually the case in the pots of the Thule Culture; two sherds from the ruin examined at Ingik have this special feature too. Most of the fragments are of rounded cooking pots, some round, some oval, and others four-sided with rounded corners and curved-out sides; no sherds of sharp-cornered pots were found, though there were a number of more or less flat pieces, presumably of bottoms, which as a rule seem to have been flat. The largest sherd, about 30 × 14 cm, is of the side of a cooking pot and is only faintly curved.

Very often there are holes in the pieces for thongs. One sherd has two prominent ornamental ledges on the outer side below the rim.

Fig. 32b is an oval bowl of soapstone; the absence of suspension holes and its shallowness do not indicate that it has been used as a cooking pot, and for a lamp it would be too deep. Presumably it has been used for keeping blubber, blood, or the like.

The pothooks are of antler, with one or two holes which are often a good way down; similar hooks were found at Inugsuk[5]).

Pieces of wood for fire-drilling, both the sticks and the hearths, are fairly common at Qeqertarmiut; in many cases these pieces of wood have first been used for some other purpose.

Of oval baleen cups, so common at Inugsuk[6]), there is only one, 14 cm long, $8^1/_2$ cm high; the baleen sides are badly decomposed. From Qeqertarmiut, however, there is a fairly large number of oval bot-

[1]) Porsild 1915, p. 221. B-S 1924, p. 163.
[2]) Parry, p. 51. Boas 1888, p. 544.
[3]) Inugsuk, p. 228.
[4]) Ibidem, p. 229.
[5]) Ibidem, p. 231.
[6]) Ibidem, p. 234.

toms[1]) for these cups and bowls; as they have usually been made of wood, it is comprehensible that they are lacking at Utorqait. At Qeqertarmiut we have them from both culture stages, though of course more numerous from the deepest layers, where wooden objects had better chances of being preserved. One of them, broken and very defective, is exceptionally of soapstone, 14 cm long; four, mostly for large bowls, are of whale bone; one of these is fairly complete, 25 × 25½ cm. The remainder are of wood; one of them is a fragment, 45 cm long, of a very large bowl, whereas most are of small bowls and cups. Two, almost circular, are presumably the bottoms of coopered tubs.

Of wooden trays hollowed out of one piece[2]) we have a number of specimens from Qeqertarmiut; most of them are of oval trays but some are four sided; only one specimen, an oval bowl 13 × 8½ cm, is anything like complete.

There were also a number of staves for coopered vessels[3]) at Qeqertarmiut, all of them of tubs. The complete specimens have lengths up to 23 cm; one very curved stave measures 15 × 9 cm. Only one, Pl. 5. 2, has a lug.

The antler spoons are mostly of the same shapes as those from Inugsuk[4]), with an oval or egg-shaped, rather shallow bowl and a slender handle, often decorated in a variety of ways — a form that I have endeavoured to trace back to the Norsemen. Sometimes the handle runs gradually into the bowl, and on some the bowl is cut square at the tip. Pl. 5. 3-5 are three typical specimens. The projections on the sides of the handle of Pl. 5. 5 are also to be seen on a mediaeval spoon found at Trondhjem[5]), a feature that further strengthens the apparent connection of these spoons with the mediaeval Norse culture.

The wooden dippers, which like most of the other wooden objects were found only at Qeqertarmiut, also resembles those from Inugsuk[6]), with a short handle and a large bowl; the two largest but very defective dippers, 26 and 22 cm long respectively, have the bowl cut off square at the fore end; a third, from the second culture stage, has an almost circular bowl.

Of the ladles, which have a longer handle passing smoothly into the more shallow bowl, three are of antler and three of wood; one is strongly reminiscent of a specimen from Naujan[7]).

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[1]) Ignusuk, p. 235.
[2]) Ibidem, p. 236.
[3]) Ibidem, p. 237.
[4]) Ibidem, pp. 239 and 296.
[5]) Th. Petersen, fig. 12.
[6]) Inugsuk, p. 240.
[7]) M 1927 I, Pl. 28. 8.

The meat sticks are pointed, curved, mostly of antler; two, however, are of walrus rib, a material often used for this purpose on account of its strength[1]).

From Utorqait there is a rather doubtful marrow extractor, and from Qeqertarmiut the very decomposed remains of a bladder bag, the mouth of which is of unhaired sealskin.

Clothing and Ornaments.

Of objects belonging to clothing we have only the very decomposed remnants of a boot sole, with creases, and a bundle of baleen wool for boots[2]), both from the earliest layers at Qeqertarmiut. The baleen wool consists of a flat bundle bound with hair and dirt, just as it would look after lying between the boot sole and the stocking in a boot. At Inugsuk "boot straw" of baleen was found for the first time east of Alaska and the present find shows that it has also been used in South Greenland.

Otherwise we must turn to the dolls for guidance as to clothing, as was the case at Inugsuk. Here, however, they are fewer, less well preserved, and usually more roughly made.

Five dolls show the upper end of the trousers, about midway or a little higher up the leg, as at Inugsuk[3]); of these at any rate two are men (Pl. 6.10). The natit[4]) can only be seen on two, but here it is quite distinct; one of these is a female (Pl. 6.9). The doll Pl. 6.11, presumably a male, has on the back (shown in the figure) two crossed lines running from the shoulders to the sides; what this means I do not know, but as we have the same thing on a doll from Qilalukan[5]) it must have a particular meaning, possibly connected with the cut of the garment. On two dolls the head is prolonged upwards to a point; we have the same feature from Inugsuk[6]), where it has been read as a pointed hood.

As regards the mode of wearing the hair we must go to the dolls too. Only two have the toupee (Pl. 6.9), and this is on the very top of the head, not at the nape of the neck as on most of the dolls from Inugsuk and as worn now by the Polar Eskimos.

Of the combs the one from the "trinket casket" (Pl. 4.6) has already been referred to. Pl. 5.6 is a fragment of another, handsomely made

[1]) Inugsuk, p. 240.
[2]) Ibidem, p. 246.
[3]) Ibidem, Pl. 18.20-23.
[4]) Ibidem, p. 246.
[5]) M 1927 I, fig. 58.
[6]) Inugsuk, p. 247.
[7]) Ibidem, p. 250

comb, of whale bone with a perforated handle, recalling the one from Inugsuk Pl. 14. 22. The others, three of antler and three of whale bone, are more crudely made; all have a tapering handle; on two the handle narrows off suddenly, on the others smoothly; one has a suspension hole.

Ornamental bodkins. Whereas at Inugsuk[1]) some of the handsomely decorated bodkins still seemed to have been used as implements, at Kangâmiut they are so small that we must presume them to have been ornaments and nothing else; and while their decoration at Inugsuk varied considerably, here it is for the most part confined to a belt of grooves round the head (Pl. 4. 7, 9, 11 and 6. 1-2 and 4; the first two of ivory, Pl. 6. 1-2 of antler, and Pl. 4. 11 and 6. 4 of wood). On one specimen, made out of a split tubular bone and thus rather flat, these grooves are restricted to the edges, where, however, they are alternately narrow and wide[2]); and one of the wooden specimens (Pl. 6. 3) differs in that it has another head profile.

I have dealt at length with the distribution and development of these ornamental bodkins in the book on Inugsuk. That they have fallen into disuse as an implement indicates a rather later period. A small specimen found in the excavated house at Ingik is apparently still later; it is a small pendant, only 3.8 cm long, with notches on the edges of the head only; on this the bodkin form has disappeared, but the notches indicate its relationship to the ornamental bodkin; this is apparently the last stage prior to its disappearance[3]).

Of tooth beads we have a bear's front tooth, a dog's canine tooth, and the canine tooth of one of the large seals; the latter is drilled in from the root end out through one of the side edges. One bear's canine tooth is drilled through the middle and has apparently served as a toggle, a handle for towing gear, or the like.

Of other trinkets mention has already been made of the three chain links in the "trinket casket" (Pl. 4. 8). An unfinished trinket of the same kind, of antler, is shown on Pl. 6. 7; one of the end links is carved out, but the middle one has only been started and they are not yet separated. This specimen is from the earliest deposits at Utorqait and thus further emphasises the contemporaneity of the earliest horizons there and at Qeqertarmiut, and the association of both places with Inugsuk.

In the casket there was also an elongated drop pendant of ivory (Pl. 4. 12); another little pendant, pointed at one end, no hole, 2.3 cm long, is of asbestos.

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[1]) Inugsuk, p. 225.
[2]) Like Inugsuk, Pl. 14. 19.
[3]) See Thomsen 1928, p. 225; Inugsuk, p. 225.

Pl. 6. 5-6 are two pendants of antler. One is of a broken spoon bowl and decorated with an anchor-like figure of pierced holes, whereas the other is ornamented with transversal rows of drilled holes; a third specimen, from the second culture stage at Qeqertarmiut, is of similar size and ornamentation, but is lanceolate in form. A small specimen from Igdlutalik is of a shape similar to Pl. 6. 6, but devoid of ornament. At Inugsuk we also had ornaments decorated with drilled holes[1]).

In the excavated house at Qavdlunâtsiait we found three small, spherical, pierced soapstone beads; the largest is 0.9 cm in diameter, the others about 0.5 cm. We have not met with such beads elsewhere.

Games and Pastimes.

The ajagaq is extremely common here, much more numerous than at Inugsuk, both in the first and the second culture stage. The form that occurs most frequently is of seal radius (Pl. 5. 7), which in fact was the most common at Inugsuk[2]). Another familiar type, of seal humerus, was found too, and also two of other seal bones, tibia and penis bone; the latter (Pl. 5. 8) was also found at Inugsuk, but there it was lying on the beach, for which reason it was placed to the later period[3]); in the National Museum are three ajagaqs of seal penis bone, two from Sermermiut, and one from Disko[4]). Both forms, of radius and penis bone, were also found in the excavated ruin at Ingik.

Of the specimens that are of antler one is large, hollow, with the thong hole in the back and a bigger hole on the underside near one end; another has ornamental lines round the holes.

Pl. 6. 13 is an ornamental stick of antler with a four-sided point, possibly for an ajagaq.

Of tops there are both disks and pegs. Of the disks only two, one of wood and one of a white-whale epiphysis, are circular; the others are of a more elongated, irregular shape; one of them is of baleen, with a piece of the peg. We have pegs of the characteristic form found at Inugsuk[5]), both of bone and of wood.

The dolls were not so numerous as at Inugsuk[6]), and on the whole were much more cursorily made and less well preserved; they were found solely at Qeqertarmiut, mostly in the lower layers; wood is the only material.

The principal type is the usual one, minus arms and facial features,

[1]) Inugsuk, Pl. 18. 4 and 9-10.
[2]) Ibidem, p. 252.
[3]) Ibidem, p. 315.
[4]) L 7058, from Isúnguaq.
[5]) Inugsuk, p. 253.
[6]) Ibidem, p. 254 seqq.

but there are exceptions: three have features just indicated on the flat surface that represents the face, and Pl. 6.10 is unique in that it has arms. It has already been mentioned that five have trousers (Pl. 6.10), two have the natit (Pl. 6.9), two have what is possibly a pointed hood, and two female dolls have the toupee (Pl. 6.9). Pl. 6.8 is peculiar in that the head is turned to one side; Pl. 6.11 has a design on the back (referred to previously), and one has a distinct amulet thong just like specimens from Inugsuk[1]) in the form of a cross on back and front. As at Inugsuk, the sex is merely indicated by secondary features (toupee). The largest of the complete dolls is 11.4 cm long, but there is a fragment of a much larger one. As at Inugsuk there are a number of dolls shaped only at one end, the other end being an unworked stick or block of wood.

No difference can be seen in the dolls from the two culture stages; most of the best made dolls belong to the early layers; but there, of course, the chances of preservation have been best.

Toy weapons are rather numerous: harpoons, bows, arrows, side-prongs for bird darts, some of bone, others of wood; but they do not present any new features that throw any light upon these implements. The largest bow, 39 cm long, but defective, has two pieces of wood lashed on at a curved part by means of baleen cord, one on each side; both this and one much smaller reproduce the alternately wide and narrow form of the large bowstaves.

A gull radius, inserted in the corresponding ulna (Pl. 6.12), was very common, and one of my helpers, Catechist Jens Siegstad, informed me that these were commonly used as weapons by children when playing. These "toy weapons", as these specimens may thus be called, whereas formerly they have been classified as bodkins, are well known both from Inugsuk[2]) and from the Thule finds, although there they are usually pointed[3]); but nowhere have so many been found as here at Kangâmiut.

Of toy boats we have a rather large number, some of them umiaks, usually wide, hollowed out, others kayaks, which are narrow and not hollowed out; two of them, however, are slightly hollowed both before and behind the manhole. Pl. 6.14 shows an umiak, seen from the side, easily recognisable by its very prominent stem and stern. As a rule, however, umiaks are flat and stand on the bottom; the largest, $27 \times 5^1/_2$ cm, is not hollowed out. Most of the kayaks are flat, up to 27 cm long, some with slightly upturned ends; two have a transversal groove across the middle for the paddle.

Fig. 34 is a badly weathered toy boat from the lowest layers at Qeqertarmiut. It is 22.5 cm long, maximum breadth 1.9 cm, and is

[1]) Ingusuk, Pl. 18.14.
[2]) Ibidem, p. 223.
[3]) M 1927 I, Pl 52.10.

very different from the other toy boats in that it is narrow, hollowed out, and the ends are well turned up, though they are very defective. It seems to be neither a kayak nor an umiak. The upturned ends direct one's thoughts to a Viking ship. Does this represent one of the ships of the Norsemen? Why not? If the Eskimos at Inugsuk could carve one of the Norsemen themselves as a doll for their children[1]), they could just as well carve one of their ships for the children to play with; the keel, of course, they have missed off. It may be observed here that in the same layer in an adjacent square was a piece of bell metal, which of course must have come from the Norsemen.

The toy kayak paddles (Pl. 6. 20), mountings for them, and the toy lamps (Pl. 6. 17) have already been referred to. Of the cooking



Fig. 34. Toy Norse boat? Qeqertarmiut. 2:3.

pots three are quite round, the others oval; only one has a suspension hole; the wooden trays are oblong. A handsome little toy comb will be seen on Pl. 6. 16 and a toy drum-handle of wood on Pl. 6. 18.

Objects Relating to Intellectual Culture.

Pl. 5. 12 is a fragment of a drum, consisting of a piece of the frame and the handle; the latter is just like the specimens from Inugsuk[2]). From Qeqertarmiut we have other two wooden handles and from Utorqait one of antler; instead of transversal grooves the latter has two holes for the lashing.

A flat stick of wood, 9 cm long, has in one side two elongated cavities; it is presumably a double amulet box like those from Inugsuk[3]); a faint transversal groove might, however, mean that the intention had been to cut it into two.

The doll with the amulet thong has already been referred to.

A unique object is illustrated on Pl. 5. 9 and fig. 35, seen from two different sides. It is a human penis, carved in antler, carefully made, with all anatomical peculiarities. In the fore end is the opening of a cylindrical canal, the other end of which runs out on the underside; on the underside of the fore end are some drilled holes apparently

[1]) Inugsuk, Pl. 22. 3.
[2]) Ibidem, Pl. 17. 8.
[3]) Ibidem, Pl. 17. 10. and 12.

representing a face with eyes, large oblique eyebrows, and nostrils, while the large hole, the opening of the canal, is where the mouth should be. At the rear it is rounded off, finished off obliquely and on the upper side terminates in two flat projections. This object was found in house 20 at Utorqait and thus must be assumed to have belonged to the first culture stage.

What has been the purpose of this curious object? Nothing of the kind has ever been found before, and it does not seem to be adaptable to any practical use, except perhaps as a handle for a towing line or something of the kind; in the first place, however, the form of the hole argues against this, for the hole in these handles is usually drilled transversally through the middle; and finally, making such a practical object in such a naturalistic form would be foreign to that culture stage; it was only much later on that the seal-tail ornaments began to make their appearance on objects in West Greenland[1]).



Fig. 35. Bone penis. Utorqait. 2:3.

I am more inclined to take it that this object has simply been carved for the purpose of representing a penis, used at dance festivals or in some other way connected with devotional or religious ceremonies. We know that the artificial penis has been in use both in West Greenland[2]) and among the Central Eskimos[3]); it has, however, always been of skin or similar material. May be the craftsman has wished to make a "dance penis" of more durable material. Possibly the canal has been for pouring water from a bladder or the like.

Or is it a "joke" on the part of a skilful carver? Its careful forming, and the various features such as the canal and the face, however, would seem to indicate that it has been made for some definite purpose. However this may be, it provides us with a remarkable glimpse of the intellectual side of this ancient Eskimo culture, an aspect of it that is otherwise shrouded in dense darkness and presumably always will be.

Miscellaneous.

A number of objects are not easy to identify, but nevertheless are of interest and therefore should be mentioned.

Of bone mountings there is quite a large number, some wide

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[1]) Cf. the specimen Inugsuk, Pl. 23.6.
[2]) B-S 1924, p. 402.
[3]) M 1928, p. 228.

with two rows of holes, which may have served to stiffen kayaks, etc., others narrower, and may have formed the edging on wooden trays etc.[1]).

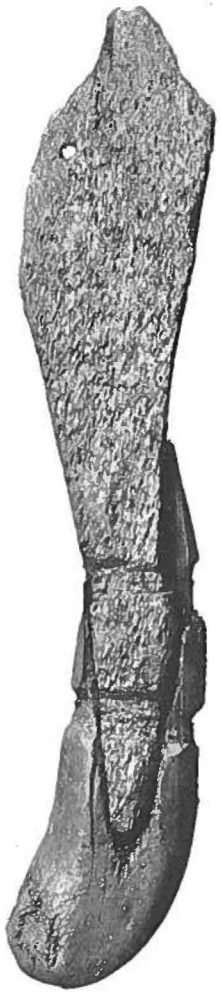

Fig. 36. Unknown implement. Qeqertarmiut. 1:2.

Pl. 6.19 is a small hexagonal game "man" of bone, just the same in form and size as the baleen "men" found at Inugsuk, Naujan and Pt. Barrow[2]). Pl. 6.15 is a thick nail with a large head, of ivory; other thick, four-sided nails are of whale bone; we have similar nails, widened out at the point, from Naujan[3]). Pl. 5.10 is a reinforcing piece of antler, curved, widening out at both ends, recalling an object from Inugsuk[4]); two others are of the same shape, but are smaller.

Pl. 5.11 is an implement of whale bone, consisting of a handle and a thick, flat, unsharp blade with its edge at the end; it is rather like a specimen from Alaska[5]), used for parting blubber from meat when flensing. There is another specimen from Ritenbenk District in Northern West Greenland[6]).

Fig. 36 is another implement whose purpose is unknown, consisting of a handle of wood and a blade of whale bone, very crude, defective.

A feature that is observable on large numbers of objects from both the first and the second stages, but not seen in previous finds, is that caribou femur and humerus have been broken over by first cutting a circular groove and then breaking it by means of a blow; something of the same kind was observed at a settlement on Traill Island in Northeast Greenland[7]). What the intention has been is not clear; it does not seem as if these bones have been used for any purpose — perhaps it has only been done to get the marrow out more or less whole.

Some cylindrical or conical ferrules of bone seem to have been for thin wooden poles or rods.

Of baleen objects there is a point with four bilateral barbs, a lot of cordage with knots in it,

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[1]) One fig. Geogr. Tidsskr. Dec. 1930, fig. 2.21.
[2]) Inugsuk, p. 262.
[3]) M 1927 I, Pl. 34.6.
[4]) Inugsuk, Pl. 16.17.
[5]) M 1930, fig. 20.
[6]) National Museum, No. X 354.
[7]) Nathorst II, p. 294.

and cut lengths. Naturally, these baleen objects were for the most part found in the lowest layers at Qeqertarmiut, though some came from layers that doubtless belong to the second culture stage.

Of unidentifiable wooden objects we have a large number from Qeqertarmiut, and some of the more curious of these will be illustrated and described: Pl. 6. 21 is a small wood stick with a zig-zag line cut in one side. Fig. 37 is a rather curved stick of wood, 91 cm long (one end is not shown in the picture); one end of it is bent over, wide, and pointed, and has a large round hole. Fig. 38 is a flat, pointed piece of wood with a large, elongated, oblique hole; an exactly similar specimen in the National Museum[1]) is from Gieseckes Isfjord, Upernivik District. Both fig. 37 and fig. 38 have been used for fire drilling. Fig. 39 is a conical wooden stopper with a hole through the pointed end, possibly a float for a net or the like.

Fig. 40 is a long, round stick of wood with a hole through one end; the other end is pointed and much worn. These appear in large numbers at Qeqertarmiut, especially in the lower layers; they are usually smaller than the one figured, but of the same shape and well made, and often with marks of wear at the point, some lack the hole. What they have been used for is uncertain; for skin stretchers both the hole and the size were unnecessary. At Inugsuk, too, a number of pointed sticks of wood were found, though they were not so numerous, nor so large or characteristically shaped as these.

On the floor of one of the houses in the lower layers at Qeqertarmiut was a whole layer of wood shavings, just as at Inugsuk.

Objects of European Origin.

Besides the objects described in the foregoing, all made by the Eskimos themselves, we found at Qeqertarmiut and Utorqait a few things that must have come from the outside, from Europeans.

On fig. 41 are two small pieces of bell metal, both of rather small, thin sided bells. The smallest piece, a, was

[1]) No. Lc 1067



Fig. 37. Unknown wooden implement. Qeqertarmiut. 1:3.



Fig. 38. Wooden implement. Qeqertarmiut. 1:3.

found in House 13, Utorqait, and thus belongs to the second culture stage, whereas b, which is very dented on the inner side and smoothened to some extent on the outer side, came from D 5[6] at Qeqertarmiut and is thus from the first stage.

We must take it that this bell metal came from the villages of the Norsemen and presumably was only scattered about Greenland after the destruction of their colonies. Bell metal was also found at Inugsuk[1]). A few years ago a lump weighing about 1 kg is said to have been found on the beach below the ruins at Qavdlunâtsiait.

Fig. 42 is an adze head of iron, with a rather long, rectangular helve hole; the width increases towards the edge, which is broken off. It was found between two of the roofing stones in the third layer from the surface in the collapsed house No. 23 at Utorqait, which belongs to the second culture stage. This adze need not necessarily be contemporaneous with the occupation of the house, however; it may have lain on the roof and, owing to the latter's falling in, has got between the two stones; on the other hand it is hardly of much later date: In the earth over the roofing stones were one or two old types such as an icepick and wound needle pin.



Fig. 39. Wooden plug. Qeqertarmiut. 1:2.

Where did this adze come from? Was it the Norsemen or the whalers that brought it? That the Norsemen have used adzes is most probable, but we know nothing certain about it, and at the National Museum there is not a single mediaeval adze. At the village of Timerdlit, however, we acquired from a Greenlander an adze that quite resembled this one. This does not indicate that it is a Norse adze; accordingly it is most probable that the adze from Utorqait is an old one from the first whaler period.

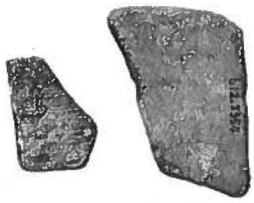


Fig. 40. Wooden stick. Qeqertarmiut. 1:2.

[1]) Inugsuk, p. 285.

At Utorqait, in two of the ruins of the old culture, Houses 20 and 23, we found quite a small, light-blue glass bead; one of them is shown on Pl. 7. 18. It was found in the turf of House 20, i.e. a house of the first culture stage, but probably came from the adjacent, later house No. 19. The bead from House 23 was found in a clump of moss lying uppermost in the cavity under the platform, from which there was an opening right up to the surface; thus this one may also be a later intermixture.

But we also found a small light-blue glass bead in the excavated round house at Ingik; this, however, is a house that, for various reasons (see the ornamental bodkins) must be regarded as one of the very latest of this type.



a b

Fig. 41. Church bell metal. Utorqait and Qeqertarmiut. 1:2.

Both the iron adze and this glass bead would thus indicate that these round houses have still been inhabited when the whalers began to visit this area in the first half of the seventeenth century.

General Observations on the Old Culture Finds.

As far as the material is concerned it will already have been seen from the foregoing that bone was the one principally used for implements — first and foremost antler and then whale bone; ivory is not at all prominent. Wood (driftwood) occurs in large quantities in the lower deposits at Qeqertarmiut, worked up into objects of all kinds; at the other places they had rotted away. In these deep layers there were also objects of baleen, but everywhere they were in bad condition owing to exposure; obviously it is the absence of permanently frozen strata that is to blame for relatively few baleen objects being found as compared with Inugsuk; that it was not an absence of whales is to be seen from the many objects of whale bone.



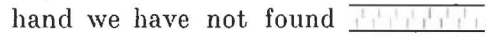
Fig. 42.
Iron adze blade. Utorqait. 1:2.

Stone objects are but few in number, of slate, angmaq, flint, chalcedony, rock crystal, chrysoprase, quartzite, sandstone and basalt; on the other hand soapstone and asbestos implements occur frequently; in Søndre Strømfjord there are rich stores of these two rocks. Those for knife and weapon blades had to be fetched from the basalt area in Disko Bay, a very long distance; thus there is nothing strange in these objects' only occurring in small numbers.

Of metal we have a little iron, in the form of blades in knives,

ulos and bits for drills, just as was the case at Inugsuk. In the objects of the first culture stage we must take it that this iron came from the Norsemen; as regards the youngest of the objects of the second culture stage we must also reckon with iron from the whalers.

Technique differs in no respect from that in the old culture at Inugsuk[1]). Drilling was often applied; we find frequent use of both dovetail joints and swallowtail scarfs.

Ornaments. The pattern most frequently used is the dot ornament, which we have on knife handles, three pendants (Pl. 6. 5-6) and an ajagaq stick (Pl. 6.13); we also have parallel longitudinal lines (Pl. 3.5, knife handle) and transversal lines (Pl. 6. 1-2, ornamental bodkins), rows or notches (Pl. 3.5, knife handle) and zig-zag lines (Pl. 4. 2, cutting board, Pl. 6. 21, wood stick). All these elements were also found at Inugsuk[2]). On the other hand we have not found , which is one of the patterns that attaches Inugsuk to the Thule Culture, nor have we ⊙ which apparently is later. All in all we must thus say that the ornamentation very closely approaches Inugsuk, but is poorer.

As to the collected animal bones, indicating the animals hunted, see the Zoological Appendix.

[1]) Inugsuk, p. 269.
[2]) Ibidem.

IV. THE LATER FINDS.

We have not so much material to enable us to judge of the later culture in the Kangâmiut area, mostly the culture associated with the large, oblong houses; on the other hand that period does not lie so far back, and, as it was contemporaneous with times when Greenland has been visited by whalers and Danish colonists, the archaeological finds may be supplemented with information from the literature; for now we have advanced to "historic" times.

We have the following finds as indicators of these periods in the Kangâmiut area: From Utorqait those from Houses 3 and 19, and the latter's part of the midden B; the finds from Ũmánat and Ukîvínguaq; some surface finds from the midden, and some grave finds from Qeqertarmiut; and finally, various scattered finds, some recovered by means of sample excavations, others acquired through Greenlanders, as well as various objects that were already in the National Museum. All in all this material comprises about 700 specimen-numbers.

The boundary against the ancient culture at Utorqait and Qeqertarmiut is not always easy to draw. At Utorqait the finds from the four-sided houses 3 and 19 have been included, as already stated, even though the former does not contain objects so characteristic that one can decide to which culture they belong; in Midden B the boundary cannot always be drawn definitely either, even if the remainder of it dates from the first stage of the old culture. There are, however, a number of objects which by their type and material clearly mark themselves as belonging to the later period; and if we examine where in the midden these were found, we see that it was principally in the first layer and in such a manner that a scattering from the entrance passage of Ruin 19 is a natural assumption; but of course there are difficult boundary occurrences, for there are types that have continued in use there. At Qeqertarmiut the new objects are few in number and of no significance compared with the finds from the early culture; in most cases they came from the uppermost layer of the midden; at one place only do they seem to go so far down as to layer 3. In the following

nothing will be included that cannot with certainty be said to belong to these later periods.

Below is a list of the objects from the four later finds, Utorqait, Ûmánat, Ukivínguaq and Qeqertarmiut. Only definitely identified Eskimo types of implements are included, as well as the most important categories of European objects. As was the case with the list of the objects of the early culture, fragments and unfinished objects are taken along if only they are recognisable.

Even though this material is neither particularly large nor good, I believe it is possible to deduce much that is of interest regarding the development of the culture in the Kangâmiut area after the coming of the whalers to the country.

List of Objects of the later Culture.

	Utorqait	Ûmánat	Ukivínguaq	Qeqertarmiut
Thin harpoon heads	1	1	1	..
Harpoon heads, flat:				
barbless, 2 spurs	..	1	..	..
barbless, 1 spur	..	2	..	..
1 barb, 2 spurs	..	1	..	..
2 barbs, 2 spurs	..	1	..	1
2 barbs, 1 spur	..	..	..	1
Harpoon blades of iron	..	..	..	2
Harpoon foreshafts with short tenon on butt	1	1	.	..
Harpoon foreshaft with socket in butt	..	..	1	..
Mountings for fore end of harpoon shaft, short	1	..	..	1
Finger rests	..	..	3	1
Mouthpiece for harpoon bladder	..	..	..	1
Oval wooden plug for harpoon bladder	..	..	1	..
Mountings for rear end of throwing board	1	1	..	..
Ice picks	2	..	..	..
Neck pieces for towing gear	1	1	..	1
Bladder-dart head with barb belt	..	1	..	..
Mountings for fore end of bladder-dart shaft	..	1	1	..
Butt of bladder-dart shaft with iron shoe	..	..	1	..
Bone arrow heads with screw	1	2	1	1

	Utorqait	Ûmânat	Ukivínguaq	Qeqertarmiut
Fragment of arrow head	1	..	..	..
Lanceolate stone arrow head	..	1	..	..
Ferrule for weapon shaft	..	1	..	..
Bird-dart heads with screw	1	1	2	..
Side prongs for bird dart	1	3	2	..
Fish hooks	1	4	1	..
Leister prongs	..	3	1	2
Trout needle	..	..	1	..
Soapstone sinkers for fishing	..	1	..	3
Sledge cross slat	1	..	..	..
Trace buckle	1	..	..	..
Fragments of ring-shaped kayak rack	..	..	2	1
Kayak paddle	..	..	..	1
End mountings for kayak paddles	..	1	5	..
Man's knives with end blade	3	3	2	3
Man's knife with side blade-groove	..	..	1	..
Whetstones	3	6	3	..
Adze head of bone	1	..	..	..
Adze helve of wood	..	..	1	..
Mattock blades of bone	1	..	1	..
Drill with iron bit	..	..	..	1
Drill bow	..	..	1	..
Bowdrill mouthpiece of caribou astragalus	..	..	1	..
Ulos without tang or middle piece	2	1	..	..
Ulo with middle piece	..	1	..	..
Ulos with tang	..	2	1	..
Stone scrapers with convex edge	1	1	..	..
Stone scrapers with concave edge	..	..	2	..
Creasers of stone	2	..	..	..
Anchor-shaped thimble holders	..	3	..	..
Lamps without wick ledge	..	..	1	1
Lamp with longitudinal partition	..	..	..	1
Cooking-pot sherds with inside hole	1	1	..	..
Cooking pot sherds with hole from side to side	1	..	3	..
Indeterminable cooking pot sherds	1	4	3	1
Fragments of rounded wooden dishes	1	1	1	..

	Utorqait	Ũmánat	Ukivínguaq	Qeqertarmiut
Spoons	2	1	1	1
Marrow extractor(?)	..	1	..	..
Lamp trimmer of asbestos	..	1	..	..
Large wooden dipper	..	..	1	..
Combs	1	..	1	..
Tooth beads	1	..	1	..
Buttons for kayak-frock cord	..	2	..	..
Pendants	1	1	..	..
Ajagaq of seal penis bone	..	..	1	..
Ajagaqs of antler	..	1	1	..
Top disk	1	..	..	..
Toy harpoon head, thin	..	..	1	..
Toy harpoon heads, flat	..	1	..	1
Toy harpoon foreshaft with 2 holes and tenon	1	..	..	..
Toy throwing board	..	..	1	..
Toy side prong for bird dart	..	..	1	..
Crossbow	..	..	1	..
Toy weapon of two gull bones	..	..	1	..
Toy kayaks	..	..	2	..
Toy lamp with indication of wick ledge	1	..	..	..
Toy lamps without wick ledge	..	..	1	1
Toy lamp stand	..	..	1	..
Toy cooking pot	..	..	1	..
Dolls of wood	..	..	2	..
Dolls of white-whale bones	..	..	..	2
Fragments of drums	1	1	1	1
Bone mountings for paddles, etc.	..	14	8	1
Glass beads	4	474	31	1
Sherds of European pottery	1	32	20	30
European metal articles	1	60	9	12
Fragments of clay pipes	..	3	8	..
Gun flints	..	..	17	1

Observations on the Various Types.

It would be superfluous to make a detailed description of all the forms of implements found; most of them will be well known, some from the early culture, others from the modern Greenland culture. Only few of the most interesting groups and specimens will be mentioned, and only one or two of the more remarkable objects figured.

Eskimo Objects.

On the whole the harpoon heads are larger than in the early culture. Of the thin type there are only two fragments (rear ends) and one rather large, with one barb and the blade slit not cut out, from Ukîvínguaq. Otherwise most of them naturally are of the flat form, some barbless, others with two barbs, with a blade slit and one or two spurs. Pl. 7. 1 is a typical specimen from Ũmánat, of whale bone and with an iron rivet.

The harpoon foreshafts are best represented by the toy specimen Pl. 7. 19, from Utorqait; it has a short tenon in the rear end and two holes; later the socket was placed in the foreshaft and the tenon on the shaft mounting, as on the specimen from Ukivínguaq. At the same time shaft mountings decrease in length; the specimen from Utorqait is still 3.3 cm long, that from Qeqertarmiut only 2 cm.

Pl. 7. 4, from Qeqertarmiut, is typical of the long bone arrow heads with screw, a further advanced form of those we met in the first stage of the early culture. On two of the bird-dart side prongs we notice the same notch on the inner edge of the rear end as we had in the early culture. We also find end mountings of bone for the rear end of the throwing board, easily recognisable from an inward bent in one edge for the groove of the throwing board. The fish hooks as a rule are bent iron nails; there are bone hooks, however, such as Pl. 7. 2 from Ũmánat, which, in contradistinction to the early hooks, have barbs, or hooks that are a combination of bone and iron. Pl. 7. 5 is a soapstone sinker for a fish hook, from Qeqertarmiut. The trout needle (Pl. 7. 3) occurs at Ukivínguaq; as we know, it is a very ancient implement, familiar in the Thule Culture[1]), and presumably it is merely accidental that it was found neither at Inugsuk nor in the early finds in this district.

Pl. 7. 6 is a knife from Utorqait with a single-edged iron blade and a handle of antler with notched edges and a thong hole. Pl. 7. 9 is a large ulo with a blade of iron and a handle of antler; on both sides there are hollows for the fingers. The ulo with a tang we have from Ũmánat and Ukivínguaq; that this at any rate dates as far back as to the first half of the eighteenth century is to be seen from a drawing in Hans Egede[2]).

Pl. 7. 7 is a concave-edged scraper of chalcedony from Ukivínguaq, whence we also have a similar specimen, of rock crystal; it is probably only a matter of chance that this little implement did not occur in the early culture deposits; we have a single specimen from

[1]) M 1927 II, p. 58.
[2]) Hans Egede: Perlustration, Pl. V.

Inugsuk[1]), and it is very common in the "Greenland Stone Age". Actually it is surprising to find two of them in such a late find as Ukìvínguaq. But that other stone implements have been used until comparatively recent times is proved by the occurrence of a lanceolate arrow head of angmaq and a convex-edged scraper at Ũmánat, and of the small oblique-edged angmaq blade (the creasing implement) at two places in Midden B at Utorqait, where they presumably came from House 19. When making a sample excavation in the midden outside one of the large oblong ruins at Nutarmiut I also found a fragment of a polished angmaq blade. All this confirms what I have previously said[2]), viz. that the West Greenland stone objects need not be so extremely old.

Pl. 7. 10 is a spoon of antler from Ũkìvínguaq, probably an imitation of a European spoon; one from Utorqait is cut square at the fore end and its handle runs smoothly into the bowl just as on several spoons from the early culture.

From Ukìvínguaq we have an uncommonly large and heavy wooden dipper, oval, very thick, flat on the bottom; the bowl is 24 × $15^1/_2$ cm; in one end is a long handle.

Pl. 7. 23 is a handsomely formed ajagaq of antler, from Ukìvínguaq. Pl. 7. 11 is a small foursided pendant of soapstone, and Pl. 7. 20 a similar one of ivory, with the seal-tail ornament; the former of these is from Ũmánat, the latter from Utorqait. We also have the seal-tail ornament on Pl. 7. 12, a small toggle of antler from Utorqait.

Pl. 7. 22 is a small lamp, presumably a toy or perhaps for a little girl, from a grave at Qeqertarmiut; its depth, the sharp demarcation between sides and base, and the partition at the rear stamp it as new.

Pl. 7. 21 is a curious doll, made of the humerus of a white whale or narwhal, found at Qeqertarmiut; another was made of another white whale bone. And finally, Pl. 7. 8 is a small tenon with a screw thread, from Utorqait.

European Objects.

The European objects in these later finds are important as indices to their dating. As was the case at Inugsuk, I have sought the assistance of one who is especially well versed in such matters, Mr. Chr. Axel Jensen, keeper of the Historic Section of the National Museum.

It is especially the pottery that has provided us with most information. From Utorqait we have only a very small faience sherd, with a greenish glaze on the inner side and a small lilla design on the outer side; it must be of the period from about the year 1650 to the beginning of the eighteenth century. The sherds from Ũmánat belong to the

[1]) Inugsuk, p. 222.
[2]) Ibidem, p. 281.

eighteenth century, though they cannot be dated more definitely. Those from Ukîvínguaq give the impression of being somewhat later; they include fragments of real Chinese porcelain, brown on the back, which only came to Europe in large quantities towards the end of the eighteenth century; only one very small sherd might indicate the beginning of the nineteenth century. And finally, the sherds from Qeqertarmiut are mostly from the nineteenth century; among them we find imitated Chinese earthenware of English manufacture.

The glass beads are of most importance at Ũmánat; however, there were many at Ukîvínguaq too, corresponding to the great importance of these beads as trade goods in the whaler period. That so few were found at Utorqait indicates that the finds there date from before trading with the whalers commenced to be so general. That only one glass bead was found at Qeqertarmiut might mean that this place was not inhabited during the whaler period, and after that not until the nineteenth century when glass beads were no longer so important a commodity, having been superseded by pottery and ironware.

With regard to the glass beads of the various localities, at Utorqait we have two small light-blue (Pl. 7. 18) and two cylindrical, white, striped beads (Pl. 7. 13). It may be observed here that it was a similar little blue bead that was found in one of the round ruins at Ingik; and it was mostly these small blue beads that were found in the long house ruin at Qamaneq near Inugsuk, which presumably dates back to about 1700[1]). They seem to be among the oldest beads introduced into Greenland.

About 500 glass beads were found in the Ũmánat ruin. Their shapes are manifold. Pl. 7. 14-17 shows a few of them. The very large, round, opalescent ones (15) are very common; the brown, or clear, facetted beads are also numerous (14, 17); then we have smaller ones, round, black with yellow stripes (16), blue and white, long white, sometimes striped; large numbers of very small, especially white beads, but also a lot of blue and a few red and green.

It is mostly the same types that recur at Ukîvínguaq. Thus these two finds show what kinds of beads the whalers brought to Greenland in the eighteenth century.

As regards the clay pipes, we have from Ukîvínguaq, as from Inugsuk[2]), a pipe on which is the inscription "Stubbekiøbing". The clay-pipe factory in Stubbekøbing was established about the year 1767, but was still in existence in 1795[3]).

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[1]) Inugsuk, p. 320.
[2]) Ibidem, p. 318.
[3]) Nyrop, pp. 34 and 37.

Gun flints occurred in large numbers at Ukìvínguaq, but not at Utorqait or Ũmánat; from Ukìvínguaq we also have a hammer of a flint-lock. Guns have been common at Ukìvínguaq, but not at Ũmánat. The reason may be that Ukìvínguaq was of the period after the Danish colonization of the district (1755), Ũmánat before it. On the other hand we find more arrow heads at Ũmánat than at Ukìvínguaq.

As to the European objects of iron and wood, we have from both Ũmánat and Ukìvínguaq the handsomely decorated, characteristic knife handles of wood that are frequently found in Greenland[1]). From Ukìvínguaq we have a turned wooden dish and a crossbow; a doll from Ukìvínguaq represents a woman with a kerchief on her head. Of iron objects there are knife blades, scissors, nails, a fork, a tub handle, a bullet mould (Ukìvínguaq), a window hasp, a thimble, etc. From Ukìvínguaq we have a long, two-edged iron blade with a tang, presumably for a whale lance. Some sheet brass was also found.

The Age of the Finds.

To judge from the European objects, which are of course the most important for dating purposes, it would seem as if the relative ages of the various later finds were as follows:

Utorqait: last half of the seventeenth century.

Ũmánat: First half of the eighteenth century.

Ukìvínguaq: Last half of the eighteenth century.

Qeqertarmiut: Nineteenth century.

This very well matches what tradition among the Greenlanders says: About Utorqait and Ũmánat they have no traditions. Of Ukìvínguaq it is said that it was deserted by the inhabitants when the prophet Habakuk (1789) moved into Evigheds Fjord. Qeqertarmiut is said to have been used as a summer fishing place right up to the 1880's; on the whole, however, the later finds from there give no collective idea of the culture of any definite period. The large house ruin presumably dates from the eighteenth century, whereas the midden does not seem to have been inhabited for any length of time since the whaler period, only being taken into use again as a summer place in the nineteenth century.

In the question of the relative ages of these four finds we must, however, also take the Eskimo objects into consideration. We will then observe that the finds from Utorqait are more closely associated with the early culture than the others. We still find old types there, such as the very long shaft mountings, ice picks, sledge cross slats,

[1]) For instance cf. Inugsuk, Pl. 23.20.

trace buckles, bone adze head, and creasing implement of stone; some of these indicate that we still have a survival of the arctic culture, with dog traction and ice hunting. The few European objects there also indicate very decidedly that it was the earliest of the three finds.

Ũmánat and Ukîvínguaq are very closely related. And yet one or two features hint that Ũmánat is the oldest: There we have a harpoon foreshaft with the tenon in the rear end, whereas the one from Ukivínguaq has a socket there. From Ũmánat we have a fragment of one of the heavy bladder-dart heads of bone with a belt of barbs, whereas at Ukîvinguaq we have a foreshaft for one of the modern bladder darts with an iron head[1]). The occurrence of the European objects, especially pottery and gun flints at these two places, also give a hint in the direction of Ũmánat's being the oldest.

With regard to the Qeqertarmiut find, its more important parts: a kayak paddle and rack, a harpoon shaft, etc., like the two harpoon heads from there, seemed to be very modern.

It may thus be said that the Eskimo implement types confirm the dating we arrived at by means of the European objects.

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[1]) See B-S 1924, fig. 19.

V. CULTURE DEVELOPMENTS IN THE KANGÂMIUT AREA.

Having concluded the description of the ruins and of the objects found in them I shall now endeavour, with these as my basis, to set up a collective statement of the culture development that has taken place in the course of time on this part of the west coast of Greenland.

As will have been seen from the foregoing we have to do with two main periods: an early one, during which people lived in small houses, usually round, and on the whole commencing at a time prior to the coming of the whalers to the country, and a later one, when they lived in foursided houses, at first large common houses, later smaller houses of earth; each of these periods is characterized by its own particular types of Eskimo implements. The boundary between them may be taken to lie just after the whalers arrived, presumably about 1650. In two of the round houses, at Utorqait and at Ingik, one single object has been found — an iron adze and a glass bead — that must have come from the whalers. And Danell's oft-quoted description of Greenland houses at Itivdleq, in Holsteinsborg District, shows that this type of house was still in use there towards the year 1652. Still, it cannot have been long after that when they fell into disuse. Of the two foursided houses excavated at Utorqait one, rather a small one, contained no object of European origin, and the other only few, and these pointed to the latter half of the seventeenth century. If we thus put the boundary between the two culture periods at 1650 we shall not be far wrong. We have been able to divide the earliest of these two periods into two, and the latest into four; these latter are represented by the finds from Utorqait, Houses 3 and 19 (circa 1650—1700), Ũmánat (circa 1700—1750), Ukĭvínguaq (circa 1750—1800) and the youngest objects from Qeqertarmiut (19th century). We will now examine the culture in these different periods a little more closely.

The First Culture Stage.

The finds from the first period, prior to 1650, have in the foregoing been dealt with as one whole for practical reasons, even if we can distinguish between two stages; although in the course of the time this old culture lasted there has thus been some development, it is mainly the same forms of implements that live on throughout the whole period. The upper boundary of this period is thus more or less established: about 1650. But where is the lower boundary? How far back do the earliest finds go in the Kangâmiut area?

The natural thing to do when making a valuation of the old culture in the Kangâmiut area will be to make a comparison with the only large, early, West Greenland find that may be said to have been more or less dated, the Inugsuk Find from Upernivik District, which must be taken to have originated in the thirteenth-fourteenth century[1]).

When going through the occurrence of the various types of implements in the foregoing, constant reference has been made to conditions at Inugsuk; here we need simply collect the results of these various investigations into one entire impression.

On page 65—71 is a list of the types of implements in the old culture of the Kangâmiut area, comprising in all 166 types; in addition there are eight other elements whose presence we have substantiated: short boots, the natit, pointed hood, women's toupee, amulet thong, dot ornament, ornaments consisting of parallel strokes and zig-zag lines; this makes in all 174 culture-elements known from the old culture. Of these 174 we find again 146, or 84 per cent., at Inugsuk. The remaining 28 elements fall into several groups:—

1. *Presumably merely by accident were not found at Inugsuk but may be taken to have belonged to the same culture*: Thin, barbed harpoon head without separate blade; flat, barbless and bladeless harpoon heads with one barb and no blade, and with one barb and a blade; ituartit harpoon head; whaling harpoon head; harpoon line tension piece; ice scoop; composite fish hook; umiak rib; kayak deck beam with hand-grip; four-sided wooden box; ajagaqs of seal fibula and penis bone(?); toy drum handle; bone nail. In all 16 elements.
2. *Not known from Inugsuk and scarcely belonging to that culture.*
   a. Known from the first culture stage in the Kangâmiut area: Swivel; lamp with longitudinal partition; bone penis. Three elements.
   b. Known only from the second culture stage in the Kangâmiut area: Kayak harpoon foreshaft with several holes; wound

[1]) Inugsuk, p. 294.

plugs of wood; wooden handle for towing gear; bladder-dart head with belt of barbs, and shaft mountings for same; arrow heads and bird-dart heads with screw; ring-shaped kayak rack; creasing implement of stone. Nine elements.

Thus it appears that of the 28 elements that were not found at Inugsuk, most of them probably belong to that culture all the same, but as it happens did not chance to be found there; thus nothing can be deduced from them as to difference of period; they simply provide us with supplementary information as to the stage of culture that is represented by the early Inugsuk find. And of the others most — nine — belong to the second culture stage. The first stage has thus only three elements that cannot reasonably be included in the Inugsuk Culture; and of these one, the swivel, was found in loose earth at Inugsuk and may thus have come from the early deposits; and another, the penis, is a curiosity that can scarcely be considered to be an independent type.

This review of the elements shows with certainty that the early culture in the Kangâmiut area is very close to the Inugsuk Culture; indeed, the first culture stage may be considered to be almost pure Inugsuk Culture.

A careful study of certain types of implements, however, shows that there are nevertheless more marked differences between Inugsuk and the first culture stage in the Kangâmiut area than this preliminary investigation would indicate. In particular, types like the harpoon heads (see the "spectrum", p. 74), the lamps, the ornamental bodkins and the dolls with the toupee, show that Inugsuk is the earliest of the two. In this connection we might also mention the notch in the rear end of the bird-dart side prongs, a feature that we have not seen at Inugsuk.

Nor must we forget the negative features by which Inugsuk differs from the culture in this area. Of Inugsuk's 182 elements we find only 121 here. As to this, however, the poor chances of preservation in the Kangâmiut area are a factor to be reckoned with; of the 61 missing types, 14 are of baleen, and such objects have only quite exceptionally been preserved here. The lack of others may be due to the less arctic surroundings, whereby elements such as dog traction, ice hunting and snow-house building retire more into the background. And finally, Inugsuk on the whole is a bigger and richer find, in which we must expect to find more types preserved than in the poorer finds from the Kangâmiut area.

But even taking all this into consideration, the finds from this area still lack a number of objects that one might have expected to find if they had been used, and whose absence thus indicates a real culture difference between the two finds. These are elements such as

the sealing scratcher, gull hook with oblique groove, bone dagger, fish decoy, trace buckle with holes at rightangles, the earlier forms of kayak-harpoon rest, drill bit with four facets, baleen shave, cup-shaped scraper, drop pendants, the unknown wooden implement with a handle, and then above all the Thule harpoon heads. These are all very old types, connecting the Inugsuk find with the Thule Culture, whose absence here can only give an indication in the same direction as the other features referred to: that the early culture in the Kangâmiut area is a little later than the Inugsuk find, at any rate than its earliest part.

The Inugsuk find having been placed to the thirteenth-fourteenth centuries, the first culture stage in the Kangâmiut area must doubtless be placed to the fifteenth century. It is probable, however, that it dates back to the latter half of the fourteenth century. As we know, the West Settlement of the Norsemen was destroyed by Eskimos, who came from the north, about the year 1370. Thus there must have been Eskimos living in Sukkertoppen District in the latter half of the fourteenth century. At the bottom of the midden at Qeqertarmiut we found a piece of bell metal as described above, and this may originate from the destruction of the West Settlement. And, indeed, there is no reason connected with the culture why the last occupation of Inugsuk (the latter part of the mediaeval habitation) and the first occupation of the Kangâmiut area should not have been contemporaneous; there has doubtless been some change in the culture during the long move from Upernivik District to Sukkertoppen; in fact it is surprising that the difference is not much greater.

From the foregoing it thus appears that we may place the first stage of the early culture to the period 1350—1500.

When dealing with the Inugsuk find[1]) I said that it could be regarded as a later branch of the Central Eskimo Thule Culture. Naturally, there is also great similarity between the latter and the early culture at Kangâmiut; this similarity is, however, less couspicuous just on account of the many elements found at Inugsuk but not found here, and for the most part just those very elements that connect Inugsuk to the Thule Culture; this applies first and foremost to the Thule harpoon heads and the many objects of baleen. Happily, however, in the Inugsuk find we have the link that connects the early culture there to the Thule Culture. Nevertheless, in the Kangâmiut finds we have several of the elements of the Thule Culture that were lacking at Inugsuk: the whaling harpoon head, the harpoon line tension piece, ice scoop, composite fish hook, and bone nail.

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[1]) Inugsuk, p. 272 seq.

In the book on Inugsuk[1]) I also referred to a number of other West Greenland finds that seemed to date from the same culture stage as Inugsuk. An examination of what these finds contain will show that most of them (excepting the finds from Kûk and Eqaluit) only contain the types from the early culture at Kangâmiut, and none of the early types that separate it from Inugsuk; they must therefore have belonged to the same period.

The same applies to the Skærgaardshalvø find also referred to there[2]); consequently, this too must be assumed to be contemporaneous with the early culture at Kangâmiut and thus date from the period 1350—1500. Inugsuk, Utorqait, Qeqertarmiut and Skærgaardshalvø are, as already stated, the only localities where the little trinket in the form of three chain links has been found, and thus the finding of it here in the Kangâmiut area strengthens the supposition that the migration that took the Eskimos to Skærgaardshalvø round on the east coast must have proceeded via Cape Farewell.

We see that the early culture in the Kangâmiut area may be placed to the period when the West Settlement of the Norsemen was destroyed by Eskimos; accordingly we might have expected to find objects from the Norse villages, so much the more as at Inugsuk, which is much further away from the Norse habitations, several objects were found that must have come from the Norsemen. And yet the only thing found was the bell metal and, probably, some iron; in addition we have the supposed toy Norse ship, but in Eskimo workmanship. And of course we have found most of the elements of the Inugsuk culture that I have attributed to influence from the Norsemen: stave vessels, saws, ornamental bodkins and spoons.

It is thus to be regarded as being very probable that the Eskimos who destroyed the West Settlement of the Norsemen about the year 1370 were at the Inugsuk culture stage.

Second Culture Stage.

The second stage of the early culture, which must accordingly have flourished in the period 1500—1650, in most respects closely approaches the first; most of the implements continue more or less unchanged through the two periods. And yet there are some features that give that period a stamp of peculiarity as compared with the early one:

A number of new implement forms appear: the kayak harpoon foreshafts with several holes, wound plugs of wood, handle for

[1]) Inugsuk, p. 276 seq.
[2]) Ibidem, p. 282.

towing gear, bladder-dart heads with belts of barbs and their appurtenant shaft mountings, arrow heads and bird-dart heads with screw, ring-shaped kayak rack, and creaser of stone.

On the other hand earlier types disappear, such as the snow knife and the chain trinkets. And in the case of a few of the most important types there are radical changes: the harpoon heads, from being thin for the most part, now are flat; and, as regards the lamps, the wick ledge of the Thule Culture disappears[1]) and is only seen again as a rudiment on some of the specimens.

Now of what significance are these changes? In the first place they mean that similarity with the Thule Culture was further erased; the harpoon heads in particular have now got far away from it; but a bridge to it may still be built through the first culture stage and Inugsuk.

Whence came these new elements? Were they developed in West Greenland or did they intrude from the outside? Of the newly arrived types there are two that can be compared with others in Baffin Land, viz. the harpoon foreshafts with two line holes and the wound plugs; it is thus probable that these are the result of outside influences; but in any case they have undergone a special development, for their shape is peculiarly West Greenland. All the other elements, however, are not known outside of West Greenland and must therefore be due to local development, although as stated in the foregoing the screws on the weapon heads were probably a result of intercourse with the Norsemen.

Within the period when this culture prevailed falls the date of the perishing of the Norse colonies in South Greenland. It will be observed that some of the new features that have been added: the ring-shaped kayak rack, the towing gear and the wound plugs, mean that the kayak culture has grown still more. It is apparently this that has made the southward movement of the Eskimos in this period possible and thereby caused the Norse colonies to be blotted out. The bell metal (and the iron adze?) in houses at Utorqait of this period are presumably relics of this event. Bell metal is also said to have been found at Qavdlunâtsiait. The Eskimos who destroyed the East Settlement have apparently been at this second culture stage. As to this, however, we cannot be certain before investigations are made in Julianehaab District.

Furthermore, in this period we have the first voyages of rediscovery to Greenland; of these, Davis at any rate has been near this

[1]) We have only found it on a toy lamp from Igdlutalik; presumably this means that this find is part of the earliest section of the period, the first half of the sixteenth century.

area, and Hall travelled through the district. Thus one cannot entirely reject the thought that the iron adze, glass beads and some of the iron came from them. But doubtless it may be taken as probable that they came from the first whalers; Danell's description of the houses also indicates that the round type, to which this culture is connected, has lasted till the middle of the seventeenth century.

Have we other finds in West Greenland from this period? One important find at any rate seems to belong to it; this is K. J. V. Steenstrup's grave find from Eqaluit[1]), containing i. c. arrow heads with the screw.

The ruins which Birket-Smith[2]) found at Isua, Julianehaab District, probably date from the same period; and apparently the same is the case with the uppermost ruins at Ũmánaq south of Sukkertoppen; in one of these "clover leaf" houses the Rev. Frederiksen[3]) indeed found small blue glass beads.

One of the new elements is one of the characteristic types of the "West Greenland Stone Age", viz. the creaser; the occurrence of this implement confirms what I have formerly said on the age of these finds in relation to Inugsuk.

There may also be reason for mentioning that certain finds from the northern part of the east coast may have been derived from there, as in them the same slightly flat harpoon heads predominate, along with arrow heads with the screw tang — merely as a rudiment it is true. I shall not, however, go too deeply into conditions on the east coast on this occasion.

As regards the habitation of the Kangâmiut area in the period 1350—1650, a list has already been given of the settlements that have ruins from that time; in all 59 house ruins have been counted. Of these places Utorqait and Qeqertarmiut at any rate are known to have been inhabited at the time of the first culture stage, the same two with Ingik, Igdlutalik and Qavdlunâtsiait as well during the second culture stage; nothing definite can be said about the others.

Third Culture Stage.

We have now arrived at the later periods, those that display intercourse with European whalers and, later, with Danish colonists. Accordingly the European objects become more prominent in the finds and at the same time the development of the Eskimo forms of implements makes rapid strides under the new influence. This makes it possible

[1]) See Inugsuk, p. 278.
[2]) B-S 1917, fig. 4.
[3]) Frederiksen 1912, p. 394.

to make our dating more definite and in greater detail; the periods we can set up become shorter. Whereas it was not possible to subdivide the old habitation period at Inugsuk, which nevertheless probably lasted about two hundred years, and whereas the two earliest periods in the Kangâmiut area each stretch over about 150 years, the subsequent periods have a length of only about fifty years.

The first of these, i.e. the third period of the area, would thus be from about 1650 to 1700. The material available for judging the culture of this period is not great — no more than the finds from Houses 3 and 19 at Utorqait. Nevertheless something can be built up from it.

The large, oblong houses begin to appear. What the cause has been that the Eskimos here, in the middle of the eighteenth century, have turned to this form of house is unknown. It was probably a result of the influence of the whalers who of course must have built houses now and then on shore; it can scarcely be due to Norse influence — it is too long since the Norsemen disappeared. Is it possible that it was strategical considerations, fear of the whalers, that caused them to move together? Hardly; for at the same time the houses are scattered out over the terrain; whereas in the earlier periods they only lived in few settlements, usually of large size, the houses now lie spread over many small new settlements, which in turn were deserted gradually as Danish colonization advanced. At the ruined settlements visited we found in all at least 52 of the large oblong ruins, and most of the localities not visited probably have more of these than any other type. Of course, all these houses have not been inhabited at the same time, as the occupation was spread over a period of about 150 years. But there is no doubt that in the latter half of the seventeenth century and during the whole of the eighteenth the people have been more scattered than both before and since.

We may now examine the culture that we find in the earliest of these houses, dating from about 1650—1700. Naturally, the small find from Utorqait can give no complete picture of it, but there are some features to be noticed.

Of newly-arrived types we find the mounting for the rear end of the throwing board, the neck piece for the towing gear, with three holes in it, and the seal-tail ornament; on the other hand a large number of the types of the old culture have disappeared: Inugsuk harpoon heads, fusiform harpoon foreshaft with one hole, wound pins, arrow heads and bird-dart heads with knobs on the tang, hammer stone, two-handed scraper, lamp with wick ledge[1]), oval bowl bottoms, the ornamental

[1]) In house 3 at Utorqait we found a toy lamp with the beginnings of a wick ledge; possibly this means that this ruin is one of the oldest of the period, as in fact its small size argues.

bodkin, ajagaq of seal radius, to name merely some of the forms occurring frequently in the early culture. But the connection with the earlier arctic-like culture is still visible in forms like the long shaft mountings, ice pick, sledge cross slats, trace buckle, bone adze head, ulo without tang, convex-edged stone scraper, a toy lamp with the hint of a wick ledge. The European objects are only few in number: a little more iron than in the old culture, a few glass beads, and a single sherd of faience.

Fourth Culture Stage.

This period, stretching from about 1700 to 1750, is represented by the Ũmánat find. We have now arrived at the time when whaling culminated; at Narssarmiut the Dutchmen have put up their shop, and in Kangâmiut itself they were annual visitors. As yet the Danish colonization has not reached this area except for fleeting calls. It is no wonder that the finds from that period bear distinct traces of whaler products, first and foremost the enormous quantity of glass beads they brought ashore. But besides these, iron goods, clay pipes and pottery were important trade goods, but they do not seem to have sold many guns to the Greenlanders.

The Eskimo culture has passed through a further development: we now meet the large modern, very flat harpoon heads with one or two spurs, no barb, or one or two, the soapstone sinkers for fishing, end mountings for square-cut kayak paddles, ulos with a tang and buttons for the cord of the kayak dress. And at the same time all the forms indicated above as connecting the third culture stage to the old culture, except the ulo without the tang, which still survives, have disappeared.

Fifth Culture Stage.

We have now advanced to the beginning of the Danish colonization in the district: In 1755 the Sukkertoppen Colony was established at Kangâmiut, but still the whalers continued to come. The finds from this period are represented by Ukivínguaq. There are still many glass beads, but comparatively more pottery, numbers of clay pipes (Stubbekøbing!) and many gun flints, showing that the population is now generally supplied with flint-lock guns.

Of new Eskimo types we find harpoon foreshafts with a socket in the rear end, foreshafts for bladder darts with an iron point, throwing board of modern design, lacking the finger hole, crossbow, lamp stand.

Nevertheless we still meet with old forms such as a single thin harpoon head, one bone arrow head with screw tang, bird-dart heads with the screw, knife with side blade-groove, mattock blade of bone,

drill mouthpiece of caribou astragalus, stone scrapers with concave edge, bone combs, tooth beads, ajagaq of seal penis bone, and drums; the latter show that there were still heathens at this spot.

All in all one may say that we now find the modern West Greenland culture fully developed. And the new elements are almost all due to a special West Greenland adaptation; only the ulo with the tang do we meet on the far side of Davis Strait.

Of old forms that now seem to have disappeared are harpoon foreshafts with a tenon, the heavy bladder-dart heads with a belt of barbs, the lanceolate stone arrow heads, ulos without tang, stone scrapers with convex edge, and the thimble holder.

Sixth Culture Stage.

We have no collective find capable of throwing any light upon the culture of the 19th century in the Kangâmiut area, merely a few sporadic objects from Qeqertarmiut, which can give no exhaustive picture of it. On the other hand of course it is well known; we are now able to leave archaeology and pass over to ethnography. Nevertheless, should there be a desire to see a large archaeological find from the first half of this period we can point to the finds from the later habitation at Inugsuk. What marks these finds more than anything else, just as in the case of the new finds from Qeqertarmiut, is English export pottery. As regards the Eskimo types of implements their development has now been completed; an especially outstanding feature is the many variants of the main type of the very flat harpoon head, which are now the only form used. A peculiar element is the curious dolls, of wood at Inugsuk, of white-whale bone at Qeqertarmiut. The drums have now disappeared: Christianity has been introduced.

Concluding Remarks.

This brings us to the end of our examination of the development of the culture in the Kangâmiut area, as we have been able to follow it by means of the excavated material. We have traced it from the time when the Inugsuk Eskimos in the middle of the fourteenth century came from the north and settled in this part of the country, through the six stages to the present day; we have seen meetings with Norsemen, the destruction of their colonies, the coming of the first whalers to the country, whaling at the height of its prosperity, and finally the Danish colonization. And concurrently we have attempted to trace the development, arrival and disappearance of the various Eskimo forms of implements.

It has hitherto been chronology that has been the weak point in

the archaeology of Greenland; most of the forms were known; we did not know how old they were. The Inugsuk find brought this chronology some distance forward, two periods in Upernivik District being laid clear. But there was still much to do; in the first place there was a great lacuna between the two periods, and in the second place this find only threw light upon conditions in the most northern part of West Greenland. In the Kangâmiut area, on the southern west coast, we have now obtained a material that elucidates the period from about 1350 to 1800, the very periods that we lacked at Inugsuk; it even contributes towards our knowledge of the nineteenth century. It has been possible to separate six culture stages and show the relative position of many types of implements to them, when they began and when they ceased to be used. For the two earliest periods the material is fairly large, for the later ones rather sparse, and consequently the conclusions drawn on the basis of the later material are not so definite as those that are built upon the earlier finds. It is possible, in fact probable, that some of the boundaries given for the occurrence of the various types of implements will be moved. And of course it is the chronology of only a few types that these finds have thrown any light upon; there is still a long way to go before we get quite to the bottom. But all in all it is my opinion nevertheless that these finds from Kangâmiut make their contribution towards understanding the chronology of the implement forms and, with this, towards clearing up the whole development of the culture in West Greenland. As I stated in the work on Inugsuk[1]) it has been a very rapid development in this region since the Middle Ages, and of the new things that have been added in this period by far the greater part are due to internal development, i.e., one that has proceeded on West Greenland's own soil; only very few types point to a connection with the Central Eskimos.

The earliest population of which traces have been discoverable in Sukkertoppen District seems to have come from the north in the middle of the fourteenth century. Really it is astonishing that they came so late in the day. But are they the first inhabitants of the area? Has there not been an Eskimo population before it?

When in 982 Eric the Red for the first time set foot upon Greenland's soil, probably in Julianehaab District, he found traces of Eskimos, but not the people themselves; the account in the saga looks so unambiguous and credible that it cannot be doubted. This means that there were Eskimos in South Greenland almost four hundred years earlier than the oldest find possible to show in the Kangâmiut area. Where shall we find traces of them, the ruins of their houses, and their

[1]) Inugsuk, p. 322.

chattels? In the Kangâmiut area at any rate I have not been able to discover anything earlier than the Inugsuk Culture, and I doubt whether there is anything to find. One should think that the very first inhabitants of South Greenland must have migrated through this region if they came from the north. But perhaps they have been but few in number and have passed through quickly; or perhaps they have passed along the east coast.

The discovery of this earliest West Greenland culture is one of the most important tasks still waiting to be tackled. But there are many others besides, such as the position of the "Greenland Stone Age" and the connection with the Norsemen. Julianehaab District and Disko Bay may be named as the places in West Greenland where excavations first and foremost remain to be made.

ZOOLOGICAL APPENDIX.

Animal Bones from the Sukkertoppen District, 1930.

By M. A. Degerbøl, R. Hørring and I. R. Pfaff.

Mammals.

The following mammals are represented:

Canis lagopus. Arctic fox.
Canis familiaris. Dog.
Ursus maritimus. Polar bear.
Odobenus rosmarus. Walrus.
Phoca groenlandica. Harp seal.
Phoca foetidæ. Small seal.
Phoca vitulina. Spotted seal.
Erignathus barbatus. Bearded seal.
Rangifer tarantus. Caribou.
Balaena mysticetus. Large baleen whale.

In point of quantity this large material — three bags full — consists mostly of the bones of the harp seal, and of these the greater part are of young and infant animals, whose limb bones lack both upper and lower epiphyses; only very few are of mature harp seals. Every bone of the body is represented with the exception of the penis bones, which are entirely lacking, even in those squares where all the bones were taken up during excavation. Apparently the penis bones have been kept for a special purpose (for ajagaq-gaming). In this respect the Eskimo settlements in the Sukkertoppen District contrast with the long-known settlements at Disko, where the penis bone commonly occurs, but are similar to the kitchen middens of the Norse ruins, where these bones are likewise missing.

The next in order of quantity is the small seal; of the other seals named there are only very few bones.

The polar bear is only represented by a single canine tooth. Similarly, there are only few caribou bones.

Of the arctic fox the material contains six whole skulls and one or two limb bones. Compared with the remains of the other animals it is striking that there are so many whole skulls and so few bones of the other parts of the body.

There is a large number of dog bones, many of them of young animals. Of 28 femora, 13 lack both upper and lower ephiphysis, 4 lack the upper epiphysis, and only 11 have belonged to full-grown animals. Almost the same may be said of humerus; of 30 humeral bones 6 are without upper and lower ephiphyses, 15 lack the upper epiphysis, and only 9 have belonged to adult animals. Of 8 tibiæ, 4 were of grown animals.

Taking them all round the dog remains have belonged to relatively feeble animals. The tibiæ are strikingly small (see table), and in fact the other limb bones are small on the whole (see table).

Of maxillæ there are 23 with teeth so well preserved that measurements have been possible. These bones, too, have belonged to young animals who had completed the shedding of their deciduous teeth, but the permanent teeth were not worn. In this respect they contrast strongly with the dog jaw bones from Eskimo settlements in Northeast Greenland collected during the "Danmark Expedition". Most of the jaws there were of old animals with very worn teeth. To give an idea of the size the table includes measurements of the lower carnassial teeth in comparison with those of some recent dogs from Greenland. It will be seen that the present-day material is somewhat larger on the whole.

The frequent occurrence of young dogs is rather remarkable; presumably there have been too many dogs and some of them have been eaten; but none of their bones shows signs of having been worked by hand.

It was remarkable to find so many fish and bird bones in the material. In this respect the Eskimo settlements differ from the Norse settlements, where such bones are rare.

Canis familiaris.

Length of inferior carnassial tooth.

Qeqertarmiut.	B 1^3	21.3 mm.
—	B 1^3	21.0 —
—	C 4^2	21.0 —
—	C 1^2	21.0 —
—	C 1^2	22.2 —
—	C 5^1	22.0 —
—	C 29^3	20.0 —
—	C 39^1	21.7 —
—	C 35^1	24.0 —
—	C 47^1	22.0 —

Qeqertarmiut.	C 43[2]	24.0 mm
—	C 46[2]	21.0 —
—	D 1[1]	21.0 —
Utorqait.	B 13[2]	20.0 —
—	B 8[4]	24.0 —
Entrance passage, house	19	21.4 —
— — —	B 15[1]	21.0 —
— — —	13a[2]	21.1 —
— — —	C 2[2]	22.0 —
?	15a[1]	22.0 —
Inugsuk (1929)	CN. 309	21.8 mm
—	304	23.4 —
—	308	23.4 —
—	312	24.2 —
Recent Greenland dogs.	CN. 1532	22.0 mm
0	Nr. 4	22.4 —
	CN. 1529	22.5 —
o	Nr. 5	23.4 —
	CN. 715	23.4 —
—	228	23.5 —
—	1528	23.6 —
—	1530	23.6 —
—	1527	24.0 —
—	1531	24.1 —

Canis familiaris Tibia etc.	Recent Greenland dogs ca 715	Utorqait A 4	Qeqertarmiut B 7[1]	Qeqertarmiut D 9
Greatest length	191	156.0	166.0	172.5
Approx. breadth	42	31.0	35.5	38.5
Distal breadth	26	21.5	24.5	25.0
Middle breadth of Diaphysis	15	11.7	13.0	12.7

Canis familiaris Femur.	Recent Greenland dogs 715	Qeqertarmiut A 1[4]	Qeqertarmiut B 6[2]	Qeqertarmiut B 6[3]	Qeqertarmiut B 7[1]	Qeqertarmiut B 7[2]	Qeqertarmiut C 2[2]	Qeqertarmiut C 41[4]	Utorqait house 18[1]	Utorqait Passage of house 20[1]	Ingik
Greatest length	200	183.5	177.5	187.5	208.0	177.8	197.5	174	184.3	199.5	177.8
Approx. breadth	47	38.5	41.5	43.0	47.2	38.5	46.0	..	42.5	43.5	39.5
Distal breadth	40	33.5	33.4	35.5	40.5	32.5	38.5	..	35.5	36.5	34.5
Least middle breadth	17	13.2	14.5	14.2	15.0	12.5	13.5	..	13.5	13.3	13.5

Canis familiaris Humerus.	Recent Greenland dogs 715	Qeqertarmiut B 7[4]	Qeqertarmiut C 2[2]	Qeqertarmiut C 2[2]	Qeqertarmiut C 12	Qeqertarmiut C 13[1]	Qeqertarmiut C 44[3]	Utorqait B 13[1]	Ukivínguaq 1[3]
Greatest length	183.0	153.5	152.3	191.0	194.0	167.5	163.5	155.0	166.0
Approx. breadth....	34.5	27.5	29.0	33.8	35.5	29.8	31.5	..	29.5
Distal breadth	40.0	32.5	33.0	41.0	43.0	35.5	35.5	33.5	36.5
Middle breadth of Diaphysis.....	16.0	13.4	13.5	15.3	15.0	13.4	15.0	13.8	14.6

M. A. Degerbøl.

Birds.

The following is a complete list of all bird bones collected:

Utorqait. Square A 1. *Uria arra* 30.
Mergulus alle 5.
Fratercula arctica 1.
Somateria sp. 3.
Phalaerocorax carbo 2.
Cepphus grylle 1.
Alca torda 2.
Larus sp. 1.

A 2. *Uria arra* 33.
Mergulus alle 3.
Alca torda 1.
Fratercula arctica 2.
Somateria sp. 2.
Lagopus mutus 2.
Haliaëtus albicilla 1.

A 3. *Uria arra* 10.
Mergulus alle 4.
Somateria sp. 1.

A 4. *Uria arra* 2.
Alca torda 1.
Somateria spectabilis 1.

B 7[3]. *Puffinus major.* Lower jaw.

B 10. *Somateria* sp. Brain case.

B 13. *Alca impennis.* Humerus.

B 25. *Uria arra* 18.
Mergulus alle 7.
Fratercula arctica 1.
Somateria spectabilis 4.

	Somateria mollissima 2.
	Lagopus mutus 5.
	Alca impennis 4 bones.
C 6.	*Cygnus musicus.* Ulna.
D 1.	*Haliaëtus albicilla.* Tibia (lower part).
House ruin 18[1].	*Anas boscas.* Humerus.
21.	*Uria arra* 2.
	Mergulus alle 1.
	Alca impennis 1.
	Somateria sp. 4.
	Larus sp. (*glaucus*?) 2.
	Lagopus mutus 1.
	Phalacrocorax carbo 1.
	Larus tridactylus.
	Haliaëtus albicilla. Femur.
Utorqait. Meat cache.	*Corvus corax.* Humerus.
No indication.	*Haliaëtus albicilla.* Femur.
Igdlutalik. A 12.	*Uria arra* 7.
	Mergulus alle 4.
	Alca impennis 3.
	Somateria spectabilis 1.
Ũmánat. A 4.	*Uria arra* 5.
	Mergulus alle 3.
	Alca impennis 3.
	Somateria sp. 2.
Qeqertarmiut. Below C 12.	*Uria arra* 8.
	Mergulus alle 1.
	Phalacrocorax carbo 1.
	Corvus corax 1.
D 5[7].	*Uria arra* 9.
	Mergulus alle 1.
	Somateria sp. 1.

Ukivínguaq. Square 1[2]. *Phalacrocorax carbo.* Humerus.

Probably greatest interest attaches to the twelve fragments of the bones of *Alca impennis.* Although we know through Fabricius that it

was fairly common in his time in South Greenland, the bones in the present material are the first tangible proofs of the occurrence of this bird in Greenland (apart from a skin, 1815, in winter dress, presumably from Fiskenæs). Several of the bones are of quite young birds, but scarcely give any evidence of the species having bred in Greenland as Fabricius — in contrast to Jap. Steenstrup — thought.

The ulna of a *Cygnus musicus* is also interesting, this bird having long since become extinct in Greenland as a breeding bird and now only appearing there as a very rare visitor. If anything this find strengthens Bjørn Jonsson's statement that these swans had their home in Greenland in the Middle Ages. R. Hørring.

Fishes.

Most of the material consists of cod bones. The large bones must be of the common cod, *Gadus callarias*. Whether the smaller bones are of this species or of the Greenland fjord cod, *Gadus ogac*, cannot be determined, but the probability is that the material contains bones of both kinds.

The other bones are of halibut, *Hippoglossus vulgaris*, and of the common sea scorpion, *Cattus scorpius*.

Gadus callarias or *ogac*	Utorqait	B 7[3]
—	—	B 9
— (and *ogac?*) .	—	B 6[1]
— — —	—	B 10[1]
— — —	—	B 9[1]
— — —	—	B 10
—	Ũmánat	A 10
Cottus scorpius	Utorqait	B 10[1]
—	—	B 25
Hippoglossus vulgaris	—	B 6[1]
—	Qeqertarmiut.....	D 3[5]

I. R. Pfaff.

POSTSCRIPT.

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Copenhagen, March 1931.

THERKEL MATHIASSEN.

LIST OF THE ILLUSTRATED OBJECTS WITH THEIR MUSEUM NUMBER (ALL BEGINNING WITH L 12) AND FINDING PLACE.

The first letter signifies the locality: Ut = Utorqait, Um = Ũmánat, Uk = Ukîvínguaq, Q = Qeqertarmiut; the next the house ruin or square; the small figure the layer, reckoned from the top; the thickness of the layers is 20 cm.

Plate 1.

(Old Culture).

1:	Harpoon head	1118	Q	C 8
2:	— —	656	Ut	B 11^1
3:	— —	694	Ut	B 13^2
4:	— —	1119	Q	C 8
5:	— —	842	Q	A 1^1
6:	— —	446	Ut	House 23
7:	— —	657	Ut	B 11^1
8:	Ituartit harpoon head	555	Ut	B 5
9:	Harpoon foreshaft	486	Ut	House 23
10:	Arrow head	582	Ut	B 7^2
11:	— —	175	Ut	House 17
12:	Bird dart side prong	1082	Q	C 5^5
13:	Gorge	202	Ut	House 17
14:	Fish hook	611	Ut	B 8^2
15:	— —	83	Ut	House 13
16:	Swivel	2054	Q	C 46^5
17:	Tension piece	2053	Q	C 46^5
18:	Plug for bladder mouth piece	2039	Q	C 46^4
19:	Stone arrow head	893	Q	A 7^2

Plate 2.

(Old Culture).

1:	Harpoon foreshaft	316	Ut	House 19, below wall
2:	— —	1719	Q	C 40^3
3:	— —	1284	Q	C 26^3
4:	Shaft mounting	540	Ut	B 4^1
5:	Harpoon shaft	2337	Q	D 5^5
6:	Whaling harpoon head	96	Ut	House 13
7:	Wound plug	1609	Q	C 38^4

8: Towing piece ..... 1815 Q C 42[4]
9: Baleen bow ..... 2019 Q C 46[3]
10: Bladder dart head ..... 2153 Q D 1[2]
11: — — — ..... 1418 Q C 33[2]
12: Throwing board ..... 2018 Q C 46[3]
13: Kayak paddle ..... 1489 Q C 35[6]
14: Bow stave ..... 1674 Q C 39[5]
15: Sledge shoe ..... 1634 Q C 38[8]
16: Throwing board ..... 2363 Q D 5[7]
17: Bird dart head ..... 1121 Q C 8
18: Trace buckle ..... 2308 Q D 5[2]
19: Kayak deck beam ..... 2167 Q D 1[5]

Plate 3.

(Old Culture).

1: Leg for kayak rack ..... 178 Ut House 17
2: Rest for kayak harpoon ..... 1258 Q C 21[3]
3: — - — — ..... 2355 Q D 5[6]
4: Snow knife ..... 1907 Q C 43[6]
5: Knife handle ..... 119 Ut House 14
6: — — ..... 85 Ut House 13
7: — — ..... 2420 Q D 7
8: Knife blade ..... 1786 Q C 41[4]
9: Saw ..... 522 Ut B 1[2]
10: Whetstone ..... 107 Ut House 13
11 Ulo ..... 42 Ut House 13
12: Scraper blade ..... 483 Ut House 23
13: — — ..... 2338 Q D 5[5]
14: Ulo handle ..... 1040 Q C 2[2]
15: Scraper handle ..... 274 Ut House 18
16: Ulo handle ..... 1171 Q C 10[2]
17: Cutting board ..... 1675 Q C 39[5]
18: Boot creaser ..... 495 Ut A 1
19: Two handed scraper ..... 551 Ut B 4[3]

Plate 4.

(Old Culture).

1—20: Woman's Casket with contents ..... 2087—2104 Q C 47[3]

Plate 5.

(Old Culture).

1: Lamp trimmer ..... 1057 Q C 3
2: Tub stave ..... 2230 Q D 3[6]
3: Spoon ..... 826 Ut C 13
4: — ..... 422 Ut House 22
5: — ..... 89 Ut House 13
6: Comb ..... 272 Ut House 18
7: Ajagaq ..... 670 Ut B 12[1]
8: — ..... 1041 Q C 2[2]
9: Bone penis ..... 363 Ut House 20

10:	Unknown bone implement	638	Ut	B 9[1]
11:	— — —	2317	Q	D 5[3]
12:	Drum	2343	Q	D 5[5]

Plate 6.

(Old Culture).

1:	Ornamental bodkin	1963	Q	C 44[5]
2:	— —	1026	Q	C 2[1]
3:	— —	2397	Q	D 5[7]
4:	— —	1521	Q	C 36[5]
5:	Ornamental pendant	204	Ut	House 17
6:	— —	130	Ut	House 14
7:	Unfinished chain pendant	642	Ut	B 9[1]
8:	Doll	1966	Q	C 44[5]
9:	—	1965	Q	C 44[5]
10:	—	1824	Q	C 42[4]
11:	—	2400	Q	D 5[7]
12:	Toy of gull bones	184	Ut	House 17
13:	Ajagaq stick?	257	Ut	House 18
14:	Toy umiak	1677	Q	C 39[5]
15:	Bone nail	516	Ut	B 1[1]
16:	Toy comb	448	Ut	House 23
17:	Toy lamp	1302	Q	C 27[3]
18:	Toy drum handle	2326	Q	D 5[4]
19:	Bone game man?	552	Ut	B 4[3]
20:	Toy paddle	1434a	Q	C 34[5]
21:	Ornamented stick	1970	Q	C 44[5]

Plate 7.

(Newer Culture).

1:	Harpoon head	2535	Um	
2:	Fish hook	2609	Um	
3:	Fish needle	2693a	Uk	
4:	Arrow head	1570	Q	C 37[3]
5:	Sinker for fish hook	1571	Q	C 37[3]
6:	Knife	644	Ut	B 10
7:	Stone scraper	2712	Uk	
8:	Nail with screw	671	Ut	B 12[1]
9:	Ulo	686	Ut	B 13[1]
10:	Spoon	2714	Uk	
11:	Soapstone pendant	2613	Um	
12:	Toggle	646	Ut	B 10
13:	Glass bead	315	Ut	House 19
14:	— —	2495	Um	
15:	— —	2563	Um	
16:	— —	2495	Um	
17:	— —	2595	Um	
18:	— —	339	Ut	House 20, surface
19:	Toy harpoon foreshaft	309	Ut	House 19

20: Ornamental pendant	296	Ut	House 19
21: Doll	1253	Q	C 21[1]
22: Toy lamp	2471	Q	Grave 8
23: Ajagaq	2736	Uk	

TEXT FIGURES

Fig. 28: Bird dart head	2847	Agpamiut	
- 29: Ice scoop?	75	Ut	House 13
- 30: Umiak rib	1652	Q	C 39[2]
- 31: Chopping block	1432	Q	C 34[4]
- 32a: Lamp	530	Ut	B 2[2]
- 32b: Soapstone bowl	114	Ut	House 13
- 33a: Lamp fragment	250	Ut	House 18
- 33b: — —	1646	Q	C 39[2]
- 34: Toy Norse boat?	1989	Q	C 44[7]
- 35: Bone penis	363	Ut	House 20
- 36: Unknown implement	1749	Q	C 40[5]
- 37: — —	1693	Q	C 39[6]
- 38: — —	2072	Q	C 46[6]
- 39: — —	1932	Q	C 44[3]
- 40: Pointed wooden stick	2462	Q	D 8[3]
- 41a: Church bell metal	50	Ut	House 13
- 41b: — — —	2354	Q	C 5[6]
- 42: Iron adze	439	Ut	House 23

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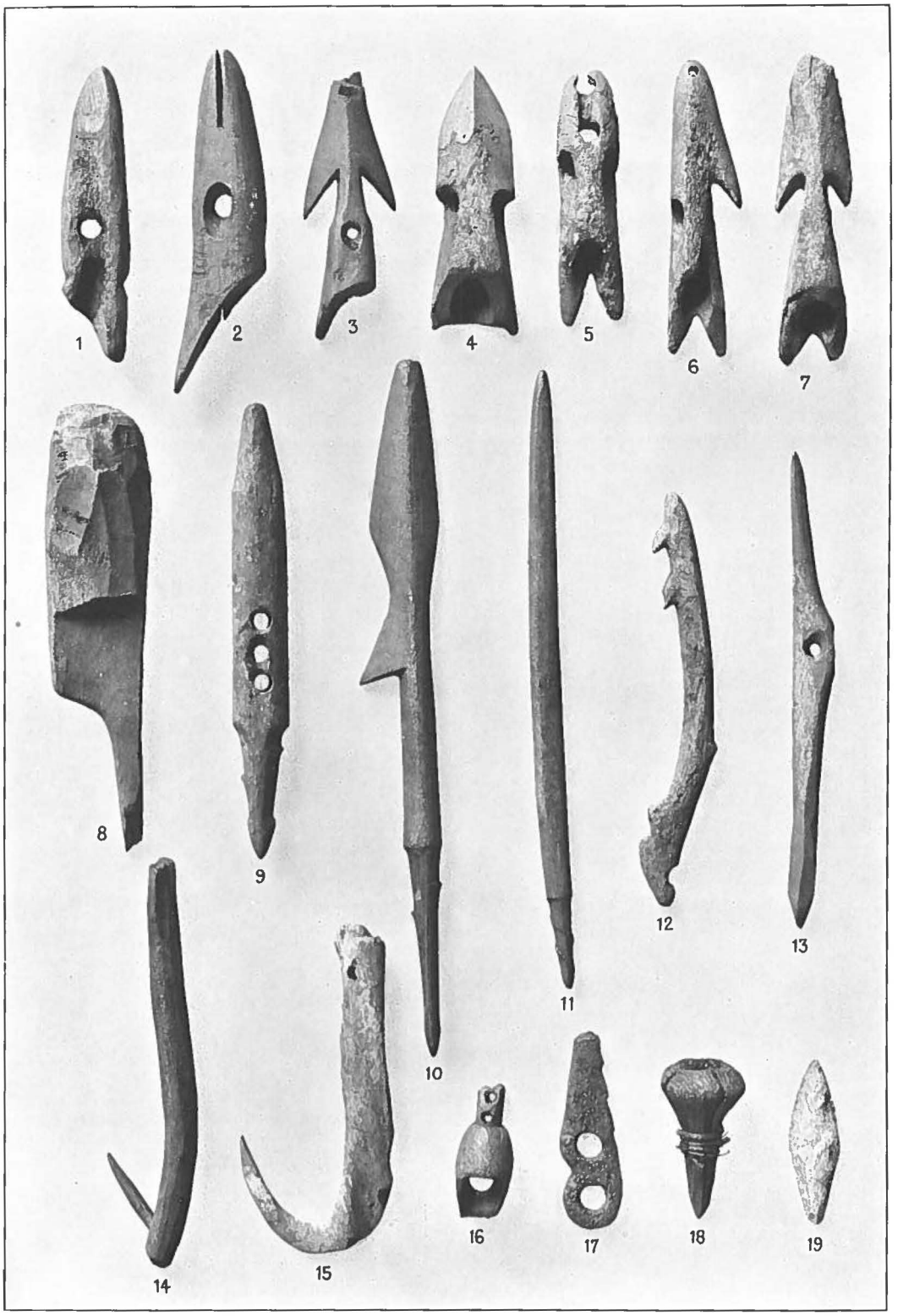

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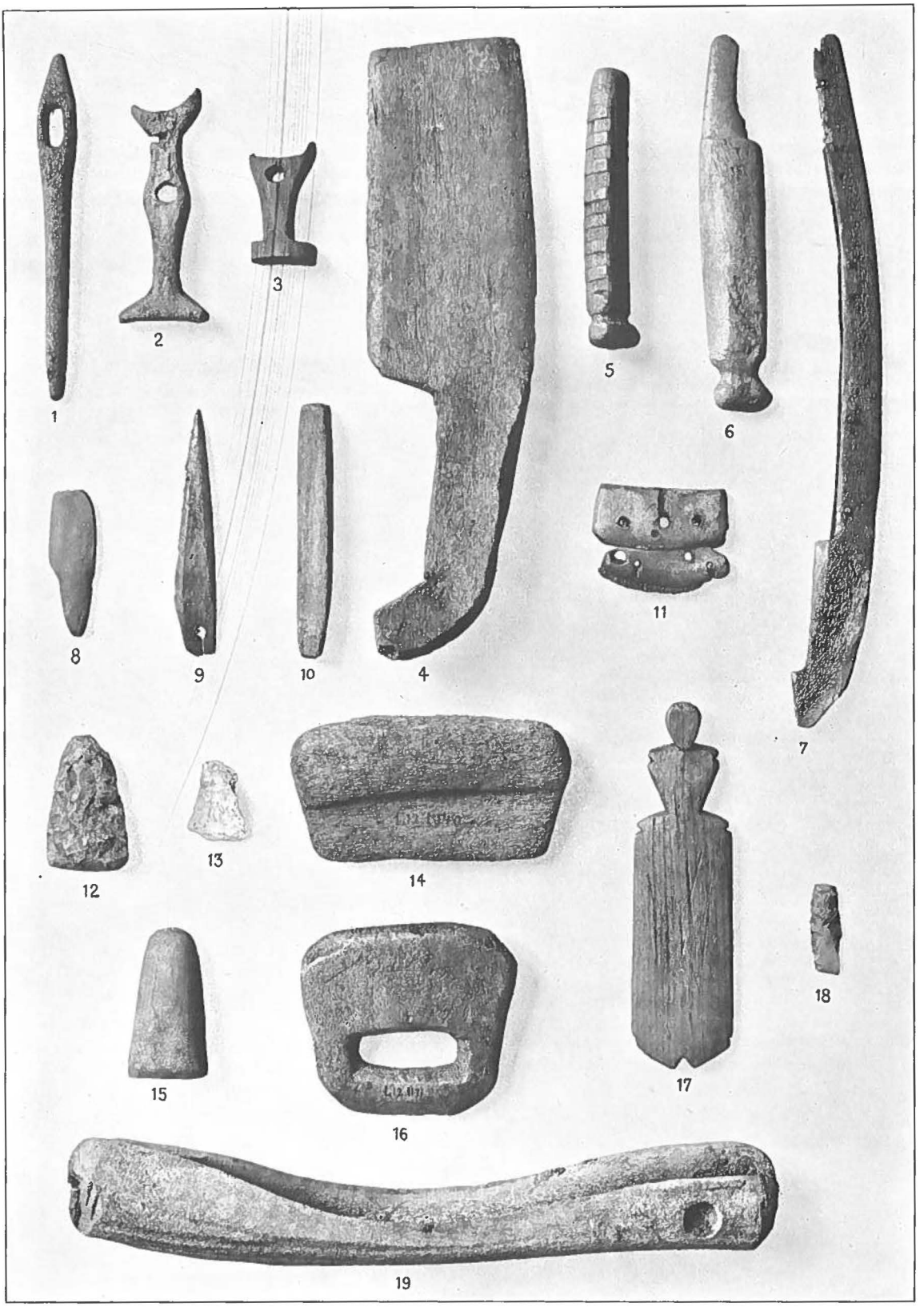

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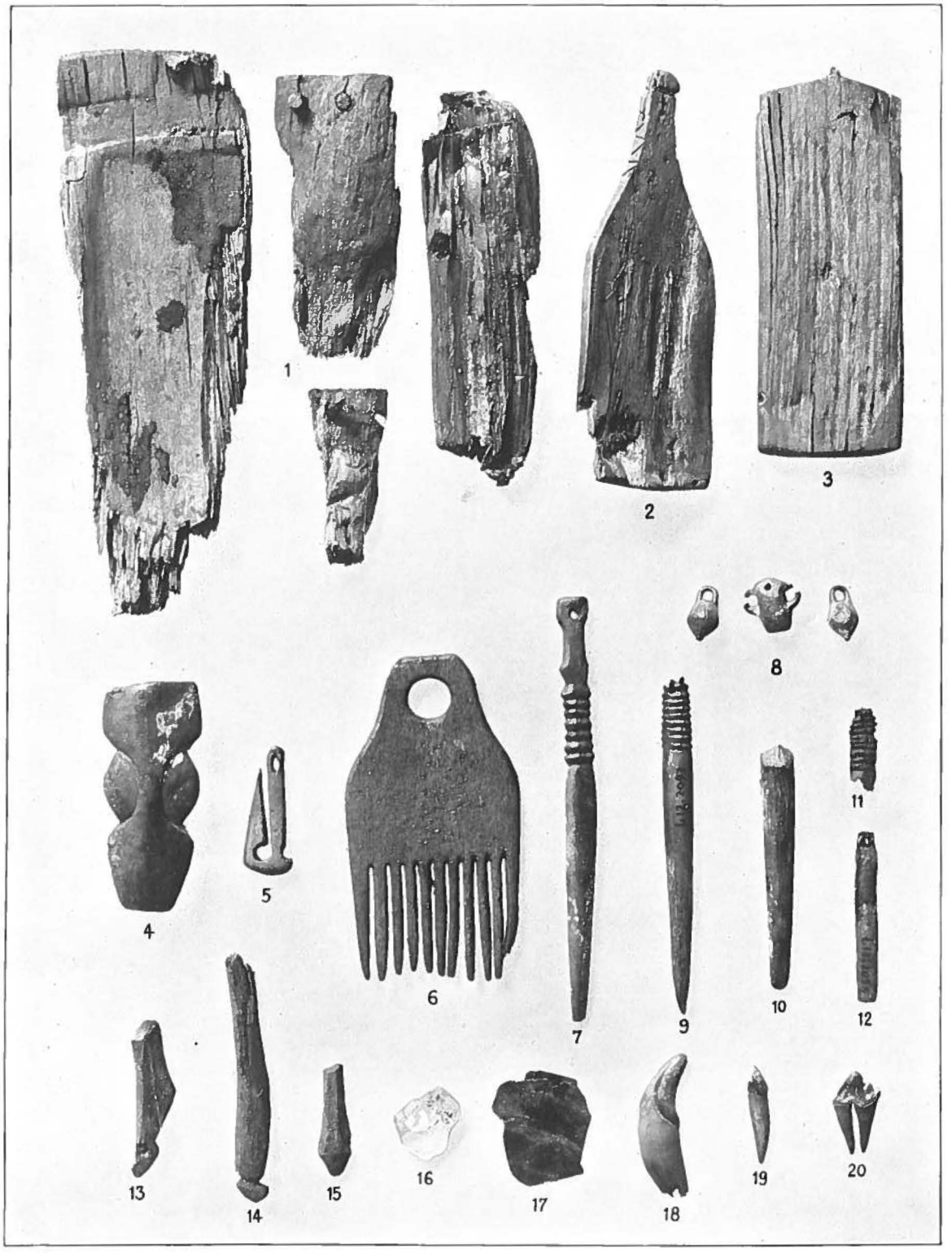

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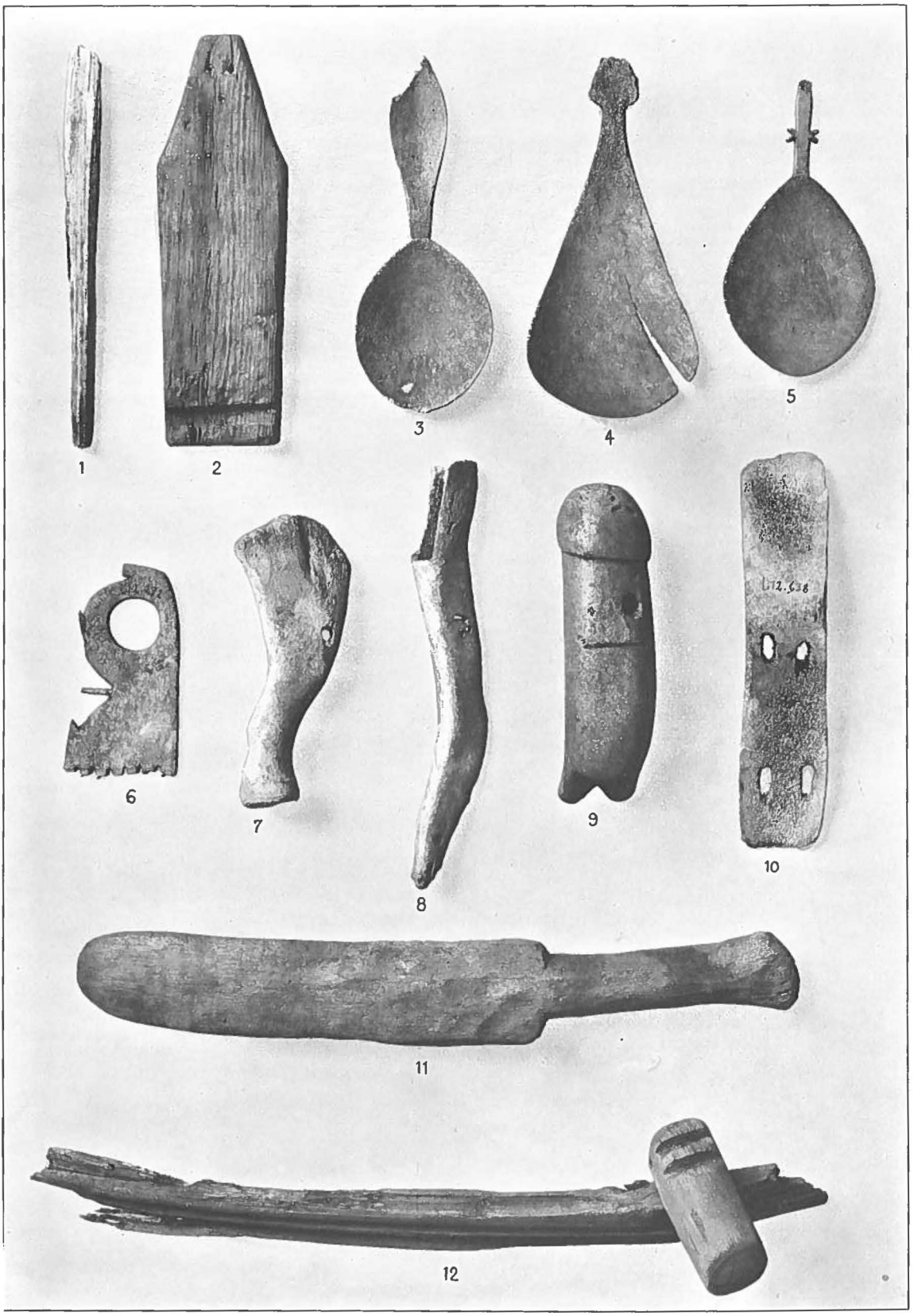

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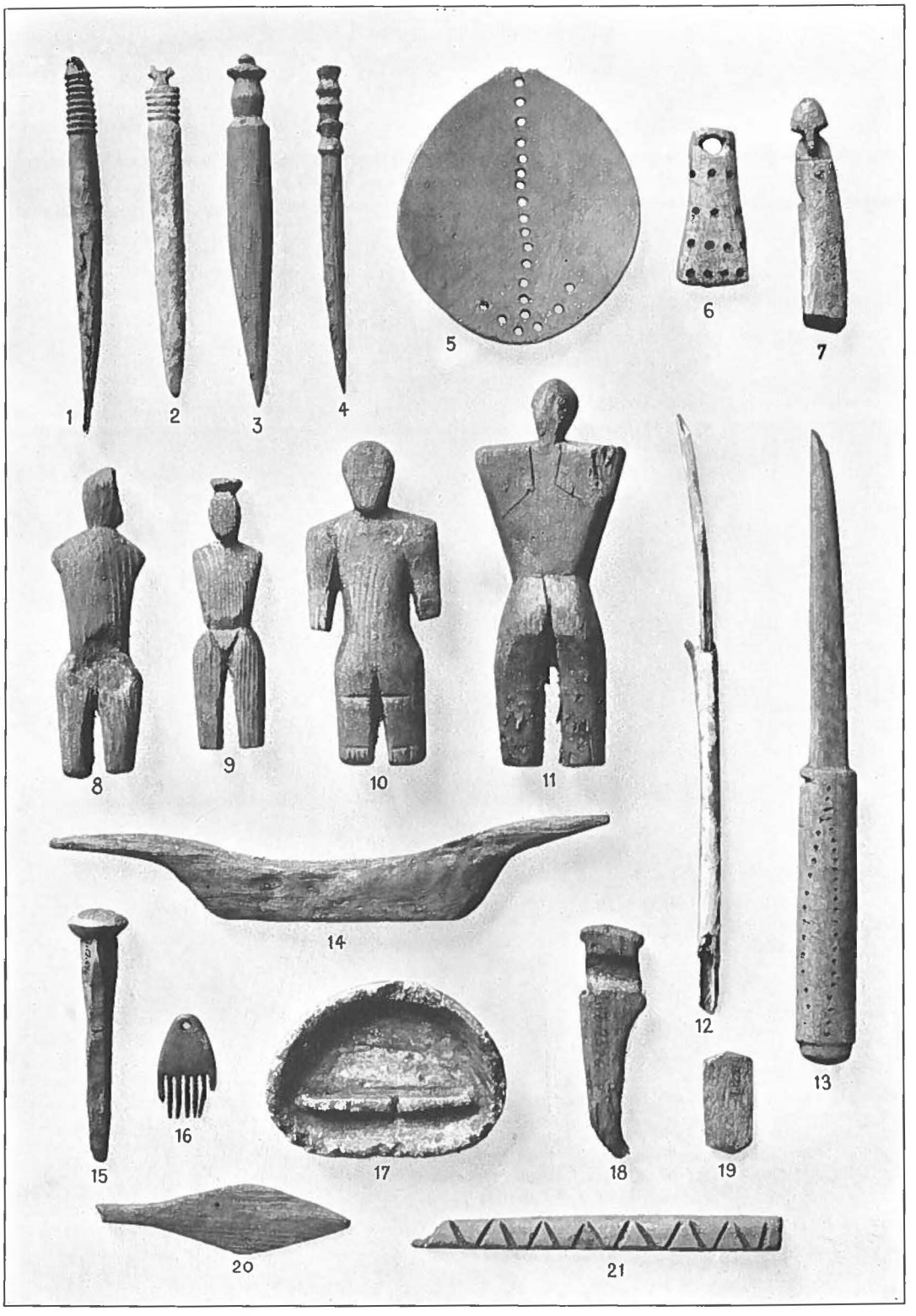

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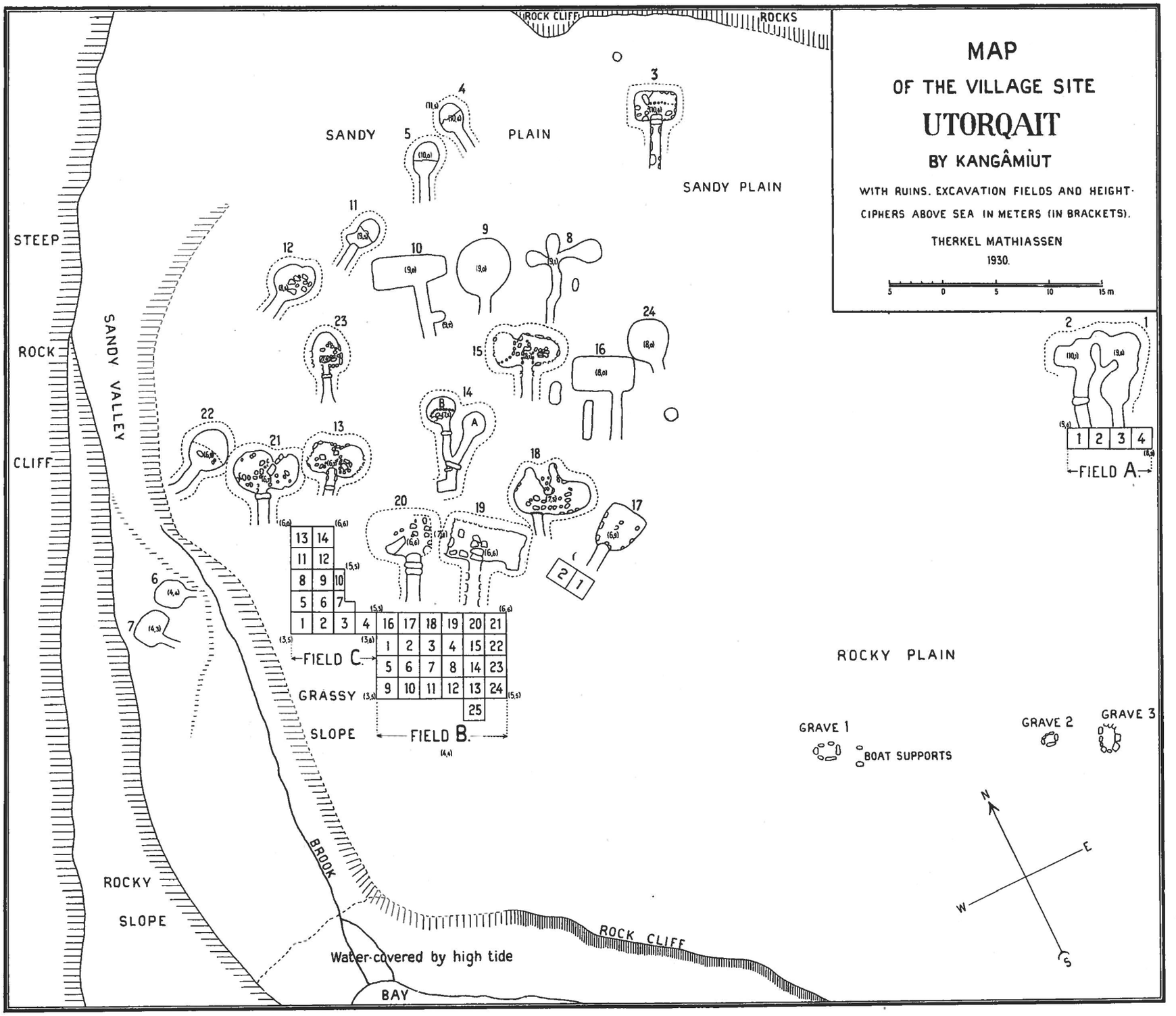
MAP
OF THE VILLAGE SITE
UTORQAIT
BY KANGÂMIUT
WITH RUINS. EXCAVATION FIELDS AND HEIGHT-CIPHERS ABOVE SEA IN METERS (IN BRACKETS).
THERKEL MATHIASSEN
1930.
5 0 5 10 15 m
ROCK CLIFF
ROCKS
SANDY PLAIN
SANDY PLAIN
STEEP ROCK CLIFF
SANDY VALLEY
FIELD A.
FIELD B.
FIELD C.
GRASSY SLOPE
ROCKY PLAIN
GRAVE 1
BOAT SUPPORTS
GRAVE 2
GRAVE 3
ROCKY SLOPE
BROOK
ROCK CLIFF
Water-covered by high tide
BAY
N
E
W
S