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OTTO FABRICIUS'
ETHNOGRAPHICAL WORKS

WITH AN INTRODUCTION BY WILLIAM THALBITZER,

EDITED BY

ERIK HOLTVED

WITH 36 FIGURES IN THE TEXT AND 2 PLATES

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Fig. 1. Otto Fabricius.

PREFACE OF THE EDITOR

It has always been felt as a great loss to the world that the ethnographic writings of OTTO FABRICIUS were never translated into a world language, so that they might take the place they so richly deserve in the literature of that science. Thanks to Fabricius's keen powers of perception and sense of technical detail his works provide a picture of hunting technique and methods in Southwest Greenland in the latter half of the 18th century, a picture which in both volume and accuracy transcends all earlier descriptions. Indeed, his records have stood as a model for subsequent ethnographic study.

The task of preparing an English edition in "Meddelelser om Grønland" was taken up by Professor WILLIAM THALBITZER and a provisional plan for its publication was submitted to the Editorial Committee in 1944. Due to a variety of circumstances the work was delayed, but when Professor THALBITZER died in 1958 the English translation of FABRICIUS's two chief ethnographic papers lay ready, together with an outline of the principles to be observed in an *introduction* and now adhered to in the following. These two papers are supplemented with excerpts from the more specifically zoological papers. Moreover, new illustrations have been inserted for comparison with the originals which, though highly instructive, lack accuracy in the measurements. In addition, besides some explanatory notes a list has been added of the Greenlandic terms appearing in Fabricius's works, indicating their orthography according to the official Greenlandic spelling.

The translation into English, which presented unusual problems on account of the antiquated words and phrases used on the original, was made by Mr. W. E. CALVERT.

Seborg, February 1961.

Erik Holtved.

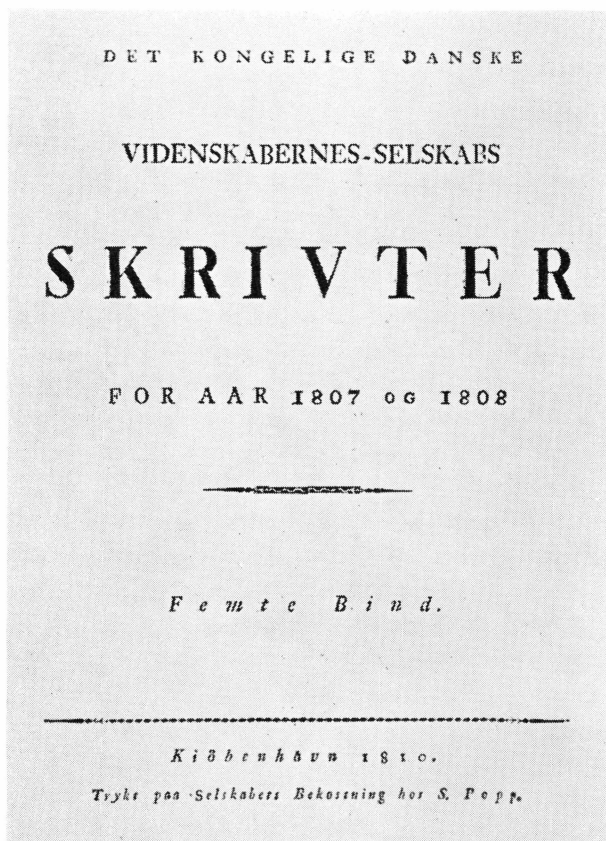


Fig. 2. Title page of Det Kgl. Danske Videnskaberne-Selskabs Skrifter (Proceedings of the Royal Danish Society of Sciences) 1807—08, Vol. V. — København 1810, containing FABRICIUS' paper: Nöiagtig Beskrivelse over alle Grønlandernes Fangere-Redskaber ved Sælhundefangsten (A precise description of all implements used by the Greenlanders for catching seals).

INTRODUCTION

by Professor WILLIAM THALBITZER.

(Professor THALBITZER's commemorative speech on OTTO FABRICIUS before the Royal Danish Academy of Sciences and Letters on March 31st., 1944, on the occasion of the 200th anniversary of his birth).

OTTO FABRICIUS, cleric, philologist, ethnographer and naturalist, born March 13th 1744, died May 20th, 1822, missionary in Greenland 1768—1773.

As a missionary in Greenland OTTO FABRICIUS assumed the tasks inherited from HANS and POUL EGEDE to be undertaken for the mission and the instruction of the natives: translations of the bible and catechisms, hymns and liturgical works and other textbooks into Greenlandic — and also, in aid of research and exploration in Greenland for the benefit of science in Europe: works and shorter papers of scientific purpose, especially within the three branches: language, ethnography and zoology.

With OTTO FABRICIUS the spirit of inquiry already evidenced in "Relationer og Perlustrationer" by the EGEDES was ultimately brought to higher scientific fruition.

He was of South Funen family: his father was the clergyman HANS FABRICIUS who finally became Dean of Nørre Herred in Lange-land. At Rudkøbing vicarage Greenland was already a familiar topic. HANS EGEDE himself often came there to see the friend of his university days, and an older half-brother of Otto's had done missionary work in Greenland, returning home in 1764. So in that well-to-do clergyman's home the boy OTTO FABRICIUS heard very early about Greenland. He was educated at home by a tutor, a student. Unfortunately, on his father's death the estate was found to be insolvent and the subsequent years of study were difficult because of poverty.

He matriculated in 1762; at both this examination and the subsequent *philosophicum* he gained honours in subjects such as geometry, arithmetic and astronomy. He had to hurry with theology, but still he found time to do a little work on oriental languages. At the same time he went to the Greenlandic seminar and attended the classes of

Bishop PAUL EGEDE, who was professor of Greenlandic. "Seminarium Groenlandicum" was founded by HANS EGEDE.

When his brother returned home Otto's enthusiasm flared up; he remembered the talks of Hans Egede with his father at Rudkøbing vicarage and felt the call of the heathens in the far North. From Paul Egede he learned that there were two vacant posts in Greenland, whereupon he determined to cut part of his curriculum—in those days, if time was short a student had the option of confining himself to a short syllabus for a "second class"; Fabricius relinquished all thought of a "first".

So at the age of 24 FABRICIUS was sent out as a missionary to the colony of Frederikshaab. After a probational sermon in the cathedral at Copenhagen, and having been ordained by Bishop HARBOE, he set out for the colony that was the most difficult of all to reach by sea. Time after time ships were unsuccessful in their attempts to break through the drift-ice, the polar ice that moves south about Greenland (*sikorssuit*). Frederikshaab, the extreme outpost to the south, lay close up to the ill-famed Frederikshaab Isblink, the outlet of the inland ice, notorious for its difficult and raw climatic conditions. The colony had been founded in 1742, the year following the starting of Jakobshavn. In 1765 no colony had yet been opened up more to the south than Frederikshaab (lat. 62° N.). Fabricius secured a lodging in the collective house built for the Danes then working there, with a room for the storekeeper and his assistant, "a lock-up room for the missionary, with a frame of philosophical windows, the panes boarded up with timber, and old Latin authors". There was also a third room "for the sailors" and a kitchen for their common use.

There OTTO FABRICIUS remained pent up for three years. During the next two summers the ship failed to force the ice. His predecessor MYHLENPFORT had been constantly at loggerheads with the storekeeper and the seamen, but Fabricius decided upon his course from the first, no doubt putting a severe strain upon his self-control. Things had to go right. There is no record of any complaint sent home. He liked his work and for preference moved among the Greenlanders. The books he had were few, including LINNE'S "Systema Naturae" and, at any rate in manuscript copies, PAUL EGEDE'S "Grammatica Groenlandica", the Greenlandic bible and Greenlandic translations of catechisms and liturgical books.

In the summer of 1770 OTTO FABRICIUS made the great resolve and took what for a Greenland missionary was an unusual step: to move away from the colony to live among the Greenlanders. He reported the change to the Missions Department in the following year when the ship reached the colony: "For the furtherance of the temporal welfare of the Greenlanders I have moved with them to the settlement of *Iluilar-*

ssuk, four mil (about 30 kilometres. Ed.) south of the colony, where I have lived in a Greenland house this winter and observed a marked change in their condition."

It has always been detrimental to the free-living Greenlanders to have to be bound to stay at one place for the sake of trading or schooling. The seals do not stop migrating for that reason, of course. The natives become poor and destitute owing to this artificial arrangement. Fabricius soon recognized this. He worked for their dispersal, their untrammelled mobility. He himself felt the step as a deliverance—he was on his own and could do it, but of course in anticipation of permission from his superiors in Copenhagen, the Missions Department. It proved to be no easy life. "My sojourn at *Iluilarssuk* gave me more to do than ever before", he wrote home.

He had a spacious "Greenlander house" built for himself: an *ighlo* of stones, turf and timber. There he stayed for three winters, living like a Greenlander, wearing skin clothes, for he accustomed himself to put out in a kayak as the others did and catch seals. But it was actually by this intimate, primitive life among the Greenlanders and the marine mammals that Fabricius laid the foundations of his unique career of explorer and scientific writer; in that solitude his abilities found proper scope for their development. He was able to draw profusely from the sources of experience, partly his own observations while hunting on the sea, of the animals and the methods of catching them, and partly the Greenlanders' knowledge of the habits and peculiarities of the animals. He was more familiar now than at first with the language; every day he gained new experience, acquired new information, and immediately after making his observations he could use his hut for recording what he had learnt out there on the water.

On one or two occasions on my journeys (1930 and 1938) I have stood on the very spot. In past generations the hut itself must have been rebuilt several times, but the foundation stones are never moved. His house must have stood high above one of the two small lakes on that small, low peninsula; *Ilivilárssuk* the place is called in this South Greenland dialect (the *i*-dialect); it means "the lovely characteristic peninsula".

Nowadays there are ten or eleven huts and a small, newly built chapel. As Professor AD. JENSEN writes in the commemorative publication about FABRICIUS 1923¹⁾, the tradition still lives about the old Danish missionary in those regions of Greenland. "He is known by the name of *Erisálik*", 'he in the water-skin clothes, in the kayak-dress', the costume of the Greenland sealer when out on the sea. Up to this day the Greenlanders have not forgotten that the priest lived among

¹⁾ Medd. om Grønland, Vol. LXII. (cf. note p. 17).

them, not as a *qavdlunâq* (European) but as one of themselves, in fact a seal hunter!

However, his health suffered from this stern, primitive life. Though much against his will he had to return home after three years in his *ighlo* at *Ilivilârssuk*—after spending six years in all in Greenland (1768—1773).

Back home OTTO FABRICIUS continued his studies and researches simultaneously with his church work, first in Norway at Drangedal, Aggershus district, where he compiled the work that was destined to make him famous, “Fauna Groenlandica”, which appeared in 1780. In that year he was elected to membership of the Danish Academy of Sciences and Letters in Copenhagen (at the age of 36).

Later he was an incumbent in Jutland and Ærø, until he was appointed chaplain and master of the Orphanage in Copenhagen, and in 1789 became lecturer in Greenlandic in succession to PAUL EGEDE; and finally, pastor at the Church of Our Saviour at Christianshavn, Copenhagen. On his fiftieth anniversary he received the honorary title of D. D., and later became professor and member of the Missions Department.

OTTO FABRICIUS died in 1822. Even on his death-bed he lay correcting proofs of his Greenlandic translation of the First Book of Moses, *Testamentitokamit Mosesim aqlegøj siurdleet* (Kjøbenhavnime, 1822). In 1794 he had already published the New Testament in Greenlandic—revising Egede’s of 1766 which PAUL EGEDE had never succeeded in completing or printing. It was OTTO FABRICIUS who carried the work through: the entire Bible translated.

Personality.

We are familiar with the external data of FABRICIUS. But he rarely says anything about himself. There are no letters, no candid diaries—everything was burnt! It seems evident that he was of complex nature. From a brief autobiographical account on the occasion of his jubilee we hear that in his youth he could be seized with “enthusiasm” and that he was no stranger to “a certain passion for research”. His biographer described his personality as being characterized by a somewhat dry, grey sensibility—a cautious nature always preferring to stand on the solid ground of reality, to confine himself to his own experience. “Bene vixit qvi bene latuit”.¹⁾

It is clear that the works of FABRICIUS do not bear the impress of either Holberg’s humour or the spirit of romanticism; these he encountered late in life. One of his biographers rightly calls him a *su-*

¹⁾ BJØRN KORNERUP in *Medd. om Grl.*, LXII, p. 290 f.

pranaturalist: orthodox and conservative in questions of religion, true to the ideals of youth—ready at all times to defend the Greenlanders “As an old man he might still shed tears at the decay into which the Greenland Mission had fallen as a consequence of economies on the part of the State”. He was stubborn in his ideas and took part in an ecclesiastical controversy against the Chaplain Royal, Dr. CHR. BASTHOLM, whose liberal views Fabricius was unable to share. On the other hand it is characteristic that his attitude was friendly towards N. F. S. GRUNDTVIG, in contrast to the many clergymen who criticized Grundtvig's probational sermon.

OTTO FABRICIUS was of a serious nature, something of a collector and scholar, and perhaps something of a character too, like so many Danes who have lived alone among the Eskimos and devoted themselves to the country; he had lived so long over there, placed like a *Lynceus* to guard an outpost, whence his keen eyes observed the native people and animals but focussed on certain particular areas. The clarity of his vision illuminated for himself and for us the worlds of the language and the fauna. He was possessed of unusual ability. Through him European science of those days was given an insight into a new corner of the arctic world. And so he was one of our brothers who have been a credit to Denmark.

The philologist.

The Greenlandic translations of FABRICIUS were independent works and he had to face the bitter criticism of the older theologians, including H. C. GLAHN, “professor of Greenlandic”, Egede's son-in-law, who would not tolerate seeing PAUL EGEDE'S work “scrapped” by one who had spent only a relatively short time in Greenland. “If dwarfs would seek to hop upon the giant's tomb, that would be intolerable to the department”, GLAHN wrote against him. The controversy ended in compromise. Fabricius stuck to his guns but promised that in the preface PAUL EGEDE should be given the credit due to him. By its clarity and true style his Greenlandic translation signified a great advance.

His principal linguistic works are two others, in which he followed in Paul Egede's footsteps, but amplifying them:

Forsøg til en forbedret Grønlandsk Grammatica (1791), and
Den Grønlandske Ordbog, forbedret og forøget (1804).

Both these works were enriched with new opinions and new examples. Let us look at them more closely; there is something to be said both for and against.¹⁾

¹⁾ A more searching study of Fabricius's philological works will be found in W. THALBITZER: *Fra Grønlandsforskningens første dage*. (Københavns Universitets Festskrift, Sept. 1932).

For one thing, FABRICIUS did not get as far as to distinguish the uvulars in Greenlandic from the other back consonants, q from k etc. Nor had PAUL EGEDE's pioneer work made the distinction. It is strange that Fabricius did not think it necessary. Nor do we notice any interest in the many dialectal differences, neither phonetic nor lexicographic. He followed the teachings of his school, the design of the Latin grammar. He embarked upon no comparative philology, such as that of his older colleague, the theological professor and philologist MARCUS WÖLDIKE, who after studying Paul Egede's Greenlandic Grammar wrote his "Betænkning om det Grønlandske Sprogs Oprindelse og Ulighed med andre Sprog."¹) Fabricius confined himself to the one thing he had studied and taught himself to speak while in Greenland: West Greenlandic—for the purpose of his mission work and for instructing the Greenlanders and also the younger theologians who were aiming to go to Greenland as missionaries. This tremendously complex system he described monographically and descriptively, exhaustively where possible, with all that inner clarity and comprehensive elucidation of which he was capable. Listen to part of his preface:

"To my readers.

It is now thirty-one years since the first *Grammatica Grönlandica* saw the light, compiled by the late Bishop POVEL EGEDE, my old teacher, whom I always loved and honoured as my father and whose memory will ever be sacred to me. All who have considered his work with discernment, as the first of its kind, must with me call it a masterpiece; for writing a grammar of so difficult and unknown a language, in which there were no national writings for guidance and which bears practically no likeness to any of those previously known, was by no means an easy matter. In it everything had to be taken up from the beginning, the rules thought out, established and arranged for the first time—and all this by a man who himself had not learnt the language according to rules but solely by practising in daily intercourse with the Greenlanders. And who may not then admire that the work succeeded so well?"

OTTO FABRICIUS was quite right in his praise of PAUL EGEDE as the draughtsman of the first fundamental picture of the structure and content of the Eskimo language. Egede's works are unique for their day, the first of their kind in Americanistic science. We know of no philological work of the 18th century that provides a picture so perspicuous and talented of one of America's many primitive tongues as EGEDE's Dictionary and Grammar, which appeared in the middle of the 18th century. It is another matter that no pioneer could possibly explore

¹) Det Kiøbenhavnse Selskabs Skrifter 1745, 2. Deel, pp. 129—156.

everything, even if he spent half a score of years on a field so large, so complex and so living as this language. Even during the period of observation the language will change; the observation lasts through several generations—and science itself develops, acquires new instruments, new tasks, new angles of view.

FABRICIUS improved and supplemented PAUL EGEDE's observations very considerably—the old books now became twice as thick, or three times as large as the first ones, and simultaneously they gained in accuracy and clarity. But then, a century after Otto Fabricius came SAMUEL KLEINSCHMIDT and reformed Fabricius's results with his "Grammatik der grönländischen Sprache (1851) and his "Grønlandske Ordbog" (1871), works which in some respects (orthography) radically reformed the earlier ones. Otto Fabricius, however, was on the safe side: on the solid basis of empirical description.

FABRICIUS carried the study of Greenlandic a long step forward. His grammar was not speculative but faithful and methodical in description, a work of the age of Rationalism. Take Chapter 2 of the Grammar, on *Partes Orationis*: the words are grouped into the inflected (*flexibilia*) and the uninflected—they may also be called the derived and the primitive (*simplicia*). In speech the inflected are either *in statu absoluto*, i. e. they are *intransitive*, or *in statu constructio*, i. e. they are *transitive*. Fabricius illustrates this as follows (p. 17):

Uninflected in *statu abs.* we have for example *innuk*, "man": in the genitive *innub* and this latter form is the transitive, e. g. in the sentence *innub taurusoma irsigånga* "the man looked at me" (regarded me, i. e. perhaps more exactly the man's looking at me (regarding me)). Further: *innub pi-a*, "(the) man's thing-his" = "a man's thing = his property."

More clearly than Egede, Fabricius distinguishes between possessive *suffixes* and all other forms of appendages, which he calls *affixes*; of these particularly there are a multitude in Eskimo. These are for instance the members which we call "*prepositions*" but which in Eskimo are not preposed but suffixed (enclitic) members, form-suffixes called *appositions* (Fabr.): *nuna* "land", *nuna-mit* "from land", *nuna-me* "on land", etc. etc. He attempted to find rules for the variegated course of these affix compounds, of which he gives examples:

suffix	appositio
<i>nuna-me</i> "his (own) land('s)"	<i>nuna-mi-nit</i> "from his (own) land"
<i>nuna-mik</i> "their own land('s)"	<i>nunaming-nut</i> "to their own land"
<i>nunet</i> "your (sg.) land"	
<i>nunavit</i> "your (sg.) land('s)"	<i>nunang-nut</i> "to your (sg.) land"
<i>okauzerpit</i> "your (sg.) word('s)"	<i>okauzernik</i> "with (by) your (sg.) word"

Fabricius himself remarks on page 129:

“Note: One finds great difficulty in determining the rules for the joining of this *suffixi* with *appositio*, there are so many different forms in the various examples that even those who should best understand the Greenlandic language run the risk of making mistakes in it.”

It is undeniably very complicated, and yet every Eskimo can speak his language and do so faultlessly. A century later S. KLEINSCHMIDT brought some degree of clarity into the rules. But although this language has some rules that function without exceptions, there are probably more rules of the character that they have vast numbers of exceptions, irregularities—curious, old-fashioned forms. So the language presents a strange blend of constancy, unexceptional regularity—and apparently freakishness, many odd forms. For example: *arnat* is the regular plural of *arnaq* “woman”, but *ornit* is the plural of *uneq*, “armpit”; *tätsit* is the plural of *taseq*, “lake”; *merqit* of *miteq*, “eider”. The latter however may also have *mitit* as the plural, but this must be a modern normalization.

Naturalist and Ethnographer.

It is characteristic of OTTO FABRICIUS'S view of the living beings of nature in Greenland that he put man first among the animals (see his classification in his *Fauna*, where he described the mammals species by species. As far as the first species is concerned, that enabled him to write of the philosophy, religion and social life of these beings, and these only! Otherwise his programme for the animal species has more physico-biological limits.

First, then, comes *Homo*, second Walrus (*Trichechus rosmarus*), third Steller's Sea-cow, fourth Fur Seal, fifth *Phoca leonina*, “Lion Seal”, also called “Bladder Nose”—and then the other seals . . . tenth Dog, etc. I quote the beginning of his “Fauna Groenlandica” (in translation):

I. Greenlander (*Homo Groenlandus*).

A human being, who moves by day, dirty red in colour, with black, straight, thick head hair, almost beardless.

Homo americanus, Syst. nat. I. 29.—*Skraelling*, Arngrim, Torfæus and others, who have written about ancient Greenland.—*Greenlander*, Eg. 66 with illustration. Cr. 177, pl. III.—*Eskimaux*, or inhabitant of northern America at Hudson Bay, Ell. p. 139, 186, 255, pl. 6 and 9. Cr. cont. 310.

They call themselves *Innuït* (singular *Innuïk*), which is a common term for them and other peoples, and *Kalalik* (singular *Kalalek*), a term specially for them.

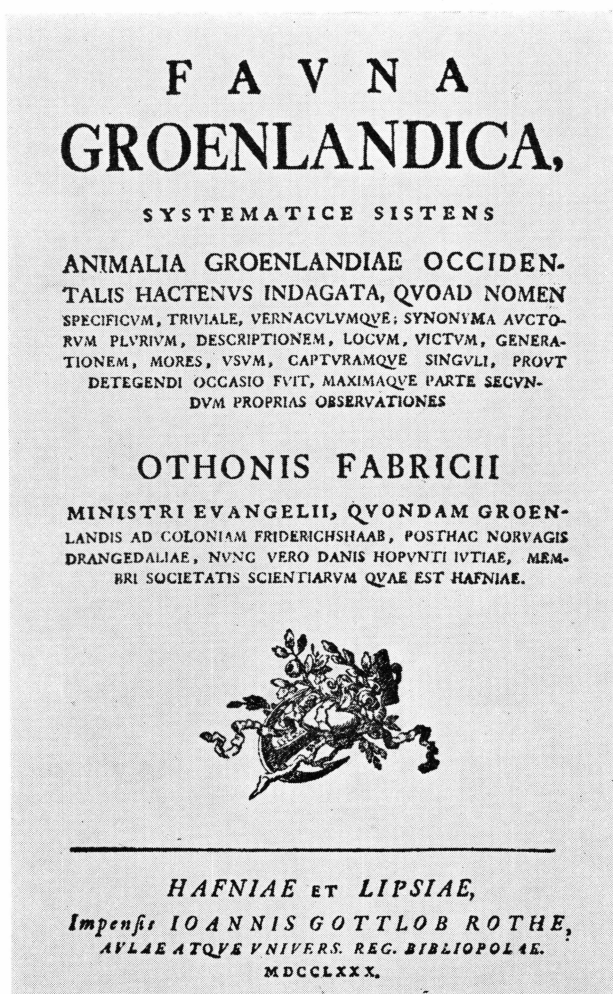


Fig. 3. Title page of "Fauna Groenlandica". (1780).

Description. They have wide nostrils, small eyes and large lips, large mouth, strongly marked forehead, broad shoulders, short feet, are choleric-phlegmatic, slender, quick, stubborn, outspoken, contented, timid, superstitious, not very fertile. The men, who sometimes live in polygamy, pluck their beard and cut their head hair short. The women, who wear their hair long, gather their head hair with a band of hair into a double plait and leave no other hair on any part of the body; they tattoo themselves with black, permanent figures, drawing a black thread by a needle under the skin.

Variations. Some differ by having a paler skin and bigger stature as if they were a mixed progeny of the Icelanders who once lived in this land.

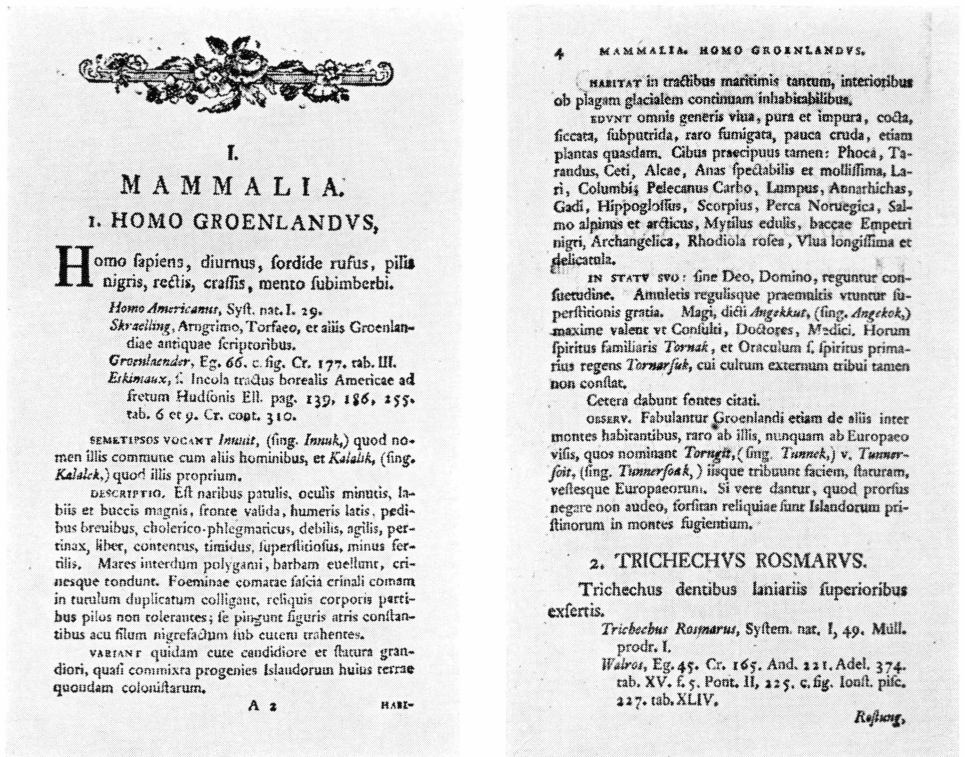


Fig. 4. FABRICIUS' description of "Homo Groenlandus" in "Fauna Groenlandica".

Habitat. They live solely in the coastal regions, the inner parts being uninhabitable on account of the inland ice.

Food. They eat animals of all kinds, clean and dirty, boiled, dried, semi-putrid, rarely smoked, only few in a raw state, as well as some plants. Their principal foods, however, are Seal, Reindeer, Whale, Auks, King Eider and Common Eider, Gull, Diver, Cormorant, Lumpfish, Catfish, Cod, Halibut, Sea Scorpion, Haddock, Salmon and Angmagsæt, Mussel, Crowberry, Angelica, Stonecrop and Sea Lettuce.

In natural state. Without god and without ruler they are governed by rules. Of superstitions they make use of a great many amulets and customs. Shamans, the so-called *Angekut* (singular *Angekok*), play a great part as advisers, quack doctors and healers. The ordinary spirit in which they believe is called *Tornak*, their oracle or ruling spirit *Tornarsuk*; but they do not seem to have any outer worship of it.

The other conditions will appear from the sources quoted.

Remarks. The Greenlanders also tell about other people who live in the mountains, seldom seen by they themselves, never by any

European. They call them *Torngit* (singular *Tunnek*) or *Tunnersoit* (singular *Tunnersoak*) and credit them with face, stature and clothing like those of Europeans. If they really exist, which I would not actually venture to deny, they are perhaps descendants of the earlier Icelanders who must have fled into the mountains".¹⁾

By this placing of the Greenlanders, *Inuit*, among the animals the young eighteenth century theologian revealed the sheerest enthusiasm for the Linnaean mind then widespread in Scandinavia. Presumably it was tantamount to a religious enthusiasm for the wisdom of the Creator in nature, the order of Creation and man's place as the first of his kind among living beings.

Otto Fabricius was the first zoologist to define a separate American human species, *Homo Groenlandus*, as one of the New World's special types—the Eskimo; he was the first naturalist to advance the problem of the Eskimo race.²⁾

In this connection (man and animals) the ethnographic results are obvious: OTTO FABRICIUS used the hunting implements himself and describes them from experience; as has been so aptly said: "with meticulous accuracy Fabricius goes over every single implement down to the most minute details, describing each part, no matter how small, separately and in relation to other parts of the implement, so that when the author has finished describing the various parts of it, for instance a harpoon, the reader understands the appropriateness of the design of each piece and that the implement as a whole must be constructed in just that manner, and not otherwise, to answer fully to its purpose. Fabricius also describes thoroughly and in quite masterly fashion the hunt itself and the manner in which the various implements are used . . ."

Here I have quoted Professor AD. JENSEN³⁾ but could add similar praises from MORTEN PORSILD'S important ethnographic work (*Studies on the Material Culture of the Eskimo in West Greenland*)⁴⁾, from

¹⁾ Cf. the Greenland legends, subsequently recorded by RINK! OTTO FABRICIUS'S contribution to this aspect of the folklore and history is highly interesting; he himself lived quite close to the scene of the old strife between Norsemen and Skrællings. *Tuneg* — *Torngit* is a common old name for a semi — or wholly foreign group in the neighbouring regions of Greenland, i.e. Baffin Land, Labrador and Hudson Bay.

²⁾ O. FABRICIUS: *Fauna Groenlandica*, Kjøbenhavn 1780. [The parts on mammals and birds were published in Danish by O. HELMS in *Grl. Selsk. Skr.* VI. 1929]. — cf. SØREN HANSEN: *Det eskimoiske Raceproblem* (*Nordisk Tidsskrift, Letterstedtska*, 1922 pp. 133—134). — W. THALBITZER in *Medd. om Grl.* Vol. 40, Part II, p. 596. Kjøbenhavn 1941.

³⁾ Ad. S. JENSEN in *Medd. om Grl.* Vol. 62 p. 339. Kjøbenhavn 1923. [cf. p. 22].

⁴⁾ *Medd. om Grl.* Vol. 51 p. 116. 1915.

H. P. STEENSBY's¹⁾ and my own books²⁾, all harmonizing in the wish that the classical ethnographical works of Otto Fabricius, which are written in Danish, on the hunting gear of the Greenlanders for catching seals, terrestrial animals, birds and fishes might some day become available in translation to a larger world than the Danish. To international ethnographic science and to archaeology these exact descriptions of the hunting implements and methods, most of which have now fallen into disuse, will be of exceptional value.

W. Thalbitzer.

¹⁾ H. P. STEENSBY: An Anthropogeographical Study of the Origin of the Eskimo Culture. Medd. om Grl. Vol. 53, p. 47. 1917.

²⁾ W. THALBITZER in Medd. om Grl. Vol. 39 pp. 329—330. 1914.

COMMEMORATIVE WORDS

by Professor AD. S. JENSEN.

In association with Professor THALBITZER's Introduction it will be natural, and in conformity with Professor Thalbitzer's own wish, to bring here a more copious extract from Professor AD. S. JENSEN's quoted work: "Naturforskeren Otto Fabricius" (Otto Fabricius the naturalist), in the commemorative publication on the 100th anniversary of his death¹). After discussing "Fauna Groenlandica" AD. S. JENSEN writes (pp. 337—340):

"With the bare exception of the higher game animals referred to but not actually scientifically dealt with by the missionaries HANS EGEDE, CRANZ and GLAHN, it is possible to say that scientific knowledge of the fauna of Greenland begins with OTTO FABRICIUS. And so we find that all authors writing on the lower animals (invertebrates) start off from his "Fauna Groenlandica", and that he is quoted again and again as regards the vertebrates. And as it was a very considerable number of animals he described, considering the northern situation of the country and its harsh climate, the fauna of Greenland became well known all at once through this one book, with its exposition of animal life in the Arctic embracing all classes. I believe I am not wrong in thinking that no single book or paper in the literature of Danish zoology has been quoted so often in international zoological literature as Otto Fabricius's "Fauna Groenlandica".

But if this in itself was an achievement that would for ever secure the name of OTTO FABRICIUS from falling into oblivion, his greatness nevertheless is not founded upon the systematic descriptions. To my

¹) "Biskop Dr. theol. Otto Fabricius, et Mindeskraft i Hundredaaret for hans Død" (Bishop Otto Fabricius, D. D., a commemorative publication on the 100th anniversary of his death). By BJØRN KORNERUP, SCHULTZ-LORENTZEN and AD. S. JENSEN. — Medd. om Grl., Vol. LXII. 1923.

Besides AD. S. JENSEN's work the publication contains: BJØRN KORNERUP: "Otto Fabricius' Levned og Betydning som kirkelig Personlighed" (The life of Otto Fabricius and his importance as a religious personality), and SCHULTZ-LORENTZEN: "Otto Fabricius og den grønlandske Mission" (Otto Fabricius and the Greenland Mission).

mind it is the biology in his work that signifies the climax of his zoological authorship.

"In brief, concise terms which the Latin language alone has at its command, in all their brevity FABRICIUS gives us a wealth of information about the way of life of almost every single animal. His Greenland Fauna thereby stands in a class of its own and towers high above contemporary faunistic works; for it is not merely a descriptive inventory of the Greenland animals but also a book on their biology. And here the same applies as to the descriptive sections: All observations, with the few exceptions expressly mentioned, are his own.

"As scarcely any word is more abused than "biology" the opinion often being held that it is biology to ramble along about animal habits, it must be stressed that Fabricius records nothing but really characteristic and important features.

"Under distribution, for instance, as regards the migrating animals he gives the time of their coming and going and what conditions that periodic appearance, in so far as Fabricius had a well-founded opinion on it. For the marine mammals he tells of the depth at which they occur, the nature of the sea-bed, whether they appear singly or in flocks, etc. As regards the many parasites which he describes: fluke, tape worm, roundworm, echinorhynchus, fish-leech, parasitic crustacea and parasitic insects, he tells precisely what animals they attack and in which of the organs of the host they are to be found.

"His knowledge of what food the various animals live on was acquired by watching them when they ate and also very largely by examining the contents of the killed animals' stomachs.

"Under reproduction he states for instance whether the species is monogamous or polygamous, its fertility, its breeding season, method of reproduction and breeding grounds and, as to oviparous animals, the hatching time and the appearance of the young.

"The sections describing the habits of the animals are not the least in importance. But it would be quite impracticable to give an idea of the contents of these small parts because of the multitude of different features he presents. But running through them all one discovers a remarkable ability for seizing and in few words making the reader see the characteristics of each animal so that it so to say becomes alive before him.

"The parts dealing with the Greenlanders' utilization of the animals is extremely interesting. From them we learn which animals the Greenlanders eat, and it is a very long list comprising of course besides mammals, birds and fishes (there are no reptiles and amphibians in Greenland) many lower animals, i. e. a large number of crustaceans

snails, mussels, sea urchins and sea anemones¹). Moreover we are told what parts of the animal are utilized and what each of the parts (skin, blubber, meat, tendons, teeth, viscera, skeleton) is used for. Taken together, all these many small items provide a good picture of conditions at the time Fabricius lived in Greenland—about 150 years ago; we learn how very much the fauna at that time, when at any rate the somewhat isolated Frederikshaab District was largely untouched by European civilization, supplied what the population needed for food, clothing, houses, tents, household utensils, boats and every form of hunting gear, and also provided it with medicines, ornaments and amulets. Fabricius subsequently amplified this subject in separate papers, in particular his careful description of how the Greenlanders turned to account the animals that were of the utmost importance to them, in fact vital to their existence: the seals; the great advantages to be derived from these animals are shown in the paper “Udførlig Beskrivelse af de Grønlandske Sæle” (Complete Description of the Greenland Seals). These records by Fabricius throw light upon important aspects of Eskimo culture and he is deserving of great gratitude for reporting on all these things and handing them down to posterity; for conditions have changed greatly since his day, European products having invaded the country more and more and corrupted the original style of living.

“Regarding the lower animals (the invertebrates), we are also told which of the animals, both lower and higher, they serve as food, all of which provides additional confirmation of the impression that Fabricius devoted much time to analyzing the contents of the stomachs of the animals in order to ascertain the nature of their food.

“Finally, as regards the edible animals Fabricius adds brief accounts of how the Greenlanders caught them, and gives the names of the weapons and implements used for that purpose: harpoon, bladder dart, lance, bow and arrow, flint, sling, trap, snare, bird dart, fowling net, jig, fishing line, long line, leister, hook spear, scoop, fishing net, fish trap, fish snare, salmon weir. All these were afterwards described in detail by Fabricius, either in separate papers entitled: “Nøiagtig Beskrivelse over alle Grønlændernes Fange-Redskaber ved Sælhundefangsten, hvoraf vil sees deres mekaniske og ret hensigtsfulde Indretning” [See p. 27] and “Nøiagtig Beskrivelse over Grønlændernes Landdyr- Fugle- og Fiskefangst med dertil hørende Redskaber” [See p. 67] or as separate sections in the papers on “Field-Ræven” (Canis Lago-

¹) And, as a delicacy, head and body lice (*Pediculus humanus*, F.G. No. 182): ‘Editur a Groenlandis ut delicautulus, et capitur ramento pellis canini vel ursini sub vestimentis agitato’: (‘It is eaten by the Greenlanders as a tit-bit and is caught by rubbing a piece of dog or bear skin under the clothing’.)

pus) [p. 97], "Udførlig Beskrivelse over de Grønlandske Sæle" [p. 103], "Om den pukkelnebbede Edderfugl (*Anas Spectabilis*) og Grønlændernes Edderfuglefangst" [p. 126], and "Om Stub-Hvalen, Balæna Boops" [p. 129].

"As these subjects are ethnographic I shall not delve deeper into them, but the records must be said to be extremely valuable. With meticulous accuracy Fabricius goes over every single implement down to the most minute details, describing each part, no matter how small, separately and in relation to other parts of the implement, so that when the author has finished describing the various parts of it, the harpoon for instance, the reader understands the appropriateness of the design of each piece and that the implement as a whole must be constructed in just that manner and not otherwise to answer fully to its purpose. Fabricius also describes the hunt exhaustively and indeed in masterly fashion as well as the manner in which the various implements are used. It is scarcely too much to say that to this day there are no better descriptions of Eskimo hunting gear and its use than those written by Fabricius over a hundred years ago. Moreover, his records gain in value year by year, for the reason that some of the implements and hunting methods have fallen out of use and others are about to do so. — I can wholeheartedly subscribe to the wish expressed by M. P. PORSILD, head of the Danish Arctic Station, that Fabricius's ethnographical papers, which are little known—especially abroad—may be translated into a world language."

.....

"(p. 375—376) In order to make it clear how very valuable are the ethnographical works of Fabricius I append statements by authors who themselves have studied the ethnography of the Eskimos, viz. THALBITZER, PORSILD and STEENSBY, and therefore are best qualified to appreciate them.

"WILLIAM THALBITZER, lecturer in Eskimo language and culture at the university, writes: "The ethnography of the West Greenlanders as a whole is not yet written. The most exact contributions I know are of ancient date, OTTO (or OTHO) FABRICIUS's description of the hunting weapons of the southern and central West Greenlanders (1810 and 1818), and from recent years A. KROEBER's monograph on the northernmost West Greenlanders, the Smith Sound Eskimo (1899)".¹⁾

"MORTEN P. PORSILD, head of the Danish Arctic Station on Disko Island, writes: "Later, the clergyman, naturalist and philologist OTTO

¹⁾ W. THALBITZER: *The Ammassalik Eskimo*. Medd. om Grl. Vol. XXXIX. 1914, p. 330. — [BIRKET-SMITH's "Ethnography of the Egedesminde District, with aspects of the general culture of West Greenland", Medd. om Grl. Vol. LXVI, was not published until 1924].

FABRICIUS contributed a series of notes on the material culture of the West Greenlanders, which, as regards accuracy and profound understanding, far surpasses the works of his predecessors and of many later authors. Fabricius' abilities were especially suited for this work; because, besides his knowledge of natural science and of languages, he had, for the accomplishment of his work, the invaluable advantage of being himself able to hunt in the Eskimo manner: to manage his kayak, and to use the special Eskimo hunting weapons. Therefore, as regards this point, no one has been able to distinguish, as he could, between what was essential and what was incidental.

"Fabricius' works should therefore be the classic for every one who studies this subject. That they have, unfortunately, not become so is due to several circumstances, and, in particular, to the fact that they are written in Danish and that they occur scattered, in the form of numerous small treatises, and often even as unimportant supplements to, or parts of, purely zoological works. They are, moreover, very sparingly illustrated, and the drawings are not happy, being faulty as regards measurements, etc.¹⁾ It is much to be wished that a complete edition of all Fabricius' ethnological papers could be published in a universally current language and illustrated with modern drawings of the objects which he describes, large collections of which are contained in the National Museum in Copenhagen."²⁾

"Finally, H. P. STEENSBY, the much too early deceased professor of geography in the University and excellent author on the origin of Eskimo culture, writes: "a better ethnographical account of the Eskimo implements and their use than that given by FABRICIUS is hardly to be found even to-day."³⁾

It may properly be added to these statements as to Fabricius' importance to ethnography that the anthropologist Dr. SØREN HANSEN recently, in his paper "Det eskimoiske Raceproblem"⁴⁾, drew attention to the fact that Fabricius' characterization of *Homo groenlandus* in "Fauna Groenlandica" contains the first attempt at a scientific examination of the Eskimo race problem, for there the Greenlanders, and

¹⁾ That FABRICIUS' works were also forgotten in Denmark at an early period may be seen from the fact that C. C. RAFN, when writing a report of antiquities given to what afterwards (became) the National Museum, based that report on the works of CRANZ, PARRY, and several others without mentioning those of FABRICIUS, and explains the implements illustrated by him quite incorrectly (*Antiquarisk Tidsskrift*, 1854).

²⁾ MORTEN P. PORSILD: Studies on the material culture of the Eskimo in West Greenland. *Medd. om Grl.* Vol. LI, 2 Afd., 1915, p. 116.

³⁾ H. P. STEENSBY: An Anthropogeographical Study of the origin of the Eskimo Culture. *Medd. om Grl.*, Vol. LIII, 1917, p. 47.

⁴⁾ *Nordisk Tidsskrift*, 1922 (pp. 133—34).

with them the other Eskimos, were described for the first time as a specific race, if not identical then belonging to the American "species".

.....

Professor AD. S. JENSEN also wrote on conditions and methods for the work in Greenland and on the posthumous reputation of FABRICIUS up there (pp. 393—395):

"It will be difficult to imagine more primitive conditions for cultivating the science of zoology than those under which Fabricius worked in Greenland.

"For a work-room he had a Greenland house, an earth hut or a tent, and his artificial light was the faint gleam of a train-oil lamp.

"The optical equipment that is so extremely important to a zoologist was confined to some hand magnifying-glasses — he had no microscope, nothing but "inferior seeing-glasses" or "hand-glasses" as he calls them himself.

"He had no aquaria of course; he had to make what use he could of things at hand, jars, cups and the like or — empty mussel shells.

"His library consisted of one book: CAROLI LINNÆI *Systema Naturæ*.

"His research vessel, the Greenland one-man boat or kayak, would also seem to be a poor craft for zoological work. In this case, however, I think otherwise — FABRICIUS can thank the kayak for most of the large number of biological observations he made in Greenland.

"The Greenland kayak is as if made for biological research. One travels quickly in it, and it has the great advantage over an ordinary boat that the occupant can easily carry it overland and thus take many a short cut. This means that one can travel far and wide in a kayak. It can be moved almost noiselessly through the water, is so small in size and lies so low that the paddler almost unseen can steal upon the animal he wishes to observe. And from his low seat, right on the surface of the water, he can observe animal life in the water without disturbing it.

"FABRICIUS understood to the full how to exploit all the advantages offered to biological research by this the world's most wonderful one-man craft.

"He must have been a clever and brave kayak man, for only such a man can catch a seal from a kayak. Foolhardy, one is tempted to call him when he paddles right up to the giant of the Greenland fjords, the enormous baleen whale "Keporkak" (*Megaptera boops*, Fabricius), to study how it manages to sieve its food from the water; he looked into the jaws of the colossus and afterwards wrote that it was a grand sight . . .

"If ever a monument were to be raised to FABRICIUS — and he deserved it — it would be a fine and worthwhile task for an artist to

do a relief carving of Fabricius in his kayak, paddle in hand, wearing the costume of the Greenland sealer so that nothing but the sharp-cut profile and the steady gaze are seen peering intently over the edge of the boat down into the water.

"The fact that Fabricius went about clad in Greenland fashion came to my knowledge through PAUL IBSEN, the Greenland colony manager. His Greenlandic maid, who was from Frederikshaab and therefore was requested to answer some of my inquiries as to local conditions concerning Fabricius, said that the missionary FABRICIUS was still remembered by the people of the district. He is known by the name of *Erisálik*, i. e. he who wore water-skin clothes, the dress of the Greenland sealer when sailing his kayak, made of dehaired sealskin but tanned with the cuticle preserved on the skin so that though the garment may become wet and moist from rain and sea water, the moisture does not permeate through to the under-garments.

"This feature supplements the picture of FABRICIUS in Greenland: he went about dressed that way so as to be ready to put out to sea.

"The same Greenland woman (EMILIE PETRUSSEN) also knew that FABRICIUS did not live like the other *Kavdlunát* (i. e. Danes), but in a Greenland house at Iluilárssuk and that on the whole he lived the life of a Greenlander.

"I have the correctness of this story verified from another source (the well-known ex-colony manager JOHAN PETERSEN), with the addition that Fabricius is remembered not only at Frederikshaab: His memory lives everywhere in South Greenland.

"It redounds to the great credit of the character of the Greenland people and of FABRICIUS himself. On the one hand it shows their depth of loyalty; they were pleased and grateful that the foreign minister became as one of their own, and they appreciated it so much that the memory of him still lives, although a century and a half have gone since he moved among them. On the other hand it is eloquent evidence of the greatness of FABRICIUS's character and the strength of his will that he could make himself a Greenlander in the material sense and at the same time remain the leader of the people in the spiritual sense."



Fig. 5. Title page of FABRICIUS' paper describing the implements used by the Greenlanders for catching seals.

OTTO FABRICIUS' ETHNOGRAPHICAL WORKS

A Precise Description of all Implements used by the Greenlanders for catching seals

from which will be seen their mechanical and very expedient design.

With figures.

By

Professor Otho Fabricius,

Incumbent of the Parish Church of Our Saviour at Christianshavn

When I was in Greenland as a missionary I made it my duty to observe and note down — apart from what appertained to the language of the country — everything concerning its natural history and the economy of the people, and I believe that in both respects I have made it sufficiently evident that my useful activities in that remote and little known land have not been small, both by my improved Greenlandic grammar which has been published, and by my Greenlandic dictionary, though these, being more useful in the instruction of seminarists, have never yet been reviewed publicly, although they would be of value to philologists, as also my “Fauna Grönlandica” and several papers published in the Proceedings of the Royal Academy of Sciences, the Naturalists Society and the Berlin Society of Naturalists. I have much more in manuscript form which might have been published, but in the first place the affairs of my office have allowed me no time to put the manuscripts into proper order, and in the second place — I must confess this openly — the fear of my not being welcome with such papers in such a mixed company of hearers, in which the fewer are naturalists, has withheld me from publishing them through the medium of the Society’s “Proceedings”, which otherwise might have been the easier way for me.

Among these unpublished notes of mine there is also a complete description of all the hunting implements of the Greenlanders for hunting seals and terrestrial animals as well as for fowling and fishing. I have often had these notes in my mind and intended in one way or another to have them printed, so that my work should not have been in vain,

but put them away again, thinking them of less importance to publish; but the longer I have considered the matter, the more I have been convinced that it would be of advantage for others to become acquainted with the great ingenuity of primitive man in devising the cleverest means of relieving his needs — of which the highly mechanical arrangement of the Greenlanders' hunting implements is undeniably substantial proof, and of which I have been able to procure more solid knowledge than any other by reason of my greater knowledge of the language of the country, and because I also accustomed myself to rowing in their kayaks and thus was able to accompany them on hunts of all kinds and there see, indeed learn for myself, the usefulness of every single contrivance.

Today, therefore, I request the permission of the Society to make some of this known, adding that in order not to be too tedious with a paper of so dry a nature, I shall on this occasion confine myself to a report on the sealing implements of the Greenlanders, these being the most important and the most ingenious. I bring this first because in Vol. I of the Proceedings of the Naturalists Society, in my detailed description of the Greenlanders' species of seals, I imparted something of their hunting and mentioned these hunting implements, and this can now be more elucidated. Then, should the Society so desire it, the rest may follow in another paper concerning their implements for hunting on land and for fowling, as well as their fishing tackle.

The hunting of seals is the foremost occupation of the Greenlanders; without it they could not exist, and from it they have so to say everything. It is in their every thought from their first childhood, and anyone who fails to acquire some proficiency in it cannot be called a true Greenlanders and is considered unfit to become useful to the community; indeed, he must rather become a burden to others and cannot expect to be held in much esteem by his countrymen; but he who attains to some skill in sealing has also acquired the right to the title of "a good provider" (*Piniarte* or *Angursorsoak*); it is furthermore remarkable that in the native language a man is called: *Angut*, which actually signifies: "a means of catching seals", just as if he really were created for the purpose, which indicates that from the very beginning this has been regarded as the most important accomplishment, and to which belonged great masculine intelligence and manly strength; for in truth, other kinds of hunting do not require nearly so much insight and dexterity as sealing, in which one has to do with a most wary and cunning animal; and only when a man becomes its superior can he provide for himself and his family, dispense with something for trade, barter his surplus

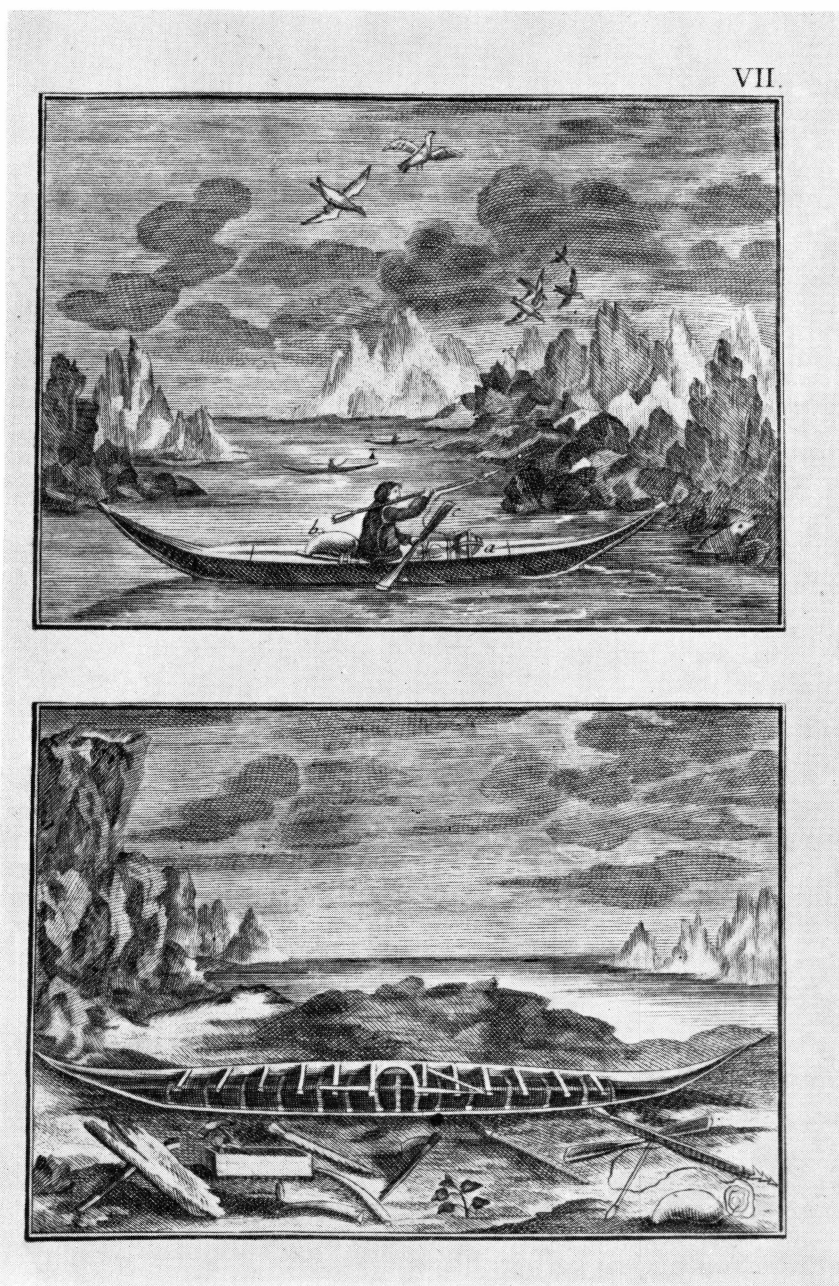


Fig. 6. A Greenland kayak. (From D. CRANTZ: *Historie von Grönland*, Vol. I, Pl. VII, p. 198. — 2d ed. Barby 1770).

for other necessary or at least pleasing things, and then he is respected and honoured among his fellow-Greenlanders. For this reason, a foreigner who can become proficient enough to catch a seal becomes highly estimable in the eyes of the Greenlanders; and I, who could accompany them on this hunt, am told, that, even after so long a time, my memory is held in esteem by them.

Who then can doubt that the Greenlanders have applied the utmost diligence to providing themselves with most suitable implements, and improved upon them for this hunting; this will indeed be learned from the following, where these implements will be described as accurately as possible. And all who, like myself, in Greenland are able to accompany them on the sea must also credit them with great dexterity in the use of these implements and in correcting possible defects in them, which is all the more strange, as the same people's apathy in other matters is so deplorably evident.

I shall not include a Greenlander's kayak, that is, a small skin boat in which a solitary man paddles out to hunt, which is thus one of the principal requisites for sealing, without which in most cases it cannot proceed; but here I can pass it over and leave it to CRANTZ's rather good description and illustration in his "Historie von Grönland", page 199, pl. VII.

Now, when a hunter has his gear in perfect order, his hunting implements are of three kinds, viz.: A. The harpoons proper with their accessories. B. The lances, and C. The towing gear. All implements for hunting animals on both land and water — among which must also be included the gun and the flensing knife — in Greenlandic are called by the collective name of *Sekko*, i.e. "a weapon"¹⁾, but the marine harpoons alone²⁾ are grouped under one name: *Sákotit*, i.e. "the implements one has at hand" because most of them lie forward of the kayak-man or hunter sitting in his boat.

A. The Harpoons Proper and their Accessories.

These again are of two kinds, I: The throwing harpoon and II: The bladder dart.

I. The Throwing Harpoon.

This implement consists of various parts; the principal ones are: A. The shaft, B. The harpoon head, C. The line or leather thong,

¹⁾ This name otherwise is proper to one of the harpoon shafts, as the following will show.

²⁾ Which also includes the bird-dart, called *Nugit*.

and D. The float. This harpoon with its parts was described well enough by CRANTZ l.c. p. 194, and well drawn pl. V in the first two figures; but he drew all the pegs and thongs on the wrong side; indeed, he admits himself that he was unable to describe it completely, as after all it deserved much attention; moreover, he describes only one kind of shaft, although there are several; I shall therefore try to fill up the gaps.

A. The harpoon shaft may be of three forms and accordingly has three different names, which are: α , *Erneinek* [Pl. I] (fig. 1), β , *Unak* (fig. 2) and γ *Sekko* (fig. 3), which call for separate descriptions.

α . The *Erneinek*, the first and most perfect harpoon shaft, is composed of eight parts:

1) The shaft, which will be seen in fig. 1, *a*, is made of a certain kind of driftwood¹⁾ called *Pingek* and is red, hard and flawless fir or larch; for it must be strong to withstand such a heavy shock as this shaft receives on being thrust against the seal, but for the same reason flawless, for it must not break at the knots; nor need it be so light as for the bladder dart, because the harpoon is not thrown so far; and of all kinds of wood drifting on to the beach, *Pingek* is the most serviceable for this, so they have very wisely chosen it for the purpose. Such a piece of wood before being assembled with its other parts or in fact worked into the shape required, is called *Erneineksak*, i.e. "an *Erneinek* piece", because it represents the largest part of the members of this harpoon. In size it varies, for some have it longer and bigger than others, according to the person's strength and habit; the most usual length, however, is two ells nine inches, and the width in proportion, the head end being 2 inches at the widest, but at the other places, where it is almost of even thickness, 1 inch. It is round everywhere except at the butt end, where on both sides — for the sake of the throwing board — it is slightly flat, and at the head end where, in order to lie flush with the rim of the socket-piece, it widens out laterally.

2. The socket-piece, which is to be seen fixed on the shaft [Pl. I] fig. 1, *b*, but separate and the forward side upwards, *bb*, and the rearward side *bbb*, is a large bone ring on the forward end of the shaft. It is called *Katek* and must be made of very hard bone; because, as the foreshaft (which shall be described next) must always move freely in it, it would otherwise soon be worn out; therefore they use for preference a tooth of the cachalot (*Physeter macrocephalus*), which is so hard

¹⁾ For it must be observed that no tree grows in Greenland capable of providing useful timber; all such wood must be sought in the driftwood, or the pieces of timber that come ashore with the drift-ice from other shores (cf. my paper on *The Drift-Ice* in *Nye Saml. af Sælsk. Skr. Pt. 3. p. 65 and 84*).

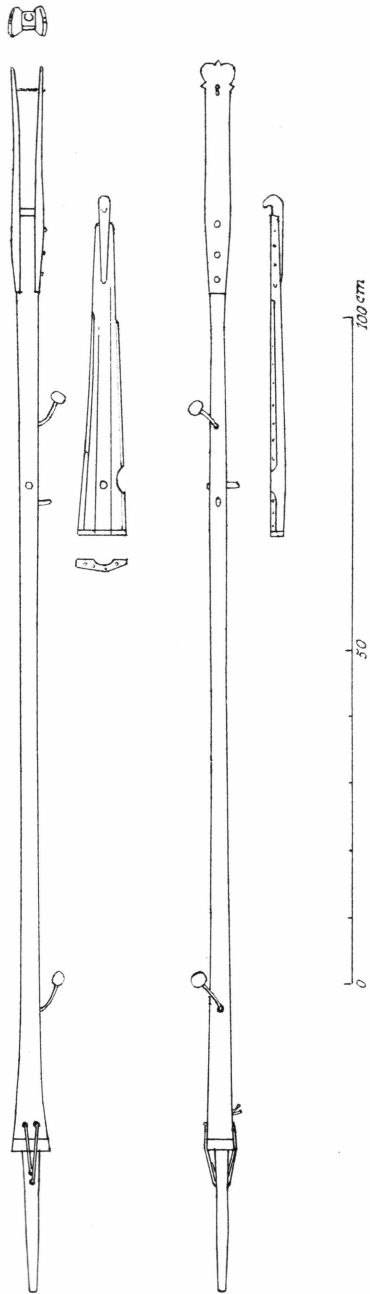


Fig. 7. Winged harpoon. (Nat. Mus. Lb 421).

that it can scarcely be worked; when it is cut through transversally it is seen to have a greyish marrow, with a slightly bluish tinge, whereas the outer part is white like ivory, so that not only does its hardness make it particularly useful for this purpose, but it looks beautiful on the shaft by reason of its brilliant white colour. But, as the cachalot is rarely caught by the Greenlanders, and its teeth are therefore uncommon, they are obliged to make do with other hard whale bone, sometimes also caribou antler (*Cervus tarandus*), but only that which is nearest the skull, as also a part of the skull or the root must be included for the sake of rigidity. In shape this socket-piece is round, slightly oblong (see *b*); on the end surface it is flat and whole, but in the middle there is a small round cavity in which the pivot of the foreshaft moves, and at the sides of this cavity are two more very small grooves into which the edges of the foreshaft fit when the pivot is to be placed accurately in the middle hole; this otherwise would be difficult as the foreshaft is bound on very firmly and rigidly, wherefore not everybody can secure it. It will be seen that the socket-piece is not pierced right through, having merely shallow cavities or grooves for the movement of the foreshaft (*bb*). The bottom, which rests against the shaft, has either a four-sided or a round, deep mortice for securing it firmly on the shaft, the end of which is tenoned accordingly so that it may fit neatly and tightly into the socket-piece mortice; for it is not nailed on, because the wood, being continually wet, retains its original thickness and naturally swells the more, the more saturated it becomes; however, in the middle of the deep mortice of the socket-piece a short pointed spike is left, and this is inserted into the wood; this also serves to strengthen it, as it corresponds exactly to the small middle hollow in the outer face, which means that the bone is thicker just at the place where the wear is greatest owing to the constant movement (see *bbb*). As to size, it is exactly the same as the end surface of the wood, and is just as wide, while it extends half an inch up the shaft. The purpose of this socket-piece is partly to reinforce the shaft like any other ring, as the wood otherwise would split if there were no such ring to hold it together, and partly to carry the movement of the foreshaft, which could not proceed in the bare wood, which would soon be pierced and worn out; and it is necessary that the harpoon shaft should be moveable here, because if it were in one piece it would be rigid when it entered the seal, hinder him as he ran and therefore would soon be snapped by him or bitten through; the hunter thus would have to make a new shaft every time, at too much expense; this is thus prevented, for the harpoon shaft turns over this place, because when the harpoon is thrust into the seal, the foreshaft leaps out of the socket-piece with the shock and bends against the line, which thus becomes slack and the shaft

falls to one side without breaking (as is shown at *g*). The remainder must be performed by the foreshaft, which shall now be considered.

3) The foreshaft (see secured to the socket-piece *c*, and separate *cc*) is a long narrow bone in front of the socket-piece and forms the extremity of the harpoon shaft. It is called *igimak* and must also be made of hard bone for the same reason as the socket-piece; for preference they use the horn of the narwhal (*Monodon monoceros*), which though not so hard to work as the cachalot tooth, differs but little from it and its white colour is just as fine; but as these horns are getting very rare (especially in the southern part of the country, where they are not caught, but must be obtained from the north, or bought from the Colony), they make do in case of need with any kind of whale bone if only it is good and hard and dense. In shape it is conical, though rather flat on two sides; at the fore end, which is round-pointed, it is very small in diameter to fit neatly into the harpoon head; at its rear end facing the socket-piece it has a small round pivot called *Nioloa*, i.e. "its foot", which fits into the small middle hollow of the socket-piece, which hollow for the same reason is called *Niolum Inna*, i.e. "the place of the foot" (the pivot). But as the foreshaft of itself would easily fall out of the socket-piece, it is secured to the shaft by a thong (see *d*), which is called *Tessiutej*, i.e. "its tie-lines", for they pull on the foreshaft from both sides so tightly that it protrudes straight from the socket-piece, and they hold it so firmly to the latter that it cannot jump off without a hard knock (as will be seen at *g*); these tie-lines are made of thongs cut out of the skin of the barbed seal (*Phoca barbata*)¹). Actually, only one thong is used for the tie-line, but it looks like two, for it runs double on both sides (like the ropes in a block or pulley on the shrouds of a ship); for they bore three holes in the shaft in a triangle (one by itself behind and two side by side at the lower end nearest the socket-piece) and likewise in the foreshaft two placed longitudinally; one end of the tie-line is run through the upper hole in the shaft and knotted to prevent it slipping back; from there it runs down through the upper hole in the foreshaft and, on the other side, up through one of the lower holes in the shaft, then from there down through the lower hole in the foreshaft, and finally up through the second of the lower holes in the shaft, where it is pulled very taut, knotted at the end and cut off. — I must here remark that the Greenlanders are very handy at making a knot at the end of a thong by cutting a small slit in it and passing the end through, whereby it lies across the hole where it is intended to stop and is too large to pass through.

¹) See Naturhistorie-Selskabets Skrifter 1ste Bind 2det Hæfte p. 150, 151 [Cf. p. 124 sq].

Reckoning according to the most common of them the size of this foreshaft is 7 inches long and 1 inch wide at the socket-piece, but becomes narrower and narrower towards the point, where it is barely a third of an inch. The intention of the foreshaft is for the harpoon head to fit upon it with its hollow end without being tied on, so that the foreshaft of itself can be pushed out when the line becomes slack; by this means the harpoon shaft is more secure from the seal's bite; for it would not be enough for it to bend aside in the socket-piece — it

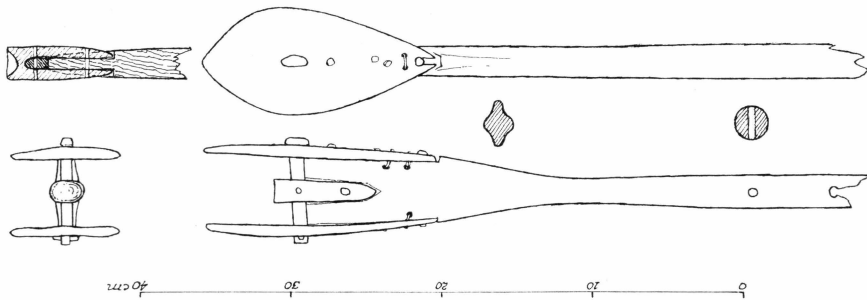


Fig. 8. Rear part of old winged harpoon. (Nat. Mus. Lb 78).

must come quite free of the harpoon head too when its purpose has been accomplished (merely that of thrusting the harpoon head into the seal); this release takes place by means of the foreshaft just described.

4) The wings (see attached to the shaft *e*, and a separate drawing *ee*) are two flat, thin and broad plates of bone, one on each side of the extreme end of the shaft; they are called *Sullûrsæt*, i.e. "feather-like", for in shape they are most like a feather, the lower end being narrow as a feather shaft; they are also very thin and become broader upwards until towards the end they narrow off again, just like a feather; in the upper end some cut a small round notch, others a cleft, others nothing at all.¹⁾ These *Erneinek* wings are preferable made of bone that is not too open in texture, so that the most useful and the most sought after for the purpose is bone of the cachalot, which is white, firm and solid; there are also other kinds of whales whose bones are not so bad for this work, and for preference they use the jaw bone, flipper bones, or others of similar size; for the pieces required must not be small when the useless parts are sawn away; they are joined on to the shaft, which at the butt end is slotted on each side to take the lower pointed end of the wing (see *r*), in which it is laid flush with the outer surface of the

¹⁾ CRANTZ says l.c. that they resemble a loom shuttle, in which he is right, as will be seen from the figure; but the comparison with a feather, which the Greenlanders have utilized for the name, is not inapt either.

shaft; they are then secured with two bone or tree nails passing transversally through the shaft and the bone wings. At the upper end they are separate and wider apart than below; sometimes they are also tied together at the upper end around the small notch or cleft with a little baleen, whereby they can remain attached and not sink if one of them comes loose from the nails. In size, each wing is 11 inches long, 5 in. being down the shaft, and 2 inches wide at the broadest part; at the top they are $1\frac{2}{3}$ in. apart, but below only 1 inch, which is the thickness of the shaft.

These *Erneinek*-wings are useful also in that they prevent the throwing-board (which I shall describe later) from failing; the throwing board is placed with its end-hook between the wings on the butt ferrule, and it might easily glide off but that the two wings hold it fast, pressing on it from both sides; for with this kind of harpoon it is not the same as with the smaller bladder darts (see later), to which the throwing-board is not secured before it is wanted for throwing at an animal; but on the harpoon the throwing-board must always be ready fixed, as there is danger here and the left hand is needed for the paddle alone; moreover, the harpoon is heavy and would fall off the throwing-board if it were loose; in this manner the wings are also useful in giving the harpoon a straighter direction than it otherwise would have.

5) Midway between these wings on the butt end of the shaft is the butt-ferrule (see *f*), which is called *Kakkogeksa*, i.e. "something to gnaw at", because in it the hook of the throwing-board constantly gnaws and works. It is made of caribou antler, seal tooth, tooth of white whale (*Delphinus albicans*) or other piece of bone, and is small, cylindrical, hollowed out in one end and driven into the end of the shaft, the purpose being for the endhook of the throwing-board to move in it.

6) The throwing-board (see *g*), called *Norsak*, is about 22 inches long, the lower end 3 inches wide but the upper end 1 inch,¹⁾ as it has to fit between the wings; it is thin board, round and narrowest at the upper end, flat and broadest at the lower end, whereby it tapers off upwards, and is used for throwing the harpoon; for without it nobody can throw the harpoon to any purpose; but when this throwing board is properly secured to the harpoon shaft, and one grips its edge with the hand, holds the shaft over the right shoulder without touching the shaft itself, then jerks forwards, it is released from the throwing-board which one retains in the hand, and it is propelled forward at the target. This throwing board is not curved as for other forms of missile, but

¹⁾ Here CRANTZ l.c. turns things upside down; he makes the upper end the broader and the lower end the narrower, which perhaps is a printer's error or a slip of the pen.

straight and is made of the aforesaid wood *Pingek*, though in the absence of same they also use other hard wood, for example beech, oak, etc. from the Colony store; this again has its parts, viz. α) *Kiglinga*, i.e. "its end", which is a small hook on its upper end, of bone or antler, shaped long, narrow and bent over, is inserted into a notch cut into the board and nailed from both sides; it moves in the butt-ferrule of the harpoon shaft (No. 5) and actually propels the harpoon forward (see *h*). β) *Illulinera*, i.e. "its cavity", a hollow groove along the inner side formed to fit the rounding of the shaft (see between *h* and *k*). γ) On the right side of the board towards the lower end is its *Putoa*, i.e. "its hole", into which the thrower inserts his forefinger; others merely have a round notch in the edge; and on the left edge is also δ) a similar notch in the edge, *Kudlum Inna*, i.e. "the thumb's place" (see *ii*). ϵ) *Kingera* is the lowest edge, which sometimes is mounted with a piece of thin bone or antler, secured with small antler pegs, which prevents its early fracturing (see *k*). The well-to-do also mount their throwing-boards all round the edge with such bone, which makes it both stronger and more handsome. ζ) Again, on one side some also have a small flat bone peg (see *l*) which presses hard against the side of the shaft and makes the board lie more firmly; further η) some distance from the end this throwing-board has a small hole (see *m*) which fits very tightly on a small bone stud on the shaft, which it engages when the board is adjusted with its hook in the butt-ferrule of the shaft and then is bent down against the shaft, where it is pressed so hard on its peg that one should not think it could be good for the purpose but would prevent the harpoon shaft from gaining speed; and yet it actually imparts the greatest velocity to the harpoon shaft, as it has to be thrown with force from the throwing-board.

7) The pegs, of which there are two:

α) The throwing-board peg, the little bone peg (*n*) just mentioned, placed on the upper side of the shaft about 19 inches from the fore end and called *Audlarukota*, i.e. "that by which the harpoon is forced away", and

β) The line peg, another bone peg on the shaft (*o*) called *Tellibia*, i.e. "the place where the thong is laid against the shaft", because over it is placed a small bone ring on the thong (see fig. 5, *c*) to unite thong, float and harpoon head with the shaft; for this reason this peg slopes slightly upwards so that the ring will not fly off so easily; it is placed on the left side of the shaft just below the throwing board.

8) Finally, on this harpoon shaft there remain to be noticed two short straps with a bone knob on the ends, which may be called the hanging straps (see *pp*); the Greenlanders call them *Kallibia*, i.e.

“its towing-device”, because they are used for suspending the harpoon shaft on the side of the kayak, the bone knobs being inserted under the deck thongs; they are used only in winter, for by their means the harpoon, being suspended down in the water, is prevented from becoming iced, which would make it useless; but when the hunter sees a seal, he brings it up to its proper place. These short straps are placed on the left side of the shaft, one forward opposite one of the forward deck-thongs, the other behind, opposite one of the after deck-thongs; they are secured to the shaft by inserting the end into a drilled hole and driving a small bone peg through, as is also its other end in the bone knob, or the strap passes right through with a knot at the end.

This first kind of harpoon shaft is the more used, especially in the Frederikshaab trading district and from there as far as Disko Bugt; in case of need, however, they have to make do with the other kind of harpoon shaft (of which I shall speak next), especially if there is a lack of the aforesaid bone wings necessary for the upper end of the shaft, which require a good piece of bone — sometimes very difficult to acquire; in such cases, however, some have hit upon the idea of using hard beechwood when this is available at the Colonies (for it is not found among the country’s driftwood).

β) The *Unak*, the second kind of harpoon shaft, is much larger and heavier, but otherwise has much in common with it. On both, the socket-piece, the foreshaft, the line peg and the hanging straps are the same, so that I shall pass these by; the *Unak*, however, lacks the following items: butt ferrule, bone wings, and in most cases also the throwing-board, as otherwise they use a bone hand-grip; sometimes, however, they have a different kind of throwing board, in which case there is no hand-grip. Thus the special parts of the *Unak* are: the shaft, the hand-grip, or instead the throwing-board with its pegs. But I must remark here in advance that the explanation of the letters in the figures not given in the description must be sought in the description of the other harpoon shaft.

1) The shaft [Pl. I] (fig. 2, *a*) is much longer than that of the *Erneinek*; it depends upon how long a shaft the hunter can manage or has a liking for, and therefore they are not all of the same length; the usual length, however, is $3\frac{1}{4}$ ells, in which case the thickness at the socket-piece is 2 inches; from there to the hand-grip it is about 1 inch thick, but at the hand-grip it is a little thicker than at the socket-piece, whereafter it tapers off towards the upper end, where it is scarcely half an inch. It is made of the same wood as the *Erneinek* shaft and is not equally round everywhere, but somewhat flat on the sides, especially at the

socket-piece and the hand-grip. Fitted to the upper end of the shaft is a handsome white bone ferrule, solid at the end (see *e*), and a round bone knob drilled into its end (*f*), the whole being called *Erroruta*.

2) The hand-grip consists of two bone studs: α) one on the right side of the shaft (*g*), flat on the sides, broad and curving forward to rest against the finger which is laid against it, and called *Tikaguta*, i.e. "the forefinger grip", because this finger fits into the forward curve, the middle and other fingers being placed behind; β) the second stud is on the left side (*h*) obliquely behind (α), is smaller and called *Kudlokuta*, i.e. "the thumb-grip", because the thumb lies round it. Both studs may be any kind of bone, but preferably white and hard, and they are inserted into the wood in a drilled hole and then secured right through with a peg. They are used for giving speed to the harpoon shaft (which usually has no throwing-board), because when the hunter grips the upper stud between the index and other fingers, and with the thumb about the lower stud, he gets a better purchase for throwing the shaft.

This is the usual and true form of the *Unák*, and I should have no more to say about it, but that some Greenlanders conceived the thought of making a change in it whereby it became partly an *Erneinek* and partly remained an *Unák*, because they could not afford to get the *Erneinek* wings (p. 35 No. 4) nor had the strength to use the *Unák* with the hand-grip (p. 39, No. 2), for it requires strength when it is to be thrown a good distance; they therefore hit upon fitting to its side:

3) A throwing-board to help themselves and make the throw the easier, and simply dispensing with the hand-grip. It is this alteration I have wished to show with the middle drawing of [Pl. I] fig. 2, where the throwing board is shown alongside (*k*). It differs from that of the *Erneinek* (p. 36, No. 6) in that it has no hook at the upper end, but instead an oblong hole lined with bone, fairly roomy and not far from the upper end (see *i*); this same hole corresponds to a small bone peg on the shaft (see *l*), which is curved towards the upper end and on which the throwing-board hangs, though loosely, as on a hook, whereas the second hole in the throwing board below (*m*) fits closely over the lower bone peg (*n*) on to which it is firmly pressed, whereby one has the same benefit from this kind of harpoon shaft as the one first described, which is costly on account of the broad bone wings at the end.

This form of harpoon shaft is used mostly by the South Greenlanders, who may be reckoned from the south end of the Frederikshaab trading district and to Staten-Huk [: Kap Farvel]; for they are generally tall and strong compared with the more northerly ones and moreover have

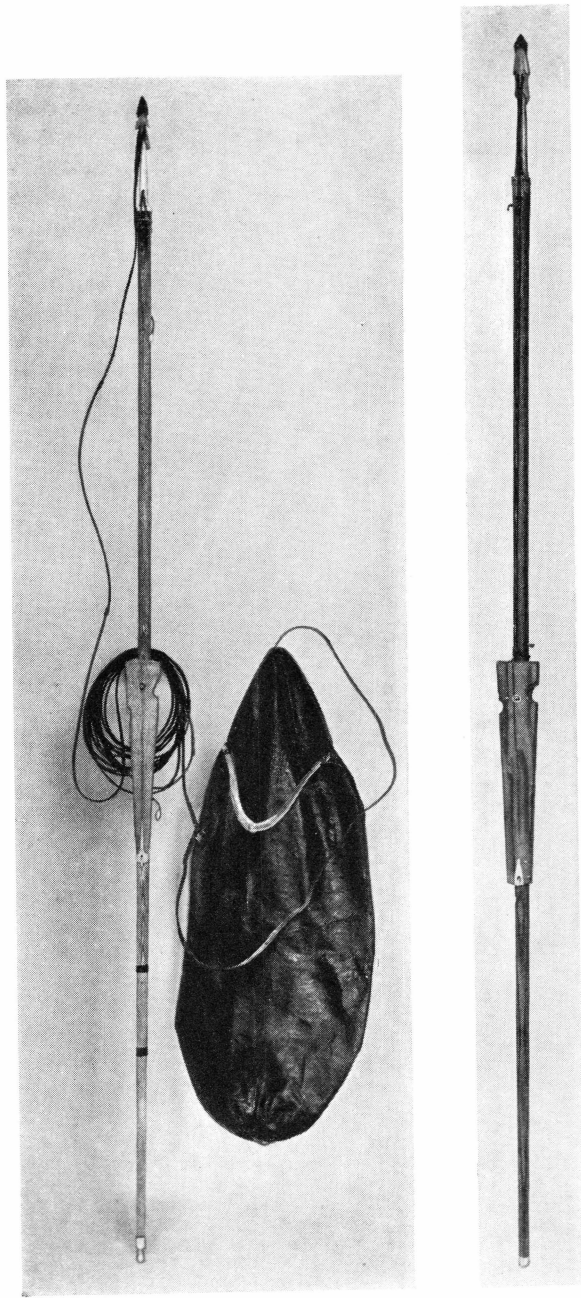


Fig. 9. Knob harpoons. (Nat. Mus.).

not such a supply of whale bone, which they have to obtain from the northernmost regions, but on the other hand a better supply of wood.

These two harpoon shafts are used in the open sea and have their place among the so-called *Sákotit*, which are always carried on the kayak when the Greenlanders go hunting (see p. 30); but they cannot use them when and where the sea is iced, in which case they have:

γ. A third kind of harpoon shaft called *Sekko*, i.e. "a weapon" or "something with which to defend oneself". In some respects it is similar to the foregoing, especially the *Unák* (p. 38, *β*), but is different in others. I shall therefore merely give an outline of it in [Pl. I] fig. 3 with a short explanation below, which will suffice for recognizing it, as there is not much to say about it:

a. is the shaft; its length varies, sometimes being longer than the *Unák*, sometimes shorter.

b. is a foreshaft, driven into one end, on which the harpoon head fits.

c. is a bone ring round the end of the shaft to prevent its splitting when the foreshaft is driven in.

d. is an ice-pick at the other end for hewing holes in the ice.

e. is the place where it (the ice-pick) is joined on to the shaft.

f. is an exceedingly long shaft, used when there are two hunters together, one looking through a hole in the ice in order to give a sign to the other, who stands holding the shaft in another hole in the ice and at the proper time must strike at the seal deep in the water.

g. is an end-piece of caribou antler on which the harpoon head fits; it is not moveable, but driven in and pinned to the shaft.

h. is again a ring to prevent splitting.

i. is a knob on the end for ornament when the ice-pick is on another shaft.

This third kind of harpoon shaft is used solely on ice and is of no use whatever in the open sea; they hunt mostly with it in Disko Bugt, which is covered with ice all the winter; more to the south it is not used much, as the ice rarely lies long, and what ice there is is mostly drift ice; it has to be used only in some fiords where there are no waves to break the ice.

After having described the harpoon shaft, of which there are three kinds, I now come to:

B. The harpoon head itself, which is called *Túkak* and is the actual part with which the seal must be wounded and killed. It consists

of two main parts: 1) the head with its barbs and 2) the blade or point. In most cases the total length is 5 or 6 inches. I have shown them in [Pl. I] fig. 4.

a. The plain part of the figure is the head, which properly bears the name of *Tûkak*; it is preferably made of narwhal tusk, which is hard and white; in the absence of this they use caribou antler, or any kind of whale bone when nothing else is obtainable, the latter being the worst and most fragile for withstanding so great a shock as this

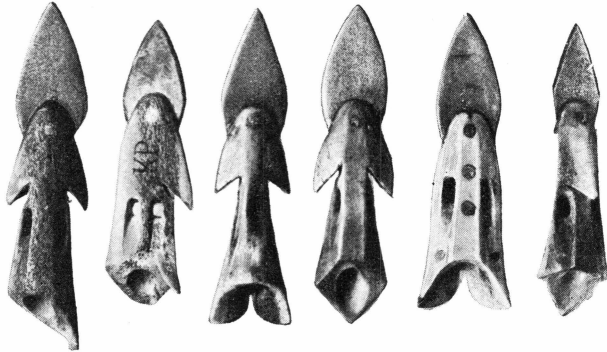


Fig. 10. Harpoon heads. (From K. BIRKET-SMITH: *Ethnography of the Egedesminde District*. — M. o. G. 66, fig. 202. — København 1924).

harpoon head must take. It is usually round, narrowest at the fore end and broader at the rear; but when they have insufficient bone or antler, they make do with a flatter and thinner piece.

b. are barbs, cut out of the bone to hold the seal so that the harpoon head does not slip out. Sometimes there is one barb, sometimes two, rarely three.

c. is a round socket cut into the rear end and fitting neatly over the end of the fore-shaft (p. 34, No. 3).

d. is a spur on its left side (when the head is fixed on) to pass a little way up the side of the said foreshaft, its purpose being that through a hole in the end one can pass a short thong with an eye in the end through which to stick a finger and thus more conveniently pull the harpoon head out of the seal; or it may also serve as a barb. Both spurs protruding from the rear of the harpoon head are called *Pamirsæk*, i.e. "tail-like spurs".

e. are two small holes which in flat harpoon heads pass right through, but in stouter kinds are on one side only and run together into one opening; through them is inserted the end of the line, whereby the harpoon is connected with both shaft and float.

f. is the blade or point, called *Ullunga* when it is in position, and *Ulluksak* before being put on.

g. is another, small kind of harpoon head which is used solely for the last-described form of harpoon shaft, *Sekko* (p. 41, γ), the first-named and larger form being used on the *Erneinek* (p. 31, α) and the *Unák* (p. 38, β). This little head has no barbs at all, nor does it need any, as it is fitted on to a slender spike (see fig. 3, *b*) so that its rear ends themselves serve as barbs; what is more, the seal is not given much time to act for itself, but is dragged up on the ice at once.

The use of the harpoon head is easily discerned from the description. It is placed on the end of the foreshaft (see [Pl. I] figs. 1 and 2, *c* and fig. 3, *g*) and, when the shaft is thrust the harpoon head is also thrust into the seal, which is what the hunter seeks to do in order to kill it. The blade opens a way for the head behind it and, when the skin has been penetrated, the rest follows readily through the soft and smooth blubber, but it is not easy for it to come out again because of the barbs, which strike against the skin and thus hold fast; now as the harpoon head is connected with the float by a line, the seal is caught unless he is able to drag the float down with him under the water, which the largest sometimes do when the float is small and is thereby lost, or the line breaks; then the hunter loses both catch and harpoon head.

C. I now come to the line, or thong, as the third essential part of the harpoon (cf. p. 30). It is called *Allek* and may be about 20 ells in length (it must not be shorter, so that the hunter may have time to get the float off the kayak while the line is being reeled off by the seal in its flight). These thongs are not obtained from every kind of seal but from one called *Urksuk*, i.e. the bearded seal, which has a very thick skin; how it is cut and prepared has been told in my description of this seal in *Naturhistorie-Sælskabets Skrifter* 1ste Bd., 2d Heft, p. 151 [cf. p. 125]; here I shall merely say that the thong must be of a suitable thickness, strong and pliable, for if it were too hard and stiff it could not lie coiled and would become ravelled, and if it is thin or torn at a bend, it would soon snap under the sharp jerks by the seal to get free of the harpoon; therefore they take the best and newest thongs, about $\frac{1}{5}$ " wide and not nearly so thick. For fishing-lines and other general use they need not be nearly so wide. The line has its small fittings, and a drawing of it will be seen in [Pl. I] fig. 5, where

a is the line itself, lying coiled,

b is the fore end, which has a loop or eye, which I have shown in the figure although it is not present until the line is fastened to the harpoon head, the end of the line being run through the holes in the head (p. 42, *e*), in through one and back through the other, and it is then

that the end is stitched fast to the thong to make a loop which holds the harpoon firmly attached to the line.

c is a small bone eye about 1 al. 3 qv. 2" from the end where, through six or seven small holes it is stitched on to the line so that when the head is placed on the end of the foreshaft and the line is stretched, this eye may pass over the small bone peg on the shaft (p. 37, No. 7, β), on which it is placed in order to hold the head and the shaft together (actually this eye is put on first, and then the head on the shaft quite firmly, so that everything is rigid and taut); therefore this bone eye is called *Savikbia*, i.e. "its blade place" or "the means whereby the edge is put on"; because until this is in place they merely throw the loose shaft for sport, for practice; but when it is put into position, however, it has its point on, and then it is ready for killing and is not thrown except at something living.

d is the rear end which lies underneath when the line is coiled; it consists of a narrow oblong bone, through the middle of which the end of the line is inserted and then turned back and stitched to the line, making a loop so spacious that the bone can turn in it. This bone is pushed through a loop in a thick, short strap on the float (which will be described in the following) and then turned so that it lies across and serves the purpose of a knot, thus making it unnecessary to tie a knot every time, whereby the line would soon fray at the end and become useless; therefore this bone is called: *Senneruta*, "a cross-piece".¹⁾

The purpose of the line or thong is to connect the harpoon head with the shaft and the shaft with the float, so that there is an interval of 20 or 21 ells between the harpoon head and the float, all of which must uncoil before the seal begins to drag the float; it is then heavier for him to tow; indeed, if this long line were not there and the float were close to the harpoon it would be impossible for the hunter to throw it, as the float must be large. The place of this line is forward of the Greenlander, lying coiled on a platform, the so-called kayak stand forward on the kayak, and must be watched to see that it does not become ravelled, as the Greenlander is in danger if it is checked in any way; it must lie coiled as neatly as any ship's rope, and in this the hunters are very careful.

For the harpoon shaft last described, the *Sekko* (see p. 41, γ), they use a very short line with no accessories, not even a float, it being tied to the harpoon alone; it is held in the hand or made fast round the waist, as the seal can scarcely drag the hunter through the unbroken ice or the very small hole made in it.

¹⁾ A toggle on a ship is also called the same, because it lies across.

D. The float is now the last to call for attention in connection with the harpoon. It is called *Auatak* (supposedly derived from *Auat*, i.e. "round about", because with its thong it passes round the hunter's side and is thrown from the kayak in such a manner as to avoid it; for if it touches it, the kayak might easily capsize. It is made of an entire sealskin, but only of the smaller kinds or the young of large ones.¹⁾ For this it is best to take skins without too many holes in order that it will not be too difficult to keep them airtight by being stitched at too many places and thus being useless for holding the air; it has its own method of preparation, being peeled whole from the seal, blown up

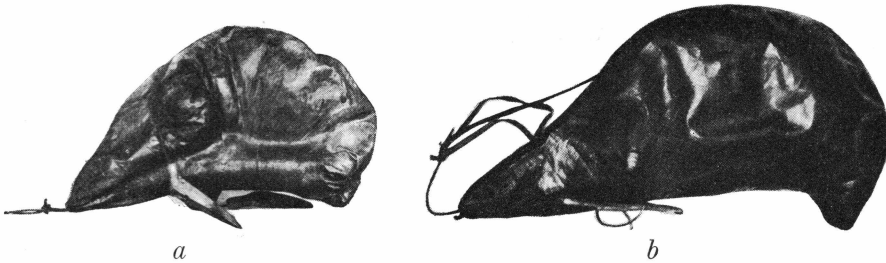


Fig. 11. Sealing floats. (From BIRKET-SMITH: M. o. G. 66, fig. 210).

and dried;²⁾ afterwards it must be inflated as often as it is required for use. It does not lie straight out, but is curved to increase its resistance when the seal tries to drag it under water. Some like it black with the epidermis still on it, but most have it white, the epidermis having been removed, this kind being easier to see on the water, whereas a black one is less discernible. Some know how to make a float of the skins removed in the usual manner, but these are not so tight as the others on account of all the stitches all the way down, as the air escapes through the seams. The float also has its accessories, as will be seen from [Pl. I] fig. 6, where

a. is the curved outline of the float itself, with the belly of the seal upwards.

b. is the place where the skin is severed at the neck and tied on the inside, whereby it is crimped and tight on the outside and forms the fore end.

c. is a broad and thick thong running from the fore end of the float by the side of the hunter where he sits in his hayak, its outer end reaching just to the harpoon line (p. 43, C); for this reason it has at the

¹⁾ The species of seals whose skin is used for the purpose were enumerated in my paper on seals in *Naturh. Sælsk. Skr.* Vol. I. [Cf. p. 103, sq.].

²⁾ The rest of the process of preparation is described in the same paper on seals, l.c. 1. Hæfte, p. 153, g [Cf. p. 117].

end a loop through which the rear toggle of the line (fig. 5, *d*) is inserted, thus joining the float and line together.

d. is a very short strap tied round the thick thong just at the place where it reaches the end of the kayak stand, round which this short strap is loosely tied to keep the thong away from the sides and the implements, but it is tied so loosely that it becomes untied of itself at the slightest pull on the thong.

e. indicates the seal's right fore flipper, the only place where the float is tied on the outside and at which place it is turned inside out.

f. is the seal's left fore flipper, which now reversed represents the right side; it is tied on the inside when not provided with a mouthpiece; mostly, however, this is the place for the mouthpiece, which is a small bone tube fastened on the inside of the float, and on the outside having a peg or plug in it; it is called *Puerbik*, i.e. "an inflation place" or "means of procuring inflation", because through this tube one inflates the float to resist the seal when he tries to dive.

g. are the hind flippers of the seal, which are turned aft on the kayak and tied on the inside.

h. is a small strap fastened to the right hind flipper to serve as a handle when the float is to be carried a long distance, as in winter when it is a long way across the ice to open water.

i. is the place where the anus is cut off, or other holes in the skin, which are closed with wooden plugs fastened on the inside by the skin being wrapped round a groove and tightened; sometimes they make use of such a hole for inserting the mouthpiece, in which case the left fore flipper is free.

k. are two splints of caribou antler, bone or wood, joined together at the rear end and divided at the fore end (some have them apart at the rear end too, which is thought to be dangerous, as then it takes two movements to throw the float from the kayak, but only one in the former case); the fore end of each is secured to the float by a narrow thong which is also fastened inside the float. These splints are called *Paugursak*, i.e. "a stretcher like". They are placed under the float towards the fore end, with the end of each pushed under the after deck thongs of the kayak, thus securing the float to the kayak, as otherwise it would be very liable to fall off while the hunter is paddling, especially in stormy weather.

The purpose of the float is to tire the seal out when it has been struck by the harpoon; for this reason it is connected to the harpoon by the line (p. 43, C), and, as it is inflated, the seal can neither drag it under water nor tolerate it for long. Thus the hunter gets a chance to lance it when it comes up for air, and the float shows at once where

the seal is, for it comes up out of the water first; when the seal is dead, the float also serves the purpose of keeping it on the surface of the water, as otherwise it would often sink. It will thus be seen that the float is highly necessary; and yet, there are some Greenlanders who are so daring that they do not use it, but instead simply tie the harpoon line about the kayak stand, which they throw after the seal; but if they are not so much the faster kayak rowers — though they usually are — the seal will certainly escape them unless they are so sure in their aim that they can thrust the harpoon into its chest, thereby killing it outright; others are even bolder and tie the line round their waist, thus making themselves and the kayak serve the purpose of a float and by hauling on the line get closer and closer to the seal; this, however, requires no small strength and only extremely few are able to do it; the kayak is easily overturned and such venturesome hunters mostly become their own murderers.

Instead of this float which I have described, they sometimes in emergencies use seal stomachs, either one of the large kind or three together of the small; they are very thin, however, and soon become useless, and they do not suffice to hold a seal of any size; therefore it is only the needy who in haste take recourse to this expedient until they can afford a real float; or it may be young boys, as the float must be according to the man in size; indeed, when they begin to practise hunting the boys do not have a float at first, as they might easily forget to throw it off the kayak and thereby lose their lives, but have to be content with a short length of thong joined to the harpoon shaft, and they have the sole pleasure of seeing the seal run with the harpoon in it, in most cases without benefiting in the slightest; and then, when they are seen to be practised enough, they get a small float, and a large one later.

The float is placed on the after part of the kayak, lying at the Greenlanders' back, so that though he cannot see it he can pull it loose with a jerk on the thong which runs by his side (p. 45 *c*).

When the harpoon is assembled with all its accessories it looks almost like the drawing in [Pl. I] fig. 7, where

a. is the first kind of harpoon shaft, called *Erneinek* (otherwise shown separately in fig. 1).

b. is the throwing board in position (cf. p. 36, No. 6).

c. is the harpoon head mounted on the fore-shaft (shown separately in fig. 4).

d. is the line running from the harpoon head along the shaft to the line peg, where it is secured by its bone eye (fig. 5, *c*).

e. is the rest of the line or thong, lying coiled forward on the kayak (fig. 5).

f. is the place where the float is connected with the line (fig. 5, *d* and fig. 6, *c*).

g. is the float with its other accessories (fig. 6).

h. is the place where the kayak-man should be, having the thick thong on his right side, the float behind him and the line in front, the harpoon shaft on his right and so far forward that he can just reach the throwing board with his hands.

Now, to speak of the use of the harpoon, this takes place in the following manner:

When the hunter comes to a place in the sea where there are seals, he first fixes the harpoon head to the shaft (for until then he throws with the shaft alone to see what faults it may have and put it right on the way), placing the small bone eye of the line [Pl. I] (fig. 5, *c*) on its peg (p. 37, 7, β), then stretches the line with the harpoon head on the end so that the socket in the butt of the head (fig. 4, *c*) just passes over the point of the *Igimak* (fig. 1, *c*) and its spur (fig. 4, *d*) points to the left side or in towards the kayak; he then lays it on his right side in its place on the kayak, lays the line properly to prevent its becoming entangled, and makes sure that the float splints (fig. 6, *k*) are not too tight; he is then ready to receive the seal when it bobs up from the water; when it does so, he holds the paddle in his left hand, but passes his right hand over it (not under it, as then the line would foul the paddle) to the throwing board (fig. 1, *g*) or to the hand-grip (on the second kind of harpoon shaft p. 38, β), raises the harpoon by it over his shoulder, aims and throws it (the shaft and head) into the seal, retaining the throwing board in his hand. When he perceives that the seal has been hit, he lays the throwing board down at once and throws the float (fig. 6) off the kayak by jerking its thick thong (*ibid.*, *c*) and being very careful that the line does not become entangled as it uncoils, in which case he does what he can to remedy it. Now he has done what he could with the harpoon, the rest must proceed of itself, namely: When the harpoon is thrust into the seal, the sharp blow has such an effect that the *Igimak*, which is movable in the harpoon shaft (fig. 1, *g*) bends to one side and, as the line is stretched on one side (fig. 7, α) this bend must be against the line or from the side where there is no line; this takes the tension from the line and the harpoon shaft slips out of its tension piece (fig. 5, *c*) and the *Igimak* out of the socket (fig. 4, *c*), in fact it is entirely detached from the seal and escapes being worn to pieces by it; he then paddles up and takes it out of the water (on which it can

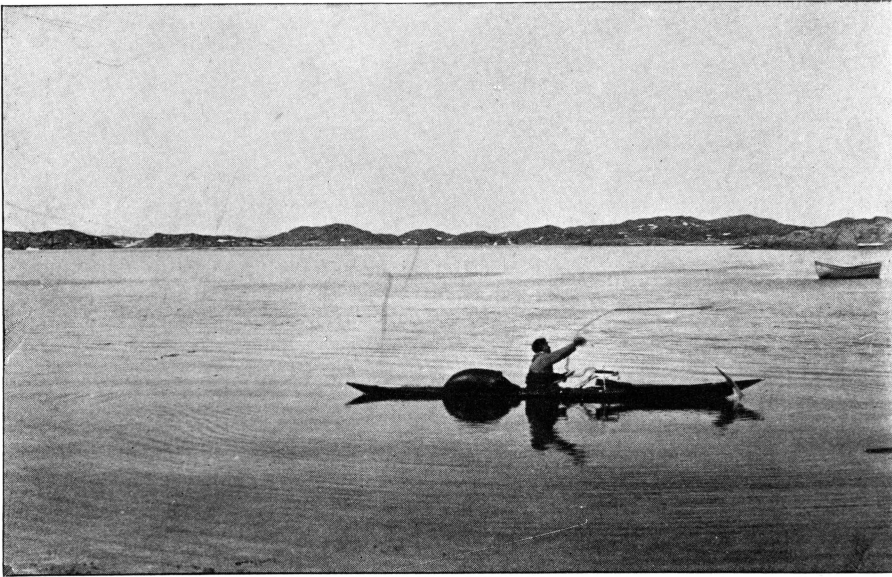


Fig. 12. Kayaker throwing his harpoon. (From BIRKET-SMITH: M. o. G. 66, fig. 212).

float, being mostly of wood) and lays it on its place until he is ready to use the lance, which then occupies its position. Meantime, the seal retains the harpoon head, which cannot come loose on account of the barbs (fig. 4, *bb*); it strives hard to evade its enemy, but in vain, and as it flees, it drags the line with the float along; it is not easy to pull this inflated bladder to the bottom, and indeed scarcely below the water, so that it becomes exhausted and often has to come up to breathe at the surface. Then at last it has to surrender to the lance (on which later) if it has not been mortally wounded by the harpoon. All these appliances are so mechanical and very ingenious that one might doubt their being invented from the beginning by such a sluggish people — and yet, why not? They have common sense; and when the necessity which drives most in matters concerning food (life is sweet) becomes strained, it can do much, however weak it may be.

The harpoon is used chiefly for catching seals, but it is seldom successful with the spotted seal (*Phoca vitulina*) because of its great timidity, which will not permit anyone to approach it. It is also used for the walrus (*Trichechus rosomarus*) and for whales, the large baleen whale (*Balaena mysticetus*), the finnus (*Balaena physalus*), the white whale (*Delphinus albicans*), the narwhal (*Monodon monoceros*), the dolphin (*Delphinus phocaena*) and other toothed whales (*Physeter microps*, *Delphinus delphis* and *Delphinus tursio*, Fauna Grönl. p. 49), and even the dog-fish (*Squalus carcharias*).

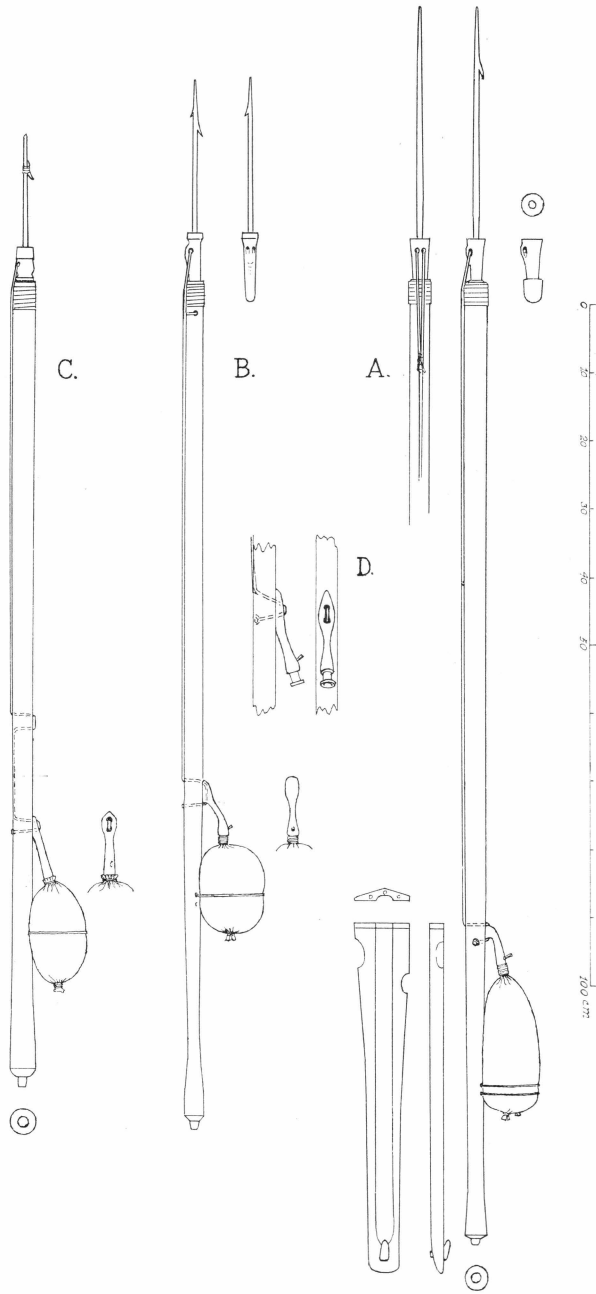


Fig. 13. Bladder darts. (A: Nat. Mus. nr. ELc 128; B: no number; C: L 5424).

II. The Bladder Dart.

The bladder dart is a short and light weapon with a bladder on the side and, with the aid of a throwing board, is thrown longer distances than is possible with the harpoon (p. 30, No. I). It is called *Akligak* and, like the harpoon, has its very ingenious composite parts, the main ones being: 1. the shaft, 2. the head, 3. the foreshaft, 4. the tension line, 5. the bladder and 6. the throwing board, all of which are shown in [Pl. I] fig. 8, where

1. The shaft (*a*) is of wood, of a kind that is light and not so porous as to absorb water, viz. *Unarsivik*, a kind of light white pine or fir found among the country's drift-wood, but in its absence they use trade boards of the same nature. Its length is indefinite, having to suit the kayak and reach from the kayak stand (at the middle of the kayak) as far as the foremost deck thong at the stem, and the young people's kayaks are not so long as those of the older men¹); the thickness is according to the strength of the owner; those in the south have the longest shafts. It is round like a cylinder and of even thickness. It has its particular parts, viz.: *a*) the shaft itself, before it is assembled, *Akligesak*, i.e. "something for an *Akligak*". *b*) *Kakkogeksa* (fig. 8, *m*), which corresponds to that on the heavy harpoon (p. 36, No. 5). *c*) *Niakuta*, which is the uppermost part of the shaft (from *Niakok*, "a head") as it widens out like a head to make room for the throwing board and also so much the more conveniently make it fit into the *Kakkogeksa*, i.e. the butt piece; but this head is usually part of the shaft itself. *d*) *Sioa*, i.e. "its stem", or the part nearest the dart head, because it lies foremost (at *e*).

2. The dart head (*b*) is the actual harpoon, called *Sauguak* or *Sougak* when it is mounted, but *Saugueksak* or *Sougeksak* before it is mounted. It is generally of iron and of European manufacture, which the Greenlanders must obtain by barter at the Colonies or from those whose ships come to the country. This dart head is round, moderately pointed, furnished with one or two barbs on the side. Before white men came to Greenland this head was made of bone (see *bb*) and in this form is still used by the needy or those who live far from the Colonies.²) In emergencies they may also use a worn-out file which has been beaten to a point. The heads are of various sizes,³) some large

¹) CRANTZ puts it at 1 fthm., but I have not seen any so long, and it would apply only to some.

²) CRANTZ, l.c. does not mention this, though it is the people's own invention and still in use.

³) What CRANTZ, l.c. says applies only to the smallest, unless he measured after the head had been inserted, when part of it is concealed.

and thick (for the South Greenlanders), others smaller (for less strong Greenlanders), others again very small (for the young). The barb, *Akinga* (*c*) is placed near the point and serves to resist the efforts of the seal to get off the head. The bone head, too, usually has a barb, but shorter and thicker, as also the bone head itself, which is more crude than that of iron and sometimes has a blade of iron or brass in the end.

3. The foreshaft (*d*) is called *Tórkota* and is a piece of bone of whale or the large kind of seal, in the lower end of which is drilled a small hole, into which the head is forced very firmly; at its other end it is rounded and can move in the fore end of the shaft, which is deeply socketed for the purpose; this socket is called *Alloa* or *Agloa*. To prevent the shaft from splitting it is here furnished with a whipping of baleen or sinew thread (see *e*). This piece of bone is only short and almost round, though on one side it has a protuberance through which a small hole is drilled to take the tension line. As this bone can move on the shaft it can be turned round at will and, because it is connected with the tension line, it can be set as straight or as much to the side as is required to make the harpoon straight. There is a reason why the head is not inserted direct into the shaft of the bladder dart (as on the bird dart), for then the seal would bite the shaft to pieces or it would break with the shock; this is thus prevented as the foreshaft jumps off the shaft at the slightest blow, and so everything is kept whole.

4. The tension line (*f*) is called *Isuklua* and is a length of thong, one end of which is secured to the foreshaft through the aforesaid small hole in its edge, where it forms a small eye, passes from there up along the side of the shaft, while its other end runs through the middle of the shaft out to the other side, back again through the bladder mouth-piece (*h*) and the shaft, where the end terminates in a knot (at *k*). This line serves to hold the head to the fore end of the shaft, so that when it springs from the shaft it will remain hanging without being lost, but float up together with the wooden shaft; therefore it is also connected direct to the bladder mouthpiece, so that if the shaft should be broken to pieces, the head, which is the more valuable and least indispensable, will come up with the bladder.

5. On the side of the shaft at its upper end is fastened a small bladder (*g*) which is called *Auataeksak* (from *Auatak*, the sealing float) and is the throat of any of a number of animals¹) which has been dried and then inflated. The animals whose throats can be used are the

¹) In his *Historie von Grönl.* p. 196 CRANTZ speaks only of seals and large fishes, but I do not know of what large fish the throat could be used, the white whale's alone (as aforesaid) as far as I know, and this is the least useful; he has forgotten the throats of birds, which most of all are sought for the purpose.

seal (*Phoca groenlandica*, *Ph. hispida*, *Ph. vitulina*, *Ph. cristata* and *Ph. barbata*); the great auk (*Alca impennis*), the diver (*Colymbus glacialis*), the gull (*Larus glaucus* and *L. marinus*) and the cormorant (*Pelecanus carbo*). The cormorant's is considered to be the best of all, because it is large and yet light and thin; then that of the gull and the diver; the throats of the seal and the great auk are too thick in the skin and too heavy to throw and therefore are used only in the absence of better. Sometimes they use a piece of the throat of the white whale (*Delphinus albicans*), but only the strong Greenlanders who have large darts requiring large bladders, and their number is only small.

This bladder is tied at the top, but at the bottom is fastened round a curved bone tube (*h*), the hollow end of which goes inside the bladder and on its side has a small plug which can be removed to allow the bladder to be inflated when it becomes too slack. The tube is called *Sudlolirsa*, i.e. "a tube-like", or *Sungidlirsa*, and is affixed to the shaft by means of the tension line, the end of which passes through it (as stated p. 52, No. 4). To hold the bladder close to the shaft it is tied round at the top with a small lashing (*i*) of thin baleen, called *Tevsia*. The purpose of this bladder is to keep the dart head on the water surface if the shaft should break, and also — especially — to exhaust the seal when it has been hit by the dart, as it then meets with more resistance from an inflated float, however small it may be, than from the dart itself; for though he may be able to drag it down under water with him, he has to come up soon to breathe for renewed strength, and then he gets more darts in him of the same kind; and if he should die at the first blow, the float prevents him from sinking, no matter how small it is, as his own blubber helps to keep him up. It has also the purpose of guiding the dart so that it flies straight when it is thrown; for by turning it about the shaft and tightening it by means of the tension line, it rotates when thrown and makes the shaft turn in the air as in a rifling as it flies towards the mark; for this reason it is still known by the name of *Nækkerkota*, i.e. "something to make the dart fly straight". If a hole should appear in the float (as easily happens, it being so thin), they stitch it up and inside cover the place with a piece of skin of a sea scorpion.

6. The throwing board (*l*) is used both for the bladder dart and for the bird dart, in order not to have more separate objects on the kayak than necessary. It is called *Norsak*, like the one for the *Erneinek* (p. 36, No. 6) and is made in the same manner, with the difference: *a.* that it is not so straight but somewhat more curved in order better to fit round the thick end or butt of the shaft, *Niakuta* (see p. 51, 1, *c*); for this reason the upper end of the groove is shaped by cutting to accommodate this butt, the groove being called the

Kakeisa; *b.* that it has no hole in the lower end, because on the shaft there is no peg on which to fix it; it always remains loose. *c.* that the end hook is not so bent as that of the *Erneinek* throwing board. The place on the throwing board between the grip of the thumb and index finger is called the *Teulia*, this part always being concealed by the ball of the thumb when the throwing board is gripped.

The use of the bladder dart is confined to sealing, mostly the so-called seal-chase, *Mallersornek*, when many kayaks are together in order to combine forces to pursue and exhaust the seal and from some distance throw this dart into him (as I have described in my paper on seals in *Naturh. Sælsk. Skr. I B., 1 Hæfte p. 129* [Cf. p. 106]; nevertheless, it is also used by solitary hunters for the small seals when they are shy and cannot be approached with the harpoon. Its real purpose, however, is for hunting the spotted seal (*Phoca vitulina*) which cannot be caught by any other means than by this dart and by gunshot (see *Naturh. Sælsk. Skr. I. Bd. 2 Hæfte pp. 98, 108*) [Cf. p. 124]. When a large seal has been caught with the harpoon, they also use the bladder dart, if it is at hand, instead of a lance for defence and to kill it outright. Some Greenlanders may also be reckless enough to thrust the bladder dart into large seals before they have been hit with the harpoon, even when they are alone at the spot; if they do, however, they usually lose the dart, the seal escaping with it, unless the hunter has been so sure in his thrust as to kill it outright. The position of the bladder dart is on the left of the bird dart forward on the kayak. Prosperous Greenlanders who have two bladder darts lay them side by side on the left of the kayak stand. If the bladder dart is to be used, the hunter lays the paddle across the kayak, with his right hand grips the throwing board which is either lying loose before him up against the kayak stand or, in stormy weather and heavy seas, with its end pushed under one of the deck thongs, grips it, and with the left hand raises the bladder dart from the deck, pulls it rapidly towards him, fits the end hook of the throwing board into the butt of the dart shaft and the hollow groove of the throwing board to the side of the shaft away from the bladder so that the latter can turn upwards and rotate during the throw, then aims the dart at the seal and throws it, accelerating its speed by means of the throwing board, which he retains in his hand but immediately returns to its place, his left hand meantime having seized the paddle again to prevent capsizing when making the throw. The bladder dart is not thrown so high in the air as the bird dart.

B. Lances.

There are two kinds of lances: I. The large lance, and II. The small lance or killing knife.

I. The large lance.

The large sealing lance is called *Angoviak* (probably from *anguvok*, "overtakes something", because it is used for overtaking the seal when it has been harpooned and to kill it. From one end to the other it is about 3 ells long. It has its various parts, viz.: 1) The shaft, 2) the socket piece, 3) the foreshaft, 4) the iron or blade, and 5) the grip, all of which are shown in [Pl. I] fig. 9, where:

a. is the shaft, usually 2 ells $10\frac{1}{2}$ inches in length; at the butt end it is 1" wide, at the middle at the grip $1\frac{1}{2}$ " and at the socket piece at the fore end all of 2"; it is not quite round, but flat-round and is made of whatever wood may be obtainable.

b. is the socket piece or ferrule in the end; it is in every way like the socket piece of the harpoon (p. 31, No. 2) except that here the circumference is larger.

c. is the foreshaft, called *Epulligak*, i.e. "a made shaft", because it like a shaft for the blade. It is usually 11" in length and is made of the same material as that of the harpoon (p. 34, No. 3) but is longer and of equal thickness and width front and back, flat-rounded (sometimes also prismatic in shape); at its lower end it has a pivot of the same kind as that of the aforesaid foreshaft, but in its fore end it has a deep groove across, into which the blade is inserted and riveted. It has no side barbs, so that it will loosen itself from the seal immediately.

d. is its thongs,¹⁾ of the same kind as the thongs or tie-lines of the *Igimak* (p. 34).

e. is the end of the tie-line, which extends up the shaft and is there twined round; by this means the tie-lines can be made taut if they should become too slack.

f. shows the iron or blade, which is $2\frac{1}{2}$ " long and inflicts a large wound. It is called *Ullunga*, is flat, pointed and curved along the edges, and it is secured to the foreshaft as described above.

gg. is the grip, consisting of two bone pegs, in which respect it

¹⁾ In CRANTZ'S figure of this lance, Pl. V, fig. 4, these lines are drawn as if they were on one side alone; but they run on both sides in order to hold the foreshaft so much more firmly.

is similar to the grip of the *Unák* (p. 39, No. 2).¹⁾ It is situated about 1 ell from the socket piece.

When using the lance one makes practically the same motions as with the *Unák* (see page 39), and its purpose is for despatching the seal after it has been harpooned and is running with the float behind it. By itself it is also used for killing the bear (*Ursus maritimus*) on land or ice and also in the sea when it is found swimming.

The occasion for using the lance in sealing is as follows: When the seal, exhausted from towing the float, has to come up for air, and from the float, which rises first, one can see where he is, then one tries to paddle as close to him as possible (for the lance cannot be thrown far), seizes (the lance) with the fingers around the hand-grip and thrusts it into him; at the thrust the foreshaft turns over sideways by reason of its being movable in the socket-piece and slips out of the seal again; indeed, the same thing happens if it should not turn over at the foreshaft, because it has no barbs to retain it, unless it should happen to strike bone. Whenever it falls off it is picked out of the water and replaced, and one pursues the seal, thrusting again with the lance until he is dead; the more often he is lanced the more will his skin be spoiled, and so one does not lance more than is really necessary.

The position of the large lance on the kayak before it is required for use is towards the stern on the left side of the hunter, where its lower end is inserted under the aftermost deck thong, then drawn forward with its fore end under the deck thong nearest the hunter's back; there it lies firmly until it is wanted. There is a reason for its being on the left side; the float has to be thrown off the kayak on the right side and it might very easily catch on the lance if the latter were on that side.

But when about to use it the hunter with his left hand pushes the fore end back from the deck thong, then draws it towards him and lays it where the harpoon shaft usually lies, i.e. on the right side of the kayak, where it rests upon two bone studs fixed into the kayak; the harpoon shaft is meanwhile hanging at the side of the kayak by means of its suspension thongs (p. 37, No. 8).

The lance is used everywhere in the country, but all are not so provident as to own one, nor is it indeed quite indispensable; usually

¹⁾ Here again CRANTZ's drawing is incorrect, as he places the curved peg (which is the upper part of the grip) more towards the socket piece than the smaller and lower one, which would make the grip wrong. The curved bone is where the long fingers grip and must be rather longer towards the butt end of the shaft than the other, which is for the thumb and ought to be obliquely below the other, a little nearer to the socket piece (see Crantz Hist. l.c.).



Fig. 14. Bladder dart. (From BIRKET-SMITH: M. o. G. 66, fig. 213).

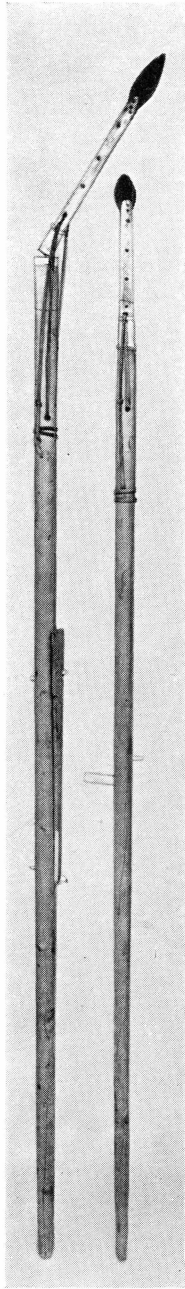


Fig. 15. Lances. (Nat. Mus.).



Fig. 16. Small lance. (From BIRKET-SMITH: M. o. G. 66, fig. 223).

several hunters are present, and there is generally one who has a lance and will come to the aid of anyone who needs it gratuitously; if he is alone, the hunter makes do with other darts, or merely by chasing the seal until he finds it quite spent by loss of blood from the harpoon wound.

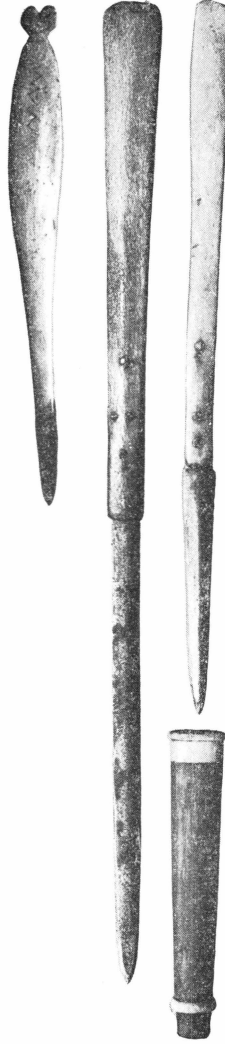


Fig. 17. Hunting knives. (From BIRKET-SMITH: M. o. G. 66, fig. 222).

II. The small lance or killing knife.

The small lance is not exactly of great importance or value; so there is not much to say about it. It is called *Kappout*, i.e. “a killing knife” or “a stabbing implement”, because it is used for stabbing the seal at the finish. The ordinary kind has a moderately long shaft, with

a narrow bone inserted and tied in one end, and provided with an oblong, narrow, flat and pointed blade or spike. However, there are other small lances consisting merely of a bone shaft with a spike in the end, when a good piece of bone can be acquired for the purpose. Both forms have the appearance of the one shown in [Pl. I] fig. 10, where

a. is the shaft of wood, usually 2 ells long, made of any kind of wood and only thin, as not much force is required in using this lance.

b. is a narrow piece of bone inserted into the end of the shaft and tied either with sinew thread or baleen; it is usually 6 or 7 inches long.

c. is the blade at the end, sharp on both edges, narrow, flat and very pointed at the end; it is riveted to the extreme end of the bone.

d. is another kind of small killing knife consisting solely of a bone shaft of a length of $\frac{1}{2}$ to 1 ell, generally made of a white, handsome bone obtainable from the cachalot (*Physeter macrocephalus*) and with a pointed blade in the end.

e. is a thong on the end with which it is secured to one of the deck thongs on the kayak to prevent its being washed overboard by the waves.

f. is a third kind of small killing knife, which is a piece of a sword blade inserted into a shaft of wood or bone.

The purpose of the small lance or killing knife is as follows:

When a hunter has caught a seal and hauled it in, and there is still some life in it, which would make it dangerous by its movements or by biting the skin covering of the kayak, he kills it by means of a deep stab in the head with this lance, which is pointed and sharp; next, the hunter uses it to make cuts in the skin through which he intends to pass thongs for towing the seal home. When on the so-called seal chase and several hunters have helped to catch the seal, it is used instead of the flensing knife for skinning the seal and afterwards sharing the carcase among them. In short, they use the killing knife instead of a knife, the only difference being that it has a fairly long handle, the better to reach the seal if it should be lying at some distance from the side of the kayak. Thus it will be seen that this small lance is not used for catching seals, but only useful when the seal is captured.

It has two different places on the kayak. If it is of the first-named kind with a wooden shaft, it is placed aft on the right side of the kayak and under the deck thongs; for, being small, it is not such an obstacle to the float when the latter is to be cast off. But if it is one of the other kinds with a bone shaft, it is placed under the deck thongs, sometimes forward, sometimes aft, and tied by its end thong at a convenient place round one of the deck thongs.

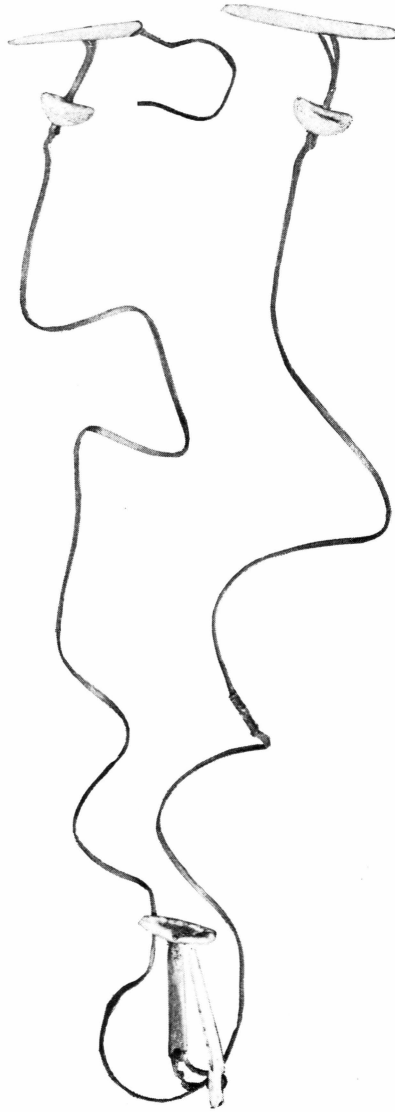


Fig. 18. Towing implement. (From BIRKET-SMITH: M. o. G. 66, fig. 225).

C. Towing Gear.

When a seal has been caught and killed, it has to be towed home at the side of the kayak, which requires some thongs, bones and a small bladder, all of which together might be called the towing gear; the Greenlanders have given it the name of *Kallivtit*, i.e. "appliances for towing something with". This towing gear is made up of five different parts, namely: A. the throat pieces, B. the middle thong. C. the

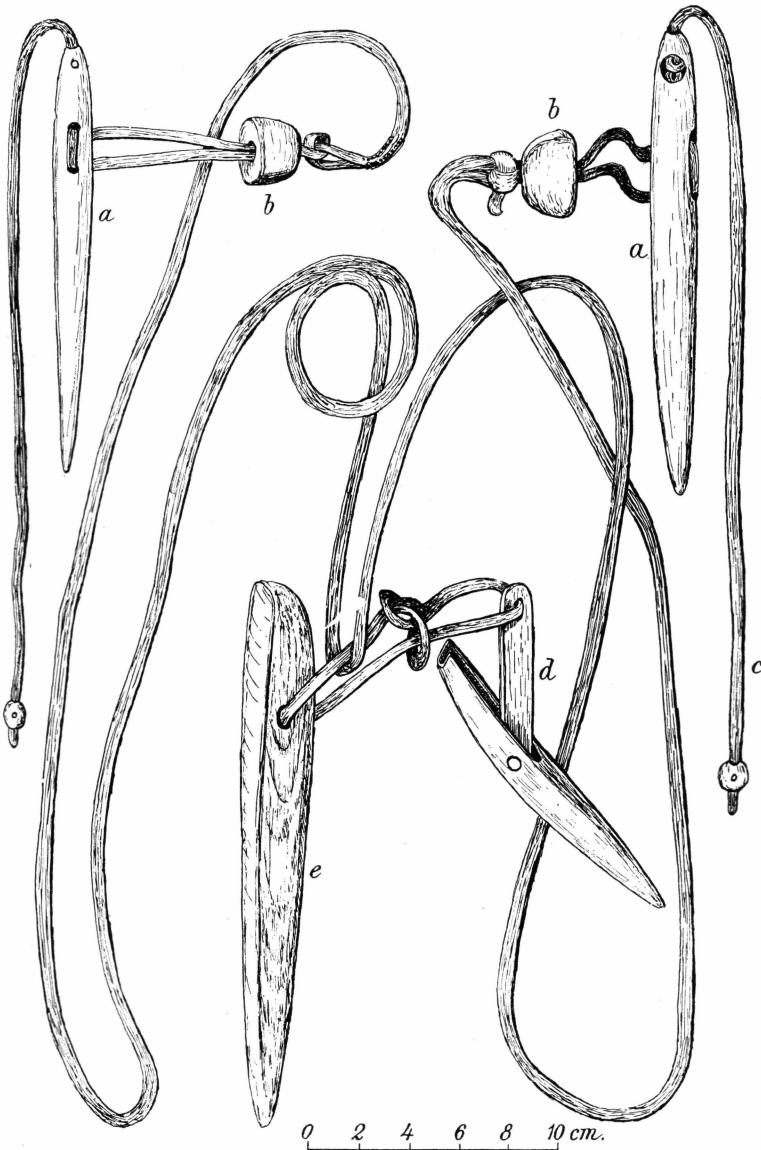


Fig. 19. Towing implements. (From M. PORSILD: Studies on the material culture of the Eskimo in West Greenland. — M. o. G. 51, fig. 34. — København 1915).

navel piece, D. the bladder piece and E. the shoulder piece. The first four are connected together when fastened to the seal, but the fifth is separate except when they all lie coiled up and unused. They are shown both assembled and separate in [Pl. I] fig. 11.

A. The throat pieces (see A) are two in number, exactly the same and consisting of four short pieces of bone or caribou antler and

a connecting line. First there are two narrow and tapering, flat pieces of antler or bone, $\frac{1}{4}$ ell long, sometimes of wood (see *aa*), which are inserted into two cuts made in the skin of the seal with the killing knife (p. 58), one under the chin and the other a little lower down the neck. The underlying tissues are loosened from the skin near the cut and then the piece of bone is pushed in so that the ends lie across the cut, wherefrom they cannot slip out of themselves. This narrow piece is called *Mangivsiut* (from *Mangivserpok*, "places something between") because it is put in between skin and flesh.¹⁾

To these two narrow pieces correspond two other pieces of caribou antler (*bb*) which are thicker and round, about 2 inches long, used for inserting under the kayak deck thongs forward of the kayak stand. One of them is placed under the foremost deck thong and the other under the next one; they then lie across and could not slip out of themselves, and so the seal hangs on the side of the kayak. A piece of antler like this is called *Nektorak*, i.e. "a clamp".

All four pieces of antler or bone are connected by an assembling line which first connects them in pairs (see *cc*) and then all together (see *d*), viz.: in each of the thick round pieces a hole drilled from one end obliquely to the middle, where it opens in the side; through this is passed a thong with a knot in one end and which runs up for a distance of about two inches to the narrow piece of antler (*a*), which has two holes at the middle, the thong passing in at one and out again at the other, so that it is double between the pieces (at *cc*), passes out again by the same hole through which it came and from the end of the thick piece becomes single (at *d*), whereby the one pair of bones is connected with the other, which is of the same kind. This line or thong serves firstly for securing the seal to the kayak at the places where it is double, and then for connecting these first-named bones with those more to the rear (as will be seen later). When the flat bone (*a*) is inserted under the skin, it might be difficult to get it out again; to make this easier a short thong is made fast to one end, half the length of the bone, secured to a bone button on the end (*ee*); this button is not pushed inside, and then by pulling at the button the end of the bone can be drawn to the cut in the seal's skin and then right out when the hunter gets home. Therefore this short thong is called *Nytsiut* (from *Nytsukpok*, "pulls towards one").

B. The middle thong (see *B*) is a short piece of seal thong about $\frac{17}{8}$ ells in length; it runs along the belly of the seal, where it assembles all the other parts of the towing gear, in such a manner that if one of the parts became loose it would remain attached to the others and

¹⁾ Or perhaps from *Manno*, "a chin piece", or from *Mangupok*, "stuffs in".

the seal would be secure. At the upper end is a loop or eye (see *f*) which is always attached to the middle of the connecting thong of the throat pieces (at *d*); a little way from it a small lengthwise opening is cut in the thong (*g*) in which is inserted the end of the shoulder piece (E. *u*) when not in use, but lying rolled up in the kayak; further towards the end is a longer opening in the thong (see *h*) through which is passed one end of the navel piece (see C. *l*) when it is secured to the seal; in the lower end is another eye (see *i*) through which passes the end of the bladder strap (see D at *s*). Thus all the pieces are joined together, which is best seen in the figure in which I have shown them assembled (from *f* to *i*).

C. The navel piece (see *C*) consists of two small pieces of antler, bone or wood, connected by a short thong; one (*k*) is rather longer than the other and is inserted in under the kayak deck thong just behind the man-hole; the other piece (*l*) is somewhat shorter and slightly curved towards the rear to fit the belly of the seal; it is first passed through the slit in the middle thong (*B. h.*) and then into a cut in the seal's belly at the navel, pushed in to both sides under the skin so that it holds and cannot fall out of itself. The short line connecting these two bone ends (*m*) is drawn through two holes in the innermost piece (at *l*) lying double between the lengths (at *m*) and are knotted at both ends in two holes in the outer piece (at *k*). This navel piece is called *Ikkiutingoak*, i.e. "a small aid", for it helps to facilitate towing, keeping the seal near the kayak and firmly so that it cannot wobble, which otherwise would be an obstacle to speed.

D. The bladder piece (see *D*) consists of the bladder itself, its mouthpiece and the connecting line with its bone buttons. The bladder (*n*), called *Auataursak*, i.e. "a float-like", is obtained from various animals, for example the stomach of large seals, a porpoise stomach, a piece of a white-whale throat or its stomach, etc. and it will thus be seen that it is not the urine bladder they use (a Greenlander would not use this, as it is too thin and fragile) but other parts of the viscera which can be inflated like a bladder. Below it is tied at the ends (at *o*), but above it is bound around a bone mouthpiece (at *p*) which is called *Puerbik*, i.e. "a place or a means of blowing up"; it is hollow only as far as the middle, where at the side it has a small orifice with a plug in it (at *q*) which can be removed, through which the float can be inflated; the outer end of the bone tube is solid and in its end is secured the connecting line, passed in through a hole and out to the sides, knotted at the end, scarcely three inches long (see *rr*) and pushed through two bone buttons (*s* and *t*); the inner button (*s*) is flat as far as the middle on the rear side, from where it has a longitudinal hole through

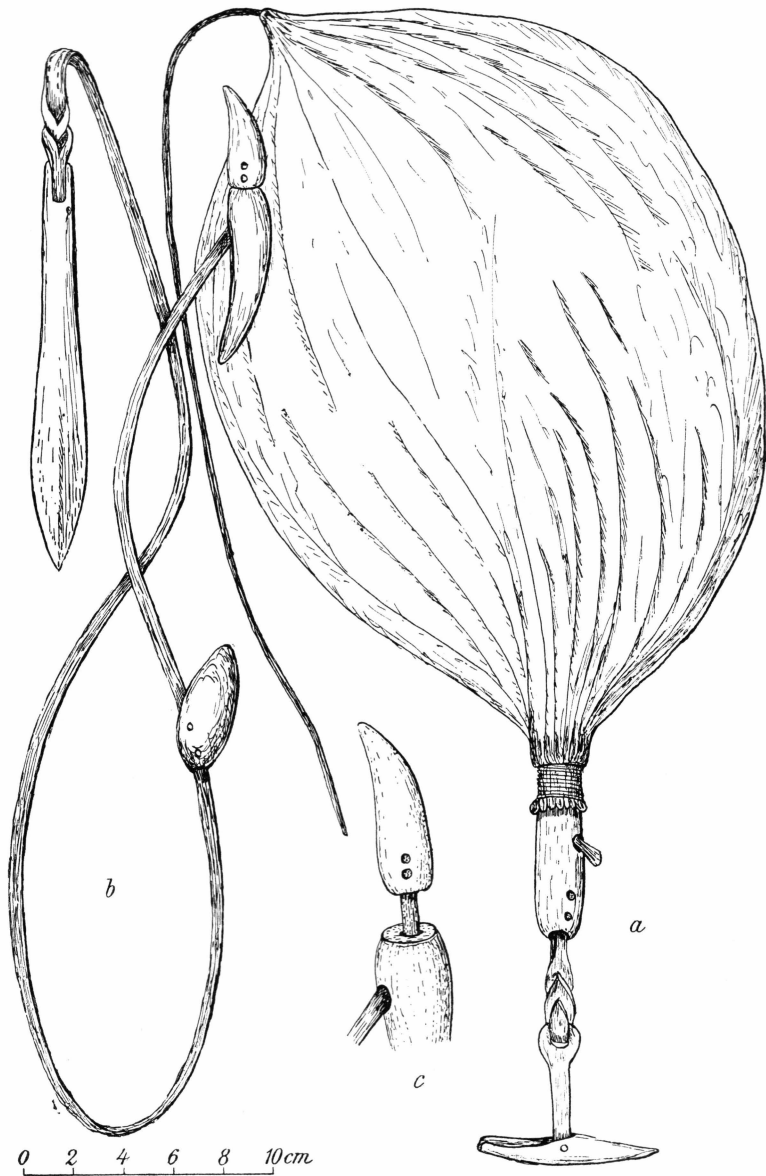


Fig. 20. Towing strap (b), and towing bladder (a). (From PORSILD: M. o. G. 51, fig. 35).

which the thong is passed; this button is inserted through the lower opening in the middle thong (see *B*, *i*) and turned across so that it hangs firmly by the thong and is thus joined on to the seal; the outer button (*t*) is more tapering at the outer end and serves to make a passage for the former (*s*), the hole having to be small to prevent the float from

slipping off; attached in this outer button is the small line, pushed into a hole in the end and drawn out again almost at the middle through a hole in the side, then knotted at the end. The purpose of the bladder is, when inflated, to keep the seal floating on the water, partly to prevent its being heavy to tow, partly so that if the hunter sees another seal, he can release the first one while going after the other and thus catch two or even more on one day; afterwards he picks up the first seal or

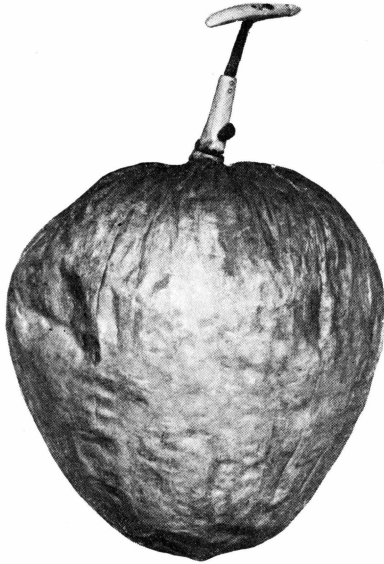


Fig. 21. Towing bladder. (From BIRKET-SMITH: M. o. G. 66, fig. 226).

seals lying afloat, recognizable by the white bladder which always projects from the water. There are some Greenlanders who do not use the towing float, but this is mostly because they are in needy circumstances; instead they have to inflate the seal itself between its skin and its flesh and even its inner parts through the wounds, which he closes with plugs, so that it does not sink, so readily; indeed, even if he has floats the hunter will usually proceed to inflate the seal in order to make more sure.

E. The shoulder piece (see *E*) is about $\frac{1}{4}$ ell long and serves to bring the seal's fore flippers close together, wherefore it is called *Tellerorsiutingoak* (from *Tellerok*, "a flipper on a marine animal"), the idea being to prevent them from hampering the tow by hanging out to the sides in the water. On this bone there are three bone knobs (*u*, *v* and *y*) which are joined together by a short thong (*xx*), one end being fastened to one knob (*u*), then passing out through its middle to the middle knob (*v*), in right through its centre with a cross-piece

on the end, then over to the third knob (*y*) where it is riveted fast; this latter knob (*y*) is long, narrow and pointed and serves to open a way for the others, being inserted through both fore flippers; then the middle knob (*v*) also follows through both flippers and is turned across the left flipper, whilst the second knob (*u*) remains across the right flipper. This brings both flippers close together in the small space between the two knobs (from *u* to *v*).

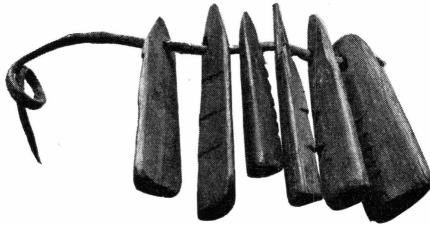


Fig. 22. Wound plugs. (From BIRKET-SMITH: M. o. G. 66, fig. 224).

These are the usual parts of the towing gear. A provident Greenlander will have some of them in duplicate, for instance the navel piece (*C*), whereby several seals can be collected in the event of his catching more than one in a day. But usually they are not at a loss; they have clever ways of arranging the parts so that they can have four or five or even more seals trailing one behind the other after the kayak, one bladder serving for them all (unless the hunter has more than one), the seals also being inflated to keep them up; in fact, if they are very fat, the fat itself holds them up.

When the parts of the towing gear are not in use they lie skilfully and neatly rolled up in the back of the kayak; but a number of wooden plugs for inserting in the wounds in the seal to preserve the blood and keep it inflated lie in a bunch (see *F*) on the after part of the kayak under the sealing float.

**A Precise Description of the Hunting of Terrestrial
Animals, of Fowling and Fishing by the Greenlanders**
with the appurtenant implements.

Read before the Academy of Sciences on the 31st January 1812.

by

Professor Otto Fabricius, K. of D.

In my paper on the Greenlander's weapons and implements for sealing, published in the Society's Proceedings, Vol. 5, Part 2, I promised on page 129 to write in another paper on their implements used for hunting terrestrial animals, fowling and fishing. With the permission of the Society I now redeem that promise, and so the present paper will be divided into three main sections: I. Hunting terrestrial animals. II. Fowling, and III. Fishing.

I.

Hunting terrestrial animals and the appurtenant implements.

The hunting of animals on land has never been so important to the Greenlanders as sealing, but in former days it was of greater importance than it is now when the terrestrial animals have become so few and driven away since firearms were introduced with the coming of the Danes to the country. The animals which they once had, and to some extent still have, for hunting were especially the caribou (*Cervus tarandus*), the arctic fox (*Canis lagopus*) and the alpine hare (*Lepus variabilis*)¹). For the polar bear (*Ursus maritimus*) should more be reckoned as a marine than a terrestrial animal, spending most of its life on the ice — both firm ice and drifting ice — and swimming

¹) In my *Fauna grönl.* p. 25, Spec. 25 I have described this animal under the name of *Lepus timidus*, because I thought it was practically the same species as the common hare and to be regarded merely as a variety; but as others have since placed it separate as a special species under the name of *variabilis*, I shall follow their example and willingly allow it to retain the name, though it does not exactly suit the Greenland hare, which is always white both winter and summer and therefore rather deserved the name of *albus* or *candidus*.

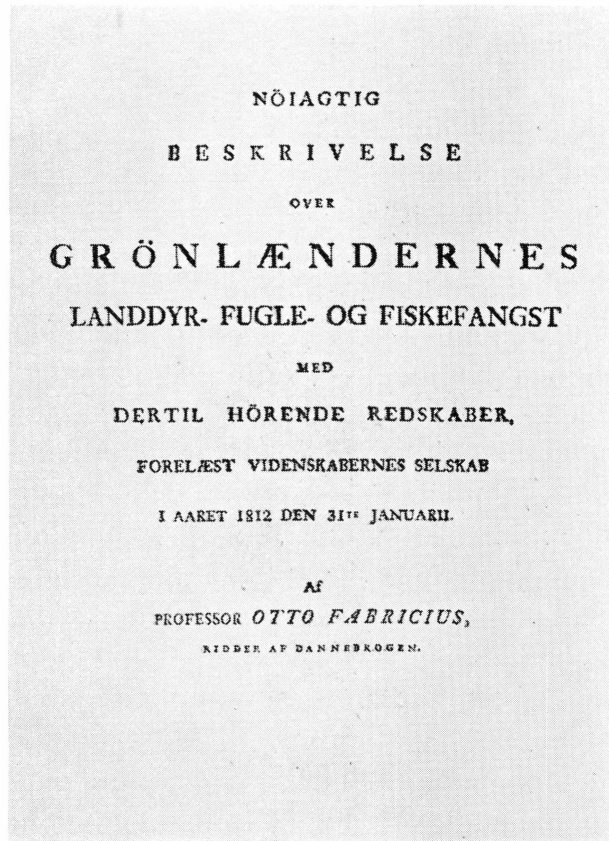


Fig. 23. Title page of FABRICIUS: Nöiagtig Beskrivelse over Grönlændernes Landdyr-Fugle- og Fiskefangst med dertil hørende Redskaber. (A precise description of the hunting of terrestrial animals, of fowling and fishing by the Greenlanders, with the appurtenant implements). — Det Kgl. Danske Videnskabernes-Selskabs Skrifter 1809—12, Vol. VI. — Kiøbenhavn 1818.

from one floe to another to catch its prey, and it is only when the drifting ice draws near land that it will sometimes go ashore; for this reason the same hunting implements are usually employed for it as for seals and other marine animals, and especially it is killed immediately with the large lance¹⁾ by several (hunters) in company, preferably when they encounter it swimming, for on the ice it will often make a long stand and break many of the Greenlanders' lances; therefore, when they meet it on the ice with their dog-sledges, they slip the dogs loose to help in the chase, and whilst it defends its back against them by counter-attacking, it becomes the easier prize for the hunters, who then succeed in lancing it.²⁾

As to fox hunting, I have already reported on this in my description of the Arctic Fox³⁾ and therefore may pass it over here, so that there remain merely the hunting of caribou and hare. For this in by-gone days they used a large kind of bow, which has now been displaced by guns where these are available, as in the neighbourhood of all the Colonies, for which reason it seldom occurs and may be regarded as an antiquity except for the regions farthest removed from the Colonies, in the north and east of the country. This bow, however, is quite cunningly put together, so that it deserves a complete description with its accessories.⁴⁾

All this hunting gear with its accessories is called collectively by the Greenlanders by the name of *Pissiksisak*, and it consists of three main parts: A. the bow, B. the arrow, and C. the quiver, which I must describe separately.

A. The bow itself [Pl. II] (fig. 1) is called *Pissikse*, i.e. "that which shoots out" (from *pissikpok*, "shoots or hits with an arrow": because it is the bow which gives the arrow the power to shoot the animal). The bow in turn consists of three parts: a. the bow-stave, b. the string and c. the backing lines.

a. The bow-stave (fig. 1, *a*) is called *Pissiksib Kerssukta*, i.e. "the bow's wood-work" (of *Kerssuk*, "felled tree"); it is almost straight and only slightly bent, made of a kind of reddish, very flexible pine called *Ikkek*;⁵⁾ the length is $1\frac{3}{4}$ to $2\frac{1}{2}$ ells, the width $1\frac{1}{2}$ inches and it

¹⁾ See my former paper *ibid.* p. 66 [Pl. I] fig. 9. [Cf. p. 55].

²⁾ As depicted in EGEDE'S *Grönlandske Naturel-Historie* on a copper engraving at p. 46.

³⁾ Nye Samling af Selskabets Skrifter 3die D. p. 444 ff. with copper engravings. [Cf. p. 97].

⁴⁾ As CRANTZ'S description of this bow in his *Hist. von Grönl.* I. p. 194 is much too brief and incomplete.

⁵⁾ Which among several kinds of driftwoods comes floating in from the sea with the drift ice, probably from the same place, as I have suggested in Nye Samling af Selsk. Skrift. 3die D. p. 79 ff.

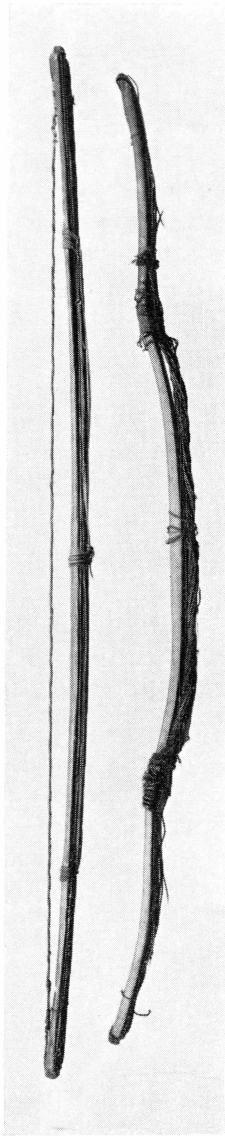


Fig. 24. Bows. (Nat. Mus.).

is almost as thick, flat on the back, convex on the belly. At each end is fastened a piece of bone or antler with a tip like a head and notched in the side, called *Innursarsak* (from *Innûrsak*, "a human-like one"), but the tip itself (fig. 1, *cc*) is called *Nokarsarbik*, i.e. "the stretching place" (from *nokarpok*, stretches, tightens), because this end bone, which is hollow and into which the wood is inserted and riveted, serves to hold the bow-string and the backing lines, and for greater staunch-

ness is wound about the middle with one of the backing lines which is separated from the others in order to make a loop around it (fig. 1, *bb*).

b. The bow string (fig. 1, *d*), called *Nokartak*, i.e. "the stretched one", is made of many plaited sinew threads¹⁾ which are parted at the ends in order to make two end loops to pass round the bone tips; but when the bow is to stand unstrung, they use a third, longer loop which is added to the end (fig. 1, *e*).

c. The backing lines (fig. 1, *f*) are called *Kyak* and lie on the back of the bow, about twelve in number, of plaited sinew thread or bearded-seal thong,²⁾ side by side, but at the ends they divide and pass round the bone tips, serving to keep the bow always tense; two of these lines are longer than the others to be used as aforesaid for winding about the middle of the bone tip.³⁾ The binding, called *Kelernera* (from *kelerpok*, "binds") consists of other sinew threads running across the backing lines on both sides of the middle towards the ends; the wood is notched for them, as they serve to keep the backing lines together and prevent them from slipping off the wood (fig. 1, *g*); from these others run longwise and unite with the backing lines to provide further tension (fig. 1, *h*); outside them all is a thin winding of single plaited sinew threads, called *Nervngee*, i.e. "its band", which holds everything close to the wood (fig. 1, *i*).

B. The arrow [Pl. II] (fig. 2) is called *Karksok*, i.e. "that which pierces or makes holes", and consists of a. the shaft, b. the feathers, c. the head and d. the blade. The length of the arrow depends upon the bow, but usually it is $1\frac{1}{2}$ ells.

a. The shaft (fig. 2, *a*) is called *Karksub Kerssukta*, i.e. "the arrow's woodwork" and is made of a kind of light and white driftwood known as *Unarsivik*, which resembles spruce,⁴⁾ in order to fly easily through the air; it is thin and round with a nock in the end called *Erka*, i.e. "the corners of its mouth" (fig. 2, *b*), which is placed over the bow-string.

b. The feathers, *Sulluee* (fig. 2, *c*) are usually raven feathers and are placed at the upper end of the shaft, one on each side, with both ends tied on with thin baleen or sinew thread; these feathers keep the arrow straight in the air.

¹⁾ What sinew thread is, and how it is made, I have explained in my paper on the Greenland seals in *Naturhistorie Selsk. Skrift*, 1ste Bind p. 139, 10. [Cf. p. 111].

²⁾ What these are and what they are made of, is explained in the aforementioned *Skrift*, 1ste Bind, 2det Hefte p. 151. [Cf. p. 125].

³⁾ CRANTZ says l.c. that they are of baleen, but this is wrong.

⁴⁾ See my paper in 5te Bind, 2det Hefte p. 159, I. [Cf. p. 51].

c. The head, called *Nàkok* (fig. 2, *d*) is of caribou antler, moderately long, flat-round, into which the iron blade is inserted; the head is knocked into the shaft in a hole in the end, called *Nakolerbia*, and bound with a winding of baleen, *Nervngee* (fig. 2, *e*). On its side are barbs, *Akingee* (fig. 2, *f*) for securing a hold in the game, either one or two on one side, or three, with one on the other side, but sometimes as many as seven, all on one side.

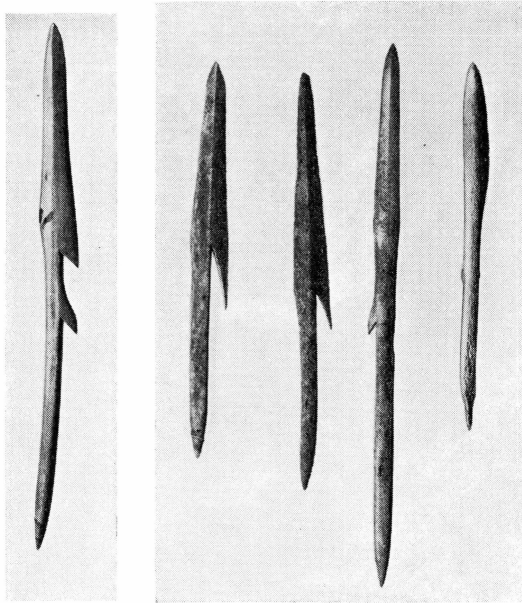


Fig. 25. Arrow heads. (Nat. Mus.).

d. The blade, called *Ullunga* (fig. 2, *g*) is flat, pointed, triangular, sharp, sometimes of brass; it is fixed into a cleft in the *Nàkok* and riveted, such a cleft being called *Ullulerbia*.

C. The quiver is called *Póktak* (fig. 3); it is made of black seal-skin, *Erisák*, which is waterproof¹) and serves both for the arrows and the bow and also as a food bag. Its upper, longer part (fig. 3, *a*) is called *Pissiksim Inna*, i.e. “the place of the bow”, because its real purpose is to hold the bow; but the opening in one end, *Mangulerbik*, i.e. “the putting-in place” (fig. 3, *c*), is the same for the arrows. Its lower part (fig. 3, *b.b.*) is called *Karksum Inna*, i.e. “the place of the arrow”, because the arrows are kept there.

Then there is the *Takoarbik*, the food bag, the place of which is on the side like a cartridge pouch (fig. 3, *d*), hanging from a small stick

¹) Its preparation I have shown in *Naturhist. Selsk. Skr. l.c. p. 149. [Cf. p. 115].*

at the top (fig. 3, *f*). Fitted to the top is also a thong for carrying everything by the forehead, called *Nangmaut* (fig. 3, *e*); for the Greenlanders usually carry their burdens in this manner.

With this bow they shot caribou and hares, either stalking them alone — and they were fairly certain of hitting at long distances — or, when there were many animals, organizing a battue, in which women and young people surrounded them; and at places where no people were posted they put up white sticks with a sod (on top) to scare the animals. Thus they were chased either to the men who lay concealed behind stone fences, called *Tellut*, i.e. “shooting hides” (which are still pointed out here and there merely as memorials of this hunting, from which it may also be seen how near the water's edge the caribou must have been compared with the present day), from behind which they shot the arrows into them as they passed,¹⁾ or they were driven out into large freshwater lakes, where the men in their kayaks hunted them with their sea darts.²⁾

As to the hare, sometimes they were also cunning enough to stalk them while they slept in their lair and then stoned them to death. Others caught them with a snare suspended from a string which two persons carried between them, passing it over its head, whereby it was either strangled or caught in its confusion; this seldom happens, however.

II.

Fowling and its appliances.

For fowling, the Greenlanders have devices, some for land birds and others for sea fowl. There are but few land birds, however, and they are not sought much, so that this game is of little significance to them. The osprey (*Vultur albicilla*) was formerly shot with the aforesaid large bow, either when resting and it could be stalked behind a tall stone, or by following it when it hovered above the mountain tops, as it could easily be done while it remained motionless in the air for a long time. The falcons (*Falco rusticolus*, *fuscus* and *Islandus*), the owl (*Strix nyctea*) and the raven (*Corvus corax*) were also shot with the bow in times gone by.

For the eagle they also used two other methods: 1) In winter a wide hole was dug in the snow, in which food was laid for it, and round the edge of the hole they placed a snare of seal thong or baleen and concealed it with thin snow, and this they pulled together round its

¹⁾ A battue of this kind is pictured in EGEDE l.c. at p. 33.

²⁾ Harpoons and lances (see my previous paper in the Society's Skrifter 5 B., 2 H. pp. 131 and 166). [Cf. p. 30, 55].

legs when it settled in the hole to eat. This snare is called *Kellorartout* (from *kellorartorpok*, "catches with snare"). 2) It was given as much blubber as it would eat, for before it could eat the blubber of a third seal it became so spent that it could be approached and killed; but as this was a costly form of fowling it was used only when the eagles congregated in large numbers because of hunger and they might do even more damage.

For the raven they used the same method as for the eagle, snaring it in the snow. Others, however, made a hole in the snow and sat in it, covering themselves over with thin snow and laying a light piece of bait on top. When the raven settled in the thin snow to eat, its claws went through and the man in the hole seized it by the legs.

These methods are seldom used now, however, since the gun has come into use and taken the place of them all, besides making more sure of the game.

The ptarmigan (*Tetrao lagopus*), the only land bird that they take any real trouble to catch, they are dexterous at catching with a proper ptarmigan snare called *Nigartout* (from *nigartorpok*, "catches with snare"), consisting of a long plaited string of sinew thread, at the middle of which are fastened three or four small lines, called *Nigak*, which are tied to the principal line with fine straw to prevent them from running together in the wind, but not so tightly that they could not easily be pulled loose. This snare-hung line is carried between them by two persons, and with their usually good sight they will try to drop one of the small snares over the head of the ptarmigan, which has no conception of what it is and stands turning its head forward and back; when they see that the snare is properly over its head, one person releases the line and the other hauls in, and when the ptarmigan by trying to fly pulls the snare out, the straw holding it breaks and the bird is strangled. This method is still used and I have myself helped to snare ptarmigan with it; it is an enjoyable form of fowling and not so difficult to carry out, as at times in winter the ptarmigan is very tame and can be approached very close; indeed, quite often with my musket I have had to retire some distance in order not to blow the bird to pieces when out shooting.

Other small birds there, such as Lapland bunting (*Fringilla lapponica*), snow bunting (*Emberiza nivalis*), linnet (*Fringilla linaria*) and wagtail (*Motacilla oenanthe*), are caught only by children, especially when migrating in winter they come down to the houses; there are three ways: 1) by snares made of the small horse-hair like fringes on the edges of baleen, which in the meadows they pass over the herbs the seeds of which are sought by the birds, or on small grass sods and tall stones, on which they place an earthworm as bait for the wagtail,

and in this the bird is caught by the feet. 2) By making a circular mound, the middle of which they fill with pretty green herbs to which the birds are wont to resort, but round the edge laying a larger snare of baleen with a line to pull when a bird is seen in the middle, thus snaring it by the feet. 3) They shoot them with small bows which are almost like those of European children, and with which the Greenland boys shoot fairly accurately; the arrows for these bows have a sharp piece of iron or bone at the end, and in the bow wood there is a groove for it to be shot from; the string is of sinew thread, and instead of a trigger they use the fingers for releasing the string.

In relation to land birds, sea birds are so much the more plentiful and more important for the Greenlanders, and therefore they have devised more elaborate means for catching them. In particular there is the bird dart, called *Nugit*, a name which it has in common with a cord on which to thread objects (from *nugipok*, "draws something on a string, thread, etc.") because when the bird is hit with this dart it is drawn on to it as it were, being pierced right through and often ending far up the dart.¹⁾ The main parts of it are four, viz: 1. the shaft, 2. the head itself, 3. the side prongs and 4. the throwing board.

1. The shaft [Pl. II] (fig. 4, *a—h*) is of wood which is light in itself but not open enough to absorb water, viz. *Unarsivik*.²⁾ Its length and thickness may vary; the people in the south usually have the largest shafts. It is round, but at the middle where the side prongs are fixed on it is rather thicker than at the ends. In the upper end is inserted a small round grooved piece of caribou horn, called *Kakkogeksek*, i.e. "something to gnaw at", for in it the throwing board works (fig. 4, *a*). Just below it the shaft widens out like a small head, called *Niakuta* (from *Niakok*, "a head") to ensure free movement for the throwing board; it is usually all in one piece with the shaft (fig. 4, *b*); the piece just below this (fig. 4, *c*) is called *Kakkoga*, i.e. "the gnawed one", because there the throwing board has its position with the grooved innerside resting against the shaft. The part of the shaft that is below the side prongs and nearest the dart head is called *Sioa*, i.e. "its front", because it faces forward (fig. 4, *d*).

2. The head itself is called "dart-iron" at the Colonies, because it is mostly of iron and is bought at the shop; it is round and moderately pointed (fig. 4, *e*); before the colonization it was of bone, (fig. 5) and still is at remote places from the Colonies. As regards name, size and

¹⁾ CRANTZ mistakenly calls it *Nuguit* in his *Hist. von Grönl.*, p. 196, and his description of it with figure is partly incorrect.

²⁾ Cf. 5te B. 2det H. p. 159. [Cf. p. 51].

barbs (fig. 4, *f*) the dart-iron corresponds to the bladder dart;¹⁾ the barbs prevent the bird from working the dart loose; the bone head also has a barb (fig. 5, *a*), but shorter and thicker, like the head itself, which is cruder than the one of iron.²⁾ The head is knocked into the lower end of the shaft, the hole being called *Mangulerbia*, i.e. "its driving-in place" (fig. 4, *g*); but to prevent its splitting the wood and to ensure that it fits securely it is first wound with baleen on the end of the shaft (fig. 4, *h*), this winding being called *Nervnga* and both its ends are cut deep into the wood; from this winding runs a thin piece of baleen, called *Piivta*, i.e. "its line" (fig. 4, *i*), which is made fast above the side prongs on the *Kakoga* (see above, under shaft) with a winding of the aforesaid kind (fig. 4, *k*), both ends of the line being inserted under the respective windings. Its purpose is to keep both parts together if the shaft should break, so that the head will not sink but float up with the shaft.

3. The side prongs are called *Ait*, there being three or four, short, fitted on to the sides of the shaft a little above the middle and towards the dart-iron (fig. 4, *l.l.l.* and fig. 6) and curving outwards, being intended for catching the bird if the head itself should miss. Preferably they are of caribou antler or bone and each one has three or four barbs on its inner side (fig. 4, *m* and fig. 6, *c*) of the same kind as the one on the aforesaid bone head (fig. 5, *a*). At their place on the shaft are the same number of deep slots, called *Alergvee*, running obliquely into the wood, so that the side prongs may be inserted and be held the more firmly under the resisting wood; for this reason the ends are elongated, pointed and shaped into a curve; this shaped end is called *Kingarnera* (fig. 6, *a*) and has many small holes, through which it is tied on (fig. 6, *b*). These side prongs are secured to the shaft at two places with sinew thread plaited with a few strands. The first binding is placed very tightly round the upper ends, as they also hold the *Kingarnera* in the slots *Alergvee*; for greater strength a thin length of baleen is plaited into the end of the sinew thread but is scarcely visible; this binding is called *Kemekejutei* (fig. 4, *n*). The second binding is farther out over the middle of the side prongs, where the sinew threads are turned round each prong and into one another in various ways in keeping with the usual dexterity of the Greenlanders; it is called *Aliutei* (fig. 4, *o*).

4. The throwing board, called *Norsak*, is used for throwing the dart, when its curved hook at its upper end is fitted into the *Kakogeksak*

¹⁾ Cf. my previous paper in the Society's 5 Bind 2 Hæfte page 160, 2. [Cf. p. 51].

²⁾ CRANTZ l.c. says it has only one barb, no doubt to distinguish it from the throwing harpoon with two barbs, but this is unjustified, as both kinds may have one or more indiscriminately.

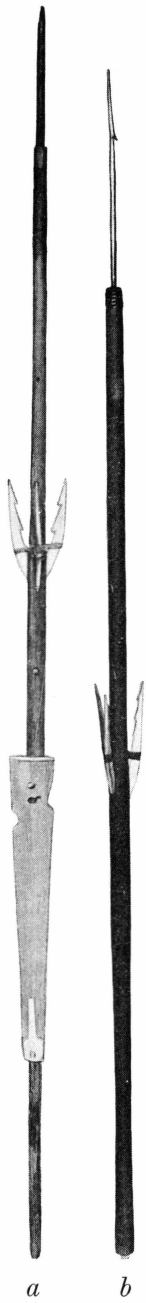


Fig. 26. Bird darts. (From BIRKET-SMITH: M.O.G. 66, fig. 255).

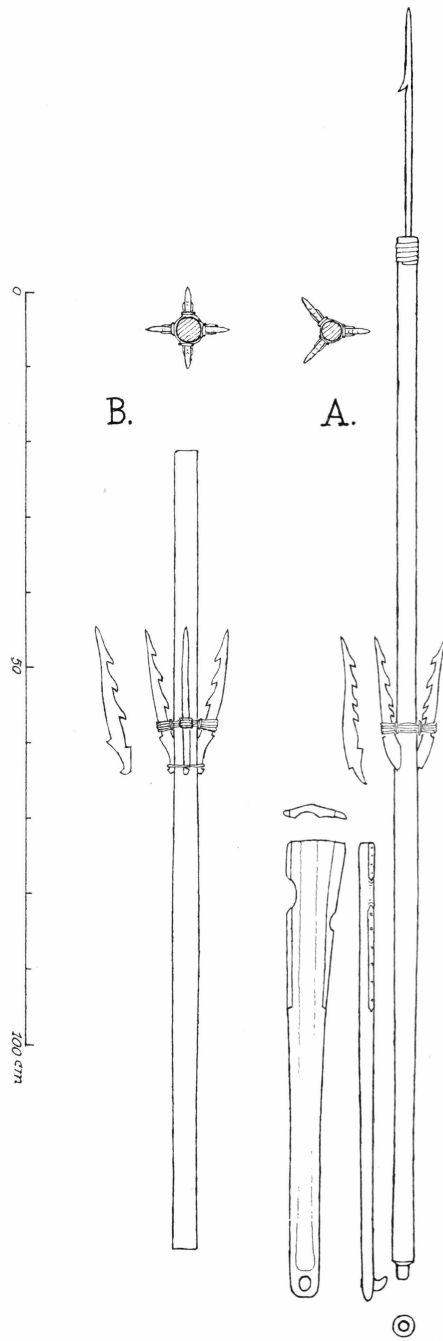


Fig. 27. Bird darts. (A: Nat. Mus. nr. L 19. 210b; B: ELc 27).

of the dart shaft (see above), its grooved channel being laid against the round shaft. It is of the same design as that used with the bladder dart, the same throwing board being used for both weapons.¹⁾

Observe what mechanism necessity has been able to teach an otherwise indolent people. The wielding of this dart is just as clever, for it calls for several movements in which they are expert. It is used in pretty much the same way as the bladder dart,²⁾ with the sole difference that with the latter the bladder must be upwards, but here it is the tension line, in order to give the dart a better balance when it is raised; moreover, this dart is thrown higher into the air than the bladder dart. If a hunter has both weapons in front of him on the kayak, the bird dart lies on the left side with its end up against the kayak-stand.

However, not all sea fowl can be caught with this bird dart. It is done especially with those which dive below the surface for food, and with some it is more difficult than others. The fowl mostly caught with it are the eiders (*Anas mollissima* and *Anas spectabilis*) and the auks (*Alca pica*, *torda*, *impennis*, *arctica* and *alle*).³⁾

The process of catching eiders I have described circumstantially when dealing with the king eider (*A. spectabilis*) in *Naturhistorie-Selskabets Skr.* 2. B. 2. H. p. 78, which I shall not repeat here. [Cf. p. 127].

Auk catching with this dart is easiest with the so-called little auk (*A. alle*), this being one of the most stupid sea fowl, and as it is almost always sitting dabbling its bill in the water it can be approached rather closely, especially when it comes in great flocks close to the land in autumn and winter. If one observes that it is more shy than usual, one whistles softly and intermittently to make it confident and give it something to listen to; if it dives, it will soon come up again, and within a short time it becomes exhausted, before other sea fowl.

Next after this, fowling is easiest with the Brünnich's guillemot (*A. pica*) and the razor-bill (*A. torda*); either they are encountered alone on the sea, when, to give them a feeling of security, one calls in a jerky manner: sh, sh, sh, whereafter one can usually get quite close to them, as if in amazement they remain still in order to gape at one, so that one can take them unawares with the dart, or even if it succeeds in diving, it cannot hold out so long because it dives in fear

¹⁾ Cf. my previous paper l.c. p. 164, 6. [Cf. p. 53].

²⁾ Described l.c. p. 164 [Cf. p. 54], wherefore I consider it superfluous to repeat it here.

³⁾ In Königl. Schwedisch. Academie der Wissenschaften Neue Abh. 9ter Band p. 201 I am credited with having discovered another auk species in the Greenland sea, viz. *A. cirrhata*, but this is an honour not due to me and I cannot conceive from what source this information has been drawn.

and haste and has no time to fill itself with air; or when they are found in large numbers in the inlets, several kayak-men go together and by their united efforts pursue it with their darts, for avoiding one dart it will be hit by another. The fowlers do not encircle the whole flock, which is diving for food; they shoot forward with their kayaks through the middle of the flock, taking as many as they can on the way when the birds, anticipating no danger, bob up from below in among the fowlers who by their swift paddling have approached while they were under water. When they have gone through the flock they keep quietly to the shadow of the land for a time until the birds have quietened down enough to feed (otherwise they would fly out of the inlet); then they return again in the same manner, and continue to do so throughout the day, in and out.

Two more ways are known of catching the Brännich's guillemot (*Alca pica*), which I cannot pass by without describing:

a. Where there are many of them, and many hunters live in a camp, it is the custom to surround them on the sea and drive them ashore, for they are not readily forced to fly. Meantime, the womenfolk lie on the shore with their heads concealed, peeping out between their arms, and they immediately begin to chase the auks which, unsuspecting of danger, have landed; they seize them alive, the birds being bad on their feet and have difficulty in escaping; for although they could fly away, they dare not do so on account of the enemy who surprises them so suddenly. Very soon they become exhausted, overtaken and seized, even if they use their wings to help them run.

b. In the south of the country they are also caught with nets made of baleen slips, very like fishing nets by the way with sinker-stones below and floats on the upper edge, and with a line at each end to make it fast on the shore; the hunters surround them in their kayaks, and drive them into the net, into which they stick their heads, especially when trying to dive, and, trying to advance still more they become entangled with wings and feathers and are held fast, so that they can be taken by hand.

The puffin (*Alca arctica*), which keeps far out to sea and seldom approaches the shore, being unaccustomed to the sight of human beings may at first be foolhardy enough to allow the hunters to get near enough to make an easy target for the bird dart; but it soon becomes more shy. What is more, it comes in large numbers only in some few years, so that as a game bird it is insignificant.

More important is the catching of the great auk (*Alca impennis*) in some years, when it comes near the shore in abundance; but its

wings being so small and useless for flying, nature has endowed it with so much greater ability to dive below the water, and therefore, being a strong diver, it must be hunted by the Greenlanders in flocks with their darts, being ready to shout when it comes up for air in order to frighten it and make it stay the longer under water without having inhaled sufficient air, so that it becomes the sooner exhausted, when at length they get so close that they can throw their darts at it; but it can hold out rather long.

With the other divers among the sea fowl, such as the black guillemot (*Uria grylle*), loon (*Colymbus septentrionalis*), great northern diver (*Colymbus glacialis*), red-breasted merganser (*Mergus serrator*), long-tailed duck (*Anas hyemalis*) and cormorant (*Pelecanus carbo*), it is difficult to master them with the bird dart, partly because they are such good divers and partly because they are very shy, and some of them, especially the black guillemot, loon, merganser, and cormorant, fly away at once, so that the bird dart is useless; all they can try is to throw the dart high in the air, or hold their paddle up in order to scare the birds into mistaking it for a bird of prey about to strike down on them; to avoid this they dive under water, and then it is easier to pursue and exhaust them, until at last by splashing along the water surface to breathe they expose themselves more to the dart, a method that is particularly successful with the black guillemot.

Otherwise, if the black guillemot is to be pursued with any luck one must whistle quite shrilly and continuously to imitate its call, then pass the paddle quietly from one hand to the other in order not to frighten it, as in that state when listening to one's whistling it is more easily approachable than normally.

For the rest, the black guillemot may also be taken alive in its nest among the stone heaps on the beach, as usually it has only one opening for entrance and exit; then not only the young but the old nesting birds can be taken by surprise and seized with the hands while in the stone-encircled chamber; if it is so far in that it cannot be reached with the hands, it is either stabbed with the dart or any other sharp implements, or a snare made from one's bootlace is fixed to the end of a stick and the bird pulled out with this; [Pl. II] fig. 7 is one of these snares, a. being the handle, b. the bootlace or any other line tied to the end of the stick, and c. the place where one end of the line is secured and furnished with an eye through which the other end is passed. d. is the end which one pulls when the noose has been laid fairly about the bird; in this manner it can be dragged out, as the noose can be drawn so tightly about it that it cannot possibly escape.

If the cormorant is to be caught with the bird dart, it should preferably be brought about by unexpectedly rounding a spit of land

near which it has been diving for fish, and take it unawares when it has just come up with a large sea scorpion (*Cottus scorpius*) or other fish in its throat; it must not be given time to swallow the fish entirely or disgorge it with its foot as it otherwise will do; then it will be too heavy to fly and have more difficulty in escaping by diving.

The cormorant can be caught in two other ways, either

a. By arranging large snares on its sleeping places on the tall and precipitous cliffs facing the sea; from a strong pole above one suspends a thong with two nooses of baleen level with the place where it usually settles for the night; then when it comes flying to the spot, or tries to fly from it, it is likely to fly into the noose and hang itself, or

b. By stalking it at these places when it is asleep, and at night in the moonlight (though with great risk on these steep places above the sea) seize it alive, or thrust a hook into it from above and haul it up.

Of the other sea fowl which are unable to dive I can only tell of the fulmar (*Procellaria glacialis*) and the shear-water (*Procellaria puffinus*), which can be caught without difficulty with the bird dart when in thick fog they come close to the shore and sit on the water in flocks; they are then very foolhardy and allow the hunter to come so close that he can often shoot even two at once, indeed sometimes take them alive. They can also be caught with the dart in flight when, as is their habit, they fly along the surface and pass close to the kayak. The arctic skua (*Larus parasiticus* Linnæi) can also be caught with the bird dart sometimes when it is found asleep on the water and one can steal in upon it by paddling very gently.

For the other kinds of gulls, however, other hunting appliances have been invented. For the kittiwake (*Larus tridactylus*) and the tern (*Sterna hirundo*) they have a kind of snare made of baleen, several of which are arranged around a wooden float in the middle from which depends a small fish, usually the caplin (*Salmo villosus*) as a bait; when the bird strikes obliquely downwards for the fish hanging near the surface it cannot avoid getting its head into one of the snares and is caught, so that the hunter can seize it, though often they use merely a small bunch of seaweed for a sinker, which the bird is unable to carry off. This gull snare is mostly set below ice hummocks where the kittiwake and tern often spend some of their time; and the method in itself is dangerous, because the fowler must be in the vicinity, and should one of these ice hummocks break up, which often happens unexpectedly through its being brought out of balance and turned round, his life

is at stake on account of the water being so disturbed, and many actually perish.

The large species of gulls, the glaucus (*Larus glaucus*) and black-backed (*Larus marinus*) are also caught by the same kinds of snares, except that the bait is usually a sea scorpion (*Cottus scorpius*); but as they frequently come into the bays and the fjords close inshore, where the Greenlanders have their dwellings, they are more often caught

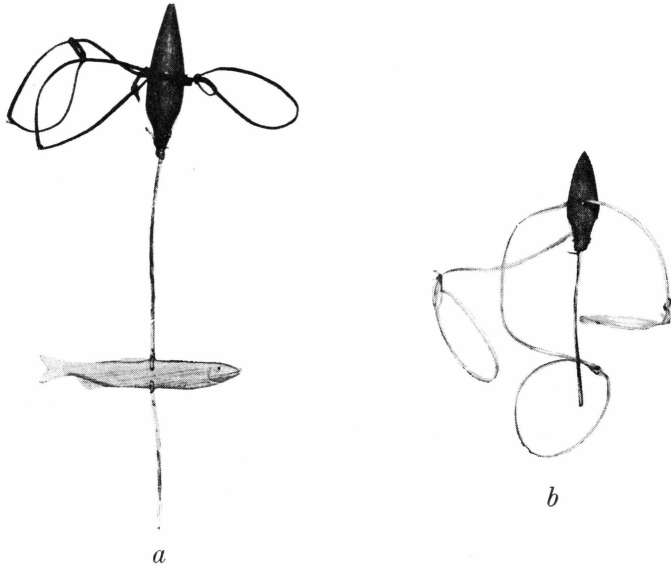


Fig. 28. Gull snares. (From BIRKET-SMITH: M. O. G. 66, fig. 257).

by other two methods, either a hook concealed in a lump of blubber and thrown into the water on a line which is held from the shore and drawn in when the gull strikes down and swallows the blubber with the hook in it, so that it is caught; or a lump of blubber through which a double pointed stick is inserted, so that when the gull tries to swallow the blubber it cannot, because the stick becomes transfixed across the throat, with the result that it is suffocated and can be lifted out of the water.

The ringed plover (*Tringa striata*) and other kinds of snipe are not pursued much by the Greenlanders; except the boys, who catch them by means of a stick in the ground with a snare of thin baleen attached and extended out to the sides; when running to and fro looking for food the snipe, noticing nothing, gets the snare entangled round its neck.

I am unable to say more about their fowling, but must turn to a description of their

III.

Fishing and its Appliances.

Fishing is of great importance to the Greenlanders, and for it they use appliances of various kinds, all according to the kind of fish and the places it frequents.

This also includes whaling, although whales are counted among the mammals; but because they have spreading fins for swimming in the sea and can never go ashore, they may also be considered among the fishes. Not all whale species are caught in one way, however. What the method is with the humpback whale (*Balaena boops*) I have shown in my *Zoologiske Bidrag*, read last winter, under 2det Bidrag, p. 76 in the Society's *Skrifter*, 6te Bind, 1ste Hæfte, which therefore need not be repeated [Cf. p. 129]. As regards the really large whale, the baleen whale or right whale as it is called (*Balaena mysticetus*), I was not in those parts of the country where the method is actually practised and therefore cannot speak of it as an eye-witness; and as I know no more about it I must refer to what EGEDE, CRANTZ¹⁾ and others have written about it. The fin whale (*Balaena physalus*) and the beaked whale (*Balaena rostrata*) are not easily caught by the Greenlanders, as they are too wild to approach; what is more, even if attacked by several together with their harpoons and lances,²⁾ as a rule they merely spoil their weapons without killing. The cachalot (*Physeter macrocephalus*) is killed with the same kind of lance as the humpback whale and must be attacked when it is lying quietly on the surface, as then it can be approached without difficulty and stabbed behind the flippers, sighting by its groove on its back behind the head, which alone is visible when it is in that position, and sometimes it can be stabbed several times before it goes under water; it soon comes up again to breathe, and thus it must be followed for days on end, and stabbed many times, before it dies; at last it stinks even before it is properly dead, and after death, though newly killed, seems half putrefied. However, it is seldom that the Greenlanders themselves kill the cachalot; more often they find old carcasses driven ashore (no doubt harpooned by the English or American cachalot hunters), which they eat with good appetite, though they do throw away the meat when it is too foetid and saturated with salt water. But when they have caught one themselves, they tow it ashore, singing and rejoicing, and then all who can and will may help to cut it up, freely and without hindrance. For the flensing of this

¹⁾ See EGEDE'S *Grönlands naturlige Historie* p. 57 with copper engravings, and CRANTZ'S *Hist. von Grönl.* I p. 159.

²⁾ Cf. my paper on the Greenland seal-hunting implements in *Selskabets Skrifter* Vol. 5, No. 2, p. 131 and 166. [Cf. p. 30, 55].

and other whales they wear a kind of combination suit, called *Atterdlæk*, in which one can float in the water without danger of sinking, as hood, coat, sleeves, mittens, trousers and boots are in one piece, there being a hole in the side to creep in, which is then laced up, while the hood also fits close round the face, whereby the air in this roomy garment, made of black, smooth so-called water-skin, is pent in and keeps the flenser afloat, so that he can sit in the water, so to speak, and flense at his ease.

The narwhal (*Monodon monoceros*) and the white whale (*Delphinus albicans*) are caught in open water with the harpoon and float, like the seal,¹⁾ but are more difficult to get near, and then, when hit with the harpoon, run with greater speed, so that often the harpoon line snaps on account of the resistance of the float in the water, and then everything is lost. In the far north of the country, where the ice forms early and strong in the large bays, and these whale species often keep cracks open in the ice in order to breathe, frequenting them in large schools, the Greenlanders watch for them at the edge of the ice and from there harpoon them merely with a line attached, but no float; they merely tie a mark on the line to distinguish it from those of others; for although the harpoon line has no float, there is no fear of the whale escaping, as they have no other cracks or open water to resort to, but have to continue returning to the same one to breathe; and when at last they die of the harpoon thrust, every man knows his line and drags his capture up on to the ice.

The porpoise (*Delphinus phocaena*) is also caught with the same implements; but in order to be able to place the harpoons the hunters must watch for an opportunity when the porpoise feels safe and remains still for a time on the surface. The grampus (*Delphinus delphis*), the blackfish (*Delphinus tursio*) and the killer whale (*Physeter microps*), as well as the other toothed fishes, are seldom hunted by the Greenlanders as they are too wild; it is only by chance that several hunters together find an opportunity of harpooning them, as with the porpoise.

The true fishes of large size, such as the halibut (*Pleuronectes hippoglossus* and *cynoglossus*),²⁾ the large cod (*Gadus morrhua* and *callarias*), the coal fish (*Gadus virens*), the ling (*Gadus molva*), the sea perch (*Perca norvegica*) and the hake (*Macrourus rupestris*), are caught with a deep-water line, which is long and strong, called *Itinersiut*, i.e. "an implement for searching the depth" (from *Itinek*, "depth"),

¹⁾ See l.c. p. 131. [p. 48].

²⁾ The fish which I have described under this name in my *Fauna Grönl. Spec.* 118, but which I shall endeavour more accurately to identify in one of my subsequent papers).

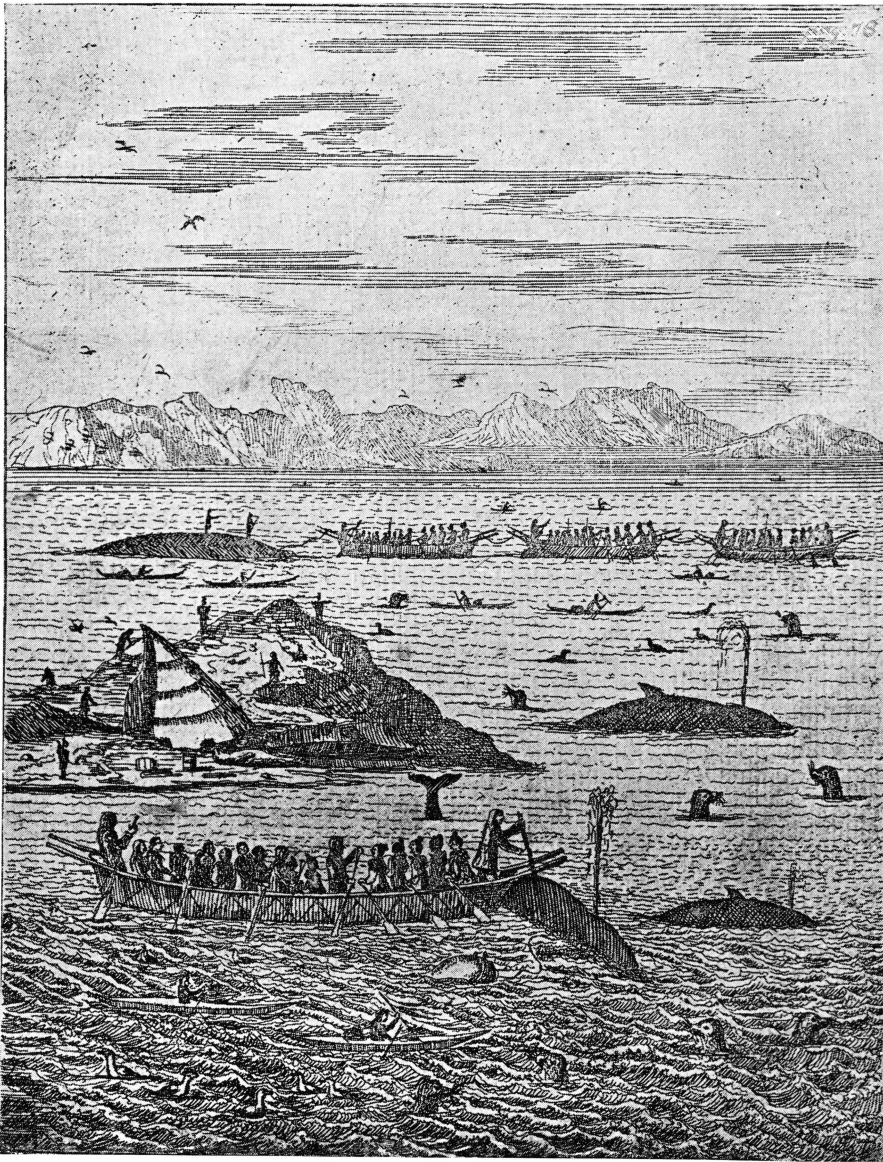


Fig. 29. Whaling in West Greenland. (From HANS EGEDE: *Det gamle Grønlands nye Perustration eller Naturel-Historie &c.* — Kjøbenhavn 1741. — Cf. new edition in *M. o. G.* 54, p. 359. Kjøbenhavn 1925).

because it is employed in very deep places where these fishes live, or *Netarnarsiut*, i.e. “a halibut line” (from *Netarnak*, “a halibut”), because it is used chiefly for catching halibut at a depth of 100 to 200 fathoms; its form is shown in [Pl. II] fig. 8, where a. is the hook (*Karssursak*), larger and stronger than on any other line, either purchased ready at

the Colonies or made by the Greenlanders themselves out of a six inch nail or other piece of iron; these are considered more reliable than the bought hooks. b. is a barb (*Akinga*) for holding the fish to prevent it slipping off. c. is the length where the bait is tied on. d. is a piece of thin, curved caribou antler, bone or hard wood, in which the hook is secured: in the antler they make a cleft or a groove, and in this the upper end of the hook is laid, riveted and bound with sinew thread; this piece is called *Keïvik*, i.e. "biting place", because this is the place where the fish bites the bait. e. is a thick piece of baleen which, with a short thong at each end, joins the hook to the sinker and keeps the hook rigidly extended and also prevents the fish from biting the line off just above the hook, baleen being harder to bite on than a thong; otherwise, some use a broad and thick thong in the absence of baleen. f. is the sinker-stone, for sinking the lower end of the line to the bottom; it must be of soapstone, so that it can be bored for tying on; if an ordinary stone has to be used, it is stitched inside a piece of skin in order to have something on which to fasten the thong, because it cannot be bored like soapstone; but it has the fault that when the skin swells it retains a certain amount of air, so that the stone floats somewhat and is therefore not so useful. It must be rather large. g. is a broad but short thong for joining the stone to the line. hh. are two small bone swivels or bones with a swivel which can turn and prevent the line from twisting and breaking or being kinked, and are therefore called *Kervserut* (from *Kervsak*, "twisted"); of these there are two on this line, or as many as the length requires. i. is the line itself coiled up; in Greenland it is not made of yarn, which the country does not possess, but either of thin-cut baleen, knotted at many places, or seal-thong, cut as long as possible from the skin of the bearded seal (*Phoca barbata*). The former kind is mostly used in the north, where the baleen whale (*Balaena mysticetus*) occurs, and the latter kind mostly in the south, the haunt of the bearded seal. The baleen line has this advantage over the thong line that it can be used many days on end, as it does not absorb water like the thong line which therefore has to be dried in the air every other day; moreover, with the baleen line it is easier to feel a bite and not so heavy to haul in; one advantage of the thong line is that it is not knotted in many places, is not so easily pulled apart as the baleen line, on whose many joinings a knot may come loose; it is also more expensive. For a baleen line the baleen of a complete oversize baleen is required, as lines from 100 to 200 fathoms are used in halibut fishing proper; indeed, on certain fishing grounds, especially where the sea perch is fished, they use 300 fathoms, which requires more than one complete baleen; for this reason such an immensely long line is called *Sullupaugarsiut*, i.e. "sea-perch line" (from *Sullupaugak*, a sea-perch).



Fig. 30. Old whaling costume, the so-called "springpels". (Nat. Mus.).

k. is a float at the upper end of the line, called *Auatártak* (from *Auatak*, a sealing-float), which is the stomach of a seal, a dog or a porpoise, or part of a white-whale stomach, when this float is inflated, it serves to hold the line up in water and prevent it from sinking in the event of the fisherman's having to let go for a big fish. It must be moderately large, as firstly the line would snap if it were too large, and secondly

the fish would run with the line if it were too small. 1. is a small bone tube with a plug in the end of the float, through which it is inflated; it is therefore called *Puerbik* (from *Puerpok*, blows up).

This line is of no small importance to the Greenlander, for it procures splendid food when he is on good fishing grounds. But as it is used in very deep places, either in the fiords or on the banks out at sea, it cannot be fished with except in calm weather, slight current and swell, so that the line can stay on the bottom; this is particularly the case in spring and autumn, when the Greenlanders have not much else to do, because then the seals are gone, and the fish, being free from their enemy the seal, come close to land; but it is also used in winter inside the fiords. In open water the men nearly always fish alone in their kayaks, when preferably they have the line coiled behind, seldom in front, on the kayak. When they arrive at the fishing ground they tie the bait on, sea scorpion (*Cottus scorpius*) or anything else handy, not on the hook or the barb itself, but above it, for which reason the fish often gets away; often they arrange the bait so that the skin of the sea scorpion is turned inwards, whilst its white and shiny meat is on the outside, and with its gills, liver and other red parts mixed in so that it shines the better; so it is more convenient to tie the bait on above the hook; it would not be so easy if the fish were placed whole on the hook itself; sometimes the hook being bare it can be struck into the belly or other part of the fish when it goes for the bait above. When everything is ready, he lets the line sink to the bottom, moves it up and down and keeps the kayak at the same place by a steady movement of the paddle; if a fish bites and it is not too big and heavy, he hauls in at once without further ado; but if it is very heavy, there would be a danger of capsizing, and therefore he will let it run with the whole line, as the bladder floating on the surface indicates where the fish is; later, when it is exhausted, it can be pulled up with less trouble, for then it is as if it were dead and allows itself to be drawn up to the surface, where it may perhaps begin to resist again, so that the fisherman must at once hit it on the forehead or on the back of the neck with a club or a piece of wood. Moderately sized fishes such as the large cod, the sea-perch and the small halibut species are laid aft on the kayak, but the big halibut and the shark are towed alongside.

For as the shark, the kind known as Greenland shark (*Squalus carcharias*), is wont to frequent the fishing banks to feed, it happens now and then that it takes the hook, though unwanted by the Greenlander because it mostly bites the line in two; however, sometimes it has to be dealt with, and then several kayaks gather about it when it has been hauled up, killing it with their harpoons, lances, killing knives and knives, for it bites fiercely round about. In winter, when

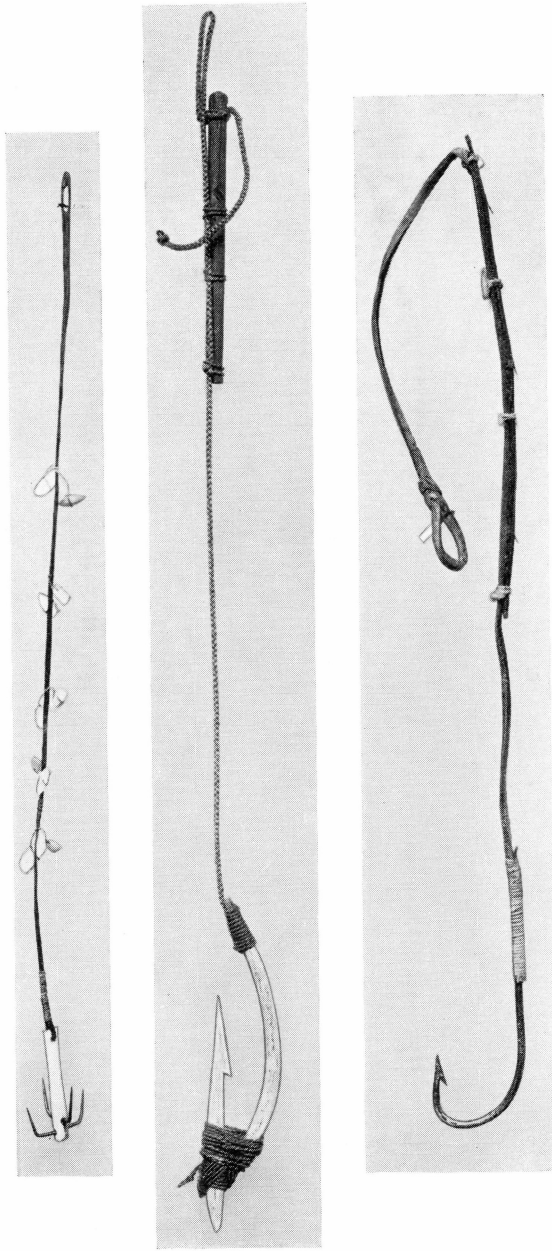


Fig. 31. Jig and hooks for fishing (Nat. Mus.).

fishing from the ice through a hole, it can be done better to keep it captive, for then one stands as on hard ground, but in a small kayak it is a more difficult matter to prevent capsizing on account of the constant movement of the fish many scores of fathoms down. Others harpoon the shark when they see it on the surface and then have someone to help to lance it, though this can best be done when from land it is seen to be near the shore, where it has fled from the noise of people or to escape from its enemy the cachelot (*Physeter macrocephalus*);

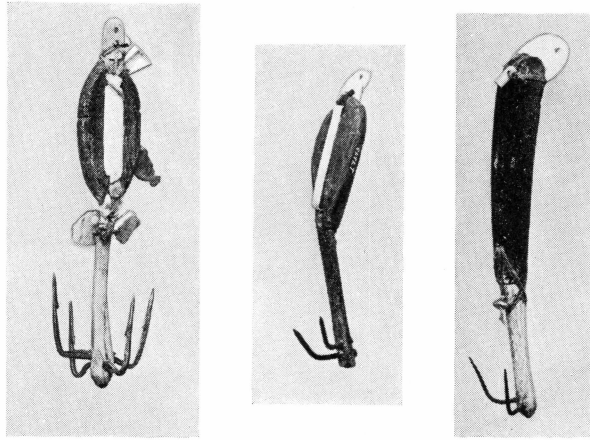


Fig. 32. Jigs. (Nat. Mus.).

from there they throw the harpoon into it without releasing the line, so that it can be used for dragging it half dead on to the beach.

For the smaller fishes such as sea scorpions (*Cottus scorpius*, *scorpioides* and *gobio*) and the fiord cod (*Gadus barbatus*) they have two smaller kinds of line:

1. The sea-scorpion line, called *Kaniorsiut*, i.e. "implement for catching sea-scorpions" (from *Kaniok*, "a sea scorpion"), because this line is used mainly for that purpose. It consists of hook and line and is shown in [Pl. II] fig. 9 with all its accessories: a. is a small piece of elongated bone or antler with two small holes for the insertion of the hooks; it is called *Kannártak* (from *Kannak*, "a shin bone", because that is what it looks like) and is rounded at both ends, and at the upper end it is tied on to the sinker stone with a little baleen which is run through both stone and bone. bb. are the hooks, called *Karssursak*, but by the south Greenlanders *Okomersak*, i.e. "something that is taken into the mouth"; before it is attached it is also called *Pekkitak*, i.e. "the curved one"; these cross-set hooks are actually two ordinary fish hooks, bought at the Colonies, stretched out and pointed at both

ends, but in an emergency they use other iron or steel wire, which the Greenlanders are very handy at shaping and making useful. c. is the sinker stone, which must be of soapstone, or another kind like it, because it is heavy and also easy to work; it is usually made oblong in shape and is called *Ujarak*, i.e. "the stone". d. refers to the small white spots on the stone, representing beads, feather stems, small pieces of lead, something red — either rag or the red part of a guillemot foot, a ptarmigan comb, etc. which are fastened to the side of the stone in order to decoy the fish to the hook; they are called *Kaulorkotei*, i.e. "all its bright things" (from *Kaulorpok*, "is white and shiny"). e. is a small piece of broad thong or bone, called *Pamiürsak*, i.e. "tail-like" (from *Pamiok*, "a tail") fastened on like a. f. is the line or string itself, coiled up, called *Aulisaut*, i.e. "a fishing implement" (from *aulisarpok*, "fishes"); preferably it is made of thin-cut baleen knotted at many places; in emergencies they use raven feathers, split and joined in the same manner. It must be 50 to 54 ells long if it is to be perfect and suit all the fishing grounds; but on the ice it will suffice if it is half as long. g. is a small piece of wood for a float to prevent the line from sinking if it should slip out of the fisherman's hands, called *Puktakot*, i.e. "something by which to float up" (from *puktavok*, floats on top). h. is a small swivel as on the deep-water line (p. 86) to prevent the line from twisting and breaking. [Pl. II] fig. 10 is a different kind of hook used by some: a. is the hook itself, consisting of a nail with its upper end fixed into a bone and with its lower end split to form two barbs, both projecting to the same side. b. is the bone in which it is secured by inserting the end and riveting it. c. is the sinker stone and d. the upper bone or thong (cf. fig. 9, e).

No bait is used for this line; it is simply moved incessantly up and down in the water, as when the fish sees the brightness on the side of the stone it will come out of the depths to seize it; but the line must be kept near the bottom; as it now approaches the stone with gaping jaws the fisherman strikes the ever-moving hook from below into its mouth or body; that is the reason why the hook protrudes on all four sides (in fig. 9), the object being to hit the fish no matter from which side it comes, the other one (fig. 10) not being so reliable. In this fishery it should otherwise be observed that the sea scorpion being a stupid fish, ready to devour anything, it nevertheless takes its own time about it, and therefore the line must be moved only steadily up and down, each time letting it rest a little while the sea scorpion regards the bright part, and in the period while it rests the fish rushes from the bottom to take it unawares; instead it is caught by the hook which is jerked upwards at the same time; if it is not properly hooked it will return to its first position, but is not afraid to come for the second time, as can be

seen especially on a sandy bottom in sunlight. Having hauled it up the fisherman at once hits it on the head with a piece of wood to prevent it from leaping from the kayak, which is not hollow like other boats but flat on top.

This line is used by both women and men; the former, especially widows and servants, fish solely on the ice in winter, cutting a round hole through which to drop the line; for this purpose they always carry an ice-pick tied to the end of a stick, and they also have a skin bag in which to put the fish and sometimes come home with a considerable catch; the men may fish on the ice too, but mostly from kayaks both winter and summer, either hanging the fish over the side drawn upon a cord and towing them behind when there are large numbers, or lying on the after part of the kayak; sometimes they have such a large number that the stern of the kayak is almost hidden under the water by the weight.

2. The fishing line called *Nedlout*, i.e. "an appliance for fishing from the shore" (from *nedlukpok*, fishes from the shore), because that is how it is used. It is sometimes called *Sinasiut*, i.e. "an appliance for fishing from the beach" (from *Sine*, a beach), which means almost the same thing. [Pl. II] fig. 11 shows this fishing line: a. is simply a fish hook, b. its barb on which the bait is set, c. a short piece of thong which joins the hook to d. a small sinker of soapstone, e. another short thong connecting the stone with the actual line f. which is made of baleen like the line mentioned above, usually 9 to 10 ells long, with g. a small finger-grip on the end. If the hook has been changed for certain kinds of fish, this line receives the name of *Ersak*, i.e. "something to swallow" (from *eiok*, swallows) and is seen in [Pl. II] fig. 12, where a. and b. are as on the *Nedlout*, but c. is a piece of flattened lead which shines in the water and is the actual origin of the name, because the cod, which is preferably fished with it, in swallowing this shining piece also swallows the hook; the hook has its upper end inserted in the fore end of this lead; e., f., and g. are as on the *Nedlout*. Fig. 13 shows a third kind of short line for small fishes, where a. is the hook, b. a large, clear bead for a decoy and also acting as a sinker, c. is a short line of very thin baleen or twisted sinew thread, and d. a short fishing rod. Actually used only for young fishes when they come near the beach in shoals.

With these three kinds of fishing lines they always fish from the beach, where the fish can be seen near the surface of the water and they watch for the moment when the fish opens its mouth over the bait, then they strike at once to make the hook fast in it. Nevertheless, these lines are of no great importance and are used much more rarely than the sea-scorpion line (fig. 9 and 10).

For other fishes, especially the wolf fish (*Anarrhichas lupus*) and the lump fish (*Cyclopterus lumpus*) they use a leister called *Kakkivsek* (from *kakkiok*, "stabs") which has much in common with the Danish leister or eel-spear. There are three kinds, though there is not much difference between them and they are all fixed on wooden poles two or three ells long. The leister itself, which is fastened to the lower end of the pole, is made either of nails with a barb or hook, one on each side so that it is two-pronged, or of old iron which can be split at one end and allowed to remain whole at the other for insertion into the pole, the cleft thus forming two projecting prongs fitted with barbs; or again, they use narrow pieces of caribou antler, one on each side, tied on to the pole, with several barbs on the inner side; furthermore, some have a middle spike of iron between the prongs to make more certain of transfixing the fish, but it has no barbs; again, on the upper end of the pole some have a button of wood or bone.

This leister, which is shown in [Pl. II] fig. 14 with iron prongs and middle spike, and on fig. 15 with horn prongs and several barbs, is always used close to the shore in shallow places so that one can see the fish either lying motionless on the bottom or swimming past in the water; one takes care to get the leister directly above his back and then thrusts it into him; on account of the barbs it cannot then escape and is pulled up. With this fishing implement even boys and women can make a good catch when the fish are willing to bite; but it cannot be done except in calm weather, for otherwise one cannot clearly see the place where he is and consequently one is liable to miss; therefore, when the water is disturbed slightly by a light breeze when one is fishing, one puts a piece of blubber or the spawned roe of the lump-fish in one's mouth, chews it slightly and spits it on to the water some distance away in the direction of the wind; this makes the water surface calm for a time, the grease spreading out to all sides and subduing the small waves.

It is a curious feature about this fishing that the one who first sees the fish in the water has the right to the fish, even if he has nothing with which to catch it; anyone else who catches it will hand it over to him without ceremony.

For catching the haddock (*Gadus aeglefinus*) the Greenlanders have a curious method which they say they learned of the arctic fox (*Canis lagopus*), which comes to the beach in winter to fish; by pawing the water between the broken ice it lures this inquisitive fish up to the surface and then seizes it. The Greenlanders now do the same, either between pieces of ice broken by the waves at the beach or in a hole which they themselves make in the ice, preferably in the month of February, which is the spawning season, and it must be done at

night, in the evening or early morning; they stir the water with a stick and make it clear; this lures the fish up right to the top of the water, where it is taken with the hands.

The caplin (*Salmo villosus*)¹⁾ is the easiest of all to catch, which is a great blessing from Providence, as they need large quantities of this little fish to dry for winter supplies; in the spawning season in spring until some way into summer it offers itself as it were in great shoals in some fiords, so that whole boatloads can be gathered quite easily.



Fig. 33. Caplin net. (From BIRKET-SMITH: M.O.G. 66, fig. 267).

The catching and drying of the caplin is the women's work alone; in their skin boats they row up the fiords where the fish usually come, especially in the month of June, and stay there until they have secured sufficient of them. They row out with the boats at certain times, especially during the ebb, to search the beaches and try to catch the shoals spawning, at which time they run along the shores. When found, the women scoop them up with a kind of net made for the purpose, in the form of a hoof or racket just like the European shrimp net, called *Kallut*, i.e. "an implement for scooping fish" (from *kallôrpok*, scoops fish), for with it they do actually scoop the caplins into the boat, or on to the shore when standing on the beach; the scoop is placed in front of the shoal which thus runs into it of its own accord, so all that is required is to scoop them up and begin where one left off until the boat is full or those on shore think they have secured enough for that occasion. This scoop is knotted into diamonds of plaited sinew thread and secured to a handle, long when used from the shore, shorter for use

¹⁾ This fish in my *Fauna Grönlandica*, page 177, I have called *Salmo arcticus*; but as PALLAS has another *Salmo* under this name and it is registered under that name in GMELIN's system, it is better together with the publishers of *Zoologia Dania* 4. Tome, page 45, to give it the name *Salmo villosus*, which indeed corresponds better to the GMELIN name *Clupea villosa*, though together with MÜLLER he has incorrectly placed this fish among the herrings.

in the boat. Catching goes on at night or in the early morning, this being usual ebb time in this season, and moreover there is little night; and it must be done during ebb, because the shoals are then in shallow water to spawn and are the better to scoop up. If the women of different families are in the same boat, they share the fish among them, but not until it has been dried by being spread out on the rocks, which is also a work for all; afterwards the dried fish are put into skin bags, each person taking her bag; the owner of the boat gets no more than they do. Others who are unable to get into the boats must fish from the beach; generally this is preferable where it can be done in order to spare the frail skin boats, which suffer a good deal from this work.

For trout (*Salmo alpinus*) they use various methods:

1. With a salmon net, called *Kaksut*, though only few Greenlanders have proper nets of hemp, bought at the Colonies and usually in short lengths. Before the white man came to the country they made their own short nets of plaited sinew thread, and do so still at places far from the Colonies. These nets are either set across a river that is neither too swift nor too wide, the ends being made fast on both sides on shore; the trout thus catches itself by running into the net at night; or along the bank of a rapid river between small islets, where the end lines can be made fast, in which case the fishes must be driven into the net by throwing stones; or again, across the end of a small freshwater lake which has an outlet into the sea, where they enter the net during the night, or by putting a kayak into the lake and paddling across it to and fro from one end to the other, splashing the paddle in the water and thus driving the trout into the net.

2. It is also caught with the bird dart (page 75) when it shoals at river mouths or it is met with singly, leaping on the surface.

3. They also catch it with the leister (page 93) when found lying quiet by a river bank or stone.

4. Sometimes they wade or, when necessary, jump naked into the river to search under large stones where it is in the habit of hiding, and then take it with the hands.

5. Or they wade into the river with the caplin scoop (page 94) and try to place it under the fish or to drive it into the scoop.

6. They also catch it, especially in the north, in a kind of fish trap. I have not seen it, but it is said to have only one entrance, like a funnel of plaited osiers and surrounded by a more spacious neck of knotted sinew threads which connects the mouth of the funnel with the rounded oblong basket of osiers hanging below it like a park, in which the trapped fish accumulate without being able to make their way out again through the funnel-shaped opening. This trap, called *Korngortut*, is used only in rivers, the mouth being turned against the

stream, the basket itself lying deeper, and after a time the trout running in the river can be gathered in considerable numbers.

7. Others catch them with a fishsnare, called *Napiut*, similar to the one described under guillemot catching (page 80); the only difference is that the fish snare consists of thin baleen and the shaft is longer, and it is held out from the river bank with its open snare on the end, the aim being to get it round the fish, preferably near the gills; the end of the line is then pulled, the fish is caught and it is hauled in.

8. Some fish for it with a hook on the end of a line, which is jerked into its body.

9. In the south it is said to be caught with the fishing line (page 92) from river banks which project over the water, so that one is not so easily seen.



Fig. 34. Fish snare. (From BIRKET-SMITH: M. O. G. 66, fig. 262).

10. Otherwise, the most common method is to shut off part of a small bay by means of a low stone fence across it, the stones being laid close together, called *Sapputit* (from *sappuvok*, embanks). This weir is built during ebb, but so that the fence or embankment does not reach the surface of the water in flood; when the water begins to fall again, a number of kayak men gather in their kayaks, spreading out in the sea a little way beyond the mouth of the bay, and then, splashing and making a din in the water they drive the trout before them into the bay over the fence by paddling to and fro across the bay to frighten it inwards; when there they keep it in by continuing the noise until the water falls sufficiently for the fence to enclose the fish, whereafter every kind of implement is used, the men in the kayaks and the women from the shore, to catch and spear it, with the result they can catch every fish inside the fence, and after a time they are left high and dry when the water has all run out at full ebb.

11. There is still another method, which they call *akajarolderdlugit* (from *Akajarok*, "a stomach"), when in the middle of a river they fence off a part with a stone wall, wide up river with a narrow neck down to a wide bay, which thus resembles a stomach. The water forces its way through the narrow neck into the spacious part, and the trout goes with it when stones are thrown from up river; when sufficient trout have come in they make openings in the foremost, wide part and close the narrow neck, whereby the river takes another course, the water in the so-called stomach becomes still and the trout are enclosed, so they can be fished without trouble with the caplin scoop (page 94).

ETHNOGRAPHICAL CONTRIBUTIONS

extracted from OTTO FABRICIUS' zoological papers.

The Arctic Fox (*Canis lagopus*).

[Field-Ræven (*Canis lagopus*). — Kgl. Danske Videnskabers Selskabs Skrivter, nye Saml. 3. Deel, 1788, p. 423—448].

... But the Greenlanders have the knack of killing it when they get it alive in their hands: placing one foot on the back of its neck they pull it hard by the tail and thus break its back and rupture the back blood etc., when it soon gives up the ghost.

To my knowledge the arctic fox has the following uses: a) Its flesh is eaten boiled by the Greenlanders, but only by few except in a famine;¹⁾ nevertheless I see that PHIPS with his people on Spitzbergen acquired a taste for this dish.²⁾ b) Some Greenlanders remove the tail from the pelt and use it for squeezing the water out of their small Greenland boats. c. The sinews in the tail, like caribou sinews, are highly valued instead of thread; for it must be noted that the Greenlanders have hardly any other thread than the animal sinews, which they split and use either singly or plaited; but as no great quantity can be obtained from an animal so small as the arctic fox, the advantage is insignificant. d) The skin is the best. It is peeled off whole after having been cut around the mouth and paws and afterwards put on a wooden frame to dry, at which the Greenland women are very skilful. However, the skin is not valued much by the Greenlanders themselves for their own use, especially since they can get such a good price from foreigners. Yet I cannot think that they should disdain it solely on account of its fragility,³⁾ for bird skins are much more flimsy and yet are used daily for

¹⁾ SCHREBER says l.c., p. 365, that the Greenlanders eat it in preference to hare meat and refers to CRANTZ, who, however, in his *Hist. Grøn.* p. 98 says merely that when they are short they eat it rather than hare meat, but neither is true, for they eat hares even when there is no shortage, but one observes this so rarely at the colonies, for they usually sell them to the Danes in order to obtain a good price, in that for them a hare does not go so far, whereas fox meat cannot even be sold so they have to eat it themselves.

²⁾ Berl. Saml. l.c., p. 562. The same is reported by ALDROVAND, l.c. p. 220.

³⁾ According to "Anmærkn. til Crantz" p. 84.

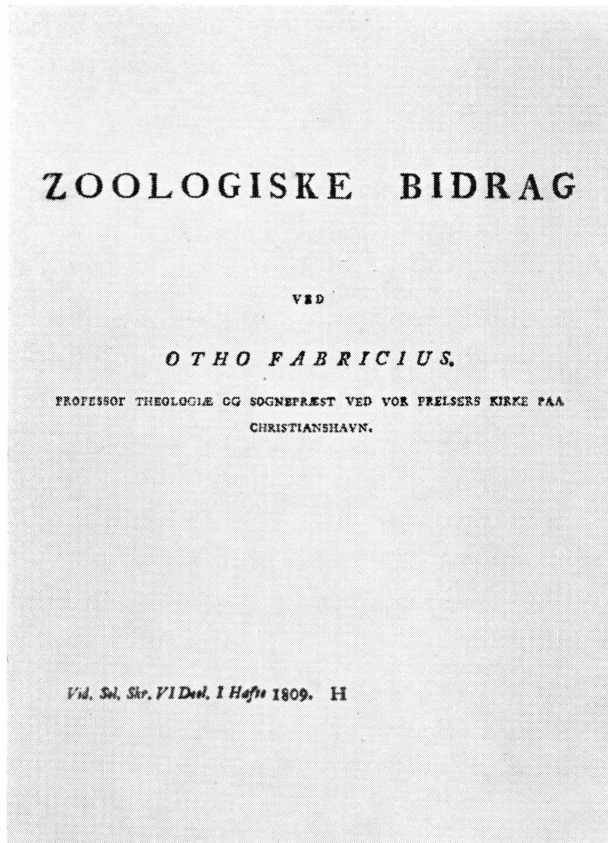


Fig. 35. Title page of FABRICIUS: *Zoologiske Bidrag* (Zoological contributions), in *Det Kgl. Danske Videnskabernes-Selskabs Skrifter* (Proceedings of the Royal Danish Society of Sciences) 1809—12, Vol. VI. — Kiöbenhavn 1818.

garments, but they are not in demand at the store; presumably for this reason fox skins were more in use among the Greenlanders before ships began to call at the harbours. A few of the men make shaggy caps of them, and some women edge the sleeves of their coats with the fur; it is also made up into garments for children now and then.

To the Greenland Trading Company, however, arctic fox skins are a big article, being justly reckoned among the finest furs and, next after baleen and blubber, must be regarded as the greatest advantage secured from the country, especially as it costs little there but is good for much elsewhere. For although the natives are well paid for these small pelts in comparison with others of larger animals, one cannot say that they are expensive; when I was in the country one could generally buy such a skin for an ell of Dutch tobacco, or a knife, or another piece of trade goods to a value of 10 or 12 skillings; and even if the price

is higher at other places in Greenland where supplies are shorter, the highest price at all would no doubt be 24 skillings; however, when from 8 to 14 Danish marks, and perhaps sometimes 3 rix-dollars or more, can be obtained for one of the best, it is safe to call it profitable business. It should be remarked, by the way, that the blue-black skins have always been worth almost twice the white, though perhaps the latter have gained in value since they are more often used for the so-called "purre-cloaks" (cloaks with an edging of white fur, consisting of either hare or rabbit skin, or preferably white fox). The skins of the young are not held in much esteem either. In summer the pelts are not much good as a rule, as the hair falls out or they are not quite fully grown and are therefore called immature; in winter they have both their permanent and proper colour and furthermore the denser and thicker hair, when they bear the name of mature skins. However, the skin of the arctic fox is claimed to have the faults that it fades and that the hair is liable to fall out,¹⁾ which I would not venture to confirm or contradict. Not many are obtained from the colonies in the north, but so much the more from those in the south, partly because their numbers are greater there and partly because more trouble is taken to catch them.

The Greenlanders have several ways of catching the arctic fox.

A. The most common is with stone traps which have the appearance of small houses, or stone graves. They build three stone walls half an ell high, two side walls an ell in length and the third at the rear end to hold the other two, but only half as long. Stones are laid across like a roof, and over these again a vaulting, and care is taken that the walls are so thick and the stones so large and closely set that the prisoner cannot move them or find even the smallest opening to stick his nose through, for otherwise it will break out of its prison. At the open end is a flat stone for a trap-door which just fits the opening and is prevented from being pushed away by two stones, one on each side of the entrance and so far from the trap that the door may readily be pulled up and down like a shutter. Tied around the door is a thick thong, the end of which passes through the upper vaulting along to the rear wall, where it runs down through a hole in the roof, with an end loop which is pushed over a spindle fixed in the rear wall; this spindle-trigger is so far down and the thong is made so short that when its loop is over the spindle the door is raised so high that the entrance is open; placed on the spindle within the loop is a bait of dried caplins or other odorous object, and a few are strewn at the entrance. Then when the fox creeps into the trap and drags the bait off the spindle it also drags the thong-loop off,

¹⁾ See "Anmærkn. til Crantz" l. c.

thus releasing the thong whereupon the door falls over the entrance and the fox is captured alive. The roof is afterwards opened, the fox is dragged out by the tail and killed in the manner already described. It is possible that a larger trap built of larger stones in this fashion could be used for catching the common fox; for this the above description might serve as directions, for which reason I have given it in such detail.

B. In winter when deep snow has fallen and the fox is suffering from hunger, they also make a deep hole in the snow and throw bait into it, but around the top edge they arrange a snare of baleen, i.e. whalebone, and cover it with loose snow, as also a line from the snare to a small snow hut or other hide, where the hunter sits in the moonlight and through a peephole watches the fox which, the moment it is half way down into the hole is caught around the body by the noose and quickly dragged out to prevent it biting itself free.

C. Others make deep pits of stones¹⁾ strewn with bait on the top but with more inside. These pits are sealed up everywhere except at the top, where there is a hole with a movable stone; when the fox steps on this stone to reach down for the bait it slides down and, the hole being small and the pit deep and very narrow, it is unable to get back and is caught alive.

D. Others again hew a large hole horizontally into the lower edge of the ice on the beach (which in winter becomes considerable on account of the constant washing of the waves), and in the top two vertical holes which are smaller, one in front of the other; down through the inner one hangs the bait, but through the other one is a noose of baleen; the fox cannot get to the bait through the large opening without inserting his head through the hanging noose in which it is snared and hangs to death.

E. They also shoot it with their darts (which otherwise are used at sea) when they encounter it swimming and it cannot escape, and also when it is observed on an island or a peninsula not too large; some go ashore to pursue it, others remain in their boats to watch if it should flee to the water; thus it is at last killed by one or another who keeps it all for himself.

F. Now they have also learned to shoot it with the flintlock, way-laying it especially on the beach when it is eating mussels or washed-up carcasses. But in these last two methods the skin is liable to be damaged and lose its value.

¹⁾ CRANTZ says p. 98 that they are made of snow, which I have never heard of or seen, and I should think the fox could easily dig its way out if it were not seized quickly.

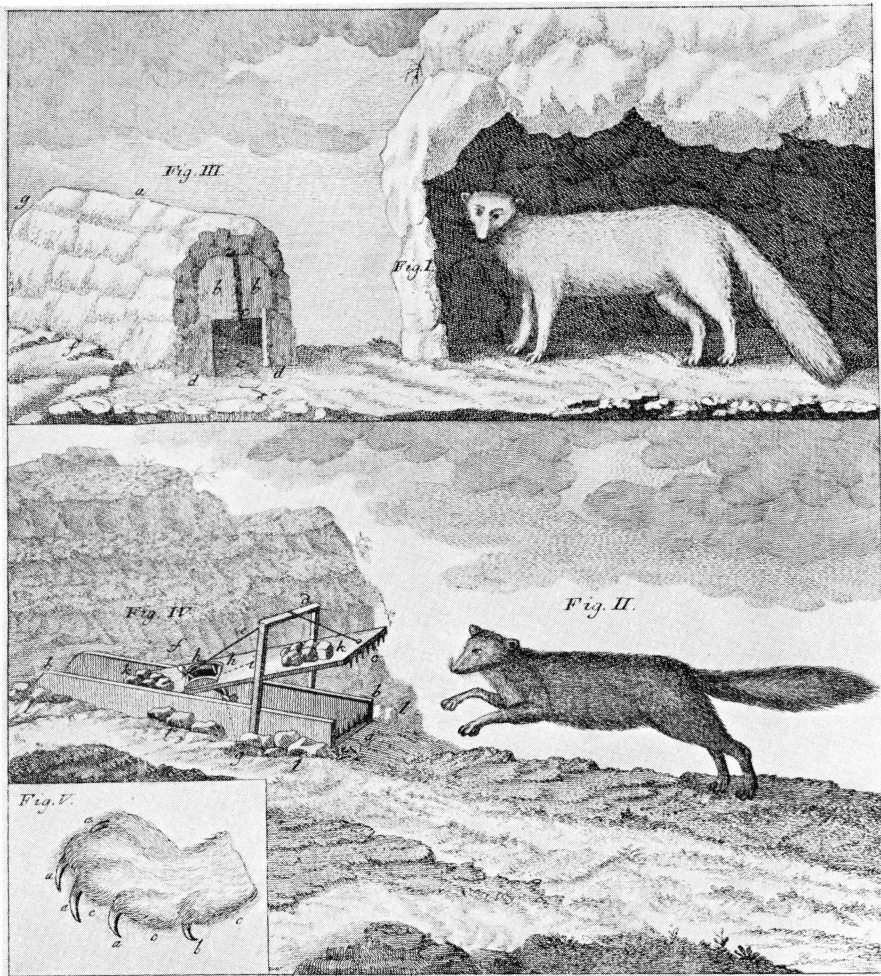


Fig. 36. Fox traps. (From FABRICIUS: Field-Ræven (*Canis lagopus*) (The arctic Fox).

G. They often catch the young alive, before they are able to escape by flight.

H. Nor is it to be doubted that the Greenlanders formerly used to shoot it with bow and arrow, but these are hardly ever used now since guns were introduced. More foxes could be caught without much trouble, especially by the first-named method which is possible for children, women and old people who would not be neglecting more important hunting; on account of these animals' prolificacy they would not become scarce so quickly if it were made a rule that none should be killed out of season. This could be encouraged if rewards were offered by the store to those who caught most, the store would gain and the living conditions of the Greenlanders would perhaps be improved.

The colonists make use of still other methods of catching the fox: a. the well-known steel-traps, b. a spring trap of wood, which I believe is not so generally known and therefore will describe here. It consists of two long side boards raised on edge, rounded at the back and below assembled by means of four cross-pieces instead of a bottom: the first is situated at the foremost point and on top is furnished with iron spikes; towards the middle is a gallows formed of two uprights, fastened below to the side boards and above assembled by a cross-piece; between the side boards is a board of the same length lying flat over the bottom cross-pieces and adjusted to the width of the trap so that it can readily be raised and lowered; in its fore end are some small spikes and towards the rear end is a so-called lock: an oblong hole is cut lengthwise in it and on top of each side of this hole is nailed a short piece of wood, through each end of which runs a transverse nail; transfixed by the rear nail is a movable spindle with its lower end cut sharp, and on the forward nail is another spindle, also movable but in the lower end having a rear notch, into which the rear spindle can fit tightly and not spring back when the trap is set. From the forward end of the board a line runs up over the gallows to the lock and a loop of it is placed around the upper end of the rear spindle; this line is so short that it cannot reach the lock without being pulled tight, which raises the fore end of the board high. The bait is hung from the foremost spindle, the upper board is weighted with large stones, other stones being laid against the back and outer sides of the side boards to keep them firm. When the fox enters the elevated forward part and pulls at the bait, thus jerking the foremost spindle forward, the rear spindle slips out of its notch whereby the line becomes slack, the weight forces the middle board down, the loop slides off the spindle and the board with its whole weight falls upon the animal which, through trying to make a quick withdrawal lies half outside the trap and gets the end spikes into its body, which kills it.¹⁾ The skin is damaged somewhat by the spikes in this method.

¹⁾ It would seem that ALDROVAND had traps of this kind in mind when he wrote l.c., p. 220: "Ex crassis asseribus decipulas fabricabant, & lapides superim. ponebant, ut vulpes pondere compressæ ab ipsis evadere nequirent."

Full Description of the Greenland Seals.

First Section:

The harp seal (*Phoca Groenlandica*).

[Udførlig Beskrivelse over de Grønlandske Sæle. — Skrifter af Naturhistorie-Selskabet. 1. Bind, 1. Hefte. Kiøbenhavn 1790, pp. 79—157. Første Stykke: Svartsiden (*Phoca Grønlandica*)].

The Greenlanders catch the harp seal in several ways:

1. Chiefly with the harpoon, which differs from the other throwing weapons in that a loose head (*Tûkak*) is placed on the end of a shaft (*Erneinek* or *Unak*) which can be thrown only a short distance, and to the harpoon head is attached a line (*Allek*), which lies neatly coiled like a ship's rope on a small stand, called kayak stand (*Assellut*) in front of the hunter on his small craft (*Kajak*); an end of the line runs back and is attached to an inflated seal-skin (*Auatak*) lying secured on the stern of the kayak. When starting out on this form of sealing one must also be equipped with more accessories, especially lance (*Angoviak*), killing knife (*Kapput*) and towing gear (*Kallivtit*), all of which together with other throwing implements are called *Sakotit*.

With this object the hunter seeks the seals either in the open sea or up on the drift ice. If it is in the open sea the hunter sets out in his man's boat, which will hold but one solitary person and is called *Kajak*, on which he has secured all his hunting gear; then here or there in the sea he tries to stalk the seals, a form of hunting called *Kammavok*.¹⁾ Usually several of them start together from the shore; but on arriving at the haunts of the seals, and especially when they observe one with its head above the water, they spread out in order not to get in one another's way, but usually so that they can see each other and get help if needed; all with the exception of some few dare devils and cranks who, relying upon themselves, go far away from the others.

Then each one remains quietly at his post, waiting for the seal to emerge. In sunshine he keeps the sun behind him, so that the seal when looking into the sun will not readily become aware of him. If it is blowy he keeps before the wind in order not to make too much

¹⁾ This word need not be made to look so dangerous as CRANTZ l.c., p. 204, does by deriving it from *Kammipok*, i.e. being extinguished, because the hunter's life is in danger and therefore is as easily extinguished as a candle (which no doubt he borrowed from the Greenlandic dictionary p. 63, which says the same); for the word is also used of pursuit, on shore too, where there is no danger, and ordinarily means lying in wait or on the watch for something; I should rather derive it from *Kamma* outside.

noise. He makes just as much movement as is required for wielding the paddle, and so neatly and gently that it makes scarcely a sound, at which the Greenlanders are quite masters. Then when a seal bobs up, the hunter studies its behaviour in order to decide whether he has any hope of catching it and how to attack it. If it seems confident he does all he can to approach quite close in order not to fail, his sole care being to prevent either his paddling or the approach of the kayak from making much noise, which would disturb the seal's tranquillity; this however requires no little dexterity and routine, partly by long, deep strokes of the paddle, partly by urging the kayak forward with his body alone; many are so highly trained at this that they can get the seal alongside the kayak without its noticing it. But if it is one of the cautious kind that looks about it, it is more difficult; yet the hunter does not abandon hope but watches for the seal to submerge its head, when he hastens forward; but while the head is above water he remains still and bends down, or lies back in the kayak so as to be mistaken for something dead drifting on the water; in that case he will not approach so closely as in the former instance but must throw the harpoon at it from as far away as the line can reach.

If the seal is blustering in the water and in playful confusion when he looks at the hunter now and then, the latter whistles in order to reassure it, for then the seal listens to his whistling; if nevertheless the seal should dive before he gets within range, he observes the course it takes, shifts his position slightly, constantly looking around for the place where it emerges again, and such other things which would be too circumstantial to enumerate here.

When finally he has come within striking distance in one way or the other he throws the harpoon at the seal, having previously attached the head; the line, which has lain coiled on the kayak stand, runs with it; as the harpoon head is barbed the hunter can see at once whether the seal has been hit or not, for if so the seal cannot easily get free of it but is compelled to pull more and more of the line out; then there is no time to waste; as soon as he sees that the seal is hit the hunter must at once throw the float overboard, as otherwise it would receive a hard jerk when the seal had run the line out, whereby the kayak would be liable to capsize; this might also happen if the line became tangled and caught on something on the kayak. In these two cases it often means the life of a Greenlander, for once the seal gets him in tow and no other hunter is near enough to come to his aid, there is seldom any hope for him; but if he gets the float away and the line runs out without becoming entangled, his greatest danger is over; sometimes, however, a man encounters a seal brave enough to turn against the thin skin kayak and bite a hole in it, so then he is in danger of sinking. Thus in many

respects this may be called a risky form of hunting, one which many Greenlanders do not venture out upon without careful consideration.

If the harpooned seal gets the float in tow — it is rarely able to drag it below the surface — the hunter watches the direction it takes, follows it and with the lance tries to kill it; for the lance has no barbs but slips out of the wound and floats up again every time it is thrust into the seal; in the end it has to yield to the repeated wounds, for it has also become exhausted by dragging the large, blown-up float; when at last the hunter gets close enough he gives the seal the death blow by hitting it on the snout with his fist, which stuns it immediately; and if necessary it is stabbed with the killing knife.

After that it has to be made fast for the tow home; first of all the wounds are closed with wound-plugs to prevent the blood from going to waste (for the blood is also useful); at the same time air is blown in between skin and flesh to make the carcass more buoyant. If the seal is only small it is laid aft in the kayak, furnished at about the navel with a small bladder to keep it afloat in the event of its falling off. But if the seal is a large one it has to be towed in the water alongside the kayak and with a float so large that the carcass can be left to drift without risk in case the hunter sees another seal to catch; if several are caught they are made fast to the first ones, and thus a lucky hunter may paddle home with four or five seals in tow at one time.

When some way out from the shore there is drift ice on to which seals may have crawled, the hunter makes his way to it and searches among the floes where sometimes whole schools of harp seals may be found, quite unsuspecting and not infrequently sleeping. The hunter then disembarks on to the drift ice and moves towards the seals, stealing in upon them, and with less risk than when at sea he harpoons and lances one after another, often making a rich bag. This method is called *Kaksimarsulliarpok*, that is to say: looking for sea animals which have crawled up on to the ice.

When the harp seal is fleeing from the killer whale (which happens especially towards winter) and for that reason comes close inshore, there are some narrow straits through which it seeks to escape and save itself, but which at ebb tide may be dry. There the hunters try to get the timid seals driven ashore, when many hunters with their little craft assembled, howling and shouting and splashing the water, alarm it so that at last it goes up on land; in fact it will sometimes do this just to escape the killer whale. When it has come ashore the hunters leave their kayaks and pursue it with dart and lance until it is killed, which on land can be done without risk. This form of sealing is called *Kakkirsarpok*, that is: drives on shore.

In the season when the harp seals in large schools chase the caplin along the shore, it is possible, at some places where the beach is convenient for it, to stand on land and harpoon them, dragging them ashore later. This is also done from the firm ice in the fiords when large schools of them appear at the holes. A seal is then called *Særpsak* and the form of hunting *særpsiarpok*, i.e. chasing marine animals in the ice-holes.

2. More uncommonly this species is caught with the bladder dart called *Akligak*, which is a light dart having a small bladder on the side of the shaft in which the actual barbed dart is set, and by means of a throwing-board can be thrown a fairly long distance. This happens sometimes in the case of a solitary hunter who unexpectedly may come across a harp seal at such a distance that he is unable to reach it with the harpoon but with the bladder dart, which is then called *agligarpok*, and he keeps the seal for himself. But when it is intended to make an organized hunt of the seal with bladder darts it is done with several hunters together; this is called *mallersorpok*, i.e. chasing, and has much in common with a battue; for immediately a seal is seen to peep from the water the entire company of hunters begin to shout and cry with all their might, beating their boats, pushing the end of their paddles down into the water and hooting at them to make the sound travel under water, and more of the kind in order to scare the seal and make it dive without breathing much air, to come up again all the sooner; in this fashion they continue to chase it whenever they see it reappear, wherefore it is bound to become shorter and shorter of breath and exhausted. Nor do they forget to throw darts at it; in time one will hit; on account of the attached float it is hard for the seal to pull the dart below the surface when it dives; and while it is trying to escape from it the seal is struck by more and more of the same kind and then has to give up. This method is preferably used for catching the young ones when they have just come in-shore in the month of may; the larger ones, especially the fully grown seals are not so easy to tire and might easily escape with such a small dart, which then would be lost.

According to the Greenland customs, no-one may keep for himself what he catches on such a hunt; it must be divided among all taking part; the first man to put a dart into the seal may pull it to him and secure it with a short thong under the chin, but afterwards he hands it over to the others to be skinned and parted; his share is the head, the breast and the entire skin, which indeed are never refused him. The remainder is shared among the others, not quite equally, for those who are nearest take care to get the shoulders and hindquarters, which form four whole pieces and are never subdivided. The others have to content themselves with one or more ribs or pieces from the back,

or perhaps part of the organs; indeed, if there are many, the more backward or young ones may get nothing at all, with which they are usually content. On the whole this sharing out proceeds quite amicably and rarely leads to such violence that they fight over the spoils; at most there may be some bickering, especially when powerful, arrogant Greenlanders would push a poor countryman of their's to one side; on the other hand the latter is rather apt to give way than expose himself to something worse. It happens only rarely that the man who puts the first dart into the seal has the courage to take it all for himself, especially when he wants to have the skin intact for use as a float; the others may give in to him but will have plenty to say about him later.

3. The Greenlanders have also begun to hunt this seal as well as other species with the gun (*Auleit*). For since the gun became known in Greenland and is to be bought at the shop, the natives use it not only on shore but also at sea, but not to any great advantage for more animals are driven off than are killed, and more are killed than are retrieved. For this form of hunting the man lies in wait for the seals at narrow channels where they are in the habit of passing through in schools on their migratory journeys, or up at the places where the seal comes in pursuit of the caplin shoals; or they watch for it from the ice and shoot when they see it peep up in the holes; sometimes a Greenlanders will crawl up on to an ice-floe at sea and wait for a seal to come within shooting range. On all these occasions care is taken to shoot it in the head; partly so that it may not die at once but have so much life in it that the hunter can get to it with his boat and other darts, for if it should die at once from a shot that leaves a large hole in its body for the air to escape it will usually sink before the hunter reaches it; another reason for shooting at the head is to make the seal dizzy and thus prevent it from determining to get under the ice or down to the bottom and bite on to the sea-weed roots, which it is said to be apt to do when it feels mortally wounded; in either case the hunter loses his game.

4. They have also learnt to catch seals with nets (*Karksut*), a method employed especially in the northernmost regions where the nets are spread in narrow channels close to the shore, or under the ice; it is said that they sometimes make good catches in this way.¹⁾

¹⁾ Catching it with nets has previously been known in other countries, as will be seen from STRØM'S Søndm. 2. Deel, p. 45. Eggert Olafsens Reise giennem Iisland p. 531. 704. MOHR'S Isl. Naturh. p. 3 and other writings.

It is also known that off Spitzbergen the so-called "Robbenslagere" make good catches especially of this kind of seal when they encounter large numbers of them lying on the drift-ice and can get close enough to them to club them over the nose, killing them by the score.¹⁾

I have already recalled that the seal is most useful to the Greenlanders. In some respects they may be called indispensable, a term which applies particularly to the harp seal. They know how to utilize them to the utmost. No part is thrown away except the excrement from the guts, the hairs and some of the bones; the rest is used for eating, for fuel, for clothing and for boat sheathing, etc. I shall endeavour to show what each part is used for, in order to make it so much the clearer how much use can be made of one kind of animal alone.

1. To the Greenlanders seal meat is a nourishing food. They eat it boiled, fermented or dried. For boiling it they use fresh water with a slight admixture of sea water. The process is not too cleanly; for if the meat has been lying on the ground and is rather dirty, they merely scrape the outside a little — or sometimes not at all; nor is it allowed to boil so long that the meat leaves the bones — they like it half boiled, and if they want it cooked quickly they put a little blubber in.

"Fermented" is what I call the meat which the Greenlanders store away until it is half putrefied; indeed sometimes it is almost rotten and stinking, for it is rarely so bad that they have to throw it away completely. In order to bring it into this condition they put the meat into the blubber pits in summer and cover it with a little blubber; or they leave the blubber on the meat, whereby it quickly becomes tender. In winter, however, the process is not so simple, for then the meat will usually freeze and thus be prevented from putrefying; so they have deep storage pits in the ground, to the deep parts of which the frost cannot get so readily; thus what lies lowest becomes tender first. If it is wanted ready earlier it is stored inside the house under the foremost platform. A whole seal prepared in this fashion is to them the finest dish they can serve to outside visitors; and especially if it has been frozen after becoming tender it is considered to be the greatest delicacy. This fermented or semi-rotten meat is called *Mikkiak*, a name also associated with fish similarly treated.

Dried meat is called *Nivko*. For drying purposes it is cut into flat slices as far as this can be done on account of the bones, which are allowed to remain; the slices are then laid upon bare rocks in the sun and wind in summer; a small amount of blubber is also left on to make

¹⁾ The actual method may be read in ADELUNG'S *Gesch. der Nordostl. Schif. I.c.* (MARTENS *Spitsb. I.c.*). BOMARES *alm. Naturh.* VII p. 17. OLAVII *oecón. Reise giennem Iisland* p. 11, 12.

it tasty, and afterwards they have this wind-dried meat for winter supplies; good housekeepers collect as much of it as they can in summer. Otherwise they also use dried and boiled meat together with blubber filled into bags made of seal stomachs; it is eaten thus and is called *Akkuglit*, that is to say mixtures.

2. The viscera are either eaten or used for windows and clothing. If they are to be eaten the excrement is at once pressed out between the fingers; this is repeated a second time and then they are rinsed, but they are not turned inside out, so the process is not exactly a clean one. They are then eaten boiled or in fermented condition, for which purpose they are wrapped in blubber; or they may be dried and then plaited into a kind of chain at which the Greenland women are very dextrous; afterwards they are also used for mixing in the blubber-bags.

If the guts are to be put to other uses they must first be prepared; while still fresh the guts are laid aside for some days, packed in blubber; then they are chewed between the teeth in order to peel off the outer and inner fleshy coatings, leaving nothing but the fine membrane. To make this process easier they pour melted blubber into the guts. When all the fleshy parts have been chewed off they are laid in sea water to stiffen, then they are blown up and hung out to dry; in winter they are pegged out on the snow to make them white and clear. They are then split, rolled close together into round bundles and stored away until required. Guts prepared in this manner are used for windows and for curtains in tents to let the daylight in, though they are never so clear as glass windows. Moreover, the men use them for a kind of outer garment called a gut-skin coat (*Kapisek*), which they wear over their bird-skin coats to keep the water out when at sea; for although the gut-skin coat may get wet, the water never permeates it. For this purpose, however, several strips of gut have to be sewn together side by side and therefore they are very fragile; they have to be patched often.

3. The throat as with the guts is used for windows and clothing, and an over-coat of this type is called *Ikiak*; but there is some difference in the preparing, for in this case they scrape only the outermost covering off with their teeth, the inside not being flabby; then they split the throat, which is double in itself, so that of one they get two, which are then laid in urine to soak and afterwards stretched on a piece of wood to dry. For windows they prefer the throat to the guts, for it is stronger to resist the winter gales, whereas they would rather have the guts for tent aprons, because they are thinner and more transparent. The throat is also used for the little float on the side of the bladder dart (*Auataeksak*), but in that case after being scraped it has to be

soaked in sea water and afterwards inflated in order to dry without splitting.

4. The stomach is either eaten like the guts, or it is used for filling with blubber, blood, crowberries (*Empetrum nigrum*), cochlearia, angelica etc. instead of bags, for which purpose they inflate it and cut gashes in its fleshy coat. It is also used for towing floats (*Auatâursak*), and then it must first be cleansed inside and out with a knife of all the fleshy parts, then soaked in sea water, blown up and dried as in the case of the gullet.

5. The heart, kidneys and spleen are put to the same uses as the flesh.

6. The liver too, but this is eaten raw with blubber, fresh out of the seal. This is preferably the men's dish on returning home from hunting, when it is handed to them straight from the seal caught; actually the women are not very keen on joining company with them. Otherwise it is eaten after being frozen raw.

7. The lungs are also eaten like the flesh, but they have another use, in that they can be blown up and filled with the blood of the seal for winter supplies.

8. The blood is boiled, mixed with sea water, and then is either taken as soup or it is allowed to freeze in winter, when it is eaten with greater relish; or they roll the boiled and coagulated blood into round balls and dry them in the sun; these they keep for when times are hard, to be eaten like bread with a little blubber as pork; but the Greenlanders are not very partial to this dish. The blood stored in the blown-up lungs or in small stomach bags, is eaten in winter just as it is, all stinking, or it is used as dripping in which to dip rose root (*Rhodiola rosea*). The boiled blood is also used for mixing with crowberries and eating as a side dish.

Finally, the fresh blood is also used for smearing on the flesh side of black skins and sole-skins, as well as the kayak skins when they have just been stretched over the boats; for when this blood dries it is a kind of preventive medium to guard against these skins being quickly saturated with water.

9. Of the bones, ribs are used as pegs for stretching skins out on the ground and also the wall skins in the houses in winter, and also for making nails for the bone mountings of wooden implements of various kinds. Shoulder-blades are used by the women instead of spades or scrapers for house building and cleaning. When a seal has fine white bones (which is rarely the case) they are also used for small studs on the hunters' lines, towing gear etc. and on the thongs of their water-

tight kayak-dress; for these purposes, however, the teeth are more suitable when they are not hollow.

10. The sinews they draw from the tail, hind flippers and forelimbs, separate them from the flesh attached, stretch them out and dry them, for use later as thread for sewing of all kinds. For this purpose the dried sinew are split and used either singly or plaited according to what is required. However, the sinew thread obtained from seals of this sort scarcely suffices for household use and is regarded as the most inferior thread, being so short and not so fine or strong as other kinds.

11. The blubber is used principally as fuel for their lamps, either for heating or for illumination or also for cooking; for this purpose it is either chewed and then spat out into the lamp (usually the concern of the old women) or packed into stomach-bags, where it melts of itself and is mostly devoid of chitterlings, but smelly too; or it is rendered down over the fire, a process that gives more chitterlings and also wastes some of it; in winter, when it is frozen, it is pounded on a stone and then scraped up, which is the most economical method of all, as little is wasted and the oil becomes both clear and odourless.

With blubber, fresh or melted, they also smear their boats and tent-skins to preserve them from sun and rain. They also eat it, either in the fresh state attached to the skin that is being chewed, or melted, but mostly as a sauce for crowberries, bog bilberries (*Vaccinium uliginosum*), angelica, cochlearia, etc. but never in any quantity. Finally, some blubber is put into the cooking pot if the food is wanted tender quickly.

The blubber of this seal is a big trade commodity; at the time I was in Greenland a barrel of blubber was reckoned at an average price of 2 rix-dollars at the Colonies, which promised a good profit in the mother country, being so full of oil as I have said. So the Greenlanders sell as much of it as they can spare, though what they get for it is sometimes but little. When furthermore it is realized that most of the seal blubber brought home from the colonies in Davis Strait is from this species of seal — of the other kinds it is neither so economical nor in such quantities —, and that this kind represents the greater part of what the “Robbenslager” bring home from Spitzbergen, it is easy to understand how useful this seal is, merely through its blubber, to natives and foreigners.

12. The same may also hold good of its skin, which is prepared in various ways, each method having a name of its own and each for its own purpose. The first kind is

a) Hair skins (*Merkolik*), the hair being allowed to remain and not being scraped off.

These are prepared in the following manner: When the skin has been removed from the seal, the blubber having been separated from it, some thin and slimy blubber still remains on the flesh side, and this the women scrape off with their curved knives (*Ulo*) very neatly over a board resting obliquely on two legs; this makes the skin thinner and frees it of blubber. Out of what is thus removed they make a special dish called *Mammit*, boiling it in salt water until it is quite rendered down, whereafter it is scooped out on to a tray where it stiffens and looks like a pancake (for which reason indeed the colonists call it Greenland pancake) but in itself is like glue and quivers like jelly. When the skin has been scraped it is placed in the urine tub for part of the day¹) to remove anything oily that may remain in the hairs; this urine is afterwards scraped off with a mussel shell, whereupon the skin is folded over against the flesh side and hung up to dry on the hair side. Finally it is stretched out, either on the ground in summer with the flesh side up, being pegged down with seal ribs or small pegs, these being pushed through the edge of the skin down into the ground; or in winter inside the houses under the ceiling, between four long bars above the platform with the flesh side down, sinew-thread being employed for stretching it to all sides around the bars. In order not to spoil the skin, before it can be stretched out it must have a strip of thick sole-skin sewn round the edges, pierced with many holes for the pegs or the sinew-thread.

If the flesh side is wanted smooth (this being required especially for skins for tent-sheeting or for sale to the government store) it is best to stretch them in winter, so they are allowed to lie shrunk and dry throughout the summer, soaking them again slightly later on when they are to be stretched out. This is how skins of this kind are first prepared, but when they are to be taken into use they are softened by rubbing them between the hands, sprinkling them with a little water or urine and working them with pumice or other rough stone, of which they have more than one kind.

The hair-skin of this species of seal has various uses, according to whether it is large or small. Of the skins of full-grown seals they make their inside tent sheet, many skins side by side, with either the hair or the flesh side inwards if the latter is a good white, and thus with the opposite side to the outer sheet which is usually of another kind of skin, because hair-skins are useless for keeping water out. In the north of the country where little rain falls they also use a double hair-skin sheet for their tents without a proper watertight skin on the outside, which is warmer. For a complete but single tent-sheet 18 to 20

¹) Not 24 hours, as CRANTZ says l.c. p. 218, I., for then the hairs would loosen and give another kind of skin, to which I shall revert later.

of these skins may be needed. They also use the same skin sheeting for covering the inside walls of the house in winter. These large skins are also employed for platform coverings over the straw as a kind of mattress, though they are not very soft and serve almost solely for keeping the straw together.

From the skins of the medium and smallest sized seals they make a kind of men's coat called *Kappitek*, and a kind of women's coat named *Illuitsok*, the hair side in both cases next to the bare body without a bird-skin or other garment under; when new or newly washed, and a good white on the flesh side, such clothing does not look so bad. The poor have also to use skins of this kind for trousers and for a kind of jacket called *Neitsek*, which is worn with the hair outside and over an under-garment, but does not look so well when made of this kind of skin. Otherwise it is used for stockings with the hairs on the inside, and for gloves for shore use, with the hairs on the outside; skins of unborn seals are also used, prepared in the same way.

It is also in this kind of skin that most trading is done at the colonies. In my time a quarter to half an ell of Dutch tobacco was paid for a skin, or a little more for the largest ones; and if we reckon what such a skin is worth in Denmark we shall find this trade extremely profitable. Here and elsewhere in Europe these skins are used especially for covering travelling trunks and for tobacco pouches; they are the more serviceable for the former use, because the hair lies so flat on the skin and keeps the water out so much the better if care is taken to have it lying downwards on the trunk. Thus, as also from the big black spots on the sides, this kind of skin can easily be recognized when seen on trunk coverings. The Greenland women are very skilful at making tobacco pouches of this and the skins of other species, and the illicit traders make use of them for the purpose. Therefore it might be a means of livelihood for these impoverished people, and help towards the country's prosperity, if these and other hand-sewn skin objects could be sold at the colonies, which as far as I know is not yet being done; and as the cost of making could not be very much, these things would be cheaper than if they were to be made here. I therefore submit for consideration whether this is not deserving of the attention of the Trading Administration or perhaps the Agricultural Society.

b) Boat skins (*Amiksak*) are another kind obtainable from this species, only the largest being used for the purpose.

They are prepared as follows: A small amount of blubber is allowed to remain on the flesh side, the skin is rolled up and in winter is stored under the front platform in the house, or in summer in the blubber hole, exposed to the sun and covered over with blubber. The heat in

both places loosens the epidermis after a few days¹⁾ so that it can be peeled off completely; the skins are then brought out to dry in the air or the sun and are then ready for use when required. There are two kinds of boat skins: one is called *Igdloartak*; when the seal is being skinned the pelt is cut in an oblique line from one shoulder to the hind flipper on the other side, down around it and along to the tail on the back, this kind being preferably used for the umiak, which requires 14 to 20 skins. The other is called *Seeksinnægak*, the pelt when skinning being cut in a straight line along the belly, this kind having preference for the kayak, which requires 3 to 4 skins; but they are sometimes used for the ends of the umiaks too; the difference is perceptible when the boats are being covered, in that one kind is better than the other for stretching and fitting to the various constructions of the boats. One more precaution must be taken, and that is that the skin does not become frozen, for then the epidermis will not be easy to scald off.

When the time comes for such a boat skin to be used it is allowed to soak for some days on the beach until it is soft enough to be handled; afterwards it is scraped with mussel shells, covered with earth, and little by little they sew together as many of the skins in store as may be required for the boat to be covered. This assembly is then stretched with straps over the woodwork of the boat as tightly as possible to prevent the skin from going slack when dried; for this purpose the thongs are crossed and recrossed inside the woodwork of the boat, and on the kayak the skins are stitched together over the deck, the man having no more than an opening at the middle to insert his lower body; the women are masterly at helping with the stretching, biting and pulling at the skin with their teeth; and it is really to be wondered at that a skin which has been exposed to such fermentation and soaking can afterwards be tough enough to tolerate such great tension and stretching. But it shows that by his natural inventiveness the Greenlander has known just how to hit upon the proper method of preparation, and also that a human being by heeding nature's indications can promote his requirements by means of few and modest expedients.

When the boats have been covered the seams especially are rubbed with old, tough blubber collected at the blubber pits, but the entire cover is also rubbed with fresh blubber or boiled oil long enough to produce a sort of glaze on the outside; the one and the other serve to keep the water out and cure the skin against it; thus, such a boat-cover will not leak or become slack unless it is used too much and the renewal of its greasing is neglected.

Old boat covers which have been removed are used as outside tent

¹⁾ Some weeks, as CRANTZ says (l.c. p. 219) would be much too long and would certainly rot the skins.

sheets which are called outer skins or water skins, many such boat covers being laid as on a roof, the upper one overlapping the next downwards, whereby the water runs down and cannot penetrate to the inner skins. Six of these umiak covers may be required for a complete, large tent. When these tent sheets are judged to be useless on account of age they are employed for laying over the roofs of the winter houses, afterwards for caplin-bags and sole patches. Indeed, in famine times they are eaten. When a new boat cover is being made there are usually some pieces left; the smallest are eaten with relish by the women doing the stitching, the larger ones are cut into thongs for grummetts for the paddles of the umiak (instead of rowlocks), or for other purposes in tent and house.

c) Black skins (*Erisak*) are a third kind that is also obtained from this species of seal, usually of the moderate and smallest sized. They have this name because the hairs have been pulled out, leaving only the black epidermis.

These skins are prepared in this way: When they have been scraped on the flesh side, as with the hair skins, they are laid for a day in the urine tub until the hairs loosen, when they are taken out and the hairs pulled out with the aid of a knife, but so that the epidermis remains. They are then pegged out to dry like the hair skins.¹⁾

The uses of such skins are various; shoes and boots are made of them for both sexes; all the men's sea clothing such as waterproof coats, half-jackets, sea mittens and whaling costumes, for which purpose they are excellent, keeping all water out as long as the epidermis is not worn off; naturally, rain and sea-water make them wet and damp, but without penetrating to the under-clothing, so they could be worn to great advantage by all seafaring people. Those who sail in Davis Strait had in fact recognized their usefulness, as also the colonists in Greenland, and they use them often on their travels. There is one point here to be observed, that if they are to keep water out they must not be rubbed or softened between the hands. It is true that for a certain kind of man's coat, called land coat (*Ervak*)²⁾, the skins are softened before being made up, but they are not intended to be waterproof.

d) Sole skin (*Attungeksak*) is the fourth kind of skin, obtainable only from the largest harp seals.

Their preparation differs from that of the foregoing in that they are not scraped on the flesh side so that they may retain some of the

¹⁾ CRANTZ is wrong in saying l.c. p. 219 that they are prepared in the same manner as sole skin, which however are a good deal different as will be seen later.

²⁾ Not quite correctly CRANTZ l.c. No. 4 makes this out to be a separate kind of skin, as any kind of skin can be used for the purpose.

blubber and be thicker; after the hairs have been pulled out they are laid for three or four days, often longer in fresh water — preferably running water — to soak, the idea being that later they will be able to resist decomposition so much the longer; some moreover smear them with blood on the flesh side. When the time comes to use them they are first soaked in water to enable the needle to pierce them.

These are used for soles in shoes and boots and are rather thick, stiff and last longer than one should think. Up north they also use them instead of the proper boat skins. In times of famine the Greenlanders eat even old, worn-out soles.

e) White skins (*Unnek*), which have the appearance of parchment, are the fifth kind of skin from the harp seal and are to be had from both large and small.

They are prepared in this way: When the flesh side has been scraped, like the boat skins they are stored away in order to lose the hair as well as the epidermis, whereupon the white cuticle underneath becomes visible. They are then hung out to dry, and in winter on the snow they become bleached as it were; and later, after being slightly wetted and rubbed, they are stretched out which makes them still whiter and often very beautiful.²⁾

These skins are used for making white “best” boots and shoes for both sexes, which look pretty nice. The men also have a kind of sea-clothing made of them, reaching no longer than from the shoulders to the waist, which, especially in the fiords, they wear in summer to deceive the seal when they come along among the drift-ice, the seal then mistaking them for a lump of ice. They are also used for a sort of curtain in the tent, as well as small white bags which are placed at both sides of the tent, partly for ornament and partly for holding this and that. Finally, they are used for all kinds of decorative lines and borders on clothing, boots and shoes.

f) Of white skins they know how to dye red skins, which might be reckoned as the sixth kind.

For this they make use of the small quantity of red bark on the roots of the red-pine logs that are sometimes to be found, fresh and undecayed among the driftwood. For this purpose they stitch all the edges of the skin together, but with the flesh side out, making as it were a bag with a small opening. The bark is then chopped fine and put into the bag, followed by some old urine; it is then laid on the ground long enough for it (the dye) to soak into the skin. This gives it a pale red colour, which does not last long, however. Nowadays some know

²⁾ What GRANTZ l.c. p. 220 states about this and the following form of skin preparation is not nearly sufficient and in some places incorrect.

how to give it a better and faster red colour with Brazil-wood and alun, which can be bought from the ships, and brushing the white skin a few times with a mixture of both boiled in water; but this dye will not stand rain either. They are beginning to dye violet with another kind of West Indian wood which is also obtained from Denmark by ship.

These red and violet skins are made up into fancy boots and shoes, and used for ornamental lines on garments, tent curtains and tent bags and so on; as well as for the lining of tobacco pouches. However, the red skins are not very popular among the Greenlanders and, like the violet ones, are to be seen almost solely among the wives and servants of the colonists.

g) Finally, of the youngest harp-seal skins they make their floats for sealing with the harpoon, as already reported (p. 45). For this purpose they peel the skin off the seal whole, cutting it solely at the head and around the toes, then with a long knife on the inside contriving to loosen the skin from the carcass and taking the flesh etc. out piece by piece. When the skin has been peeled off inside out, most of the blubber is scraped off the flesh side and for the rest the treatment is the same as for boat skins and white skins if the float is to be white (see p. 113, 116), or as for black skins if it is wanted black (see p. 115). Then the openings at the head and the two hind flippers are closed. At the site of the anus and at those places where wounds have caused openings in the skin, they put in small wooden plugs with a deep margin, around which the skin is tied tightly so that neither water nor air can get through. A thong is made fast to the foremost, puckered end, after which the skin is turned over the openings left by the fore flippers; a mouthpiece is then inserted in one fore flipper and the other is tied up outside. The skin is blown up, stretched over a device made for the purpose in order to give the float the proper curve and shape, in which position it is then dried and is ready for use.

Full Description of the Greenland Seals.

Second Section.

[Udførlig Beskrivelse over de Grønlandske Sæle. Andet Stykke. Skrifter af Naturhistorie-Selskabet. 1. Bd. 2. Hft. Kiøbenhavn 1791, pp. 73—170].

The fiord seal (*Phoca hispida*).

[Fiord-Sælen.]

The Greenlanders catch this species:

1. In the same manner as the harp seal: a. With the harpoon¹⁾ when it is encountered in the sea, or on a detached ice floe, or in large holes in the ice.²⁾ b. With the bladder dart,³⁾ either by a single hunter or by battue. c. Also with a gun when it has crawled up on to the ice.

2. But in Disco Bay and other places where it mostly occurs it is also caught in a curious manner with a kind of harpoon called *Sekko*,⁴⁾ which is only used on the ice. There are four ways of doing this:

a. When the seal has crawled up on to the ice and is lying tranquilly a short distance from its hole, a Greenlander will come on the ice wearing his hairy sealskin coat, which is mostly made of the skin of this species, lie down, creep on the ice and by imitating the manner of a seal will try to approach and take it unawares; in order to increase the resemblance he often moves his head up and down, growls and scratches the ice with a small imitation seal flipper made of bone. To begin with the seal of course looks round, but in the thought that it is one of its own kind it feels secure and allows the hunter to get quite close; in the end he thrusts the harpoon into its body by means of the shaft and, the harpoon head being barbed, he holds on to the seal by means of a line made fast to the harpoon head and held in the left hand or tied round his waist, thus preventing the seal from throwing itself into its hole. He then kills it outright with a blow on the nose. This method is called *Aurpok*.⁵⁾ They must also use the same method when trying to approach a seal on the ice to shoot it.

¹⁾ See p. 48 ff.

²⁾ The procedure when sealing in the ice holes was illustrated by Superintendent EGEDE on a plate in his Grønlandske Naturelhistorie at p. 59 and is to be seen in the upper figure on the right.

³⁾ See p. 51.

⁴⁾ This Greenlandic name is given to every kind of weapon, but is used preferably and more precisely of this kind of hunting weapon.

⁵⁾ And is illustrated by Superintendent EGEDE on the aforesaid plate towards the lower end.

b. The second method is called *Maupok* and is used when on snow-covered ice the hunter searches out the little breathing hole which the seal has made in the ice, sits down by it on a special one-legged stool and rests his feet on a small three-legged stool, partly on account of the cold and partly in order not to creak too much in the snow or on the ice, which might make the seal shy; for this purpose he even scrapes all the snow off the soles of his boots. Then he waits for the seal there, having his harpoon (*Sekko*) in his right hand and the line attached to the harpoon head in his left. The moment the seal arrives to draw a breath through its breathing hole and extends its nose forward, the hunter thrusts the harpoon into it, holding it firmly by the line, reverses the harpoon shaft, because on its other end there is an iron spike or sharp bone, and with it makes the hole larger to enable him to drag the seal up through it; then he kills it with the usual blow on the nose.¹⁾

c. When it is smooth ice the hunter has a piece of hairy skin (fox or dog tail, or bear skin) under his feet to deaden the sound of walking, then he stands and listens to hear where the seal is taking a breath (which usually happens some times in succession), then goes to the spot quickly and harpoons him, the remainder of the procedure being as described above. This is called *koitsiarpok* (from *Koeissak*, smooth).

d. The fourth method is to seek out the large opening in the ice through which the seal crawls out; there the hunter lies slightly elevated over the ice on a long, low staging resembling a ladder, with a hairy skin over his head extending above the large opening through which he has to watch for the seal, this being easier when it is dark above him. At the side of this hole a smaller one is hewn, and through it another hunter holds a long shaft fitted with a harpoon head, especially called *Itsoartout*. Now when the first-mentioned hunter lying in wait has attracted the seal by whistling, he watches until it is directly below the smaller hole and the harpoon and then says: *Kæ* (i.e. Strike!), at which signal the other immediately thrusts the harpoon into the seal. If the hunter is alone he has to guide the harpoon shaft himself. Afterwards the procedure is the same as described above. This method is called *itsoartorpok*, from *itsorpok*, peeps through something.²⁾

When a seal has been caught on the ice it is either dragged home or drawn on a sledge with a dog team, the latter only up in the north.³⁾

3. It is also this species of seal that is caught in the greatest number in nets laid under the ice.

¹⁾ See illustration on the aforesaid plate, in the lower left figure.

²⁾ See illustration on the same plate in EGEDE, in the lowest figure on the right.

³⁾ This too is illustrated on the plate by the two upper figures on the left.

The uses of the fiord seal are:

1. The meat, which is eaten by the Greenlanders, especially boiled but sometimes preserved.¹⁾ The meat of the oldest ringed seals, which is so, is not eaten by many Greenlanders; but the meat of the young animals, which smells but not so strongly, is eaten by all, by some even with great relish because it is more tender and red and is therefore considered to be more luscious than the meat of the harp seal, which is both coarse and black.

2. The viscera are treated and utilized in the same manner as those of the harp seal. From the intestines they can also make a kind of sewing thread by splitting them with their teeth.

3. The blubber is also used in the same manner, and it is held to be better for greasing boats. In the store it takes up but little space in the barrels; but as that same little is good, and payment for it is adjusted accordingly, it means no loss, because the number of seals will make up for it.

4. The skins of the largest are used for the boats,²⁾ their smell preventing any other use. The skins of the medium sized animals, and especially those of the smallest which are the more handsome, become hair skins,³⁾ of which the women make most of their fur coats, called *Neitsek*, which they have for daily wear and, when they are fine skins (with a pure white belly and not too spotted on the back), for "best". On such coats the hairs are usually on the outside, in which case it is usual to wear a bird-skin coat underneath as a shirt, next the skin, but they are not readily worn when the weather is hot, if one has something to change with, for they are very warm. From them the men also get most of their *Kapiteks* (or *Neitseks*, as they are called in the south), on which they wear the hair inwards when they are at home, without any under-garment, but outwards when they are in the cold, when they are worn over bird-skin coats as in the case of the women. In the absence of better material these hair skins are used for the inner sheet of a tent, and they are also used for making trousers, stockings and fur gloves for both sexes.

A quantity of these skins is also turned in to the store; at the colonies they are called work skins or common skins, presumably because they are most commonly worn for the daily work; afterwards they are made up into tobacco pouches and trunk covers, but apparently they

¹⁾ How this is prepared will be seen p. 108, 109.

²⁾ See p. 113.

³⁾ See p. 111.

are not so good for the latter purpose as those of the harp seal because the hairs bristle so much, so that in the rain the moisture can more easily penetrate to the leather and thus is harder to keep out, though the fleece underneath may help to throw it off.

They are also made into black and white skins,¹⁾ especially in the moulting season when the hairs are loose so that they cannot be used for other purposes. Most harpoon floats are also made from this seal species,²⁾ that is to say the young ones which are more suitable for the proper size of a float, which should neither be too large to carry nor too small to resist a seal at the hunt.

The spotted seal (*Phoca vitulina*).

[Den spraglede sæl].

Catching the spotted seal proceeds

1. Chiefly with the bladder-dart, in the same manner as described for the harp seal;³⁾ because as it is very timid it has to be shot from a distance; and especially in battues with several taking part.

2. Less commonly with the harpoon,⁴⁾ because being so cautious it is not easy to approach except with the kind used on firm ice, described in connection with the fiord seal.⁵⁾

3. It is also shot with guns when it has crawled up on shore or on ice, or when it is swimming along the beach to find a convenient place for landing.

They kill most of them when they are either with young and unable to tolerate a long chase, or when they are small and newly born, at which time the Greenlanders waylay them before they are able to take care of themselves.

This seal is useful for:

1. Its meat, which to the Greenlanders is a titbit and is usually eaten boiled, as they scarcely wait for it long enough for it to be dried, except in those localities where it is caught in abundance; actually they prefer this meat to that of any other seal, and it must be admitted that it is the best, and it looks so good that a European need not hesitate long to eat it. I myself once tried the tongue, heart, liver and kidneys, all of which were quite eatable, so that if hunger or the need for a change

¹⁾ See p. 115 and 116.

²⁾ See p. 117.

³⁾ See p. 106.

⁴⁾ See p. 103.

⁵⁾ See p. 118.

of diet should force one to turn to seal meat, this kind should have preference, in which case one could not be said to suffer much hardship if one had bread to eat to it.

2. The viscera are also used, like those of the harp seal.

3. The blubber is used for burning in the lamps, but most of it is eaten, the Greenlanders considering it very tasty. It is also traded in at the store, where the blubber of the largest animals corresponds in value almost to that of the harp seal.

4. The skin (apart from the fact that it is often eaten together with the blubber) is almost solely prepared in two ways:

a. For hair skins,¹⁾ of which some few are traded in to the store and afterwards made up as trunk covers and tobacco pouches; sometimes the skins of the youngest are used for vests and the oldest for horse-cloths, being handsomely tiger-striped. The colonists in Greenland also make most use of the young skins for clothing, these being the finest of all sealskins and good for Greenland's cold. However, the Greenlanders usually keep the most, the best and the most handsome for themselves, using the adult skins for inner tent-sheets, the medium-sized and short-haired for boots with the hair on the outside, whereas both men and women use the youngest and finest for their best coats, and trousers with the hair on the outside, which makes them look nice.

b. When peeled off whole the skin of the young ones is also made into floats,²⁾ being considered very good for the purpose and becoming a fine white.

Its skin could of course be prepared in all the other ways, but it is usually considered too good for that, for it would be a pity not to preserve the beautiful hair.

The bladder-nose seal (*Phoca cristata*).

[Klapmysen].

The Greenlanders mostly hunt the bladder-nose seal with the harpoon alone,³⁾ but they also make use of the lance and all their other small throwing weapons, as it will break what comes within reach. Only few are caught in the water, the method being the same as for the harp seal; but on the drift-ice catching it calls for a particular procedure. If the seal sees the hunter too soon it will normally dash into the water and will then be difficult to approach; for that reason

¹⁾ See p. 111.

²⁾ See p. 117.

³⁾ See p. 103.

the hunter endeavours to take it unawares and hides among the ice floes, gradually paddling along the edge of the floe on which it is lying (and which usually is fairly large) until he reaches the spot where it is; he then places himself in his boat right opposite the seal and allows himself suddenly to be seen; this gives the seal such a shock that the tears run from its eyes and the discharge from its nostrils; generally it will not move but will watch its enemy with frightened eyes and patiently await its fate; by this time the hunter is quite close to it and, its body being big enough, it is not so easy to make a faulty stroke with the harpoon which he thrusts deep into its chest; while it is endeavouring to get rid of it the hunter kills it completely with the other weapons. Should it retreat to the middle of the ice floe the hunter climbs on to it and moves towards the seal with his darts; with rapid leaps it will then attack with fore flippers and teeth, giving the Greenlanders plenty to do and some may get hurt; but as the seal is slow at turning to the sides but moves straight ahead, the Greenlanders dodge aside and the seal in the impetus of its rush passes them and is killed from behind. If the hunter cannot hide in the ice but has to move straight ahead to the seal, he tries to scare it still more propelling the boat forward, holding the paddle aloft and roaring in an attempt to imitate the killer whale; this scares the seal from diving into the water and the hunter can get within range of it.

When out looking for this seal, whether in the water or on the ice, it is usual for several hunters to join together to help in killing it and dragging it home; everything caught is then divided among them all when they get ashore, even if some have merely been lookers-on; but the man who first puts his harpoon into the seal is entitled to the best part of it. Therefore when one of the party has harpooned one seal, the others are allowed to kill the next in turns, one or more, so that each may have equally large shares; and if the party includes an old man who is not much good at hunting, they let him strike the first so that he too may have something. Sometimes they spend whole days and nights on these hunts before returning home, and they are not empty-handed.

Of this seal the Greenlanders utilize:

1. The flesh, perhaps the blackest and poorest of all species, being so compact and coarse fibred; on the other hand it goes a long way and for a time provides the Greenlanders with a lot of food; a seal of this kind when fully grown is good for just as much food as perhaps three of the ordinary kinds. Its flesh is prepared by boiling, drying or pickling as described for the harp seal.¹⁾

¹⁾ See p. 108 sq.

2. It is the same with its viscera,¹⁾ of which the stomach in case of need is also used as a float for the harpoon, in as much as it is fairly large.

3. The blubber is used as fuel for the lamps and for eating; they also sell it to the store, where they get more for the blubber of this seal than for the harp seal.

4. The skin is sometimes eaten together with the attached blubber as a titbit; otherwise it is prepared either for boat coverings, though only the largest are used for this, even if they are rarely very good, being so torn in their mutual battles, or also for hair skins,²⁾ of which a few are sold to the store; the majority, however, are utilized at home: those of the fully grown for platform skins and inner tent-sheets, whereas those of the young, which are very fine, are used by the women for their very best coats with the hair on the outside. They are also made into trousers, and among the Greenlanders these skins are valued almost as highly as caribou skins and are very expensive.

5. Of bones and sinews they make the same uses as those described for the harp seal.³⁾

The barbed seal (*Phoca barbata*).

[Remmesælen].

It is caught with the harpoon, like the bladder-nose,⁴⁾ or with the bladder-dart as in the case of the spotted seal,⁵⁾ with several taking part in the hunt, in which case it is shared out in such a fashion that its skin is not carved up but remains serviceable for its particular purpose; it is therefore cut across the body, not lengthwise (as is done otherwise with the other species), the skin being flayed off in wide belts with the head section forming one share, the body below the flippers one to two shares, and the remainder one share, though doubtless it has to be divided into smaller sections if there are several to have a share.

Its usefulness comprises:

1. The flesh, which looks white and fine, especially that of the young, and is nothing like so dark as that of the harp or the bladder-nose seal; it is treated in the same way, however.⁶⁾

¹⁾ See p. 109—110.

²⁾ On the preparation of these two kinds of skin see p. 111—113.

³⁾ See p. 110 sq.

⁴⁾ See p. 122.

⁵⁾ See p. 121.

⁶⁾ See p. 108 sq.

2. The viscera too,¹⁾ in which connection there is this to say that its intestines, which are so large, are considered best for curtains because they require fewer seams to make and therefore give more light.

3. The blubber, some of which is taken for lamp fuel, though it is not actually the best for this purpose because it is so compact, melts slowly and yields little oil; some is also sold to the store, but the greater part is eaten by the Greenlanders themselves and is one of their favourite delicacies, being little inferior to whale blubber and has more gristly substance than fat, and it is therefore also a popular tasty bite together with crowberry (*Empetrum nigrum*), angelica etc.

4. The skin is the most important part of this seal, because from it the Greenlanders obtain:

a. Their so-called seal thongs (*Alliksak*), which are so indispensable for harpoon lines, fishing lines, thongs and ropes of all kinds, for the Greenlanders use them for all the purposes for which we have cables, ropes and string. It is with these that the people of the south do so much internal trade with their countrymen in the north, in whose region this seal species is not so common and yet they must necessarily have the selines; just as in return the southlanders trade for baleen, narwhal tusk and the like which are to be had solely in the northern regions. The skin of this seal, and of no other, is serviceable for these lines, for it has the thickest and toughest skin of all.

I shall now explain briefly how these lines are prepared: When the skin has been flayed off in wide belts they are placed in the urine tub in the same manner as with sole skins,²⁾ to loosen the hairs, and when these have been plucked the skin is cut into one long strip from one end to the other, as far as the belt will allow, without being cut across; for if it were then too short for some purpose it would have to be knotted, which would be a decided drawback and would be impossible on harpoon lines (*Allek*), and the fewer the knots, the better the fishing line (*Aulisaut*). If the line is to be used for a harpoon line it is cut wider, but narrower for fishing lines and thongs. This line is then stretched out in the open air to dry; when at length it is to be used it must also be trimmed; there is quite a number of things to be observed if it is to be a harpoon line, for not only must it be trimmed but also made supple with oil and urine.

b. When the hairs are not too loose, and especially when the supply of lines is ample, the skin may be used as hair skin³⁾ and for making trousers, whilst a few may be sold to the store.

¹⁾ See p. 109—110.

²⁾ See p. 115.

³⁾ See p. 111.

On the King Eider (*Anas spectabilis*) and the catching of the Eider by the Greenlanders.

[Om den pukkelnebbede Edderfugl (*Anas spectabilis*) og Grønlandernes Edderfuglefangst. — Skrivter af Naturhistorie-Selskabet. 2. Bd. 2. Hft. Kiøbenhavn 1793, pp. 56—83].

The usefulness of this bird is not small.

1. The flesh is eaten boiled by the Greenlanders after the skin has been removed, as is their habit with all aquatic birds; and there are seasons of the year when in some areas there is scarcely any other food than these and other eiders which indeed make nutritious eating, even if somewhat fishy to a European. They eat them with viscera and everything, removing only the gall and what is digested in the intestines.

2. The gibbosity on the bill of the male bird is bitten off at once by the hunter and eaten raw as a titbit, it being credited with a sweet flavour.

3. The eggs are also eaten by those living in the vicinity of their nesting places.

4. The fat between skin and flesh, which usually remains on the skin when the latter is removed, is scraped off with a mussel shell; afterwards it is eaten raw with a spoon, or the boiled meat is dipped in it.

5. The skin is peeled off whole in order to obtain it the larger for making clothing; a cut is made with an ulo around the bill and an opening is made in the back, when the skinning is carried out neatly with the fingers. Several of these skins are stitched together into a coat, which is then called a bird-skin coat (in Greenlandic *Tingmirsæt*) and worn under other coats like a shirt next to the skin, with the feathers inwards, which is exceedingly warm so that it can keep out a lot of cold. But before these skins can be used for this purpose they must be prepared in a certain manner: When most of the fat has been scraped off the skin is hung up to dry more or less, the rest of the fat being gradually chewed off by the mouth, a form of titbit usually offered to the men, and indeed to visitors; afterwards the skin is laid for a short time in the urine tub, and when it has been more or less dried again in the air it is made pliable and is then fit for making up. For summer coats only the back is used, but for winter coats the under part, where the feathers are longer, lie packed close together and have much down under them, so it would not be easy for cold to make its way through.

6. Its down would certainly be equally as valuable as other eider-down; but as the proper down has to be gathered from the nests, being

much better than what is plucked from the body, and eiders of this species breed so far north away from human beings, and at any rate far from the colonies, only little of it gets into the hands of the Europeans unless it should fall to the lot of the whalers frequenting the most northerly regions, when they come ashore now and then. The Greenlanders themselves do little about the down, for they do not use bed-clothing.

Particular enemies of these birds in Greenland are:

1. The eagle (*Vultur albicilla*), which lies in wait for it from the islands and especially institutes a hunt when it sees the eider fishing, so that it can catch one of the flock when they come up after a dive.

2. The arctic fox (*Canis lagopus*), which swims out to the islands and both eats its eggs and destroys its young, and indeed surprises the old females on the nest.

3. The seagulls (*Larus glaucus* and *marinus*) also frequent the places where the flocks of eiders are fishing and snatch a quantity of what they have caught.

The Greenlanders also hunt them with zest and kill large numbers, especially during their migration flights when they mix with other eiders. Here in conclusion I must describe their catching of the eiders. No doubt they catch all kinds of sea birds in one way, inasmuch as they use one kind of weapon which they call the bird-dart (greenlandic: *Nugit*), and hunt them by compelling them to continue diving in order to exhaust them, so that finally they have to give up and at last are struck by the dart. But for each kind of sea bird there is a method of hunting that is useless against the others, and this is also true of eider hunting. The eider being a timid bird it flies at once when it sees a hunter approaching in his boat, and it is reluctant to dive if it can escape by flight; for this reason Greenlanders out to catch eiders prefer to hunt in groups; they contrive to take the birds unawares without giving them an opportunity to fly, so that they have to dive — and then they are sure of them unless they lose sight of the birds.

Now as it is not of much use to hunt them as long as they are sitting quietly on the water without being occupied with any diving, for then they are extremely wary and look about them continuously, the Greenlanders try only for flocks which can be seen to be busy fishing, unless it is in the moulting season when some of the flock might be expected to be unable to fly. When such a flock is discovered, all the hunters in their small boats keep as near to the beach as possible and paddle along it, one after the other in a long string in which they are not easy to see for the eiders on account of the constant ground

swell and the blue shadow of the land which makes the boats almost unrecognizable from the shore itself. The eiders, innocent of any danger, go on with their diving and filling their crops, which in time makes them almost too heavy to take flight. When the hunters have proceeded thus so far that they are right opposite the flock and could almost reach them, they all turn suddenly towards the flock as soon as it is observed that all or most of the birds are below the surface, paddling as swiftly as possible and splashing the water to frighten them. Those which have been below looking for food and have just come to the surface become so terrified at this sudden sight of so many enemies that they immediately essay flight, but they are sluggish with the weight of all the shellfish they have swallowed; least successful are those which have only half swallowed their prey because their head will drop and impede their rising from the water. These the hunters observe particularly and try to increase their fright by throwing their darts into the air, whereupon the eiders mistake them for birds of prey and dive below all the more quickly. However, as a rule only few are induced to dive compared with the large number that fly away, often barely three or four out of hundred, so that fresh flocks have often to be sought out during the day.

The hunters then split up into small parties according to whether they are chasing a few or many birds, so that they may all be pursued. Each party then waits until the bird they are after comes up for air, and meantime keeps an eye on the bubbles rising to the surface, revealing the direction it is taking. At full speed they paddle to it in order to be near when the bird comes up; but discovering its rise calls for no small watchfulness, because at first it puts its head alone above the surface and then dives again to get still farther away. Immediately it is sighted they therefore shout at the top of their voices and throw their darts at it to make it dive again in still greater confusion and to exhaust it the sooner because of its inability to breathe. Moreover, they are very careful to prevent it from reaching the beach, to which it tries to get while submerged in order to hide among the stones. After being hunted for some time it is so tired that it remains longer on the surface, which provides the opportunity to get close with the dart and be so much the more certain of hitting it; indeed they can often seize it with the hands, when the hunter whose dart has struck it keeps it all to himself and, in order to kill it, takes the bird's bill in his mouth and jerks the wings outwards whereby the back is torn to pieces and the "back blood" disordered which causes it to die. The hunter then turns to others.

In the moulting season this hunt is the more successful as the birds then are unable to fly but have to dive at once, which is the main object.

Sometimes a hunter will throw his dart at an eider in flight, and if he is lucky enough to make a hit, be it ever so slight, the bird usually falls into the water and remains motionless as if scared out of its senses, which makes it easy to put another dart into it or at any rate cause it to submerge, and then pursue it in the usual manner.

Zoological Contributions. — Second Contribution: On the humpback whale (*Balæna Boops*).

[Zoologiske Bidrag. — 2det Bidrag: Om Stub-Hvalen (*Balæna Boops*). — Det Kgl. Danske Videnskabernes-Selskabs Skrifter, VI. Deel, I. Hæfte, 1809, Kjøbenhavn 1818, pp. 57—138].

In Greenland this whale is called *Keporkàk*, i.e. “the fluted one” (from *keporkarpok*, channelling grooves in something), because it has fluted-like grooves on its belly.

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Its utility:

1. The skin and the blubber with all gristle are eaten raw by the Greenlanders; the flippers, the dorsal fin and the tail make an agreeable meal for them, for which they put almost everything else aside. The blubber being so coarsely fibrous and so much the less oily it is also more edible than that of most other whales, for they need not spit the oil out. One Greenlander would be reluctant to deprive another of such a treat and during the days when this hunting is going on there is so to say open house.

2. The blubber alone, when placed in skin bags without the skin,¹⁾ yields a good but sparse oil which the Greenlanders burn in their lamps; this rarely happens, however, because they would rather eat it.

3. The flesh is also eaten by the Greenlanders raw, boiled, dried and half-rotted and is a delicacy to them, one that they like much better than the meat of the white whale (*Delphinus albicans*).²⁾

4. The viscera are also eaten boiled, and

5. The sinews are dried, split and used as thread by the Greenlanders.

6. The bones, i.e. the ribs, shoulder-blades and lower jaw are also of use for their hunting implements, though they are not particularly good owing to their tubular structure and great content of marrow.

¹⁾ The same happens in barrels at the store and on the ships.

²⁾ Which is *Delphinus Leucas* Gmelin. Syst. nat. p. 232, col. 4.

7. The flabby skin, or loose, pendant flap at the tongue, as well as the diaphragm in the body, are used for windows after some preparation.

8. Its small baleen plates are made into small trays or dishes by curving them and fitting a wooden bottom as with a box, they are not of much service otherwise.¹⁾

It is not hunted much by foreigners for the sake of the little oil it gives, but the Greenlanders search eagerly for it and catch it with large lances of iron, called *Kallugiak*²⁾ by the Greenlanders, but whale lances by the colonists, as it is also used against the truly large whale or Greenland whale (*Balaena Mysticetus*) and has to be bought of the Europeans, for which reason only few Greenlanders owned one where I was; at its end this lance has a lanceolate blade of iron running into an iron shank which is lashed on to a long shaft of strong wood and cannot be regarded as the Greenlanders' own invention, unless in earlier times they might have had it formed in the same way of bone, as is the case with several of their other darts. For this hunting many assemble in one of their largest skin boats which has previously been well provided with inflated floats in the bottom³⁾ to prevent it from sinking in case it should be capsized by the whale's tail; they pursue it rapidly by rowing with loose paddles (which otherwise are used only for kayaks); with these the men stand upright on both sides and thrust the one blade of the paddle into the water, whereby they can give the boat the speed of an arrow; two of the best harpooners take a position in the fore end, each with his lance, and look out for any whale lying quietly on the water, when it can best be approached, then give the signal to row swiftly to it; the lance men grip the lance shaft with both hands, the right hand far back and the left more forward, and with it stab the whale but withdrawing immediately in order not to lose it; the thrust should preferably be made behind the flippers to strike the heart, whereupon the whale no doubt goes to the bottom immediately, which is a further reason for hurrying to withdraw the lance; but it soon comes up again, and if it is heard howling as it blows, and blood is seen

¹⁾ According to the report of DEBES in his *Færøiske Beskrivelse* p. 160, 161, the Faroese also salt the blubber and eat it like pork, or they use it as fat or butter for cooking; they also eat the meat fresh, boiled or pickled when it is wind-dried in long strips; indeed he says that foreigners sometimes pickle part of the rump.

²⁾ Presumably derived from *kalluvok*, "pulls quickly to him", and would then mean: "he who tries to pull something to him quickly", or: "something with which to thrust in and pull out again", because it is constantly pulled back quickly when it has been used for lancing.

³⁾ Described in my paper on the hunting implements for seals, in the latest of the Society's publications, *5te Deel*, 2. H., p. 151, [Pl. I] fig. 6 [Cf. p. 45].

spurting from the blow-holes, it is a sign that a good hit was made. Ultimately it becomes very shy, but they follow it so much the more intensively by paying attention to the rising bubbles and following the direction it takes under the water in order to be right by it when it reappears; above all they try to surround it to prevent it from making for the open sea, for which reason there are sometimes several boats helping; the hunters continue to stab it again until it is dead, for it can tolerate several thrusts if the heart is not hit; but sometimes they are successful in killing it by the first blow. It is then tied to the boat with thongs and towed by other boats to the shore. In this hunting the people not uncommonly get into danger when they pursue the whale too far out to sea, and later are unable to reach land if a storm breaks; in that case they often have to drop the catch even if it is already in tow. And sometimes the stabbed whale sinks when the lance, badly yielded, has pierced some organ whereby the air escapes which should buoy it up; I have taken part in the lancing of a whale that sank like a rock, notwithstanding that four harpoons with floats¹⁾ had been thrown into it and two umiaks lay alongside and the people in them held on to the harpoon lines in order to keep it up. After some days, however, it may float up as a carcass when inflammation has set in and if sharks have not eaten it up in the meantime; what is left may then be salvaged and be put to use. When it has not been faultily struck and is about to die, it may dart like an arrow along the top of the water, striking out and fighting with its tail (a habit which it has in common with other whales), when it is highly dangerous if it should turn upon a boat. The lance thrusts which failed to kill it at once would later be mortal to it, as inflammation easily appears in the wound, but in that case it floats up at some other place without benefiting the people, and especially the actual hunters; of this I have seen a convincing example once when rowing among a school of humpback whales in my kayak; I felt a desire to thrust my bird-dart into one of them and in fact it went quite deep, as I was very close to the whale; but on account of the barbs it remained in its body with the result that the whale ran away with it. However, after several days a Greenlander brought me my dart which had been found in a washed-up whale carcass, so that the whale must have died from this slight dart wound through its becoming inflamed.

¹⁾ See my last mentioned paper, l.c. p. 131, [Pl. I] fig. 7 [Cf. p. 48].

GREENLAND WORDS USED IN FABRICIUS' PAPERS

In the first column the words are given in Fabricius' original spelling, but without his use of capital initial letters. In modern Greenland orthography no capital letters are used besides in personal and geographical names. Words in brackets in this column refer to Fabricius' vocabulary: Den Grønlandske Ordbog, Kjøbenhavn 1804. In the second column the words are spelled in the present-day official orthography. If a word is given in a suffixed form, or in plural, the basic form has been added in most cases. The verbal ending -pâ or -vâ indicates that the verb in question is generally used transitive. — An asterisk * means that the word is not current in present day language.

<i>ait</i> (p. 76)	ait or atsit (pl. of âq, aeq)
<i>akajarak</i> (p. 96)	aqajaroq
<i>akajarolerdlugit</i> (p. 96)	aqajarulerdlugit
<i>akinga, akingee</i> (p. 52, 72, 86)	akinga, akinge (akik)
<i>akkuglit</i> (p. 109)	akugdilit
<i>akligak</i> (p. 51, 106)	agdligaq
<i>akligarpok</i> (p. 106)	agdligarpoq
<i>akligeksak</i> (p. 51)	agdligagssaq
<i>alergvee</i> (p. 76)	âlerfê (âlerfik, âq)
<i>aliutei</i> (p. 76)	âliutai (âq)
<i>allek</i> (p. 43, 103, 125)	aleq
<i>alliksak</i> (p. 125)	aligssaq
<i>alloa, agloa</i> (p. 52)	agdlua (agdlo)
<i>amiksak</i> (p. 113)	amigssaq (ameq)
<i>angoviak</i> (p. 55, 103)	anguvigaq
<i>anguvok</i> (p. 55)	anguvoq
<i>angursorsoak</i> (p. 28)	angussorssuaq (anguvoq)
<i>angut</i> (p. 28)	angut
<i>assellut</i> (p. 103)	asatdlut (pl. of asaloq)
<i>atterdlæk</i> (p. 84)	aterdlak
<i>attungeksak</i> (p. 115)	atungagssaq (atungak)
<i>auat</i> (p. 45)	avat
<i>auatak (auatak)</i> (p. 45, 103)	avataq

<i>auataeksak (auatâëksak)</i> (p. 52, 109)	avatâgssaq (avatâq)
<i>auatârtak</i> (p. 87)	avatârtaq
<i>auatâursak (auatâursak)</i> (p. 63, 110)	avataussaq
<i>audlarukota</i> (p. 37)	autdlarúkutâ (autdlarúpâ)
<i>auleit (aulèit)</i> (p. 107)	autdlait
<i>aulisarpok</i> (p. 91)	aulisarpog
<i>aulisaut</i> (p. 91, 125)	aulisaut
<i>aurpok</i> (p. 118)	aorpoq
<i>eiok (eïok)</i> (p. 92)	ivoq (ivâ)
<i>epulligak</i> (p. 55)	ipuligaq (ipo)
<i>erisâk</i> (p. 72, 115)	erisâq (eripâ)
<i>erka</i> (p. 71)	eqia (eqeq)
<i>erneinek</i> (p. 31)	ernangnak (or ernangnaq)
<i>erneineksak</i> (p. 31)	ernangnagssaq
<i>erroruta</i> (p. 39)	erqoqutâ (erqoq)
<i>ersak (êrsak)</i> (p. 92)	(issaq*) isaq
<i>ervak (ervgak)</i> (p. 115)	erfaq (iverpâ)
<i>igdloartak</i> (p. 114)	igdluartaq
<i>igimak (igimâk)</i> (p. 34)	igimaq
<i>ikiak</i> (p. 109)	iggiaq (EGrl. igkiaq)
<i>ikkeq</i> (p. 69)	ikeq
<i>ikkiutingoak</i> (p. 63)	ikiûtinguaq (ikiorpâ)
<i>illuitsok (illuïtsok)</i> (p. 113)	iluitsoq
<i>illulinera</i> (p. 37)	ilugdlinera (ilugdliivâ)
<i>innûrsak</i> (p. 70)	inûssaq
<i>innursausak</i> (p. 70)	inûssaussaq
<i>isuklua</i> (p. 52)	isugdlua (isugdluk)
<i>itinek</i> (p. 84)	itineq (itivoq)
<i>itinersiut</i> (p. 84)	itinersiut
<i>itsorpok</i> (p. 119)	itsorpoq
<i>itsoartorpok</i> (p. 119)	itsuartorpoq
<i>itsoartout</i> (p. 119)	itsuartût
<i>kajak (kajâk)</i> (p. 103)	qajaq
<i>kakeisa</i> (p. 54)	(?) Cf. qaquitâ (qaqitaq, qaqqeq)
<i>kakkiok</i> (p. 93)	kakivoq (-vâ)
<i>kakkirsarpok</i> (p. 105)	qaqisârpoq (qaqivoq)
<i>kakkivsek</i> (p. 93)	kakïssak (dual. of kakiak)
<i>kakkoga</i> (p. 75)	qaqua (qaquaq)

<i>kakkogeksa</i> (p. 36, 75)	qáqugagssâ (Cf. qaquisâ, qaquiseq)
<i>kaksimarsulliarpok</i> (p. 105)	qagssimassuliarpoq (qagssimavoq)
<i>kaksut, karksut</i> (p. 95)	qagssut (only pl. qagssutit)
<i>kallibia</i> (p. 37)	kaligfia (? SGrl.) ¹⁾
<i>kallivitit</i> (p. 60, 103)	kalivitit (? SGrl.) (cf. kalutit)
<i>kallôrpok</i> (p. 94)	qalôrpok
<i>kallugiak</i> (p. 130)	qalugiak
<i>kallut</i> (p. 94)	qalut
<i>kalluvok</i> (p. 130)	qaluvoq (-vâ)
<i>kammavok</i> (p. 103)	qamavoq
<i>kaniok</i> (p. 90)	kaniok (or kanajoq)
<i>kaniorsiut</i> (p. 90)	kaniorsiut
<i>kannak (kannâk)</i> (p. 90)	kanâq
<i>kannârtak</i> (p. 90)	kanârtaq
<i>kapisek (kappisêk)</i> (p. 109)	kapiseq
<i>kappitek (kappitêk)</i> (p. 113, 120)	kapitaq
<i>kappout (kappòut)</i> (p. 58, 103)	kapût (kaporpâ, kapivâ)
<i>karksok (kârksock, kârsok)</i> (p. 71)	qarssok
<i>karksub kerssukta</i> (p. 71)	qarssup qissugtâ
<i>karksum inna</i> (p. 72)	qarssup inâ
<i>karksut</i> (p. 107)	qagssutit (pl.)
<i>karssursak (kârssursak)</i> (p. 85, 90)	qarsorsaq
<i>katek (kâtek)</i> (p. 31)	qâteq
<i>kaulorpok (kâulorpok, kâudlorpok)</i> (p. 91)	qaugdlorpoq
<i>kaulorkotei</i> (p. 91)	qaugdlorqutai (qaugdlorqut)
<i>keïvik</i> (p. 86)	kîsivik (kisivoq, kîvâ)
<i>kelernera (kelérnek)</i> (p. 71)	qilernera (qilerpâ)
<i>kelerpok (keléropok)</i> (p. 71)	qilerpoq (-pâ)
<i>kellorartorpok</i> (p. 74)	qilorartorpoq
<i>kellorartout</i> (p. 74)	qilorartût
<i>kemekejutei</i> (p. 76)	kingmerqûtai (kingmerqoq, kingmik)
<i>keporkak (kepórkâk)</i> (p. 129)	qiporqaq
<i>keporkarpok</i> (p. 129)	qiporqarpoq (-pâ)
<i>kerssuk (kérssuk)</i> (p. 69)	qissuk
<i>kerusak (kérusak, képirsak)</i> (p. 86)	qivssaq (qipivâ)
<i>keruserut (kéruserut)</i> (p. 86)	qivssarut
<i>kiglinga</i> (p. 37)	kigdlinga (kigdlik)
<i>kingarnera</i> (p. 76)	qingârnera (?)(qingâq)
<i>kingera</i> (p. 37)	kingorâ (kingoraq, kingo)
<i>koeissak (koeissâk)</i> (p. 119)	quasak

¹⁾ Cf. kalugfik, BIRKET-SMITH: M.O.G. 66, p. 297.

<i>koeitsiarpok</i> (<i>koèitsiarpok</i>) (p. 119)	quatsiarpog (cf. quasasiarpog, quasa- liarpog)
<i>korngortut</i> (<i>kórngortut</i>) (p. 95)	qôrnortût
<i>kudlokuta</i> (p. 39)	kuvdloqutâ (kuvdloq)
<i>kudlum inna</i> (p. 37)	kuvdlup inâ
<i>kyak</i> (p. 71)	kujâq (kujak)
<i>mallersornek</i> (<i>mallersórnek</i>) (p. 54)	malerssorneq
<i>mallersorpok</i> (<i>mallérsorpok</i>) (p. 106)	malerssorpoq
<i>mammit</i> (p. 112)	mamit (pl. of mame)
<i>manno</i> (p. 62)	mano
<i>mangivserpok</i> (p. 62)	mangivserpoq (SGrl.; cf. manguvseq)
<i>mangivsiut</i> (p. 62)	mangivsiut (SGrl.; cf. manguvseq)
<i>mangupok</i> (<i>mangúpok</i>) (p. 62)	mangúpoq (-pâ)
<i>mangulerbik</i> , <i>-bia</i> (p. 72, 76)	mangulerfik, <i>-fia</i> (mangúpâ)
<i>maupok</i> (<i>mâupok</i>) (p. 119)	máupoq
<i>merkolik</i> (p. 111)	merqulik (merqoq)
<i>mikkiak</i> (p. 108)	mikiaq
<i>nâkok</i> (p. 72)	narqoq
<i>nakolerbia</i> (p. 72)	narqulerfia (narqoq)
<i>nangmaut</i> (p. 73)	nangmaut (nangmagpoq)
<i>napiut</i> (p. 96)	napiut (naperpâ)
<i>nedlout</i> (<i>nedlôut</i>) (p. 92)	natdlût (natdlugpoq, nalugpâ)
<i>nedlukpok</i> (<i>nédlukpok</i>) (p. 92)	natdlugpoq
<i>neitsek</i> (<i>nèitsek</i>) (p. 113, 120)	natseq
<i>nektorak</i> (<i>nektorâk</i>) (p. 62)	nagtoraq
<i>nervngee</i> , <i>-nga</i> (p. 71, 76)	nervnge, <i>-nga</i> ; nerme, nerma (nimeq)
<i>netarnak</i> (<i>nettârnak</i>) (p. 85)	natarnaq
<i>netarnarsiut</i> (<i>nettârnarsiut</i>) (p. 85)	natarnarsiut
<i>niakok</i> (<i>niakòk</i>) (p. 51)	niaqoq
<i>niakuta</i> (p. 51, 75)	niaqutâ (niaqoq)
<i>nigak</i> (p. 74)	nigaq
<i>nigartorpok</i> (<i>nigârtorpok</i>) (p. 74)	nigârtorpoq
<i>nigartout</i> (<i>nigârtout</i>) (p. 74)	nigârtût
<i>nioloa</i> (p. 34)	niulua (niulo)
<i>niolum inna</i> (p. 34)	niulup inâ
<i>nivko</i> (p. 108)	nivko
<i>nokarpok</i> (<i>nokârpok</i>) (p. 70)	noqarpoq (-pâ)
<i>nokartak</i> (<i>nokârtak</i>) (p. 71)	noqartaq* (noqartâ, noqarte)
<i>nokarsarbik</i> (p. 70)	noqarsarfik
<i>norsak</i> (<i>nórsak</i>) (p. 36, 53)	norssaq
<i>nugipok</i> (<i>nugípok</i>) (p. 75)	nuvfipoq (-pâ)

<i>nugit</i> (p. 75, 127)	nugfit (pl. of nuik, nueq; nuivoq)
<i>nytsiut</i> (cf. <i>nytsut</i> , <i>nusut</i> (p. 62)	nusût (nusugpâ)
<i>nytsukpok</i> (or <i>nusukpok</i>) (p. 62)	nutsugpoq (-pâ), (nusugpâ)
<i>nækkerkota</i> (cf. <i>nakkéropok</i>) (p. 53)	nakerutâ (nakerut, nakerpoq)
<i>okomersak</i> (<i>okommersak</i>) (p. 90)	oqúmersaq (oqúmerpâ)
<i>pamirsæk</i> (<i>pâmirsæk</i>) (p. 42)	pamissak (dual. of pamiag)
<i>pamiok</i> (<i>pamiök</i>) (p. 91)	pamioq
<i>pamiûrsak</i> (p. 91)	pamiússaq (pamioq)
<i>paugursak</i> (p. 46)	pâgússaq (dual. of pâguaq; pâgpâ)
<i>pekkítak</i> (p. 90)	peqítAQ
<i>piniarte</i> (p. 28)	piniarte (piniarpoq)
<i>pingek</i> (p. 31)	pingeq
<i>pissikpok</i> (p. 69)	pisigpoq (-pâ)
<i>pissikse</i> (p. 69)	pisigse
<i>pissiksib kerssukta</i> (p. 69)	pisigsip qissugtâ
<i>pissiksim inna</i> (p. 72)	pisigsip inâ
<i>pissiksisak</i> (p. 69)	pisigsisAQ (?)*
<i>pitiota</i> (cf. <i>pittûtak</i> , <i>pittivtak</i>) (p. 76)	pitûtâ (pitûtAQ, pitugpâ)
<i>póktak</i> (p. 72)	pôqtaq (pôq)
<i>puerbik</i> (<i>puérbik</i>) (p. 46, 63, 88)	puerfik (puerpâ)
<i>puerpok</i> (<i>puéropok</i>) (p. 88)	puerpoq
<i>puktakot</i> (p. 91)	pugtaqut (pugtavoq)
<i>puktavok</i> (p. 91)	pugtavoq
<i>putoa</i> (p. 37)	putua (puto)
<i>sákotit</i> (p. 30, 103)	sârqutit (pl. of sârqut; sak, sâ)
<i>sapputit</i> (p. 96)	saputit (pl. of saput; sapivâ)
<i>sappuvok</i> (p. 96)	sapivoq (-vâ)
<i>sauguak</i> , <i>sougak</i> (<i>sâuguak</i> , <i>sôugak</i> , <i>sûgak</i>) (p. 51)	sûgaq
<i>saugueksak</i> , <i>sougeksak</i> (p. 51)	sûgagssaq
<i>savikbia</i> (p. 44)	savigfia (savigfik, savigpâ)
<i>seeksinnægak</i> (<i>sêksinnægak</i>) (p. 114)	sigsinagaq* (siginagaq, sigpâ)
<i>sekko</i> (<i>sékko</i>) (p. 30, 41, 118)	sáko
<i>senneruta</i> (p. 44)	sânerutâ (sânerut, sane)
<i>sinasiut</i> (<i>sinâsiut</i>) (p. 92)	sinâsiut (sinâq, sine)
<i>sine</i> (<i>sinè</i>) (p. 92)	sine
<i>sioa</i> (p. 51, 75)	sujua (sujo)
<i>sudlolirsa</i> (p. 53)	suvdlolisâ (suvdlulik, suvdlloq)

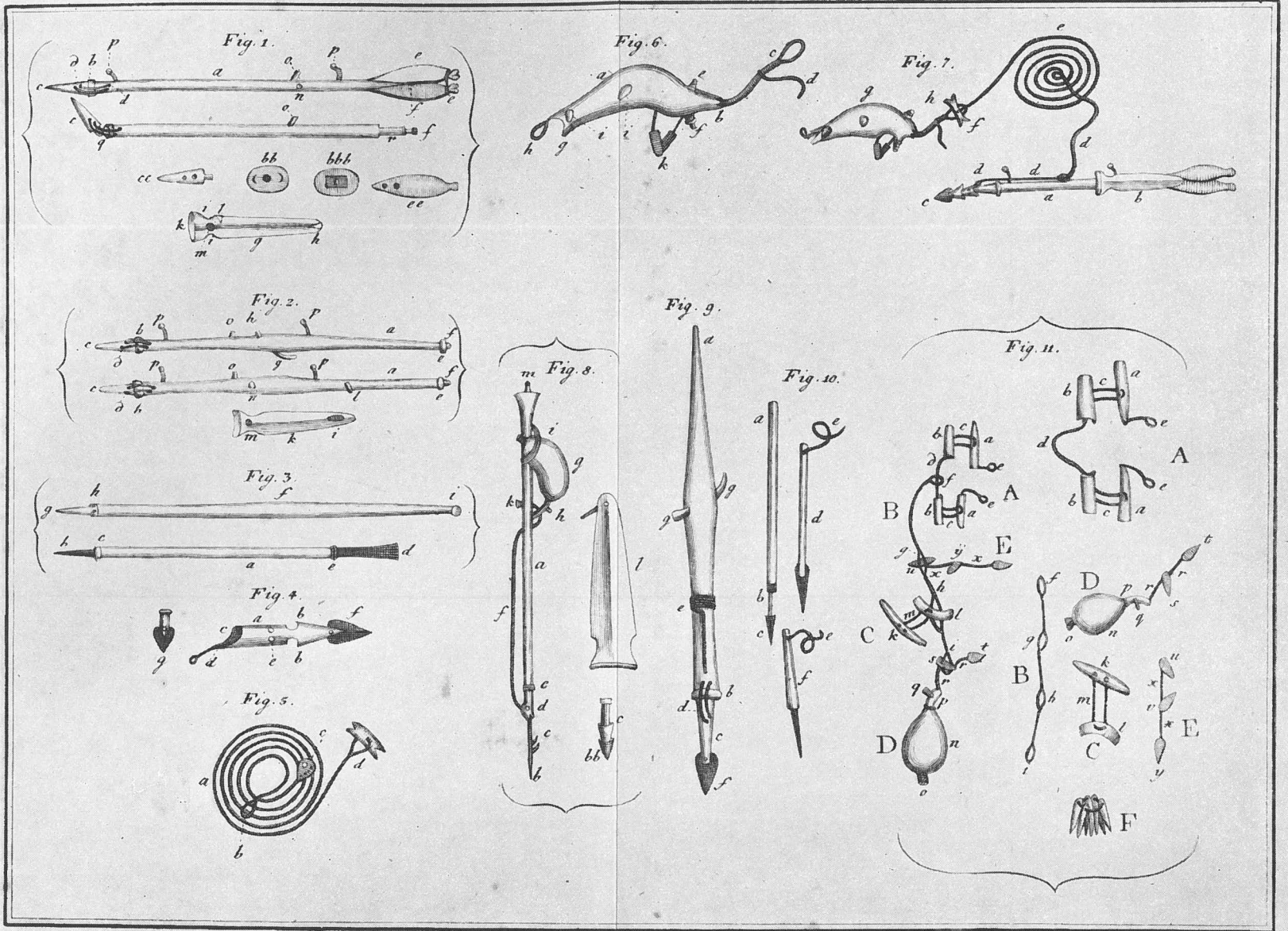
<i>sungidlirsa</i> (p. 53)	sungitdlisâ (sungitdlit)
<i>sulluee</i> (p. 71)	sulue (suluk)
<i>sullûrsæt</i> (p. 35)	sulûssat (pl. of sulûssaq: suluk)
<i>sullupaugak</i> (<i>sullupâugak</i>) (p. 86)	sulugpaugaq, sulugpâvaq
<i>sullupaugarsiut</i> (p. 86)	sulugpaugarsiut
<i>særpsak</i> (<i>særbsak</i> , <i>særvsak</i> , <i>sârpsak</i>) (p. 106)	savssaq (sapivâ)
<i>særpsiarpok</i> (p. 106)	savssiarpok
<i>takoarbik</i> (<i>takkoarbik</i>) (p. 72)	taquarfik (taquaq)
<i>tellerok</i> (<i>tellêrok</i>) (p. 65)	taleroq
<i>tellerorsiutingoak</i> (p. 65)	talerorsiutînguaq
<i>tellibia</i> (p. 37)	talivfia (talivfik, talipoq)
<i>tellut</i> (p. 73)	talut (pl. of talo)
<i>tessiutej</i> (p. 34)	tasiutai (tasiut, tasivâ)
<i>tevlia</i> (p. 54)	?tigulia* (tiguleq)
<i>tevsia</i> (p. 53)	tavsia (tavsik, tavseq)
<i>tikaguta</i> (p. 39)	tikâgutâ (tikâgut, tikeq)
<i>tingmirsæt</i> (p. 126)	tingmîssat (pl. of tingmiaq)
<i>tôrkota</i> (p. 52)	torrutâ (torrutaq)
<i>tûkak</i> (p. 51, 103)	tûkaq
<i>ujarak</i> (<i>ujarâk</i>) (p. 91)	ujarak
<i>ullo</i> (p. 112)	ulo
<i>ulluksak</i> (p. 42)	ulugssaq (ulo)
<i>ullulerbia</i> (p. 72)	ululerfia
<i>ullunga</i> (p. 42, 55, 72)	ulunga (cf. ulua, ulo)
<i>unâk</i> (p. 31, 38)	unâq
<i>unarsivik</i> (<i>unârsivik</i>) (p. 51, 71)	unarsivik
<i>unnek</i> (p. 116)	úneq (utivoq)
<i>urksuk</i> (p. 43)	ugssuk

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Plate I. Seal hunting implements.

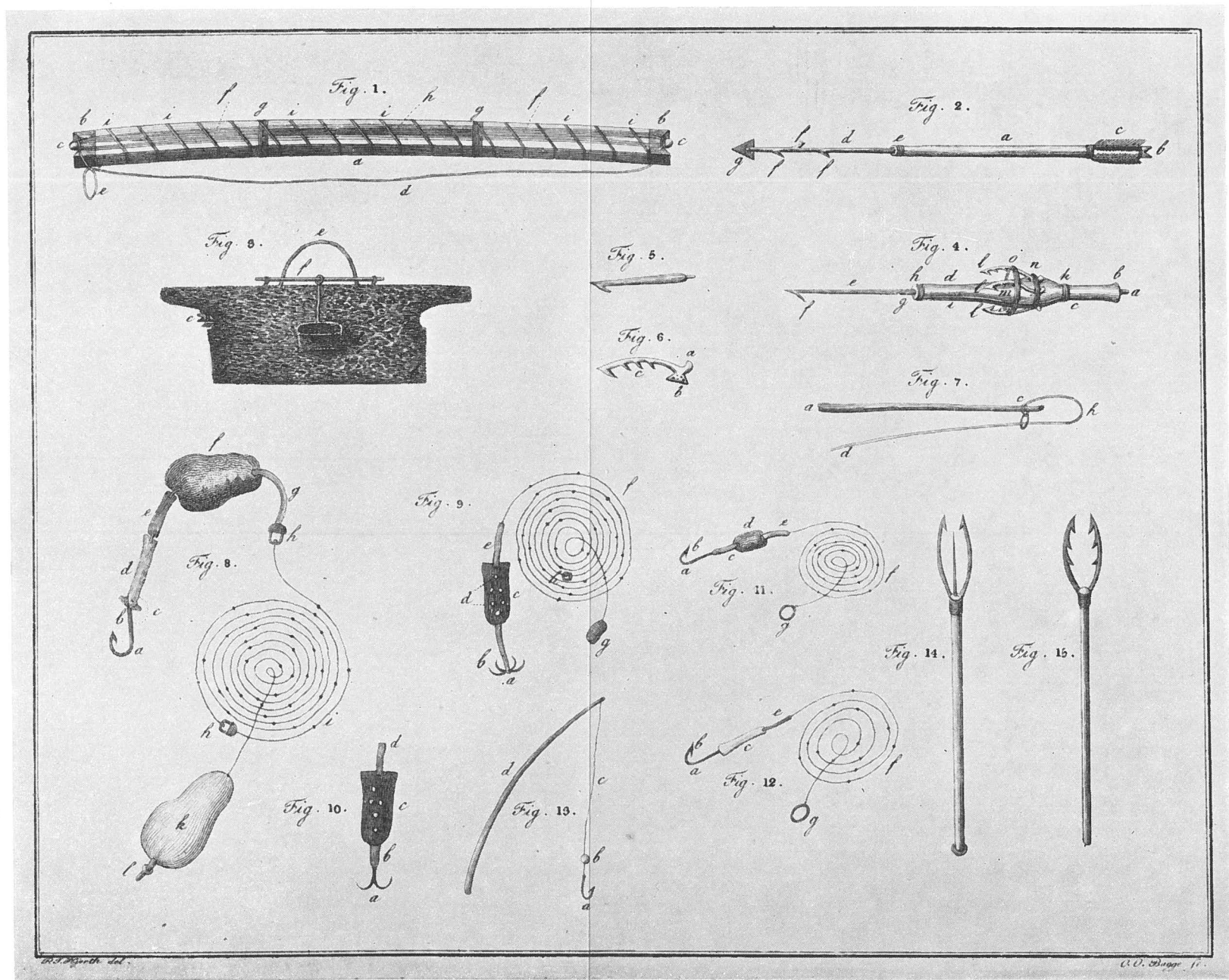
Plate II. Implements for land hunting, fowling and fishing.



Vid. Selsk. Skriv. 5. Bind 2. Hefte.

Steket af Friedrich.

Seal hunting implements. (Original plate in FABRICIUS' paper on implements used by the Greenlanders for catching seals).



Implements for land hunting, fowling and fishing. (Original plate in FABRICIUS' paper on the hunting of terrestrial animals, of fowling and fishing by the Greenlanders, with the appurtenant implements).