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TABLE OF CONTENTS

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RECENT POTTERY FROM THE BERING STRAIT REGION

WENDELL OSWALT

This study of ceramics from the Bering Strait region embodies approximately 7000 sherds and is intended to define the recent Eskimo pottery styles for the general area. The ware under consideration has been divided into two categories, the pottery from St. Lawrence Island and that from Seward Peninsula.

ST. LAWRENCE ISLAND COLLECTIONS

The collections are primarily those from the Kukulik mound and were assembled by Mr. Otto Geist in 1934 and 1935 and by the writer in 1948.[1] The St. Lawrence Island and adjacent Punuk Island archaeological sequence has been well defined by Collins (1937) for Old Bering Sea styles II and III and Punuk and by Rainey (1941) for Old Bering Sea style I (Okvik). Most subsequent developments are set forth by Geist and Rainey (1936). In the analysis of the aforementioned collections most emphasis has been placed on typological changes reflected in harpoon heads, tools and decorative styles; as a result, the pottery sequence was seriously considered only by Collins. Since the bulk of Collins' material is relatively early, the later pottery has not been carefully analyzed. One purpose of this paper, therefore, is to delineate the post Punuk ceramic sequence on St. Lawrence Island.

KUKULIK COLLECTIONS FROM 1948

First to be considered is the 1948 collection of pottery from three test cuts in the main mound at Kukulik (see map in Geist and Rainey, 1936, p. 54). The largest test cut (A) measures 80 by 10 feet and is located approximately 30 feet west of Geist's 1931 to 1933 excavation. The west end of the mound beyond the 1931-33 cut had not been disturbed previously by Geist. The other two test cuts made in 1948 are at the east end of the main mound (cuts B and C) and measure 30 by 10 feet each. This area had been cleared of approximately 18 inches of cultural debris in 1934 (Geist and Rainey, 1936, p. 85) and an additional 18 to 24 inches in 1935; therefore, an adjustment of approximately 36 inches was made in order to equate cuts B and C at the east end of the mound with cut A at the west end. The maximum

[1]The 1948 excavations at Kukulik were made in conjunction with a Bering Sea coast archaeological survey under the direction of Dr. J. L. Giddings, Jr., then of the University of Alaska, and financed in part by the Arctic Institute of North America. The writer wishes to express his appreciation to Dr. Giddings for permission to publish this material and at the same time exonerate him from any of the opinions expressed. The writer also wishes to thank Dr. Ivar Skarland of the University of Alaska for making the time available for this study while on the Museum staff and Mr. Walter Arron for his valuable field assistance while on St. Lawrence Island.

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depth attained was 9 feet in B and C and 7 feet in A cut. That the Punuk horizon had been encountered at the bottom of the excavation in A cut was indicated by the Punuk type harpoon shaft weight (winged object), harpoon head, and socketpiece recovered. In B and C cuts it is probable that the Punuk layer was slightly below the lowest excavated level. The sherds from these three excavations clearly cross compare in type and have been treated as a unit dating from the end of the Punuk period to about 1880 A.D., when the mound was abandoned.

The 344 cooking pot fragments in the 1948 collection are predominately sand tempered (318 sherds). This type of temper is found in all represented levels. The tempering agents in the balance of the ware are sand and feathers (8), pebbles (5), grass and sand (5), gravel (4), grass (1), grass and pebbles (1) and no visible temper (2). These latter forms of temper occur so sporadically that their stratigraphic position is obscure.

The texture of most sherds is coarse, and they tend to exfoliate. The ware ranges in color from black through grey to a few buff and reddish sherds. A few specimens were noted to have a black core but buff colored outer surface. That the tempering material usually does not protrud through the outer surface of the ware indicates some surface smoothing. The sherds were measured for thickness and found to range from 3 mm. to 20 mm. with an average of approximately 8 mm.

Ten decorated sherds were recovered; of these, six were in the upper 66 inches and decorated with a single continuous horizontal line (3), a single discontinuous horizontal line (1) or two continuous horizontal lines (1). The latter motif is on a sherd that has a pierced suspension lug (Pl. 1, 11). Another small decorated sherd has a number of short incised lines running parallel to the rim. This design was probably applied with a comb similar to that illustrated by Geist and Rainey (1936, Pl. 54, 14) from Kukulik. One sherd from the 66 to 72 inch level appears to have been irregularly marked with the side of a slightly rounded stick which left impressions 5 mm. wide and of irregular length. Another specimen, found in the upper 66 inches, has corrugated impressions made with a line incised pottery paddle. The sherd is so small that the length of the corrugations may not be determined, but their width is 2 mm. each. The two remaining decorated sherds are unusual, since each has a distinctive zonal design near the rim. These designs on one sherd are obscure at the top but those on the second sherd are clearer. The latter has a line parallel to the rim and 18 mm. above a slight bulge marking the lowest extent of the decoration. Since the decorated section of the sherd is indented, this design appears as being slightly offset. The motif itself has a diagonal line joining the top and the bottom of the design and small short lines within this area (Pl. 1, 6; Fig. 1, 8).

This collection of sherds offers little evidence of the vessel forms employed except that the presence of 26 pierced suspension lugs distributed from the surface to a depth of 72 inches (only one example was found below 48 inches) indicates the use of rectangular flat-bottomed vessels with pierced outside corner lugs. One sherd from the 96 to 102 inch level has a suspnsion hole near the rim. There is considerable variety in rim form. The dominate type found in all levels is rounded (63), with the squared type second in frequency (32), followed by rims with an exterior projection (24), an interior projection (21), an angular sloping lip top (5), a ∧ shaped lip top (3), flat oval thumb impressions at intervals (2) and a bulbuous lip (1). See Figure 1, 1-7, 9 for profiles of these types. Among the basal sherds recovered are 10 flat-bottomed fragments and one with a rounded bottom.

Included in the collection are three sherds found as deep as 60 inches that are similar to the griddle previously reported from Kukulik (Geist and Rainey, 1936, p. 165). Also in the collection, from the 90 to 96 inch level is a small complete lamp with a handle, resembling one illustrated by Geist and Rainey (1936, Pl. 39, 5). Fragments of the large rectangular lamp type were found from the surface to a depth of 66 inches. These finds are represented by 23 sherds, each of which has a section of the wick ledge intact. There is an additional lamp form

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present not previously reported from St. Lawrence Island. This type has knobs within the bowl a short distance from the rim and is from the 18 to 24 inch level; it will be considered more fully later.

PREVIOUS KUKULIK COLLECTIONS

The descriptions that follow are primarily of ware excavated from the upper three feet of the Kukulik midden by Geist during 1934 and 1935 (Geist and Rainey, 1936, pp. 47-9). These layers would, for the most part, date approximately from 1700 to 1880 A.D. Sherds in this category have been examined for evidence of surface treatment and vessel form. In this group of 6500 sherds were 60 which merit consideration. The balance of the sherds are like those just described from Kukulik.

Seven sherds bear paddled corrugations on the outer surface. These markings were probably made with a paddle similar to the one illustrated by Collins (1937, Pl. 47, 17) from an Old Bering Sea site at Gambell on St. Lawrence Island. All of these sherds are sand tempered and are black or buff and black throughout (Pl. 1, 8).

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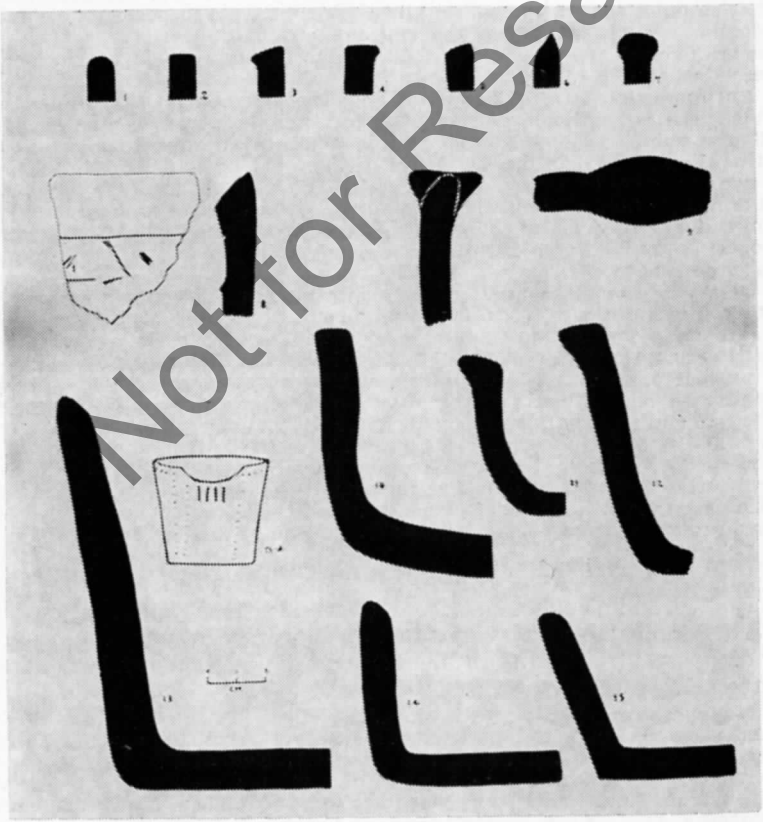

Figure 1: Kukulik Pottery Profiles

Three sherds in the upper levels of Kukulik and two others from Miyowagh (a Gambell, St. Lawrence Island, Old Bering Sea site which is much older than the ware under consideration) have been impressed with a flat stick. The markings on different sherds range from 5 to 10 mm. in width and have squared ends. Individual impressions are from 2.5 to 5 cm. in length and are sometimes confused, one mark being placed on top of another (Pl. 1, 9, 10).

The one comb marked sherd was impressed with a two-tined comb that was drawn parallel to the rim to form short lines. The designs appear to run in vertical series, but the smallness of the sherd makes this uncertain (Pl. 1, 7).

Four sherds have a horizontal line decoration near the vessel rim. Two of these have a single continuous line (Pl. 1, 2), one a pair of discontinuous lines, and a single sherd has a broad band, approximately 3 cm. wide, of very short, fine lines which are horizontal to the rim. One other sherd of this same general type has two horizontal lines, each 4 mm. wide, that are parallel to the rim (Pl. 1, 1).

Ten rim sherds have oval flattended impressions at intervals along the rim lip. These impressions were apparently made with the thumb and spread the lip outward and inward (Fig. 1, 9), except for one specimen which spreads only outward. Two other rim sherds have a row of dots on the top, one has a groove around the rim top, and another has a line around the top of the rim.

In addition to the hundreds of sherds with pierced suspension lugs, ten have suspension holes near the vessel rim; three others have a suspension hole running diagonally through the top of the rim and terminating on the outer surface. There are two pot appendages that look like lugs around which suspension cords could be lashed (Pl. 1, 3,4).

An interesting form of lamp was noted repeatedly. It is the round, wide-mouthed, conical bottomed variety, but unfortunately most of the sherds are relatively small. Twelve sherds of this lamp form have knobs which are consistently near the rim on the inside of the lamp bowl (Pl. 1, 14), and in one case two knobs are present on a single sherd (Pl. 1, 13). Toward the center of the bowl of one sherd is a wick ledge; another has a wick ledge continuing from the knob. One aberrant specimen has a crescent-shaped wick ledge terminating in a knob (Pl. 1, 12). A lamp differing completely from the above form appears to be sad iron shaped.

Deserving comment are four complete or nearly complete vessels from Kukulik, no specific data having been noted. The first of these (Fig. 1, 10) has a rounded bottom and almost straight sides. The second random vessel is small (Fig. 1, 11) with a slightly rounded bottom and sides with a slight flare and pinched out rim. It is possible that these containers are older than the flat-bottomed pots. One vessel of unknown St. Lawrence Island origin has a flat-bottom and slightly flaring sides (Fig. 1, 15). Another random Kukulik vessel (Fig. 1, 12) has slightly flaring sides, probably a flat-bottom, and a row of dots around the top of the rim. A large drip pot from St. Lawrence is decorated with several series of dots and four flat-stick impressions (Fig. 1, 13). On the outer surface near the rim the row of dots continues around the pot while the vertical series of dots are found on the front to either side of the depressed rim.

SEWARD PENINSULA COLLECTIONS

The ceramic collections from eight locations on or adjacent to Seward Peninsula is comprised of 121 sherds.[2] Pottery was often the only diagnostic trait found in these sites. It appears that all of the ware is of relatively recent origin.

Teller The 15 sherds constituting this collection are all plain. The types of temper are sand and feathers (6 sherds), sand (5), crushed quartz (2), crushed quartz and feathers (1), and sand and grass (1). Two of the sherds have hair impressions on the outside but no traces of hair on the exposed cross sections, which suggests that a hair pottery smoother was used. These sherds are black or grey-black except for one brown example. All are crumbly and appear to have been poorly fired. The average thickness of the ware is approximately 11 mm.

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One sherd has a suspension hole and another a mending hole. All the specimens are quite small, and consequently no details of vessel size and shape are available. There are three rim forms: those with a squared lip (4), squared with an outward bulge (3) and squared with an outward sloping face (1). This ware was found in association with few other artifacts, none of which were very distinctive but are suggestively late.

Igloo Point This site on the north side of Seward Peninsula at the mouth of the Buckland River yielded a variety of notable ware. There are 92 sherds, most of which are sand and grass tempered (71), but there is some sand and feather tempering (16), and rarely sand, feathers and grass (3), or sand alone (2). The surface color ranges from buff to red to black and in many cases the buff sherds have black cores.

The varied styles of decoration include the following: one to four horizontal lines near the rim (5), a single horizontal line with a row of dots beneath (6), two to four horizontal lines with a row of dots beneath (7) (Pl. 2, 3, 4), two horizontal lines with a series of short horizontal lines in vertical series below (7) (Pl. 2, 2), one or five horizontal lines with groups of short vertical lines below (2) (Pl. 2, 5), horizontal comb marks in vertical series (7) (Pl. 2, 9), cord-wrapped stick impressed ware (4 plus 2 questionable) with horizontal impressions in vertical series (Pl. 2, 6), horizontal grooves in vertical series (13) and 16 others which are probably of this type but too small to classify with certainty (Pl. 2, 10).

Three sherds with bottom sections attached indicate that there were flat-bottomed vessels, and a fourth bottom sherd has a slighly concave base. Nine of the vessel rims are decorated with short diagonal impressions on the outer lip (Pl.2, 1). The vessel rims themselves are λ shaped (5), rounded (5), squared with an outward flaring lip (3) or with a rounded inward flaring lip (1).

Chamiso Island This island is slightly north of Seward Peninsula in Kotzebue Sound. The eight sherds recovered were in a shallow midden deposit and were probably from the same vessel since they are quite uniform. The temper is sand and grass and the sherds range in color from red-brown to black. The sherds tending to be red have black cores. All of the unexfoliated sherds are 7 mm. thick and four have outside and inside ridges and grooves. There are no rim sherds in the group, but four basal fragments are from a flat-bottomed pot.

Cape Wooley is located approximately 40 miles north of Nome. This ware falls into three types, each of which will be considered separately. The first type, represented by 18 sherds, is plain and tempered with sand and grass (8), feathers and crushed quartz (6), sand (3), and sand and feathers (1). This pottery ranges in color from grey to black and includes a few brown sherds. The average sherd thickness is approximately 10 mm. Rims are rounded (6), rounded with an outward hook (1), and rounded with an inward bulge (1).

The second type, represented by 8 sherds, is decorated with short horizontal grooves in vertical series. This ware is tempered with crushed quartz and feathers (4), sand and feathers (2), sand and grass (1), and sand alone (1). The color varies from buff to grey to black with black cores. The average sherd thickness is 8 mm.

The third type of ware is represented by a single sherd impressed with a cord-wrapped stick. The cord markings run parallel to the rim in short horizontal series (Like Pl. 2, 6). The color is grey to black and the sherd is tempered with grass and crushed quartz. It is 6 mm. thick.

All three types of ware are associated with other artifacts which are of relatively recent form. Two large limestone beads and numerous sled shoes are the most diagnostic traits present.

Glacial Lake in Kigluaik Mountains. This collection of five associated sherds includes two forms. The first, represented by 3 sherds, has short horizontal grooves in vertical series and is tempered with feathers and crushed quartz or

[2]This pottery was collected by the following: Mr. Otto Geist, Mr. David Hopkins, Mr. Charles Lucier and Dr. Froelich Rainey. The writer wishes particularly to express his appreciation to Mr. Lucier for making available the Igloo Point collection, the pottery paddle and pottery smoother. The collection by Mr. Hopkins is on loan to the University of Alaska Museum.

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sand. The impressions on these sherds have small brush-like marks in them which appear as though they were made with a grass-wrapped stick. The color is consistently black on the outer surface and grey on the inner surface; the average sherd thickness is 7 mm. The two remaining sherds are ridged and grooved on the outer surface. The feather and quartz temper protrudes through the surface. These two sherds, approximately 10.5 mm. thick, are from vessels with rounded rims.

Cape Nome The 23 sherds representing the Cape Nome group were collected at two different times but from the same site. Four are plain and tempered with feathers and sand (2) or sand alone (2). They are either black or brown-buff in color. The average vessel thickness is approximately 11 mm. Two of these sherds are rim fragments. One is rounded and the other ∧ shaped.

The second type has either short horizontal grooves in vertical series (7) (Pl. 2, 12), or one, three, four or six broad horizontal lines above short horizontal grooves in vertical series (4) (Pl. 2, 11, 13). This ware is tempered with sand and feathers (8), quartz and feathers (2), and sand and grass (1). The temper protrudes through the surface, and one sherd appears to have been whipped with a wad of grass. The sherds are predominately grey in color with black cores, but there are one or two buff and black examples. One specimen in the group is from a flat-bottomed vessel. The average sherd thickness is 9 mm.

The third type of Cape Nome pottery, represented by two sand and feather tempered sherds, has a distinctive check stamp decoration in which relatively small squares shaped like inverted pyramids extend in a single line. These squares measure approximately 4 mm. across and have a relatively narrow band approximately 1 mm. wide separating the checks (Pl. 2, 7).

Five sherds have outside ridges and grooves and are tempered with crushed quartz and feathers (4) or sand and feathers (1). This ware ranges in color from black to buff and averages 9 mm. in thickness. The type is crumbly and temper protrudes through the surface. One of these sherds has a rounded rim with diagonal marking on the outer surface.

The remaining Cape Nome sherd has four horizontal lines near the rim and two short vertical lines below, off to the side beneath the lowest horizontal line are short horizontal lines in vertical series (Pl. 2, 8). This black sherd is sand and feather tempered.

King Island From this island off Cape Douglas at the western end of Seward Peninsula come two lamps which are pertinent to the study of ceramics from the Bering Strait region. The first lamp fragment has a knob 2.4 cm. from the rim, and toward the center of the bowl are two shallow ridges and grooves. Indications are that this sherd is from a rather large conical bottomed lamp. The tempering agents are crushed stone and a few feathers. The rock temper is coarse and protrudes through the surfaces. The second King Island lamp is complete except for a small hole in the center of the vessel; this was intentionally made to "kill" the container. The same type of hole is present in a wooden bowl found with the lamp in a grave. The lamp is 30 cm. long, 25 cm. wide and 5.8 cm. deep. Is is rectangular with rounded corners and steep sides which terminate in a conical bottom. The grey vessel is tempered with crushed rock which protrudes through the inner surface of the bowl.

SUMMARY OF THE WARE

The University of Alaska collection of pottery from the Kukulik midden on St. Lawrence Island is voluminous. Part of this ware was considered by Geist and Rainey (1936) in their report on the site; however, the bulk of the collection was not analyzed. Geist's unpublished ware from 1934-35 excavations and collections made by the writer in 1948 together give a large sampling of recent prehistoric ware. The vessel shapes represented are the following:

flat-bottomed rectangular vessels with pierced outside corner lugs
flat-bottomed drip pots with slightly flaring sides and a depressed rim section

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small flat-bottomed vessels with straight or slightly flaring sides
griddles
small flat-bottomed straight or curved drip bowls
very rarely some form of vessel with a rounded bottom

There is some variety in vessel rim form but the dominant type has a rounded top. The most distinctive rim form has flat thumb-impressions at intervals on the top of the lip. Vessels rarely have suspension holes near the rim. The above containers are usually sand tempered and not commonly decorated, but where there is some form of surface treatment it takes the following form:

continuous or discontinuous horizontal lines
short combed lines made with a two-tined comb
corrugations (St. Lawrence Corrugated Type)
striations made with the side of a rounded stick
striations made with a square ended stick
horizontal and diagonal lines near the rim

The lamps are usually flat-bottomed, rectangular and have one or two wick ledges; rarely they are round, conical-bottomed with bowl knobs near the rim. Sometimes wick ledge and knob are joined. There are various forms of hand lamps, including a small type with a wick ledge at the back, oval ones with short handles, and rarely the sad iron style.

The following types of surface treatment are used on recent Seward Peninsula pottery:

one to four horizontal lines
one to four horizontal lines with a row of short dots below
two continuous horizontal lines with short horizontal lines below in vertical series
one to five horizontal lines with groups of short vertical lines below the last continuous line
comb markings
short horizontal grooves in vertical series (Seward Striated Type)
cord-wrapped stick impressions horizontally to the rim and in vertical series
single line check stamp (Deering Pyramid Paddled Type)
ridges and grooves
rim lips with diagonal lines on the outside

These designs were on flat-bottomed vessels with an uncertain type of side. The sherds are most commonly tempered with the combination of feathers, quartz and sand or grass with sand; however, inorganic temper used alone is also recorded. The names listed above in parentheses have been selected to designate certain recurrent design styles. The names are derived from the locality in which the form is most prevalent and have been defined in the previous descriptions.

COMPARISONS

The geographical and strong cultural connections between St. Lawrence Island and eastern Siberia have been amply demonstrated (Rainey, 1941, 1953), and therefore it is not unexpected that we find little beyond a few widespread vessel shapes to connect this pottery continum with that of the Alaska mainland. The most characteristic recent St. Lawrence Island shape, the flat-bottomed rectangular vessel with outside pierced suspension lugs, is unanimously considered to have been derived from the rectangular soapstone pot of the eastern Arctic

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(Mathiassen, 1927, Vol. 2, p. 105; Birket-Smith, 1929, Vol. 2, p. 104; Collins, 1937, p. 347; de Laguna, 1947, pp. 231-2) which entered Alaska quite recently and was reproduced in clay. This vessel form spread to Siberia and is found among the Chukchee (Borgoras, 1904-08, Vol. 1, p. 186). The second important vessel shape, the flat-bottomed drip pot with slightly flaring sides and a depressed rim section, is shown by de Laguna (1947, p. 232) to be a local modification of a similar widespread vessel form which lacks the depressed rim. The drip pot too is found among the Chukchee (Bogoras, 1904-08, Vol. I, p. 18) and is probably a recent development. The griddle, as demonstrated previously (Oswalt, 1953), was recognized in St. Lawrence Island collections by Rainey (Geist and Rainey, 1936, p. 165) and is also found at the Kobuk River site of Ekseavik (Giddings, 1952, p. 95), where it is identified as a lamp, and in Point Hope Tigara burials, where with reservations it is identified as a lamp (Larsen and Rainey, 1948, Pl. 91, 7). The small flat-bottomed, low-sided, curved or straight drip pots are not known from any pottery-bearing sites other than those on St. Lawrence Island and are apparently a local development.

Decorated pottery from St. Lawrence Island constitutes a very small minority of the total number of sherds (60 out of approximately 6,850 sherds). The St. Lawrence Corrugated Type is found in the Old Bering Sea and Early Punuk periods, sometimes in the upper levels of the Kukulik midden and is also rarely found in Kotzebue houses dating approximately 1400 A.D. (Van Stone, verbal communication). The flat-stick impressed ware is old if the two sherds collected by Geist at Miyowagh (Gambell site) are indiginous to the site, but I suspect that they might not be since Collins (1937) did not find any of this ware at the same site after extensive excavations. Square-ended-stick impressed ware is thus considered to be both late and uncommon. The same may be said of striations made with the side of a rounded stick. The one sherd imprinted with a two-tined comb appears to have the horizontal markings in vertical series which suggest the short grooves in vertical series characteristic of the Seward Striated Type concentrated in the Seward Peninsula region. The few line decorated sherds are similar to a type found along the Yukon River and at Hooper Bay Village, but since in the latter regions this motif is most often associated with other sherds that are line-dot decorated (de Laguna, 1947; Oswalt, 1952), again the parallel with Alaska mainland pottery is obscured. The line decorated sherds with an offset decoration and the small clay figurine (Pl. 1, 5) are unique in Alaskan ceramic traditions. The latter does, none the less, recall the molded figure on the bowl of an Old Bering Sea lamp (Collins, 1937, Pl. 58, 14).

The round, conical-bottomed lamp from Old Bering Sea and Early Punuk probably was first modified to contain knobs near the rim and then replaced by the flat-bottomed rectangular lamp with one or two continuous wick ledges. The latter lamp style is associated with the drip pot and flat-bottomed rectangular clay vessel with pierced suspension lugs. The origin of lamp knobs is obscure; they are found in the center

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of the bowl in eastern Asian lamps and are present in various forms in eastern arctic lamps, but the relationships are indefinite (de Laguna, 1947, pp. 249-58).

The seven recent prehistoric pottery collections from Seward Peninusla unfortunately offer little to suggest the cooking pot shapes except that the vessels were flat-bottomed. It is probable, however, that they were like the recent pots found both to the north and south of Seward Peninsula; that is, they had flat-bottoms with straight or slightly flaring sides or else flat-bottoms with slightly flaring sides that constricted at the neck and flared again at the rim, a vessel form that is better known as the situla shape.

The two King Island lamps are important since the knobbed sherd is like the St. Lawrence Island specimens and the rectangular, conical-bottomed lamp is a developmental stage between the round, conical-bottomed lamp and the rectangular, flat-bottomed type with wick ledges.

The decoration found on Seward Peninsula ware is usually comparable to other Alaskan styles. The line-dot ware is a peripheral manifestation of the Yukon line-dot pottery (de Laguna, 1947, pp. 266-48; Oswalt, 1952). The most typical design style, Seward Striated Type, with diagonally line decorated rims, is present at a Kotzebue house dating 1550 A.D. (Giddings, 1952, p. 94), and the Kobuk River site of Ambler Island, which dates 1760 A.D. (Giddings, 1952, pp. 94-5, Pl. IX). This same type of striated ware with a scalloped rim is pictured ethnographically from Hotham Inlet (Nelson, 1899, Fig. 60) and from Point Hope (Mathaissen, 1930, Fig. 17).

The Deering Pyramid Paddled Type characteristically has a single line of square impressions that are shaped like an inverted pyramid. This same type of decoration is present on a flat-bottomed pot with slightly flaring sides that was purchased by Gordon (1906, Pl. XXIV, 2) from the Bering Sea region. This type is present at the Deering site on Seward Peninsula (Oswalt, 1952, p. 28) but was not recognized to be a distinctive form of check stamp until it was noted that the checks run in a single line. Mr. Charles Lucier had an Elephant Point (north side of Seward Peninsula) Eskimo make the pottery paddle which is illustrated in Fig. 2 and which was obviously the type of paddle employed on sherds at Deering and Cape Nome. The seal skin pottery smoother with a wooden back and a strap for holding was also purchased by Mr. Lucier at Elephant Point and is probably the type used on some of the Teller sherds that have outside hair impressions. I suspect that many of the so-called hair tempered sherds from Alaska were actually smoothed with such an implement.

Ridged and grooved pots are reported from Kodiak Island (Heizer, 1949, pp. 48-56), Hooper Bay Village (Oswalt, 1952, p. 20), the lower Yukon River (de Laguna, 1947, pp. 142-9), and St. Michael (Oswalt, 1952, p. 28).

The other designs are either rare or of relatively unknown distribution. Comb-marking has been reported thus far from recent

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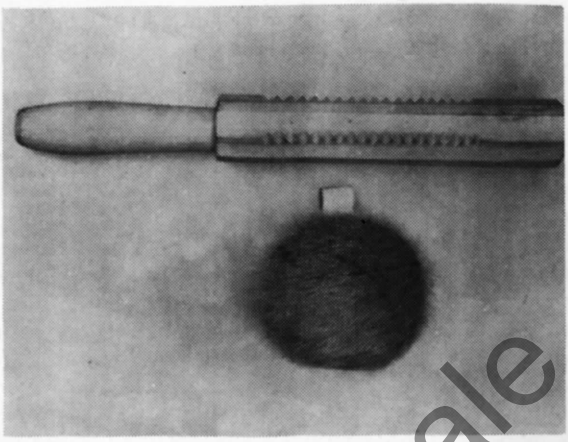

Figure 2: Pottery paddle and smoother made by a Seward Peninsula Eskimo. The paddle is approximately 26 cm. long.

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St. Lawrence Island and the Kuskokwim Bay site of Platinum South Spit (Larsen, 1950, p. 180); however, it is quite possible that the latter "comb" striated ware is misidentified. In the University of Alaska collections of pottery labeled Good News Bay (where Platinum is located) is a striated sherd which is identical with the Hooper Bay Shell Striated Type (Oswalt, 1952). Cord-wrapped stick impressed sherds are reported only from the middle clay layers at Cape Denbigh (Griffin, 1953, p. 41), at Igloo Point on Seward Peninsula and at Cape Woolley.

Most of the few recent decorated St. Lawrence Island sherds are of the same general nature as those found on the Alaskan mainland and probably represent a small backwash from Alaska upon a basically Siberian pottery tradition, whereas recent Seward Peninsula pottery is an Alaskan development containing elements best known from the Bristol Bay-Norton Sound region and northern Alaska.

The typological parallels between Asian and Alaskan wares and even between wares from Asia and the United States are constantly coming to light and deserve serious consideration in any study of Alaskan ceramics.

Collins (1937) recognized that the check stamped pottery from Alaska was similar to that from a Japanese neolithic site and from various points in southeast Asia. To the Asian material Griffin (1953) adds sources in Mongolia and Manchuria, and Tolstoy (1953) lists occurrences in the Lena-Kolyma neolithic.

The writer and others have dealt at length with the unity between certain Japanese, Kurilean, and Kamchatkan pottery styles and those of the Bristol Bay-Norton Sound region of Alaska (de Laguna, 1947; Oswalt, 1952, n.d.), demonstrating that the situla shaped vessel decorated with horizontal lines and dots, split dots, zigzag lines, shell-made

striations, rim knobs, and horizontal ridges and grooves, is found in both Alaska and eastern Asia. There can be no doubt that the flow of these elements was from west to east since in eastern Asia they are old and rather widespread while in Alaska they are both late and localized.

The paddled St. Lawrence Island Corrugated Type and the stick-impressed wares from St. Lawrence Island and the Alaskan mainland are strongly suggestive of the possible paddled and striated forms present at the lower Lena-Kolyma neolithic sites and in the Baikal sequence (Tolstoy, 1953) and striated forms from a painted pottery Gobi site and an Eskimo site near the Kolyma mouth (Tolstoy, 1953). It will be recalled that on an occasional recent St. Lawrence Island sherd there occurs a flat oval thumb impression on the vessel rim. This impression spreads the rim outward and inward and leaves an area of central depression. This same type of rim also occurs in the late Jomon culture phase of Omori from Japan (University of Arizona collection), and interestingly enough in the same phase is found a ware with incised spirals and concentric circles which can not help bringing to mind the spiral and concentric circle paddled wares from Alaska.

Not previously recognized as a link between Asian and North American wares is the occurrence in Alaska of interior textile imprints, "probably in some cases whole twined baskets around which clay vessels were molded" (Giddings, 1952, p. 95). This is on one form of ware from an inland Eskimo site on the Kobuk River in Alaska and dates at approximately 1250 A.D. by a tree-ring chronology (Giddings, 1952). Fiber moulds are also reported from China and parts of the western United States (see Tolstoy, 1953). That one of the latter reports is from an ethnographic source makes the comparatively recent Alaskan finds all the more crucial and suggestive of a connection with the western states and brings to mind the remarks of Wissler (1950, pp. 69-70) regarding the similarities between Eskimo-northeast Siberian and Mandan-Hidasta pottery techniques.

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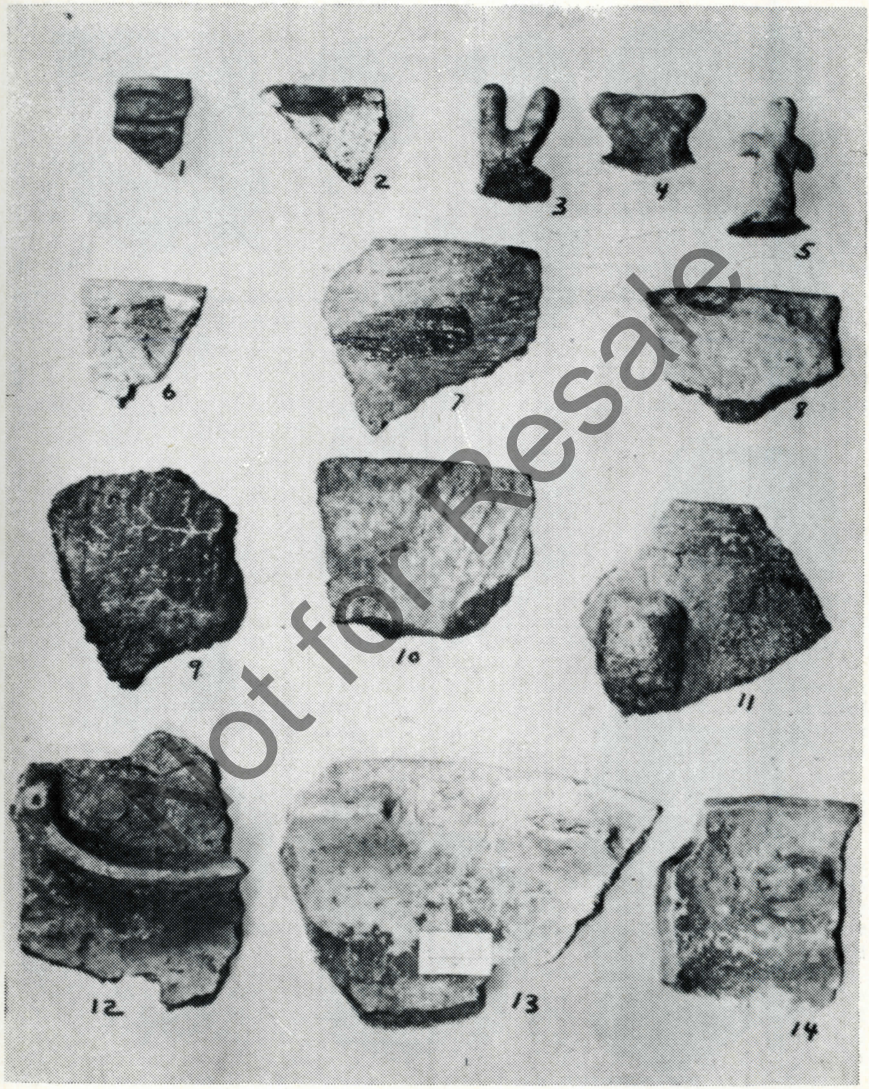

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Plate 1: Sherds from Kukulik, St. Lawrence Island, Alaska

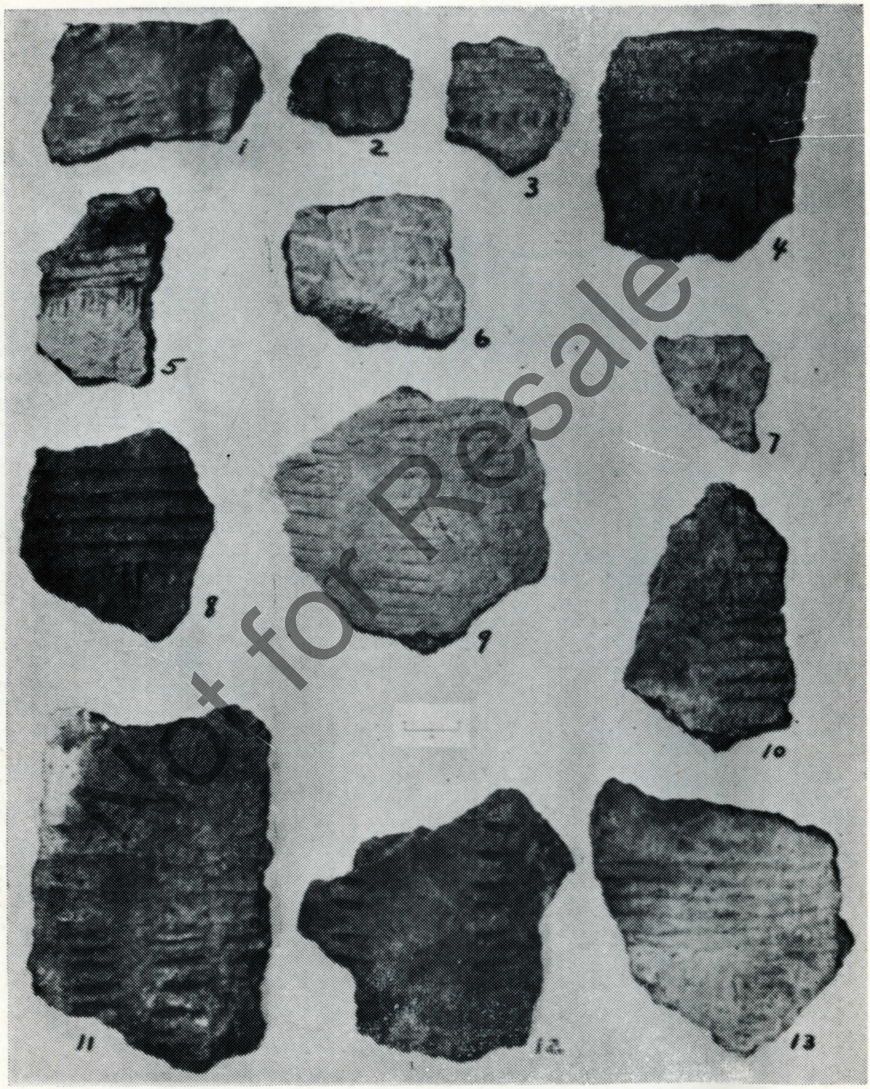

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Plate 2: Decorated Sherds from Seward Peninsula, Alaska

CARVED HUMAN FIGURES FROM ST. LAWRENCE ISLAND, ALASKA

JAMES W. VANSTONE

INTRODUCTION

The University of Alaska Museum possesses a large collection of Eskimo carved human figures from St. Lawrence Island, Alaska, most of which were obtained by Mr. Otto Geist during collecting trips to the island in 1926 and 1927. A few are archaeological specimens excavated from the Kukulik midden by University of Alaska expeditions from 1931 to 1935 under the direction of Mr. Geist (Geist and Rainey, 1936). All classify as contemporary figures, for the archaeological specimens are from the modern culture phase at Kukulik, which dates mostly in the 19th century (Geist and Rainey, 1936, p. 225).

A representative selection of carved figures from this collection forms the basis for this discussion and these have been divided into five groups on the basis of style, with a sixth group containing those figures that do not readily fit into any of the others.[1]

DESCRIPTION

Group one consists of nine wooden figures. Although technique and carving skill vary considerably, all are thought to be the work of one man.

No. 1-1927-496 is a doll, 30 cm. high, made from a natural driftwood crook (Pl. 1-B: right). The face is pear-shaped, with the nose, eyes and mouth indicated in some detail. The arms are held close to the body and the legs straddled for carrying the doll around the neck in the way that St. Lawrence mothers carry their children.

No. 1-1927-495 is another doll, also made from a single piece of driftwood; it is 23 cm. high (Pl. 1-B: left). This specimen shows a much more skillful treatment of the face; the head is rounded naturalistically and the ears are indicated. The molded cheeks, forehead and open mouth give the face a sense of character. Except for the head, the figure is rather crude.

No. 1-1927-492 depicts a woman seated on a low stool or perhaps a toilet (Pl. 1-A: 4). The entire figure, which is 13.5 cm. high, shows careful workmanship; the facial detail is extremely naturalistic.

Perhaps the finest of this naturalistic group of wood carvings is that of an old woman, 11 cm. high, depicted as being slightly stooped, with knees bent and hands resting on the back (Pl. 2-A: 2). This stooped position as well as the sagging breasts and abdomen and drawn face suggest old age. Short knife strokes appear plainly on this specimen, there having been no attempt to smooth over the surface. The rough exterior seems to enhance the realism of the carving.

Almost as well carved and equally as realistic as the two preceding figures is the carving of a short, almost dwarfed man with a distended abdomen and large head (1-1927-491). The figure, which is 13.5 cm. high, has short arms and large feet that are out of proportion to the rest of the body. Again a roughened exterior finish adds to the grotesque nature of the representation (Pl. 1-A: 1).

No. 1-1927-512 is a large bust about one-half life-size (Pl. 2-B). The arms are folded across the abdomen, whereas the features, skillfully carved and

[1]The author wishes to thank Mr. Geist for his assistance during the preparation of this paper. The photographs were taken by Mr. Richard Smith.

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amazingly realistic, show the mouth drawn apart in a grimace, a facial characteristic of several of the figures in this group. The bust is made of a single piece of wood carefully smoothed and polished.

An hexagonal wooden plate, measuring 16.5 cm. across and with two concentric circles carved in relief in the center, has a grotesque human form clinging to one side and looking over the edge (Pl. 1-A: 3). Both the hands and the feet of the figure show on the rim of the plate.

The remaining three carvings in group one represent women holding their children. Shamans carved such figures and prescribed them for use as charms by barren women who wished to have children. The first of these (1-1927-494) depicts a woman seated and feeding her child, who is seen taking masticated food from the mother's mouth (Pl. 2-A: 4). This carving, though realistic, is inferior in workmanship to most of the specimens previously described. It is 6 cm. high.

The second figure (M-2001) is a woman in a half-reclining position giving birth to a child whose head protrudes from her abdomen (Pl. 2-A: 3). The woman's face suggests the agony of childbirth but the rest of the figure shows rather crude carving. The arms of this figure, which is 5 cm. high, have been broken off above the elbows.

The third of these so-called fertility figures (1-1927-490) shows a woman on her knees holding her child level with her own head; she is about to feed it from her mouth (Pl. 2-A: 1). The rough surface of the carving again creates the impression of grotesqueness that characterizes many of these figures. This trait shows particularly in the woman's head, which in addition tilts at an impossible angle. The figure measures 14 cm.

A carved figure in the possession of Mr. Otto Geist has definite affinities with the figures belonging to group one (Pl. 1-A: 2). It measures 14 cm. across with a shape like a mask, but the suspension ring on the top suggests that it was meant to be hung. Mr. Geist informs the author that the carving hung on the wall of a St. Lawrence Island house and was fed blubber during the whale hunting season to insure a successful hunt. This figure may be the work of the same individual who carved those previously described.

The figures comprising the second group consist of two doll cutouts of bark (1-1935-1973; 1-1933-8442-G). One is of birch bark, the other of an unidentified coniferous bark. Both are extremely crude; they were probably used as playthings by small children (Pl. 3, 11, 15).

The three figures in group three have flat bases, oval and oblong bodies, and rather crudely carved heads (1-1926-683; 1-1926-926; 1-1926-681). Two are of ivory and one of stone; all closely resemble bird figurines from the modern period on St. Lawrence Island (Geist and Rainey, 1936, Pl. 25, 12-16) and from many other Eskimo archaelogical and ethnographic collections. One of the ivory specimens has rows of tiny perforations over the rounded back, and both have holes drilled through the tail end near the base for threading on a cord (Pl. 3, 3, 10). The single stone specimen has crude features carved on the back of the head (Pl. 3, 6). Today on St. Lawrence Island, such figures are used in playing a game in which the player tosses up a handful of these figures and scores points for those which fall on their side (Geist and Rainey, 1936, p. 112).

Nine figures, all of ivory, form a fourth group because most of them show the human form depicted in some detail and the figures themselves engaging in some activity.

No. 1-1939-410 shows a woman with her hands on her knees and a child standing on her shoulder (Pl. 3, 2). The carving is good except for the faces, which are crudely indicated. The child is also somewhat out of proportion.

An unnumbered specimen is a man holding one arm over his head in a throwing position. The carving is good, with some attempt to show muscles in the chest and arms (Pl. 3, 5). Another unnumbered figure depicts an individual with legs apart and hands held over the stomach. The eyes and mouth of this specimen are small perforations inset with minute pieces of baleen (Pl. 3, 14).

No. 1-1926-804 is a squatting figure with elbows resting on its knees (Pl. 3, 7). Again the eye and mouth openings are inset with baleen. A figure wearing a

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parka is more crudely carved than most of the others in this group (1-1939-412). The line of the parka hood is clearly visible around the face, but the features are crude and the arms crudely indicated (Pl. 3, 4).

Different from all the figures in this group is a stylized representation of a mother with a child on her back (1-1939-261). Here the carver makes no attempt to be realistic (Pl. 3, 1). The mother is obviously seated but the legs come together to form a rectangular base which allows the figure to sit upright. Neither mother nor child has arms or realistic facial detail. The child is placed on the mother's back in such a way as to blend into the total composition. These facts are indicative of an earlier, more sophisticated period of Eskimo carving and this figure may not be contemporary with the others under discussion.

Perhaps the most unusual figure in this group shows a person with crossed legs, holding out its arms as if in supplication (1-1926-806). It holds one arm out straight with the palms of the hand up, but bends the other at the elbow as if it were carrying something. Small insets for eyes and mouth are characteristic of this figure (Pl. 3, 12).

No. 1-1926-1208-G shows a woman feeding her child in the same manner as that of the wooden figure previously described, and illustrated in Plate 2-A: 4. The carving is quite good considering the small size of the specimen; a piece of food protrudes from the mother's mouth (Pl. 3, 9). No. 1-1926-811 depicts a seated figure with legs straight out and without arms or features (Pl. 3, 8).

These last two figures are said to have been used as dolls; girls kept them in small bags for playing house. It is likely that most of the other figures in this group served the same purpose.

The fifth group consists of figures that are more crude and unrealistic than are those previously described. Five carvings are nothing more than block-like torsos with crude necks and heads, with no features indicated (1-1935-7770; 1-1934-8049; 1-1933-8395-G; 1-1935-4971; 1-1933-8440-G). Two are made of wood and two of ivory; the great range in size is noteworthy (Pl. 4, 6, 13, 15-16). On St. Lawrence Island such carved figures are kept with other religious paraphernalia for use at particular ceremonies in connection with whaling. The figures are considered to be the property of whaling captains and are "fed with blubber during the ceremonies preceding a whale hunt and then are destroyed by fire" (Geist and Rainey, 1936, p. 123).

Three figures, one of wood and two of ivory, that may have served the same purpose as those just described are unique in that they all have broad-brimmed head coverings (1-1933-8403-G; 1-1933-8331-G; no number) (Pl. 4, 1, 2, 14). Perhaps these represent an attempt on the part of the carver to carve representations of white sailors, for there is a tradition for such representations on St. Lawrence Island (Geist and Rainey, 1936, Pl. 32, 9-11).

The last four figures in this group, all of ivory, resemble those already described, but crudely carved breasts on all of them give the only indication of sex that exists for any of the figures in this group (1-1935-8770; 1-1926-802; 1-1935-4986; 1-1933-8339-G). In addition, all have grotesque appendages extending from the head (Pl. 4, 3-5, 7). Most likely these are intended to show the method of hair dressing. The purpose for which these figures were intended is unknown, but again they may have been associated with the whaling cult or, as is perhaps more likely, were simply children's playthings.

The sixth and final group of human carvings to be discussed consists of those specimens which do not seem to fit into any of the other groups. One specimen (1-1926-817) is an ivory head fashioned to attach to a body of another material (Pl. 4, 12). The features are clear but rigid, and the face lacks the character that is sometimes seen in the faces of figures in group one.

Another ivory figure represents an Eskimo wearing armor made of walrus hide (1-1926-822). A big piece of hide is worn over the shoulders and behind the head to protect the wearer from attack from the rear (Pl. 4, 10). This figure has a square base, perhaps for insertion into a board. This would suggest its use in some sort of game.

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Two other ivory carvings that also may have been used in games are either not intended as human figures at all or so stylized as to be completely unrecognizable (1-1926-765; 1-1927-2008) (Pl. 4, 8, 11).

The last figure in this group is armless, but shows the features and legs, one of which is missing; the specimen is of wood (1-1932-8351). This figure is distinctive because of a scratched cross that runs over the shoulders and under where the arms would ordinarly be (Pl. 3, 13). It may represent an amulet strap similar to those on dolls from the Thule culture sites in the central arctic (Mathiassen, 1927, I, Pl. 32, 7).

COMPARISON

The figures in group one are unique in Eskimo art for subject matter, but the skillful workmanship and naturalistic technique resembles that exhibited by the carved figures of two widely separated arctic peoples, the Koryak of northeastern Siberia and the Angmagssalik Eskimos of East Greenland.

Carved figures of wrestlers, drummers and other individuals represented in active poses are important in the Koryak artistic tradition (Jochleson, 1905-08, Figs. 166-172) and their close technical relationship to the St. Lawrence Island specimens is quite apparent. The carvings in group one stand apart from the rest of St. Lawrence Island carvings in technique and skill of execution; they probably represent an artistic tradition introduced to the island from the mainland of Asia at a fairly late date, probably after historic contact. The similarity between these carvings and the Koryak specimens seem to indicate the source of this tradition.

It would, of course, be difficult to trace any direct connection between the carvings of group one and those of the Angmakssalik Eskimos, and yet both show a careful workmanship and an emphasis on facial detail that are exceedingly rare in Eskimo human carvings. The Angmagssalik figures are carved wooden dolls (Mathiassen, 1933, Figs. 51, 52). There is no attempt at an accurate representation of the human body, but the smoothness of the carving and the tendency toward a naturalistic treatment of the face (particularly noticeable in Fig. 52 in Mathiassen's paper) recall the St. Lawrence Island specimens.

The two bark cutout dolls that make up the second group appear to conform generally to the tradition of crude, armless and featureless carving that characterizes most Eskimo dolls. Bark specimens seem to be lacking from most archaeological and ethnographic collections, but Mathiassen reports a baleen cutout similar to the illustrated bark specimens for the Maujan site in the central arctic (Mathiassen, 1927, I, Pl. 33, 10). The perishable nature of bark probably accounts for their absence from other archaeological collections.

The "bird" figures with human heads that comprise the third group are widely spread throughout the Eskimo area. In the eastern arctic they are reported ethnographically from the Egedesminde District in West Greenland, where Birket-Smith suggests that they may have been considered magic birds (Birket-Smith, 1924, p.124). In the central arctic they are characteristic of the Iglulik Eskimos, who do not know the use of such figures in games (Mathiassen, 1928, p. 218); the Polar Eskimos, who use them in a sort of dice game (Boas, 1888, p. 26); and the Eskimos

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of the Ungava District of Hudson Bay, who use them only as toys (Turner, 1894, p. 260). Mathiassen also reports "bird" figures with human heads for the Naujan site in Repulse Bay (Mathiassen, 1927, I, p. 260) and Boas mentions them as widespread throughout the central arctic (Boas, 1901, I, Fig. 81, c, d, e). Although bird figures themselves are fairly common in Alaskan Eskimo collections, specimens with human heads are reported only from St. Lawrence Island.

Because the realistic carving of human figures is generally rare in Eskimo art, it is difficult to find examples to compare with the naturalistic figures considered together as group four. In some respects, these carvings represent the same artistic tradition as the figures in group one. Isolated examples from various Eskimo collections resemble the figures in group four. A small ivory figure with movable limbs from the Egedesminde District of West Greenland (Birket-Smith, 1924, Fig. 107, p. 125) has one arm in a throwing position and appears to resemble the ivory figure illustrated in Plate 3, 5. A naturalistically carved ivory figure from the Thule District (Holtved, 1944, Pl. 40, 20) differs considerably from the rest of the human carvings from this area in its carefully modeled details and so compares with the figures in group four. Hooper (1884, opp. p. 110) describes and illustrates a small ivory carving from King Island that has arms, legs and features depicted in some detail, and Nelson illustrates a carving of an old man from the Cape Prince of Wales area with the arms and legs free (Nelson, 1899, XCIII, 4). Thus it appears that although the great majority of Eskimo carvings in human form are crude and stylized, there have been attempts in widely separated areas to portray the human figure naturalistically and in active poses. It might also be mentioned that figures wearing parka hoods similar to the one illustrated in Plate 3, 4 occur frequently throughout the arctic (Holtved, 1944, Pl. 40, 24, 27; Mathiassen, 1934, Pl. 1, 19; Hawkes, 1916, Pl. XXXIV, b; Boas, 1888, p. 571; Jochelson, 1905-08, Fig. 174).

The typical Eskimo doll, featureless with a flat face and no arms, does not appear in this collection, but the tradition is perpetuated in the block-like figures which comprise group five. As already mentioned, some of these at least were used at particular ceremonies in connection with whaling; these seem to be restricted entirely to St. Lawrence Island (Geist and Rainey, 1936, Pls. 25, 21; 32, 8; Nelson, 1899, Pl. XCIII, 8). Specimens of this type that are definitely female (Pl. 4, 3-5, 7), and which may also have been used in connection with the whaling ceremonies, have appendages extending from the head that probably indicate the method of hair dressing. The tendency to indicate hair arrangement is a common characteristic in the representation of human figures from Greenland and is often the only way of determining the sex of a particular human carving from this area (Larsen, 1938, Pl. 3, 20; Birket-Smith, 1924, Fig. 17, p. 58; Holtved, 1944, Pl. 40; Mathiassen, 1934, Pl. 7, 1-3; Thomsen, 1917, Pl. XXV, I; Larsen, 1934, Pl. 8, 21). The Greenland hair arrangement is always in the shape of a bun on top of the head; a single carved head from the Punuk period on St. Lawrence

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Island (Collins, 1937, Pl. 83, 14), shows such an arrangement. In recent times throughout most of Alaska women have parted their hair in the middle and allowed it to hang in braids or gathered it in a mass behind the ear (Nelson, 1899, pp. 57-58). It seems likely that the appendages projecting from the heads of the female figures in group five represent such hair arrangements.

Two of the miscellaneous figures in group six show some interesting features. Dolls with amulet straps similar to the one in Plate 3, 13 occur in various regions in West Greenland (Holtved, 1944, Pl. 40, 8; Mathiassen, 1930, Pl. 18, 14; 1931, p. 105), for the Angmagssalik Eskimos of East Greenland (Holm, 1887, Pl. VII), from Naujan and other central Eskimo sites (Mathiassen, 1927, I, Pl. 32, 7; Pl. 57, 15), and from the Punuk period on St. Lawrence Island (Collins, 1937, Pl. 83, 12-13).

The identification of Plate 4, 10 as a figure wearing armor made of walrus hide derives from information supplied by Mr. Geist; Jochelson illustrates two Koryak warriors dressed for battle and wearing similar armor (Jochelson, 1905-08, Pl. 29, Fig. 1). An ivory figure from the Thule District, already described in another connection, has a collar-like arrangement around its neck that could represent armor (Holtved, 1944, Pl. 40, 20).

In summary, this paper has attempted to describe an ethnographic and recent archaeological collection of Eskimo carved human figures, most of which differ stylistically from much of Eskimo art in this form. The comparisons show that many Eskimo groups do have some tradition for naturalistic carving, although usually its expression has been submerged by a cruder, stylized tradition that is more common. As far as St. Lawrence Island is concerned, this naturalistic tendency, developed to its fullest extent in the figures of group one and reflected in those of group four, seems to represent an elaboration of techniques more common to the people of northeast Asia, from whence it spread to the island in fairly recent times.

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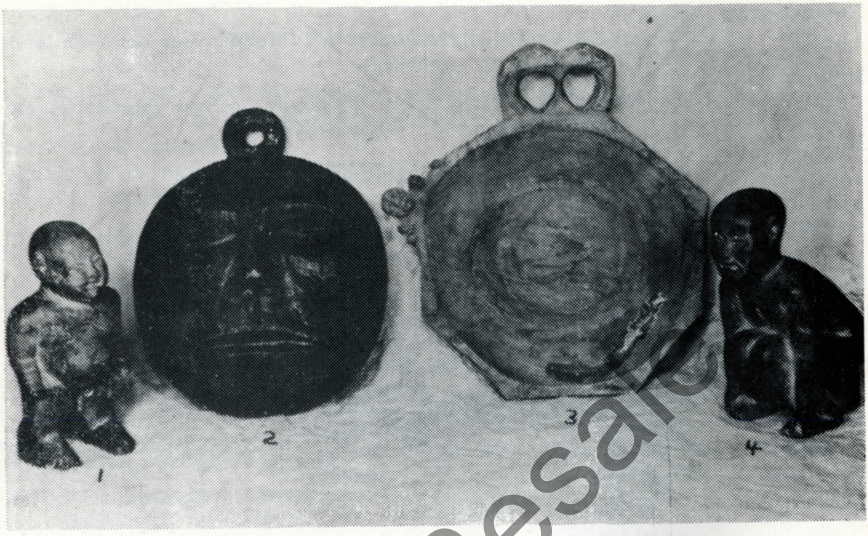

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Plate 1: Human figures from St. Lawrence Island

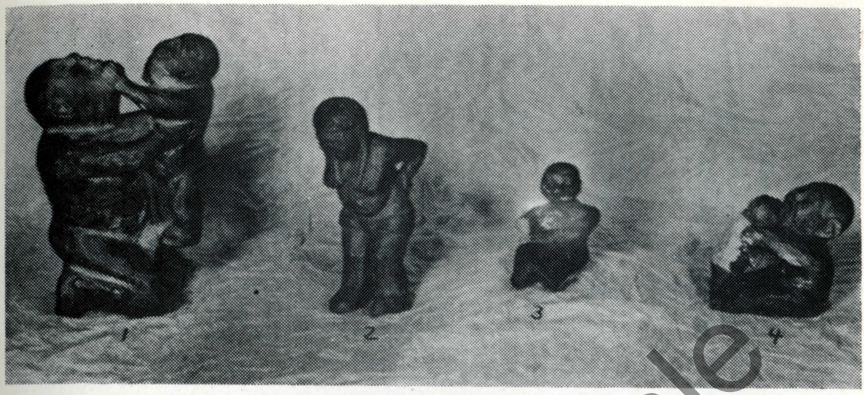

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Plate 2: Human figures from St. Lawrence Island

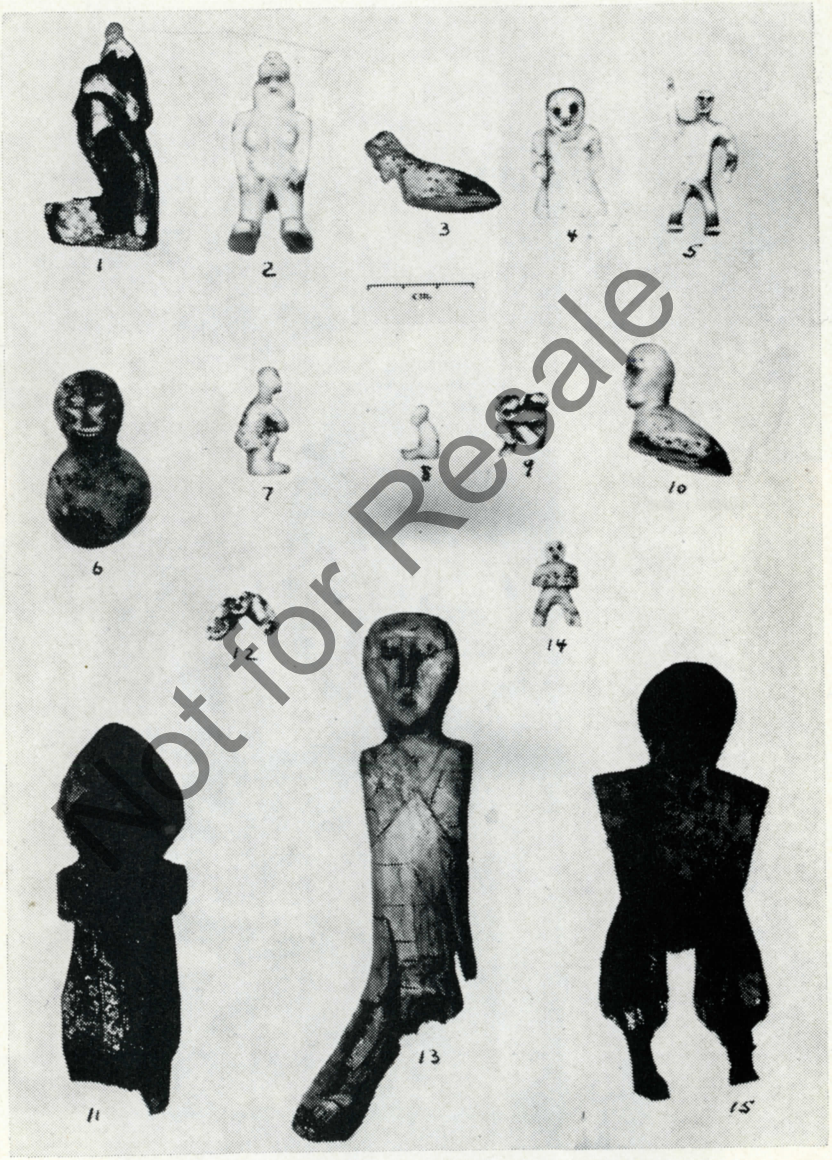

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Plate 3: Human Figures from St. Lawrence Island

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Plate 4: Human figures from St. Lawrence Island

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CHILD REARING PATTERNS AMONG THE GREAT WHALE RIVER ESKIMO[1]

By Irma Honigmann and John Honigmann

The Great Whale River Eskimo who inhabit the southeast corner of Hudson Bay are the southernmost extension of Eskimo in North America (Honigmann, 1952). Subsisting partly through money earned by trapping, family allowances provided by the Canadian Government, and resources taken from the natural environment, (Honigmann, 1951) the population follows a pattern of seasonal mobility not unfamiliar in the sub-Arctic. The forty-two Inuit families spend summer in the trading post settlement which they share with Cree-speaking Indian families. In August the plain on which the settlement lies is cleared of tents as the Eskimo move to establish winter camps on the coast. From these camps seal and ptarmigan hunters operate in the succeeding months.

All the Eskimo are members of the Anglican Church. During the two summers when we were with them they rarely failed to attend services conducted in their own tongue by a white minister. All the men and some women are literate in Eskimo. They follow the church service from books printed in syllabic characters. In 1949 the Great Whale River Eskimo totaled about 190 persons, of whom 81 (41 boys and 40 girls) were below fifteen years old and constitute the principal sources of this paper.

PREGNANCY AND PARTURITION

The Great Whale River Eskimo recognize two stages of pregnancy which they distinguish by separate terms. While attitudes change as a woman moves from the early to the later period, in general pregnancy is accompanied by little apparent concern over the coming child. We learned of no rigid dietary restrictions governing the pregnant woman, although she is advised to avoid flour and "too much" tea.[2] Meat, fish, and fowl are recommended. The woman's household routines alter little until about a month before she expects to deliver.[3] Then, fearing injury

[1]One of the authors received grants in 1949 and 1950 from the Wenner Gren Foundation for Anthropological Research to make general studies of the Great Whale River community. Much of the material on socialization was collected by Irma Honigmann, aided with funds from a special grant by the same Foundation and administered by the Yale Institute of Human Relations, J. W. M. Whiting and Irvin Child, Co-Directors.

[2]Relatively little information came through interviewing. Much of the generalization is based on actual activity, observed and recorded as it occurred.

[3]Among the Nunivak Eskimo of Alaska there is also no elaboration of eating restrictions in pregnancy. The general pattern there of "easy practicality and lack of stringency and difficulty surrounding pregnancy" resembles what we found at Great Whale River (Lantis, 1946, p. 223).

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to the child, she usually avoids very strenuous tasks like carrying heavy pails of water up the steep bank from the river. Yet in her eighth month one woman shoved off a large canoe loaded to the gunwales with people and belongings. The same woman in her ninth month, despite warnings, continued to carry heavy pails of water to her camp. In distinction to these departures from pattern, a newly married girl carrying her first child moved near the opposite extreme, limiting her activities to the simplest chores. Although people accept pregnancy casually, they do not readily speak about the condition. Even oldsters employ circumlocutions in discussing pregnancy and two young people, aged 17 and 23, showed the same intense embarrassment and reluctance regarding that subject as they did about sex.[4]

Word that labor has begun brings any number of married women to the parturient's dwelling. The husband also remains here, together with one or two elder men who are experienced assisting at difficult childbirths. The woman delivers while she kneels. Following is an account of a birth witnessed by one of the authors:

> The parturient, Dinah, knelt on a dog skin facing the tent opening, which was kept open in the summer. In front of her stood a pile of pillows reaching to her chest. Between contractions Dinah rested her arms and head on this support. In front of the pillows a post stood firmly planted in the ground and with each birth pang she seized this stick and bore down. The parturient wore her usual dress with a blanket wrapped around her below the waist. This avoided any exposure of the naked body. Five or six women were seated on the bedding behind Dinah. Several others sat around the tent. The women kept leaving and returning in accordance with their families' demands. A number of their younger children were nearby in a neighbor's tent in charge of the older daughters while the men of the community were mostly all at work unloading a freighter which had arrived that morning.
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> When the groans came steadily and continuously the people closed the tent flap. A few minutes later the child and afterbirth were delivered onto the dog skin. One of the attending women behind Dinah immediately took the newborn girl and cut the cord about 4 inches from its body. After some discussion among the older women the cord was again tied with string and cut close to the abdomen with household shears. The infant was then wrapped and handed to its grandmother, near whom Dinah and her husband lived. The older woman rocked it gently. By this time visitors, including children and Indian women, crowded the tent. Nobody paid attention to the still kneeling woman but there was much interest in the baby. Finally some women prepared Dinah's bedding, setting down thick layers of quilting covered with a dog skin and topped with the blanket that had been wrapped around her during labor. The pillows were placed on the bed whose head was placed toward the entry, a position contrary from the usual makeup of beds.[5] Dinah moved onto the bedding where she remained kneeling until she received some clean cloths to set on her thighs. Then she lay down, her head raised high on many pillows. A shawl folded till it was about six inches wide was tightly bound around the mother's abdomen. Several sweaters were put on her while a thick blanket and feather quilt covered her from the waist down. Meanwhile the dog skin was wrapped up with

[4]Whenever ages are given they refer to the age of the individual at the time we observed the specific datum (that is, 1949 or 1950).

[5]The usual pattern in Eastern Greenland is sleeping with the head toward the entry (Thalbitzer, 1941, p. 620).

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the afterbirth and set at the back of the tent. Later it was disposed of by being buried some distance from the dwelling.

Two children were brought forward to see the newborn infant—her only six year old brother and a three year old male paternal cross cousin. They looked at the baby and kissed her face. Some Indian women and children also kised the infant's forehead, a rite several times repeated during the following days. Five days later the girl was taken to a nearby tent for a bedridden distant kinsman to see, being fetched by the latter's wife, Louise. He looked at the baby and softly kissed her cheek. His daughter, Sara, (two years: nine months) also kissed her after Louise had lifted the infant from the bed. Louise fixed a place for Sara to sit and let the child hold the baby.

The convalescent mother remains in bed for about five days or a week, always lying with her head to the tent door. For a second week she avoids heavy work, perhaps arranging for a young girl to live with her in order to assist in household chores. A woman with grown daughters is free to devote herself nearly exclusively to the care of younger children. Bilocal extended families insure that girls or women will always be available to relieve mothers of infants from household chores. During the first few days it is quite common for an older, usually related woman to care for the neonate.

EARLY CARE AND FEEDING

A tent housing an infant is kept warm and free from drafts. While being washed the baby remains wrapped in a blanket, only part of the body being exposed at a time. Clothing items are warmed before going on the infant. We observed one young baby being dressed first in two dresses and a sweater. Then its legs were held straight and bound with cloth to keep them extended, whereupon six or seven diaper cloths were wrapped around the infant's trunk. Finally the arms were partially straightened and the whole baby snugly swaddled in two blankets that pinned the arms in a still partially bent position. Three or four additional layers of blankets were then added. A cotton cap topped its head. The corner of one blanket covered the child's head and face. In summer the swaddled infant may be carried on the mother's back, supported by a shawl, and shrouded with a light flannel blanket. During travel in winter the baby rests in the capacious back of the woman's canvas parka facing the mother. Soft and finely shredded moss, which is burned after use, lines the innermost diaper cloth. Newborn babies spend most of the day in swaddling clothes but between four and six months the arms are usually released from the packing. Swaddling wholly ceases at about eight months.[6]

The baby always remains within reach of the mother or some responsible guardian. In the tent he spends much time in a hammock, his head on a pillow. The hammock, which people discontinue after about one year, is rocked to induce sleep, to lull the child back to sleep, or to distract it from fretting.

Outdoors a large shawl serves to carry the unswaddled child until he is about two and a half years old. The shawl, folded in a triangle,

[6]Swaddling apparently lasts only briefly among the Nunivak Eskimo (Lantis, 1946, p. 223) and is common among the northern forest Indians (Osgood, 1937, p. 161; Honigmann, 1946, pp. 83, 136; 1949, p. 178).

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is wrapped over the baby who faces the mother's back. It passes across the woman's shoulders, crosses in front, and the ends travel round to the back again under the arms. The ends are knotted under the child's bottom.[7] Sometimes girls twelve or thirteen years old pack youngsters to help a busy mother or one who is trying to wean her child. The guardian is not necessarily kin to her charge. A fretting child may also be shawl-packed inside the tent, being lulled to contentment by the mother pacing or rocking to and fro, perhaps singing as she moves. Resting on a moving person's back apparently becomes a source of comfort to a child.

Women sing variations of Scotch reels to children. Sometimes a mother will rhythmically repeat time after time a phrase containing the small one's name or its father's name.[8]

A baby who becomes irritable during a visit or in church is usually taken out of the shelter. We did not learn whether this gesture stems from consideration of the worshippers or of the child. At any rate, a crying child does disturb people.

Babies are kept quite clean. We found them fat, healthy looking, and free from diaper rash. One family transmitted scabies to other children but this was an atypically dirty unit. Eskimo individuals and households show a high degree of cleanliness by American middle class standards. The baby's clothes are completely changed in the morning. Frequently the first reaction to crying is to release the child from its swaddling and remove soiled diapers. At the same time he may also be sponged. If inside a tent he may be allowed to kick around uncovered for a longer or shorter period, sometimes covered loosely with a thin cloth. With increasing age the unswaddled periods become longer.

Parents select a Christian and Eskimo name soon after the baby's birth. These are usually names of a close maternal or paternal relative. Every person has both an Eskimo and a Christian name plus his patrilineally inherited family name. The first two are generally linked so that, for example, a boy will be called Willy Tukatuk after an older Willy Tukatuk. Either name may be used in address or reference but the family name is rarely so employed. The custom of naming after relatives, especially grandparents, is explained non-magically. People say it commemorates an oldster whose memory thus lives on.[9] Kinship terms are often extended to babies and children who are named after older relatives. Thus Winny's four year old daughter, Jean, is named after Winny's mother, Jean. Winny sometimes addresses little Jean with the term "mother". Both three year old Isaac and his mother's

[7]This pattern of baby carrying parallels one followed by the local Cree-speaking Indians and is common throughout the northern forest.

[8]Rocking and singing children to sleep with "petting songs" is reported from eastern Greenland. The concept, "petting song", well describes the chants we heard at Great Whale River (Thalbitzer, 1941, pp. 599-600).

[9]The Nunivak Eskimo of Alaska have the notion of honoring the person whose name is taken but accompanying this is an idea that a magical essence transfers from namesake to child. The same pattern probably existed aboriginally at Great Whale River (Lantis, 1946, p. 237).

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brother, thirty year old Isaac, are similarly named. The maternal uncle's wife sometimes addressed little Isaac saying, "husband". An older person sometimes gives gifts to his young namesake. Baptism of an infant in church occurs two or three weeks after birth (longer if birth takes place on the coast) and is attended by a small group of relatives.

Until the mother begins to produce milk several women alternately wet nurse the infant. In addition the baby may receive powdered whole milk solution by bottle. Should no milk be available in camp, the neonate may receive only unboiled water and sugar or the stock remaining from boiled fish.

One informant claimed that only a woman with a male baby will nurse another's female infant. A girl, our informant said, does not suckle from a woman who has a daughter because to do so would cause the woman's breast flow to cease. Wet nursing is relied upon if a woman dies leaving a young baby.

Five out of ten mothers and one male informant declared themselves in favor of mother's milk for babies rather than commercial milk products. One woman admitted no opinion. Women who favor powdered milk are at the same time usually without the means to buy the product and thus can rarely indulge their preference. Mother's milk is fed almost exclusively during the first year of life. People perceive a relationship between milk flow and diet and believe that tea and meat promote abundant lactation. A starvation diet is known to inhibit the supply of milk.

The younger a child the more readily nursing follows on demand. Neonates receive the breast as soon as they cry but when the baby reaches five or six months attempts will be made to pacify him by means other than the breast. The diapers are changed or the child is patted, fondled, sung to, or has its head rubbed. Only when crying persists does nursing follow. With increasing age more diversified efforts are made to distract or soothe a fretful child. However, persistent evidence of discomfort always leads to a brief period of nursing.

Suckling sessions are always brief for an Eskimo nursling. Not even the neonate remains at the breast more than two or three minutes at a time. Fretting will lead quickly to another turn for young babies but if possible an older child is talked out of a second session. In other words, the Eskimo baby must nearly always put up a little struggle for the breast and eventually the mother always accedes. It is as though weaning for the Eskimo child started a few months after birth, when means other than suckling first come into use to soothe his crying. More elaborate efforts at distraction ensue if the child is really to be weaned—for example if the mother is pregnant. The youngster may then be taken for a walk, removed from the mother's presence by an older sibling, spoken to, offered a toy, or packed in a shawl and taken visiting. Sometimes an expectant mother tells the last born that her milk is all gone. If pregnancy does not interfere a woman may indecisively delay weaning over a long period. We saw Sara (one year: nine months) being elaborately distracted from the breast in 1949 and

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her father said she was being weaned. When we returned the following year weaning had not yet been accomplished and she usually managed to get half a minute or so of the breast whenever she insisted.

> Sara (two years: eight months) helped herself to her mother's breast. She tried to get more but her mother set her breast back into her dress. Sara reached for it again and continued to nurse. The mother got up as Sara clutched her skirt. Rhoda (seven years: eight months) tried to distract her with a ball but was unsuccessful. Sara tagged after her mother a while and then sat near her. The mother tried to protect Sara from mosquitoes with a kerchief, but Sara cried. Both mother and sister tired to distract her with a ball and then a match box but in the end the mother had to remove the kerchief and lie down to nurse her.

The age of weaning, therefore, varies considerably and depends primarily on the time of the mother's next pregnancy. Still, nursing very rarely lasts more than four years and is never discontinued prior to the age of one.

Breast feeding is relatively undemonstrative, being only lightly charged with emotion. In two cases that we observed, mothers scolded nursing children aged about two years who bit the nipple and shoved them from the breast.

Food to supplment milk begins to be taken at about nine months.[10] Fish, meat, and bannock (baking powder bread) are initially offered. By the time he is two, the child takes anything, including tea, although lifelong idiosyncrasies may already have made an appearance. Thus some children refuse tea and others milk just as there are women who can drink only cocoa or only coffee. Children usually eat readily, "even sealskin" as one woman puts it. In the same way that opportunities for nursing were earlier circumscribed so later possibilities to eat are limited. Prepared food left over from a meal remains under cover in the tent. A youngster may not freely help himself from these stores. Occasionally a mother seeks to appease a crying child with a piece of bannock. More likely all the prepared food will have been consumed at the last meal and nothing remains available for between-meals munching.[11]

A child to whom we dispensed food distributed it to friends if he pleased, but if his mother was present she regularly urged him to share the gift.[12] In nearly all cases boys removed their caps, and children sought to sit down, before they ate the tidbits we gave them.

[10]The Belcher Island Eskimo, who live sixty miles off the coast of Great Whale River, feed children from the age of 6 months with pre-chewed seal meat (Twomey and Herrick, 1942, p. 303).

[11]The Eskimo are also shy about eating in the presence of a non-eater and this reduced our opportunities to secure further data on eating. Young men in a hurry to visit fish nets crouched down and ate facing the tent wall, avoiding facing other people. Usually, however, meals are postponed until the visitor leaves.

[12]The value of food sharing is highly developed. The community recognizes that anybody without food has a claim on the resources of the others. Thus a group of young women on a berry picking expedition included the anthropologist who, in turn, forgot to bring her lunch. They evenly and carefully distributed the snacks which they had brought along in order to accommodate the latter.

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INDUCTION OF AFFECTIVITY

The household receives the new baby with fond adoration and pride. Mothers like to display young children and a cooing baby quickly becomes the focus of a group's delighted attention. We noticed no difference in behavior of this sort if the baby was male or female. Parents delight in playing with a youngster, nuzzling and cuddling him, grinning hugely all the time. Encouragement greets the child's originations. Alec (one year: six months) presented sticks to his mother and each time she received one she responded with a broad smile and a wholehearted, delighted "Thanks". When he gave her a messy object she again said "Thanks", following it with a less intense exclamation of disgust. We saw similar giving and receiving-with-pleasure sequences involving other children. Related to this is the profuse admiration extended to a toddler who displays some fresh item of clothing, like a dress. When white people who are visiting show attention to a child, a parent pushes the latter forward even though the youngster is reticent.[13]

Demonstrative affection and richly affect-laden interaction taper off as the youngster outgrows babyhood. At about the age of two its demands for parental attention wane, although even a three year old will receive abundant attention if he expresses the desire. However, by the latter age the child is generally learning more about his environment and gradually ceases to attract adult interest. His stimulus value in social relationships alters and he comes more and more to receive the routine responses reserved by adults for older children. The reader will note below that other aspects of the adult-child relationships also alter around the age of three, for example with respect to discipline.

ACTIVITIES OF EARLY CHILDHOOD

A baby may handle and play with almost any household object that attracts him, although he will be protected from dangerous utensils and deprived of objects belonging to other families. Should the parent not want the child to have a particular thing she may plan a ruse to retrieve it without producing tears.[14] Usually this involves offering a substitute object to the youngster. A child old enough to understand

[13]Compare the pattern with the following: "The Belcher mother kisses her babies very often and shows them to strangers with great pride, the first of all her possessions. Although apparently equally loving to the sons and daughters she will often display the sons first, and then cheerfully follow with the traditional female introductions so reminiscent of the Oriental attitude: 'Yes, she is my girl here. It is too bad that she is not a boy'" (Twomey and Herrick, 1942, p. 304). On the Labrador coast "The baby is the pet of the entire family and receives the attention of all visitors . . . " (Hawkes, 1916, p. 112).

[14]From Fort Chimo in nothern Ungava we learn that "Among young children at play the greatest harmony prevails. An accident resulting in sufficient harm to cause tears obtains the sympathy of all, who strive to appease the injured child by offers of the greatest share of game, the little fellow often smiling with the prospective pleasure while the tears yet course down his begrimed cheeks." (Turner, 1894, p. 191).

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is urged again and again to release an objectionable article and receives explanations for the parent's request until he accedes. Rather typical is the following:

> Robert (one year: seven months) was playing with a part from the gun his father, Johnny, was cleaning. When Johnny finished the job, he held out his hand, asking Robert for the needed part. Robert held on to it. Johnny explained to Robert where it belonged on the gun asking again to have it. Robert held tight. Grandma Jane joined in urging the child to relinquish the piece, with equal lack of success. Johnny smiled, shrugged and went on wiping his gun. Johnny and Jane again spoke to Robert asking for the piece. Robert continued to hold it. Johnny set the gun away and went about his business. Jane spoke to Robert saying apparently that he and she would go outdoors as soon as he gave his father the gun part. Robert held out the piece to Johnny, who took it. Grandma Jane put on Robert's parka hood, Robert fetched his mitts from the bed and off they went, Jane carrying the boy.

As the youngster grows older he is allowed to handle objects previously considered dangerous.

Babies and children to about seven and eight indulge voluptuously in mouth play. The suck fingers; chew on strands of hair, ribbons of caps, table edges, benches, toys or any convenient object; they stuff things into their mouths, and finger their lips. People of all ages chew spruce gum or confectioners chewing gum with juicy, smacking noises and manifest obvious relish. Some parents claim to oppose mouthing tendencies but in practice often ignore the habit. After a brief scolding for mouthing behavior the child is very apt to enjoy his finger or table edge without further criticism.

Rarely does one see an Eskimo baby crawl. At 13 months one child under observation started to walk and at 19 months another walked well. Mothers said that their children started walking between one and two years. When the child attempts to walk parents are ready with assistance and encouragement. Smiles and exclamations reward successful standing alone and walking. For her own pleasure and the delight of visitors the mother may urge a youngster to exhibit these accomplishments. The first tooth wins as enthusiastic a welcome among the Great Whale River Eskimo as in our own society.

TOILET TRAINING

Toilet training proceeds gradually. Occasionally we saw babies aged six months to a year held over a pot to urinate and being encouraged to do so by a patient mother.[15] She praises if he obeys. One child who became restless while being encouraged to urinate in this way was permitted to nurse the while.

Accidents bring no censure, even if the mother becomes wet. Rather they are often laughed about and a wet bed is stoically accepted. When the child can walk, or at most when he is two, he wears training

[15]Use of a chamber-pot in this fashion is something we never observed among the northern forest Indians.

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pants most of the time. These have a wide slit under the genital area.[16] Girls sometimes simply omit underpants under dresses when undergoing training. By about one and a half years a child begins to ask to be toileted and the mother hastens to respond, taking the youngster outside, waiting, and helping as he attends to his needs. Or else, the woman seeing the child soiling or about to soil in the dwelling will seize him with a cry of alarm and carry him outdoors to finish. Mothers are apparently sensitive to cues that signify the child's toilet needs.[17] People expect night and day training to be completed at about three years. They then stitch together the slit in the training pants leaving an opening for the penis in a lad's trousers. Persistent bed wetters receive rather intense scolding.

Youngsters just learning to toilet themselves may seek relief close to camp. When the mother visits the women's toilet site, a hollowed out sand dune at the edge of the settlement at Great Whale River, she takes a child-in-training with her. Girls learn to use this hill while boys follow men out on the moss to a point where the land dips and where they become inconspicuous as they squat to defecate. Men and boys do not go far afield simply to urinate. The process may be performed within sight of the tents, the individual simply turning aside from people's vision.[18] Attitudes toward elimination are revealed in the case of a seventeen year old girl who on a canoe trip with the authors in early July asked for the boat to stop. A married Eskimo youth shut down the outboard. She disembarked on an ice floe, faced away from the canoe with a brief smile, and, as she squatted, deftly pulled down her pants under her skirt to relieve herself without revealing any part of her naked body. The only indication of some unease about eliminative activities stems from laughter that is provoked by questions about the subject.

TRAINING FOR SKILL

Education constitutes an informal, leisurely process in which the child adopts the example set by elders. Abundant opportunity allows observation of such examples. The acts the child sees are those which,

[16]This is a familiar northern forest Indian dress item associated with early toilet habits and one which we have observed as far west as British Columbia (Honigmann, 1949, p. 180). Among the Great Whale River Indians a large oval may be cut out of these at the pants, a pattern Osgood reports for the aboriginal Ingalik (Osgood, 1940, p. 280). Obviously, a slit that can be sewed together later is more economical than cutting a part out of the garment.

[17]This is reminiscent of remarks frequently made about the speed with which a woman will whisk a baby out of her parka when it is about to soil. Twomey and Herrick say: "For a mother, this is one of the important Belcher Island competitions with Nature. If other women are near ,they rejoice with her when she 'makes it' . . . When she gets the mess upon her own back, how the women hoot at her . . . " (Twomey and Herrick, 1942, p. 303).

[18]The local Cree Indian males fall on their knees, legs apart, to urinate as long as they are living on the open, treeless barrenland.

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depending on sex, he will duplicate upon maturity.[19] All through childhood and adolescence learning gradually accrues through doing. Around camp small children from about the age of five are requested to perform light and simple tasks. A youngster usually obeys such assignments. Should he be disinclined to obey, parents do not press him and the task will be assumed by an adult. Accomplishment brings vivid intensification of the earlier pattern of parent-child relations—the child wins applause or admiration and in one way or another learns to feel that he is clever. Of course, such praise becomes less and less manifest as the economic obligations of the youngster become more and more routine.

Another way of acquiring skills is through experimenting with the camp tools that constantly lie at the child's disposal. An eight year old boy amuses himself splitting wood with a long handled axe. A girl of the same age uses her mother's semilunar knife and sewing equipment to repair some item of clothing. Adults rarely explicitly instruct the child in skills other than reading and writing the Eskimo syllabic script.[20] The pattern of caual learning carries over into sport. During the keep-away game (Honigmann, 1952) which involves a certain amount of skill, five year olds wander around on the ball field trying to participate by snatching the ball when it rolls. The older players give them little notice. The risks of getting hurt are the child's. If he gets the ball he handles it as best he can, tossing it to an age mate or a favorite adult.

When a girl reaches fourteen her mother depends on her for the regular performance of camp chores like hauling water, gathering wood, collecting berries, and caring for younger children of weaning age. A girl of twelve may be commanded to help in small tasks even by unrelated adults whose home she is visiting. Nevertheless, a woman without daughters is seriously handicapped in that these responsibilities fall on her own shoulders. Girls, shortly before marriage in the late teens, like to go in groups to get wood and berries; the journey becomes a pleasant interlude. At night when their tasks are finished girls visit around the settlement or play ball with the boys.

At about eleven years a boy begins to try his hand at hunting, sealing, or fishing. On water he accompanies an older brother or his father, at first, perhaps, only to visit a fish net. Later, in groups of two or three, boys roam overland for rabbits, birds, or other small game. Their responsibility for food provision increases sharply as their skill improves and when they reach the early twenties, when they are ready

[19]Sociocultural change has increased in the past few years as more and more unfamiliar problems have come to confront the Eskimo. Essentially, however, they still have a homogeneous community (See Mead, 1949, pp. 20-22).

[20]We are dealing here with the familiar pattern of American Indian education wherein the child works out correct sequences in whole patterns through casual practice plus imitation (Cf., Honigmann, 1949, p. 185; Pettit, 1946, pp. 43-47).

Not for Resale

to marry, responsibility comes to include supporting a wife.[21] Bilocal residence and large, cooperative winter encampments somewhat cushion the boy's shift to heading a family.

TRAINING FOR SOCIAL RELATIONS

In contrast to the casual learning of skills, certain values are more self-consciously inculcated. Two of the strongest thematic values are nonaggression and sharing.

People fear lest aggression in adult life get out of hand, the person perhaps running amok or committing murder. They recall cases of such behavior from the past. Parents are resigned to, but not tolerant of, children fighting. Any aggression is deeply deplored. Parents, older siblings, or unrelated adults reprimand fighting and order it to cease. Parents as well as youngsters agree that physical aggression is the worst thing that a child can do. Yet a very young child's aggression toward parent or older sibling is laughingly tolerated before the recipient attempts to assuage the youngster or distract him from his hostility. By the age of ten or twelve the previous years of scolding for overt aggression show their effect and aggression comes to be channelized into acceptable forms, like intensely rough ball games or wrestling. Between eight and twelve aggression frequently becomes directed toward Indian children, bickering between the two groups often leading to an exchange of sticks and stones. Such enmity, although recurrent, is only surface deep. Inside half an hour the antagonists may again be playing together.

Strong emphasis supports the value of sharing unequally distributed resources. If a child brings home a bag of candy the mother sees to it that each other child present receives one. Other lessons in sharing are given when the child is sent to beg a neighbor for tea, when gifts of meat or fish are sent out of the family, or when resentment is expressed against a neighbor who is niggardly. Children do not readily assimilate the lesson of sharing. Up to seven years some youngsters reveal a marked inclination to hold on to possessions. Play frequently illustrates the tendency, as when a child dashed to be first to use our swing and then refused to surrender it to another, even though he had tired of the activity. Frequently controversy over the swing was resolved by two youngsters simultaneously sharing it. Equally often they fought for possession. Despite the great emphasis put on sharing a child learns that his personal possessions should be respected. A toy may not be appropriated by another child or adult, although we once saw a twenty year old youth remove *our* playing cards from some youngsters. Little girls emulate adolescent sisters in keeping a treasure box, a carton for storing small trinkets, Christmas cards, photographs, bits of wool or

[21]Our data suggests that at Great Whale River the disparity of ages between married partners has been somewhat reduced from aboriginal figures. On Nunivak Island and in Alaska many girls marry when they are 13, which is also the case on the Labrador coast (Marshall, 1933, pp. 258-259; Lantis, 1946, p. 233; Hawkes, 1916, p. 114; Turner, 1894, p. 188).

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cloth, thread, and ribbons. Much pleasure comes from examining, arranging, and exhibiting these items in which the girl seems to invest a considerable part of her ego.

Money earned by a youngster is his to do with as he pleases, regardless of family needs. On one occasion a mother urged her seven year old daughter to negotiate independently the sale of a cupful of berries that the child had picked. Our houseworker, a seventeen year old girl, spent her wages on relatively luxurious items although her father repeatedly complained that the family needed food.

Other deliberate instruction involves the handshake and smile. Training in these gestures begins in babyhood and relies on example, exercise, and encouragement. A person arriving in the community after an absence greater than two or three days shakes the hand of everybody he encounters, even the baby in a mother's shawl. When a departing family comes to call parents push children forward to make a similar gesture of friendship. "Friend" is the appropriate word to utter when right hands are clasped. People say, "Let us (make) friend(ship)." The smile stands for an appropriate response to any show of interest or friendship. Usually it is broad, genial, and toothy. The Eskimo mother may order her baby to smile while she faces him delightedly. We even saw a woman force up the corners of her one and a half year old son's mouth into a near smile when we picked up and returned a toy he had dropped. At two and a half the lesson of smiling remains still unlearned. The youngster's face tends to reveal whatever emotion he feels. A three year old manages a weak half-smile but indicates distinctly that he would rather scowl or hide his face from the stranger. At five, an easy, warm smile comes as a ready response in social situations. The charming, full-blown Eskimo smile struck us as indicative of a warm, approachable, and spontaneous personality.

Laughter is not explicitly taught but everybody acquires the pattern. Laughter serves to release any strong emotion—embarrassment, frustration, anger, distress, amusement, or pleasure.

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DEPENDENCE-INDEPENDENCE TRAINING

The preceding patterns of early socialization assume that the child will soon develop the capacity for youthful independence. Emotional independence from parents generally proceeds at the child's own pace. Weaning gives an initial push to this development, as when the child is occasionally sent outside the tent with a father, aunt, or sibling to distract it from clamoring for the breast. Between one and a half and two and a half years the child may also wander around outside the tent, always under the mother's watchful eye. Roaming too far afield is checked by the concerned parent. Toddlers of three, however, roam freely in the Eskimo community, visiting other tents or trailing a group of older children whose activities they attempt to emulate. The mother still knows the approximate whereabouts of the youngster and may send cap or overalls for it if the wind shifts to the north. Should the toddler be accompanied by an older guardian, the latter will stand

patiently by, permitting the youngster much free rein. By five the mother no longer concerns herself with the whereabouts of the child during the day. Boys and girls wander around alone or in a gang, returning for food, and being rounded up at bedtime. At night they frequently have to be hauled home from the adult ball game. Bedtime varies according to the time of sunset; it comes very late in June and July. Pre-adolescents by themselves wander little in the Indian community, which is located only a few hundred yards from the Eskimo tents. Occasionally they visit there with parents or older siblings. Around the age of ten in summer a child may be gone most of the day, to the coast or up in the hills, without having advised parents of his whereabouts. But children must still be home before the family retires. From the age of fifteen, girls remain closer to camp during the day, their economic responsibilities are increasing. At night they go for strolls in groups but parents are mindful of even a seventeen or eighteen year old girl's whereabouts when it is dark and so opportunities for sexual relations are rare.[22]

DISCIPLINE

Early childhood reveals a pattern of discipline that is closer to permissive than restrictive (Du Bois, 1949, p. 196). Certainly it is far less restrictive than child rearing procedures among middle class Americans.

Babies and children below three are generously accommodated, perhaps with the aid of a little fretting or in response to a cry of demand. What restrictions are used at this early age readily yield to the child's counter pressures. Discipline now, as already indicated, consists often of appeasing, distracting the child, and suggesting alternative activities. The mother patiently reiterates her request, say for the youngster to stop playing with the swing and to follow her. She waits tirelessly while the child finishes his play or else she goes off alone. A tentative tug to follow may meet with so much outraged, childish protest that she drops compulsion, allowing the youngster to play until surfeited. Time after time Louisa called and led Sara (one year: eight months) into the tent. Sara's older sister, Mary (16 years), helped. Repeatedly Sara wandered outside again. By calling her back Louisa succeeded in keeping the little girl around the tent but not inside it.[23]

[22]Illegitimacy in the Eskimo community appears to be higher than among the neighboring Indians. Three Eskimo are **known** to be illegitimate, two adolescents and a three year old girl. One of these had a white and another an Indian genitor. Only one known case of illegitimacy could be discovered for the Cree and that was not a case of miscegenation. Very little was learned regarding premarital sexual behavior except that intimacy prior to marriage is probably not an Eskimo pattern.

[23]This resembles the pattern among the Labrador Eskimo where the child "is treated with great respect by his parents, and his smallest wishes gratified." The Eskimo child "is never punished and never seen to disobey" (Hawkes, 1916, pp. 112, 114). Among the Fort Chimo Eskimo the same pattern of mild discipline exists, the reporter saying, "I have never seen a disrespectful Eskimo child" (Turner, 1894, p. 191).

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A little later in the child's life scolding becomes more important as a technique of punishment and, although used generously, its discussion should not be understood as painting a picture of the predominant atmosphere of those years. The language contains many words like "stop it!", "it is extremely horrid", and "caution!" These are shouted and shrieked by women at errant children. Parents claimed that they spanked children and sometimes even hit them with sticks but only very rarely did we note a moderate slap on the buttocks or a more vigorous pull at a child's arm. Children, once they are about five years old, readily comply with demands. However, we have seen children of this age get away with disapproved behavior simply by waiting until the parent lost interest in their activity and then taking the behavior up again without molestation. Or else, a child may persist in his behavior till the mother is tired of scolding, and, perhaps with a laugh, turns her attention elsewhere.

In certain circumstances the mother or guardian does insist on obedience without delay. For example, to snatch another child's toy is not tolerated, the toy must be returned and efforts are made to appease the frustrated youngster. Parents do not want to miss church attendance in the evening. Hence, if a child is too young to leave unattended the mother will force him to interrupt his play when the church bell rings. Respect for household food, nonaggression, bedtime, and appointments with the white nurse or doctor are also frequently insisted upon. At no stage is discipline employed to maintain separation of boys and girls. Toward puberty, however, girls probably receive some warnings with respect to sexual relations.

Restrictive discipline is most frequently and effectively executed by the parent, older sibling, and aunts. The mother has more to do with the child in this respect than the father, a pattern confirmed both through observation and by an informant. People outside the nuclear family, including kin, reprimand misbehavior by scolding but are frequently unsuccessful.

RELATIONS OF THE CHILD WITH PARENTS AND SIBLINGS

A mother tries to synchronize her recreative interests, like ball playing, with her child's needs. She takes the youngster visiting, he accompanies her to church as well as to dances, and she makes attempts to catch the ball in the keep-away game with a baby on her back. Should a child strongly protest any of these activities she usually accedes to his demands.

A father has fewer contacts with children. Often a child walks with its father and the men, like the aunts or older sisters, serve to distract the youngsters during the long weaning process. The mother, however, continues to be a primary source of security throughout childhood.

Parent and child appear to close to one another that an offense committed against a youngster strikes the former as a personal affront. In a distribution of candy by the missionary a small boy was overlooked. The mother acted very annoyed until appeased by a gift of cookies to

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the child. If one child is praised and another stands nearby, the mother of the second may call attention to her youngster.[24] Great pride accrues to a mother who hears her offspring flattered. We have a little evidence indicating that parental responsibility is equally keen for youthful misbehavior. One father showed distress when his twelve year old son committed a series of petty thefts. The father, with the advice of the Anglican-missionary, decided to send the youth to the mission boarding school. This was one of two cases of stealing discovered during our two summers' field work.

Where the lap baby's and knee baby's needs conflict the former, the infant wins out. Yet care is taken to appease the knee baby, in whom jealousy is feared, by catering to its demands. He is not totally shunted aside in the delight over the new arrival. Terminologically a distinction is sometimes recognized between the infant, the toddler-with-a-sibling, and the five or six year old sexually still undifferentiated. Sexual distinction becomes important only with or shortly after puberty.

Older children in the family usually defer to the demands of babies with apparent good nature. Children play with infant siblings but always under the watchful eye of the mother. Sometimes, directly or indirectly, hostility breaks out, particularly if the older child is below six or seven. As soon as play takes an aggressive turn the mother, crying out with reproval, moves to protect the baby. Often enough what starts off as petting ends up with the older child striking the younger. So, for example, George (five years) would start patting his brother, Joe (five months), on the hand. Then he would give the baby's hand a vigorous squeeze. Or Mina (three years), playing near Joe, managed to throw her head back so that she hit the baby's head with her own. Isaac (three years: six months) liked to swing his infant brother, Ernest (eight months), in the hammock. He would start off gently and then become more and more violent until the baby became terrified. Briefly but sharply Isaac's mother reprimanded him. Sometimes he persisted and then his mother removed either the infant or Isaac from the situation. On one occasion, when Isaac was bothering Ernest, the mother set the baby into Iasaac's lap. This pacified the older child and ended the aggression. In the family a child five years old or more tends to treat the new family member with pride, affection, and protection. We observed rare instances, however, where boys eight and twelve years old teased unrelated youngsters of three to the point of tears. Older children receive physical aggression from babies without retaliating and often with a grin, much the way parents accept a child's violence. Deference and indulgence by the older siblings declines as youngsters mature and a more symmetrical note enters their relations to each other.

Siblings of both sexes often operate in the same play group, the

[24]Flaherty reports that on Baffin Island he aroused a mother's hostility by unwittingly showing preference for a "rival's" baby (Flaherty, 1924, p. 123).

Not for Resale

age range of such groups being also quite wide. We observed children from three to ten years hanging around together. Activities in a rambling troop of children include ready squabbling and fighting (in which case an older member may remonstrate by shouting, "it is extremely horrid"), abundant cooperative activity, and the comforting of someone in distress.

THE ILLEGITIMATE AND ORPHAN CHILD

An illegitimate youngster suffers by comparison to his natural peers. Our records indicate that as the illegitimate baby grows up the family in which he is placed and other members of the community treat him with less than normal respect and love. Yet we observed an adolescent girl, conceived through a white man, who was particularly stable, cheerful and capable and respected by her peers. She evidenced qualities of poise and leadership. In another case a youth, nineteen, lived with his father and father's wife. He was morose, seemed ill adjusted, and made an ungainly appearance. Even before his father's illness he was kept busy doing many of the camp chores. Just before leaving the field one of us satisfactorally used him as a language informant, an experience that indicated a quality of alertness underlying his unengaging exterior.

A child without parents or whose widowed mother cannot support him may be adopted into another, usually related, family and addressed by son or daughter terms. The foster family receives an allowance from the government to help support the child. We heard of a father who remarried after his wife's death and wanted his daughter to be returned by the family that had adopted her. The girl's mother's sister and her husband, however, refused to release the girl so that the matter had to be referred to the district policeman. Our evidence suggests that although orphans and part-orphans are ideally regarded as children, they often become burdened with work sometimes so that an older daughter of the household is freed from chores.[25] A child with both parents living may also be "adopted" or reared by another family. For example, Nelly (14 years) lived in her father's sister's tent where her services were needed. The two families regularly wintered together. An "adopted" child of this sort joins another family primarily as a helper.

ILLNESS

In the event of a child's acute illness the Eskimo family calls on the wife of the manager of the Hudson's Bay Company. She has medication furnished by the government as well as books of advice and can secure further instruction or a diagnosis from the government physcian by wireless. The doctor holds a clinic when he visits Great Whale River two or three times a year. Then he also gives various innoculations.

Eskimo parents often tolerate chronic, mild illness. Should the

[25]Orphans act as servants in Eastern Greenland, are looked down upon, and often suffer hardship (Thalbitzer, 1941, p. 637).

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manager's wife learn of such cases she will recommend treatment. Her medicines are always accepted by a parent but the will of the child may influence the mother's decision to seek aid or continue treatment. In general people accept and are resigned to illness. There are few theories, magical or empirical, to explain it. Much disease "just comes". People say—"It is that which springs from itself".

The sick child is put to bed and comforted or petted by adults in the camp. Such attention does not wane during chronic illness. We saw one utterly helpless, incurable three year old girl lovingly care for, carried about, and comforted by her mother. Isolation is not attempted even though urged by the manager's wife. A few home remedies are employed by the Eskimo. Seal oil is rubbed on painful parts or a lemming skin used to draw pus from an infection. Lancing with unsterilized razor blades commonly relieves boils, the same instrument also having been used in recent times to facilitate a difficult birth.

Resignation also appeared in response to one youngster's death. The child had been ailing. His death produced an initial burst of tears but the following day, at the funeral conducted by the missionary, the mother showed great composure. Four days later she went about her work smilingly.[26]

[26]At Fort Chimo "The dying person resigns himself to fate with great calmness. During illness, even though it be of most painful character, complaint is seldom heard . . . The friends often exhibit an excessive amount of grief, but only in exceptional instances is much weeping indulged in" (Turner, 1894, p. 192).

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TABLE I

SYNCHRONIZATION OF SOCIALIZATION PHENOMENA
GREAT WHALE RIVER ESKIMO

Age	Nurturance Behavior	Exploratory Behavior	Discipline and Training
3 Mos.	This is a period when rich affection is lavished on the swaddled child.	Arms freed from swaddling. The period of complete bodily freedom gradually increases in length.	
5-6 Mos.	Attempts begin to pacify the infant by means other than nursing at the breast. The baby begins to be packed on the mother's back in a shawl.	Swaddling discontinued.	Child urged to urinate into pot but no real insistence on toilet training.
9 Mos.	Solids begin to supplement liquid diet. Great approval and admiration for accomplishments.	Mouth play is evident and continues richly. Standing alone.	Substitutory gratifications in lieu of forbidden and dangerous objects are much used. Toilet training in mother's company.
1:0 Yr.	Rocking in hammock discontinued.		Training in smiling commences.
1:6 Yrs.	More serious attempts at weaning begin. Distraction heavily used to dissuade child from the breast.	Wandering outside the tent allowed but under watchful eye of mother or guardian.	
2:0 Yrs.	Parental affection tapers off. Lap baby expected to defer to younger sibling but there is much concern for the feelings of the former.		
2:6 Yrs.	Shawl packing discontinued.		
3:0 Yrs.		Child wanders afield from camp but mother knows where he is.	Toilet training supposed to be completed. The ability to smile conventionally instituted. Scolding becomes more important as a technique of discipline.
4:0 Yrs.	Weaning completed.		
4:6 Yrs.			Ability to smile warmly takes hold.
5:0 Yrs.	Mother gives affection if sought.	Range of going afield increases and mother not concerned. Gang activity involving both sexes begins and lasts till about 10:0 years.	Light tasks requested of child with admiration for compliance and no punishment for disobedience. Child usually obedient and docile.

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TABLE I (Continued)
SYNCHONIZATION OF SOCIALIZATION PHENOMENA
GREAT WHALE RIVER ESKIMO

Age	Nurturance Behavior	Exploratory Behavior	Discipline and Training
7:0 Yrs.			Lessons on sharing, begun early, start to take hold. Controls on aggression only starting to take hold.
7:6 Yrs.	Mouth.	Mouth play ceases.	
8:0 Yrs.		Considerable aggression released against Indian children.	
10:0 Yrs.		Boy goes far afield and may be gone most of the day. Boys begin to hunt in groups or with fathers and elder siblings.	Aggression comes to be successfully controlled. End of playing in gangs of mixed sex.
11:0 Yrs.			Economic duties of girl increase and in two years will take up most of her time.

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EARLY INTRUSION OF AGRICULTURE IN THE NORTH ATLANTIC SUBRARCTIC REGION

GUDMUND HATT

INTRODUCTION

In the eastern part of the North Atlantic region, farming is carried on farther north than in any part of the world. The reason for this is partly climatic, for the isotherms are pushed northwards by the Gulf Stream. However, this is not the whole explanation. In northwestern Europe farming is pursued near to the arctic limit, if this is fixed at the July isotherm of ten degrees Centigrade, which is close to the northern limit of trees (Vahl and Humlum, 1949). In Norway, farming is carried on near to that limit and in Iceland, although just south of the Arctic Circle, on or beyond the limit of trees.

This extension toward the north is not a recent feature. About one thousand years ago, the farming culture of North Europe made a push towards the arctic, reaching Iceland and even Greenland. The Icelanders are still a farming community. Greenland was retained by Norse farmers for 500 years, although corn production was impossible there.

Northwest European farming was better prepared for this thrust into the sub-arctic than any other farming culture. The ancient American farming, the maize agriculture, met its climatic limit a little north of the St. Lawrence Valley. East Asiatic farmers, rice cultivators, met their climatic bounds in more southerly latitudes. Neither maize nor rice agriculture had any natural possibility of ever reaching the arctic. Wheat agriculture had better prospects. Wheat may succeed in very northerly latitudes, and its satellite or substitute, barley, is still more hardy.

However, it was not agriculture in the strict sense of the word that took Norse farmers into the far north. What these expansive farmers sought and found was not grain land, but pastures. The need of new pastures, and also the desire for new hunting and fishing grounds, impelled the Norsemen to occupy and settle Hålogaland, the islands north of Scotland, the Faeroes, Iceland, and Greenland. In this northward movement they carried agriculture with them as far north as nature allowed, and they supplemented their own scant grain production by importing quantities of grain from more southerly latitudes. In their great days of youth and power, the Norse colonists were great seafarers and traders. This position could not be maintained very long, because the settlements lacked material for shipbuilding. This deficiency was conducive to political and economic dependence, and for Greenland—isolation, starvation, and ruin.

The great Norse expansion was made possible by the cultural versatility of the Norse farmers. This versatility was, to some extent, present everywhere in northwest Europe. The old farming culture was rich and many-sided.

When neolithic agriculture reached northern Europe, wheat and

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barley, in several varities, were its most characteristic plants. However, the neolithic farmers of northern Europe were not only plant cultivators, but they were also stockbreeders; they had cows, pigs, and sheep, also goats, and later on, horses. Animal husbandry was in great parts of Scandinavia more important than the raising of corn. For Norway, Hasund has maintained that grain production was, in most places, only of secondary importance until the time of Christ (Hasund, 1933, p. 169). This seems to hold good also for large parts of Sweden and Finland. On the other hand, in southern Sweden and in Denmark grain production was of great importance aside from animal husbandry.

An intensification of farming took place in Scandinavia in the Iron Age. This intensification seems to be a human response to the climatic change which set in at the transition from the Bronze Age to the Iron Age, about 500 B.C. The sub-boreal climate of the Bronze Age was succeeded by the sub-atlantic climate, which was moister and cooler. The summer temperature was lowered; the winters brought more snow than before (Nordhagen, 1930; Jessen, 1935; Faegri, 1942).

This climatic change had a great influence upon natural vegetation and also upon farming. The upper limit of the pine forest in Scandinavia sank somewhat but the birch forest could stand the change better. The belt of birch trees in the Scandinavian mountains seems to be due to the sub-atlantic climate, and it has a greater vertical extension in western Norway's oceanic climate than in the more continental parts of Scandinavia. In Denmark, the beech forest expanded, the oak forest receded, and the calluna heath got its great chance under the cool and moist sub-atlantic climate.

Cereal culture suffered. Wheat, which had been very important in neolithic times, was pushed back. It seems that the relative importance of barley was already increasing during late neolithic times. In the late Bronze Age, barley was the most important grain in Denmark, and in the early Iron Age it was still more dominant. Oats made its appearance in the Bronze Age and prospered greatly in the early Iron Age, favored by the oceanic sub-atlantic climate, especially in western Jutland, and probably also in western Norway.

Animal husbandry must also have suffered from the effects of the climatic change. To begin with, we have reason to believe that no stables were used in the Stone Age and the Bronze Age, the animals staying in open air the year around, the sub-boreal winters being mild and not very snowy. Under the sub-atlantic climate, the natural conditions of such a primitive form of husbandry deteriorated. The snowy winters made it difficult or impossible for the cattle to survive without protection, shelter, and feeding.

Evidently, the climatic change brought in its train serious difficulties for the farmers. These difficulties were met by technical improvements.

It became necessary to keep the cattle in stables during the winter and feed them. In Jutland, the stable was simply an extension of the dwelling house. We know the early Iron Age house of Jutland with

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human habitation in the west end and the stable in the east end. There were two rows of cow stalls in the stable. The floor of the stable was a little lower than the floor of the dwelling part; often the east end was sunk into the ground about one-half meter (Hatt, 1937, 1938, 1943).

The custom of keeping the cattle under the same roof as the human habitation is found in Jutland and south of Jutland. It has also been pointed out in Iron Age house sites in Rogaland in southwestern Norway (Petersen, 1933, pp. 105-106). However, in Norway and Sweden it is the custom to keep cattle in separate buildings, and so it was already in the Iron Age, as is known from many excavations.

The harvesting implements from the Iron Age show an increased interest in the gathering of fodder. The scythe appears, in its oldest form, short-handled and evidently derived from the sickle. Throughout the Iron Age, both of these implements were in use: the sickle for the harvesting of grain, the scythe for cutting grass (Steensberg, 1943, pp. 100-114).

The reaping and collecting of foliage for winter fodder came next in importance to the making of hay. The sickle was used not only for harvesting cereals, but also for cutting foliage. A special implement, the leaf knife, was much used in some places.

The custom of feeding the cattle and keeping them in stables during the winter made it possible to collect manure, which might be used in the fields. And so the more careful tending of the cattle made it possible to improve agriculture. We have reason to believe that the farmers of the Stone Age and the Bronze Age had to abandon their fields after a few crops and take up new land. The use of manure made agriculture more permanent, and habitation more stable.

The intensive and permanent agriculture left visible traces upon the surface of the land. The primitive plow or *arð* moved the soil, the fields got a flat basin-shape, and they were separated by lynchets or balks. In some parts of the Jutland heaths, deserted fields from the early Iron Age may still be seen (Hatt, 1949); these are very similar to the ancient fields which archaeologists in southern England have termed "Celtic fields".

It has been argued that the remarkable development of husbandry in the early Iron Age might to some extent be due to cultural influences from the Roman Empire, where indoor feeding of cattle, manuring of the fields, and, on the whole, a very rational farming technique was found. Such influences may perhaps have reached nothern Europe (Steensberg, 1943, pp. 179-180). However, it should be noticed that the great farming improvements in Jutland took place in the pre-Roman Age, at a time when the Celtic peoples obstructed the cultural connections between Rome and Scandinavia.

Indoor feeding of the cattle during the winter time was used in the Iron Age not only in Jutland, but in Norway and Sweden as well. On the Norwegian coast, the climatic change hardly brought any deterioriation of the pasture, rather an amelioration, because the pine forest was restricted (Brøgger, 1933, p. 29). Inland, the cold and snowy

Not for Resale

winters made the technical improvements of the Iron Age, the stables and the indoor feeding, especially useful. The Iron Age brought a sort of inland colonization, which gained impetus in the younger Iron Age, after 600 A.D. in the so-called Merovinger Age and the Viking Age. In Norway, archaeological finds of sickles, scythes, and leaf knives are especially numerous after 600 A.D. However, these harvesting implements are less conspicuous in the grain producing parts of the country, like the fertile landscapes at the Oslo Firth and in inner Troendelagen. More important are the finds of scythes and leaf knives in the inner valleys where cattle farming is, and was, predominant over grain production (Brøgger, 1933, pp. 70-72). Evidently, the inland colonization occupied the valleys and utilized also the mountain plateaus, especially the rich pastures of the birch forest and above the limit of trees.

The mountain pastures were utilized in the Iron Age, as now, by means of secondary farmhouses or shealings (Norwegian: *sæter:* Swedish: *fäbod*), used temporarily during the summer. The distance between the main farm and the *sæter* may be considerable. The moving of cattle and people between the main farm and the *sæter* may require more than one day. This Scandinavian utilization of mountain pastures, a parallel to certain forms of *Alpenwirtschaft* in Switzerland and elsewhere, reaches back to prehistoric times.

Bjørn Hougen has set forth the hypothesis that a sort of cattle-nomadism existed in Scandinavia during the Bronze Age and in late neolithic times. Archaeological finds prove the existence of a sparse inland population already in these periods; and Hougen thinks that this inland population may have been nomadic cattle farmers who spent the winters in the mild coastal region, and the summers in the inland valleys (Hougen, 1947, pp. 85 ff). This hypothesis has some plausibility. The winters were hard and snowy in the Scandinavian inland, also under the sub-boreal climate. We can hardly assume that stables were known before the Iron Age.

The pastures were not the only natural riches that drew people into the mountains. The wild game and the fish in the lakes attracted hunters, trappers, and fishermen. The iron ore of the bogs in the mountain plateaus attracted smiths who produced iron from the bog ore by means of charcoal which they made in the woods. Now, it was partly the same people who herded cattle, hunted, fished, and made iron. The Scandinavian farmers were versatile, and they had to be so, in order to make their living.

This versatility has always been characteristic of Scandinavian farmers, especially in Norway. When agriculture entered Norway in neolithic times, it was adopted by a population of hunters and fishermen; and hunting and fishing continued to be the essential occupations and means of livelihood for people who raised corn and owned cattle. This intimate connection between different modes of living, on the one hand hunting and fishing, on the other hand farming, is even more conspicuous on the Norwegian coast than inland. In western Norway, the farmers

Not for Resale

are often fishermen and hunters, leaving their farms part of the year, and so it was in prehistoric times. A. W. Brøgger has stressed this feature of Norwegian culture (Brøgger, 1925, pp. 39ff.) and as a prehistoric example he mentions *inter alia* the archaeological find of a late neolithic or early Bronze Age site at Ruskenes, south of Bergen. The Ruskenes find contains bones of many game animals, especially deer and seal, but also a few bones of ox, sheep, and swine while in pottery sherds imprints of barley were seen. Evidently, we have here an example of mixed farming and hunting economies. Such mixed economies have been traced in neolithic finds in many parts of Europe (Clark, 1952, pp. 48 ff), but above all in western Norway. The introduction of farming meant an enrichment of the old economy, but not a discontinuance of hunting, trapping, and fishing. The Ruskenes site was a hunting station where farmers lived part of the year, hunting deer and seal.

It is significant that the introduction of agriculture into Denmark meant an almost sudden transformation of the natural vegetation, which geologists have pointed out in Danish peat bogs (Iversen, 1941). In Norway, the influence of agriculture upon the natural landscape was much weaker. As K. Fægri says: "On the whole the introduction of agriculture into Norway is rather "half-hearted" in contrast to Denmark, wnere the land occupation transforms the landscape very quickly" (Fægri, 1944, p.460).

The introduction of agriculture into Norway started a little later than in Denmark and southern Sweden and required much time, because it was retarded by the hunting culture. The first farmers in Norway, belonging to the megalithic culture, settled at Oslo Firth and did not spread very far. A little later came the single grave or corded ware people whose characteristic weapon was the battle axe and who swept over middle and northern Europe in late neolithic times, coming from the east. They seem to have brought the horse, and perhaps they were horse riders, herding cattle and sheep, in other words nomadic people, but not without a little agriculture. It is generally supposed that they were Indo-Europeans. Their nomadic way of living was soon given up. They mixed with the older population and turned into sedentary farmers. In great parts of Scandinavia, and especially in most of Norway, it was the single grave people who first introduced a farming culture. However, this process was rather slow, because the hunting population held on to the old way of living. The hunting culture and the farming culture influenced each other, and the final result was a mixture, well adapted to natural conditions. This synthesis of hunting and farming may have caused strife and friction through many centuries (Gjessing, 1945). At last, however, these different ways of making a living, these two opposing cultures, were twisted together as strands in a rope (Brøgger, 1925, p. 21).

Not for Resale

NORSE COLONIZATION IN HALOGALAND

The primitive versatility of Scandinavian farmers, due to the double origin of their culture, was a valuable asset making them effective colonizers.

We have already mentioned the farmer's occupation of inland valleys and mountain pastures, but from southwestern Norway the expansion of farming culture went mainly by sea. From the overpopulated districts in western Norway, especially from Rogaland (the country of Stavanger), people migrated northwards along the coast to Hålogaland in northern Norway. This northern seaway was the origin of the name of the country itself (Norvegr). Archaeological finds show that the connections between Rogaland and Hålogaland were rather intimate. In the sixth century A.D. this migration into Hålogaland was active (Lund, 1939, p. 85), but it had probably begun much earlier. Also from the Throndheim Fiord region, farming culture went northwards along the coast. A late neolithic or early Bronze Age find from the island Dönna in Nordland Fylke, a little more than 66 degrees north, bears witness to a mixed hunting and farming culture, recalling the Ruskenes find; there are bones not only of fish, birds, otter, seal and deer, but also of such domesticated animals as sheep, cows and pigs (Gjessing, 1945, pp. 139, 141, 448).

The Norse colonization in Hålogaland was decidedly coastal, not only because the settlers were seafaring people and utilized fishing grounds and hunted sea mammals and birds, but also because they found much better natural opportunities for their husbandry at the coast than inland. It is also true today, for the Norse settlers were first of all farmers (Brøgger, 1931, pp. 33 ff). They found good pastures for their cattle on the sea coast, but in the inner firths and valleys, conditions were less favorable. The reason for that is essentially climatic. The islands and the sea coast have a mild oceanic climate, due to the Gulf Stream and the southwesterly winds. Inland, the climate is more continental with cold winters. The Norse population in the Iron Age had their dwelling sites on islands and coasts, the inner firths and valleys were left to the Lapps.

A. W. Brøgger has stressed the fact that the Iron Age culture of northern Norway was in perfect conformity with the culture of southern Norway. Archaeological finds prove that Norse farmers lived in northern Norway in the Roman Iron Age (before 400 A.D.) and developed their economic culture through the Migration Age (400-600 A.D.), the Merovinger Age (600-800 A.D.), and the Viking Age (800-1000 A.D.). The grave finds give a picture of their daily work. Sickle and scythes are found in Iron Age graves in the districts of Helgeland, Ofoten, Lofoten, Vesterålen, and as far north as Tromsö Sound. Even a plowshare is known from a Viking Age find, but evidently the harvesting of fodder (leafage, grass) was more important than ploughing.

Then, as now, the climate set limits to the production of grain. Today, barley is cultivated in the southernmost part of Troms Fylke,

Not for Resale

near the coast. As far north as the Målselv Valley, just north of 69 degrees north, barley is cultivated, but one may not expect mature corn more than one year out of three (Reusch, 1927, p. 185). In our time, potatoes are by far the most important crop all over Troms Fylke and also in a few favorable localities in Finmark and Swedish Lapland. However, the Iron Age farmers had no cultivated plant as hardy as the potato.

In bad years, the harvest in Hålogaland was insufficient, and grain was imported from the south. King Olav Haraldson prohibited this traffic. This brought him in bloody conflict with Asbiörn Sigurdson, a young magnate, living at Trondenes on Hindoe, about 68 degrees 49 minutes north, who made a journey to Jæren in southwestern Norway and brought a ship load of corn, but had his cargo confiscated by the king's servants. The conflict brought death to young Asbiörn and gave King Olav many deadly foes, among them Asbiörn's near kinsman and neighbor, Tore Hund of Bjarkoe, who felled King Olav in the battle at Stiklestad on July 29, 1030 (Cf. Snorre Sturlason's Saga of the Norwegian kings).

The settlements of the Iron Age farmers extended considerably north of the Arctic Circle. Their northernmost settlements seem to have been on the islands Karlsoe and Vannoe, about 70 degrees north (Brøgger, 1931, p. 41). Norse hunters and traders went even farther east through Finmark, as it is proven by archaeological finds. However, cultivation did not reach the climatic limit of the arctic on the Norwegian coast. It is first met with near North Cape, on Mageroe, running from there to Vadsö in the Varanger Firth.

Farming was fundamental in the economy of the Norse settlers, but they were also fishermen, hunters, and traders. They fished only for household purposes; the great fisheries for export did not begin until the 13th century (Brøgger, 1931, p. 32). Hunting and especially the fur trade brought riches to the Norsemen. Trading took them into the mountainous country of the Lapps, and on seafaring expeditions far towards the east, around North Cape, along the Murman Coast, into the White Sea and the Dvina country. On these expeditions, trading and robbery went hand in hand. These traders were Vikings (Brøgger, 1928b).

The sea is larger and more dangerous in northern Norway than in southern Scandinavia. The Norse chieftains in Hålogaland had excellent vessels, large, sea worthy and well adapted to the natural conditions.

EARLY SCANDINAVIAN INFLUENCE UPON THE LAPPS

The Lapps (or Finns, as the Lapps were called by the Norsemen) were made tributary by the warlike Norse chieftains. Later on, in the 9th century, the Norwegian king appropriated this tribute and authorized certain local chieftains to collect it.

We learn about this tribute in Egil Skallagrimsson's saga. Thorolf, Skallagrim's brother, inherited two estates in Hålogaland and also the right to collect the Lapp tribute, as the Norwegian king's liege. We are told that Thorolf went up in the mountains in winter with a large

Not for Research

following of about 90 men. He took tribute from the Lapps and also traded with them. Everything was adjusted amicably, but the Lapps were afraid of the Norsemen. Thorolf went farther east, and he heard that the "Kylfinger" (probably the revenue collectors of the Swedish king) had come also to trade with the Lapps. Thorolf attacked his Swedish competitors, killed about 120 of them, and collected an incredible lot of goods, which he brought back to Hålogaland. We are told that Thorolf applied himself eagerly to hunting and catching fish and seal, and he had many men in his service. He sent the Norwegian king the Lapp tribute, consisting of a large amount of good peltry. However, King Harald mistrusted him, and authorized some of Thorolf's enemies to collect the Lapp tribute. Nevertheless, Thorolf again made a winter expedition into the mountains, and the next summer he sent a ship to England, loaded with hides and several kinds of peltry which he had procured in the mountains. In England the goods were sold, and in return the ship was loaded with wheat, honey, wine, and cloth.

Egil Skallagrimsson's saga was written in the latter part of the 12th century, almost three centuries after Thorolf's time. Nevertheless, this saga, is, on the whole, trustworthy, and it gives a realistic picture of the relations between Norsemen and Lapps.

We learn more about the relations between the Norsemen and the Lapps from Ottar's account. Ottar was a chieftain who lived far north in Hålogaland, perhaps in Senjen. He went to King Alfred in England, and probably entered the English king's service. In the geographical part of King Alfred's Anglo-Saxon translation of Orosius' world history, a report is included which Ottar gave King Alfred about conditions in Hålogaland and a sea voyage which Ottar had made to the White Sea. Ottar "was amongst the first men in the land, though he had not more than twenty horned cattle, twenty sheep, and twenty swine; and the little that he plowed, he plowed with horses.[1] But their revenue is chiefly in the tribute that the Finns pay them, which tribute is in skins of animals, feathers of birds, in whale bone, and ship ropes, which are made from the whale's hide[2], and from the seal's. Everyone pays according to his means: the richest must pay fifteen skins of the marten, and five of the reindeer, and one bear's skin, and two ship ropes, each sixty ells long, one made from the whale's hide[2], and the other from the seal's" (Bosworth, 1853, pp. 12-13).

Most interesting is the part of Ottar's report which deals with the reindeer, the oldest historical account of reindeer breeding in Scandinavia: "He had, moreover, when he came to the king, six hundred tame deer of his own breeding. They call these reindeer: of them, six were decoy deer, which are very valuable among the Finns, because with them they take the wild deer" (Bosworth, 1853, p. 12).

[1]It is characteristic that Ottar plowed with horses. In most of Norway and in northern Sweden, the horse became the favorite animal for draught. On the other hand, in southern Sweden, southeastern Norway, and in Denmark, the ox was very much used for draught (Erixon, 1933, p. 195).

[2]Should be: walrus hide.

Not for Re-sale

The Lapps in northern Scandinavia had, in Ottar's time as later, different modes of living. On the coast they were fishermen and hunters, in the mountainous inland they were reindeer nomads and hunters. The Norsemen subjugated the Lapps, extorted tribute from them in the form of peltry, hides, ship ropes, and feathers, and took also an economic interest in reindeer breeding. Ottar owned a herd of reindeer and we must assume that his herd was tended by Lappish herdsmen; it has been and still is a recognized custom in Scandinavia that Norwegians and Swedes may own reindeer which are tended by the Lapps.

Ottar mentions the use of decoy deer as a Lappish custom. This hunting method is known from many reindeer nomads throughout the northern world and may perhaps be the oldest element in reindeer nomadism.

The Swedes like the Norsemen had similar relations to the Lapps. As we have learned from Egil Skallagrimsson's saga, there was a sort of bloody competition between Norwegian and Swedish traders and tax collectors in Lapland. The Swedish "birkarlar" were traders, living far north in Sweden and having the privilege of trading with the Lapps and exacting taxes from them; the "birkarlar" are mentioned as early as 1328 in a document about the administration of justice in northern Sweden (Fellman, 1912, p. 336).

However, the Scandinavians were not only acquisitive, they were also to some extent instructors in their relations with the Lapps, yielding useful elements of culture. Certain traits in the Lappish utilization of the reindeer seems to be borrowed from Scandinavian farmers.

Divergent opinions are held about the origin of reindeer breeding. A theory set forth and ably defended by K. B. Wiklund, argues that the Lappish reindeer nomadism had its origin in Lapland, quite independently of the Samoyedic and other eastern forms (Wiklund, 1918, 1937-1938). Most ethnologists, who have discussed the problem, assume some cultural historical connection between the different forms of reindeer nomadism found in northern Eurasia. Certain traits, found over the whole area of reindeer nomadism, are probably very old, for example, castration of male animals by biting, owner's marks cut in the animal's ear, the use of the lasso and ski, and human urine or salt used for alluring and taming the deer. Every one of these traits also exists outside of the area of reindeer nomadism, and the question is unsolved, where and when reindeer breeding originated. Almost all investigators seem to be agreed in one point: the oldest reindeer domestication arose among reindeer hunters, and in this process, the use of decoy deer seems to have been important (Sirelius, 1916; Hatt, 1919; Schmidt, 1951).

However, some cultural elements are found only within certain limited parts of the area of reindeer nomadism. Among these elements with limited expansion is the milking and the use of milk. By no means did all reindeer nomads practise milking. In northern Asia, the reindeer is milked by the Soyot, the Karagas, and the Tungus, and in Europe

Not for Resale

we find reindeer milking in Lapland. There does not appear to be any possibility of a cultural historical connection between Asiatic and Lappish reindeer milking. Evidently, in both cases reindeer nomads have taken over milking and dairying from neighboring peoples. The Lapps have borrowed this important cultural element from Scandinavian farmers. The Lappish words for milk and cheese, and most of the names of implements, etc., connected with the milking industry, are of Scandinavian origin (Qvigstad, 1893, p. 65). The whole techinque seems to be derived from Scandinavian sources. As an example we may mention the Lappish cheese moulds, which are very similar to those used by Scandinavian farmers. We may also note the use of certain wild plants which are mixed with the reindeer milk that is reserved for future use, namely *Angelica archangelica, Rumex acetosa,* and *Mulgedium alpinum.* Their use may also have been borrowed from the Scandinavians, who have long utilized the same and other species (Holmboe, 1929). The very superstitions connected with milk and milking are borrowed from the Scandinavians. The only use of reindeer milk which may be safely assumed to be originally Lappish, is the suckling of the does, which is occasionally practised by children and herdsmen, and which is also known from reindeer nomads who do not practise any regular milking, for example, the Chukchi (Bogoras, 1904-09, p. 84).

On the other hand, the use of the reindeer for transport does not contain many traits of Scandinavian origin. The reindeer harness has essentially the same form everywhere among the reindeer nomads, from Lapland to northeastern Asia; it is probably evolved from a dog harness. The boat-shaped Lappish reindeer sledge is peculiar, but small boat-shaped sledges, drawn by man, are known from the Finns, the Cheremiss, and some tribes in Siberia. It is an old sledge-type, originally a hunter's hand sledge, in Lapland made into a reindeer sledge. The Lapps also use reindeer for carrying burdens. The Lappish pack saddle is peculiar and very different from those used by Tungus and Soyot reindeer people in Asia. However, the Lappish pack saddle is very similar to an old Scandinavian pack saddle, known from the Færoes and the Shetland Islands (Jirlow, 1931, pp. 90-95).

So it will be seen that Lappish reindeer nomadism contains certain elements of Scandinavian origin. Scandinavian farmers have, in the past made an imprint upon that strange culture, enriching it.

NORSE COLONIZATION IN THE ISLANDS OF SCOTLAND

The colonization of northern Norway by Norse farmers during the Iron Age is only one of the effects of an increasing population pressure. The means of livelihood of the Norse Iron Age farmers were essentially an extensive cattle breeding and dairying, coupled with some agriculture and with a supplementary economy of fishing, trapping, and hunting. This required great areas, and as population increased, a critical period set in. The Viking Age was a critical period. The Norse farmers met the crisis in two ways: by intensification of agriculture, and by

Not for Resale

emigration (Brøgger, 1940). Intensification took place where there was plenty of arable soil and a favorable climate, that is, Osterdalen, Troendelages and Jæren.

An example of inner colonization is immortalized in Snorre Sturlason's saga of the Norwegian kings, where it is told that the great chieftain Erling Skjalgson gave land to his serfs and let them make their own corn fields. The serfs bought their freedom by selling corn to Erling, and so they became free men in the course of one, two, or three years.

However, in western Norway, north of Jæren, there was not much arable soil and therefore not much opportunity for an intensification of agriculture. The so-called "reitbruk", where small plots or "reitar" are cultivated with spade in favorable localities, may still be seen in Norwegian fiord and mountain districts (Hasund, 1932, p. 20; 1933, pp. 171 ff). This may be the reason why many people emigrated from western Norway in the Iron Age, not only to Hålogaland, but overseas, to the Hebrides, the Orkneys, the Shetlands, the Færoes, and Iceland.

This overseas migration had not only a political background, the conflict between King Harald Fairhair and the local chieftains who refused to obey him and pay taxes, but also was a result of the critical situation which arose when cattle breeding farmers required more room than they could find in the old country. The big cattle farmers were estate owners with numerous serfs and dependents. It would not be correct to speak of over population, but it became more and more difficult to find room for new estates. So when the Norwegians heard of grassy islands in the western seas, they felt a yearning after these new countries, not unlike the longing for America which, in the 19th century, thousands of European peasant boys have felt (Brøgger, 1928a, pp. 10 ff). It seems that Irish clergymen were a sort of forerunners for the Norse colonization in the western islands. From around 700 A.D., much soil was brought under cultivation in western Europe. The church took a special interest in this movement. Cultivation was a main task for the Christian clergy, the monks, and the missionaries. Irish and Scotch priests and monks discovered the Orkneys, the Shetlands, the Færoes, and even Iceland. They retired from the world in these lonesome islands, and tried to cultivate them. Probably, it was Irish monks who first brought sheep to the Færoes; later on Norse settlers found sheep running around about, and therefore they called the islands "Færoes", that is, "sheep islands". (Brøgger, 1928a, pp. 24 ff).

Brøgger thinks it probable that Norwegian seafaring men, visiting England and Ireland, heard about these grassy islands north of Scotland, and sailed to them. Good pastures were in great demand among the farmers of western Norway. The distance from Rogaland to Hålogaland is several times longer than from Rogaland to the Scotch islands. When these islands first became known to the farmers in western Norway, emigration to the Shetlands and the Orkneys was a very natural thing. The distance from Norway to the Shetlands is less than 200 miles.

According to Brøgger, this emigration started before 800 A.D. The

Not for Resale

Shetlands, which the Norse people named Hjaltland, was a sort of key to the Norwegian expansion overseas. From Foula in the Shetland Islands, the Orkneys are within view, and from there one may see Scotland, and so the way is clear to the Hebrides which the Norsemen called the Southern Islands (Sudreyar), and further on to Ireland and the Isle of Man. Somewhat less obvious was the way to the Færoes which are 325 miles west of Norway and 160 miles northwest of the Shetlands. However, Irish priests had discovered the Færoes about one hundred years before the Norsemen came.

The Viking colonization brought the Norsemen in contact with Christendom and particularly with Celtic people. There are archaeological monuments on the Shetlands and the Orkneys considerably older than the Norse settlements. Agriculture had reached these northern isles long before the Norsemen appeared. In the neolithic times barley was cultivated in the Orkneys, and from the late Bronze Age a find of barley is known from the Shetland Islands (Jessen and Helbæk, 1944, pp. 44-47, Figs. 16, 19). However, when the Norsemen arrived there were probably very few inhabitants. The Shetlands and the Orkneys became Norse lands with purely Norse communities, and this seems to have happened without any warlike conquest (Brøgger, 1930, p. 262). The same is true of the Færoes, although the first Norse settlers may have met a few Irishmen there. The Irish monk Dicuil wrote a geography which he finished in 825 A.D. In this work he mentions a group of islands, mostly small and separated from each other by narrow straits, lying in the northern sea. They may be reached from the northern British islands by sailing two days and two nights with full sails and a fair wind. In these islands, anchorites from Ireland had lived, for about a hundred years, says Dicuil. "But just as they always since the beginning of the world have been deserted, so they are now, because of Norman pirates, untenanted by anchorites, full of innumerable sheep and very many different kinds of seabirds" (Brøgger, 1937a, p. 21; Dicuil, ed. Parthey, 1870, p. 43).

These northern islands must be the Færoes and according to Dicuil, Irish anchorites had sought refuge there shortly after 700 A.D. The holy men departed when the Vikings came, leaving only their sheep.

The Norse emigrants were used to the oceanic climate of western Norway. They settled in the Atlantic islands, the Hebrides, the Orkneys, the Shetlands, and the Færoes, which had an even more pronounced oceanic climate. The winters are milder, the summers cooler than in western Norway in the same latitudes. The natural conditions in the new lands were favorable to the most important part of their farming, namely cattle, and sheep breeding and dairying. Barley and oats were the corn of western Norway, and also of the Atlantic islands. In our day, the potatoes are more important.

The worst natural handicap was the lack of forest, because wood was a vital necessity. In house building, it was to some extent supplemented and even replaced by stone and turf and peat was used for fuel. Ships and boats were made of wood and without ships and

Not for Resale

boats, human life was doomed. The settlers were, by necessity, seafaring men. Part of their livelihood must be gained from the sea, by fishing and hunting, and the North Atlantic sea is violent and dangerous, even more so than the home waters of Norway. In their home country the Norse people had plenty of excellent timber. Some of their finest, most seaworthy ships were built in the north; in Hålogaland. In the Atlantic islands, practically no timber grows; not only the cool summers, but the stormy winds hinder the growth of forest, and the innumerable sheep prevented even the rise of birch copses, which the climate might allow. The importation of timber and boats was indispensable. That is probably one important reason why the Norwegian kings succeeded in binding the Atlantic settlements to their realm in spite of the localism and self-assertion of these island communities.

THE FAEROES

If the climatic limit of the Arctic is put at the July isotherm of 10 degrees Centigrade, the Færoes are not far from that limit. The mean temperature of July is 10.8 degrees at Thorshavn, and only July and August are free from frost. Agriculture suffers from the lack of summer heat and also from the excessive moisture. Furthermore, the areas of arable soil are small, the total cultivated area has been estimated at three per cent of the total surface area. The Færoes are the ruins of a volcanic mountain massive of Tertiary age. The old river valleys were deepened and made into fiords and straits by the glaciers during the ice age. The basaltic rocks are either naked or covered with soil in a rather thin layer. Moors and bogs cover large areas. The small cultivated fields surround the villages or hamlets and are placed upon the lower slopes, near the coast. When a new field is made, stones must first be cleared away, and good soil added from elsewhere. In the past, the spade has always been much more important an implement than the plow. Harrow and roller is also absent from the old fashioned Færoe agriculture. Implements and working methods are very primitive and may be regarded as relics of a very old northwest European culture (Jirlow, 1931, pp. 97-133).

The typical fields are narrow, only three or four meters broad, separated by narrow ditches. Every field has a sloping surface, high on one side and sloping towards the ditch on the other side. In a profile through a group of fields, the fields will look like teeth in an enormous saw (Botany of the Færoes, Vol. III, 1901-08, pp. 1006 ff). This system gives an effective drainage and is a result of the cultivation of the soil. In the spring, the field is worked with the spade; the sod is cut and turned with the grass downwards, and under the grass, manure is placed (stable dung, sometimes mixed with fermented seaweed). This process is *velting* in the Færoe language, that is, turning over. After that, the barley is sown, which is always done by women, preferably the housewife herself. After sowing comes the so-called *saksing,* which is also women's work. With a spade, the soil is hacked into small pieces and in that way crumbled; sometimes a rake is also used. Lastly, the field is tapped and flattened with a board on a long handle. And so,

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in a laborious and primitive way, the field undergoes the same treatment which, in modern agriculture, is performed by means of plow, harrow and rollers.

Weeding of the field is, or was, done by hand about the middle of the summer. Harvesting is done at sometime between the end of August and the end of October. The barley is cut with a common knife, or a special harvest knife, somewhat curved, made from an old scythe. A certain number of sheaves, generally twelve, make a burden which is carried from the fields.

Before thrashing, a man tears the ears from the straw; this was formerly done by the fingers, now by means of an iron comb. The straw is bound into sheaves again, cleaned for weeds, and kept for use as thatch or as fodder. The ears are dried over a peat fire upon an oven in a special drying house *(sodnhus);* a man carries the ears into the *sodnhus,* but a woman takes care of the drying. We shall meet this drying of corn again in Iceland, where it is used for the ears of lyme grass; the method seems to be of Celtic origin.

After drying, women do the thrashing by means of wooden sticks or clubs upon the floor. In the 18th century a remnant of a still more primitive method was found in the Færoes: the ears were trampled by girls with bare feet, before the thrashing with clubs (Jirlow, 1931, p. 120).

After thrashing, the corn is winnowed by shaking in flat wooden troughs, and after winnowing, the corn is kept in sacks for future use. It requires the work of one man in twelve days and of one woman in twelve days to produce four bushels of corn. The Færoe barley is a hardy variety, six-rowed, which has been grown from ancient times (Botany of the Færoes, Vol. III, 1908, p. 1014). Lűtzen mentions a primitive way of upholding the quality of the seed corn by collecting the big ears and keeping them for seed upon a special part of the field, from which the seed corn is taken next year (Lűtzen, 1924, p. 58). The yield has long been decreasing, because the necessary care and precision in the agricultural work cannot be maintained, the wages for human labor rising enormously. About seventy years ago, the yield was estimated at ten hkg. pr. hectares.

The primitive technique requires much human labor, and it has been attempted to modernize agriculture by means of plow and harrow, drawn by horses, and also by means of thrashing and winnowing machines. This has not hindered the steady decline of corn production. A hundred years ago, certain parts of the Færoes were almost self sufficient in corn. Now, the corn production is quite insignificant, less than one per cent of the consumption; the importation and consumption of corn is multiplied many times. Barley cultivation in the Færoes would have disappeared long ago, if it had not been kept up in some places to maintain the fertility of the fields and the production of hay. In former days, the usual rotation of crops was: one year barley, after liberal manuring, and following the barley, six years grass for hay.

So there was a connection between corn cultivation and stock

Not for Resale

breeding, although animal power was seldom used in agriculture for plow, harrow, and wheeled vehicle were almost absent in former times.

The intensive and laborious cultivation of barley and grass used only small areas near the houses, the home field or *bøur*. Grass is the most important agricultural crop, hay being indispensable for bringing the cattle through the winter.

The hay harvest falls almost as late as the corn harvest: it starts generally in the beginning of August and sometimes lasts about three months, if the weather is especially rainy. The grasses of the *bøur* are, on the whole, very nutritious, but excessive rain may reduce the value of the hay. The grass is mowed with a scythe with a short, broad blade and a very long handle (Jirlow, 1931, Figs. 14, 16). A similar scythe is used for cutting grass in the Shetlands (Mitchell, 1880, Fig. 67). When dry, the hay is carried home by men, and placed in large stacks near the houses.

Small parts of the *bøur* is now used for potatoes and root crops (turnips) and less for barley. The *bøur* is often much split up between the owners, which makes it difficult to modernize agriculture (Lűtzen, 1924).

Gardening is a rather new feature. The cultivation of *angelica* in certain enclosures at the houses is probably also a comparatively new development, although the collecting and use of the wild *angelica,* growing in the mountains, is old in the Færoes and probably brought in from Norway. *Angelica* is often used as an admixture to milk (Jirlow, 1931, pp. 121-122).

A certain place name in Sandoy, Linteigar, that is, flat fields, has been understood as implying flax cultivation in some distant past (Jakobsen, 1904, p. 32).

Most of the farm land is used in common as uncultivated pasture and is called *hagi*. This is used for pasturing cattle, horses, and especially sheep. The number of sheep in the Færoes is around 100,000 with 600 horses and 4,000 cattle. Stone walls protect the cultivated *bøur* against intruding animals from the *hagi*.

Sheep have always been the most important economically. They live in open air all the year round and in the hard weather they find protection in a sort of open folds. The people who own a *hagi* in common have the right to graze a certain number of sheep in it. Marks are cut in the right ear of a lamb to indicate in what *hagi* it belongs, and in the left ear to indicate the owner. The sheep are generally kept in the mountain regions of the *hagi* in summer, fall, and the first part of the winter; in the winter and in the spring, they are kept upon lower land nearer to the dwellings, in the so-called *hushagi,* where the grass is better and the weather less hard. In exceptionally hard cases, they may get a little hay.

All the sheep in a *hagi* are herded in common, and each owner gets a certain fraction of the yield of wool and meat, etc., corresponding to his part of the *hagi*. The sheep throw their wool in the spring or early summer; they are generally not shorn, but the wool is plucked by hand. In the fall, about thirty per cent of the sheep are slaughtered.

Not for Resale

Dried mutton is the favorite food in winter. The wool is used for wadmal and for knitted stockings and jerkins. The sheep are not milked. Although in early days, sheep milking may have been practised in the Færoes; it is mentioned in tales (Bruun, 1929, p. 197).

There are very few small horses in the Færoes. These are sometimes used for carrying manure and peat, and eventually for riding; but as we have seen, there is not much use for them in the agricultural work. They go in the *hagi* all the year round, are kept in the stables, and very seldom do they get any hay. Once a year the mane is cut, and their hair is used for rope.

Much care is given to the cattle. The cows are grazed in the best part of the *hagi,* the *hushagi.* The small calves are allowed in the *bøur* in spring and early summer. In the fall, the cows are put into the stable and kept there until spring. They are fed on hay, and eventually on dry fish. In the stable, which may be in the end of the dwelling house or in a special building, the cows stand in two rows with their heads against the wall on both sides, each in its own stall; between the rows is a shallow groove in the floor, for the dung. When too much dung has accumulated, it is cleared away. This was originally woman's work. Milking is also done by women. In winter, the cows are underfed and give little milk. In summer, when the cows graze in the *hushagi,* they give much good milk. Milk is a very important food used in the household, and some of it has always been used for making butter and cheese.

In modern times, swine are almost non-existent in the Færoes. Without doubt, swine were kept in the islands in former days; the word *svín* being found in many place names (Matras, 1932, p. 279).

Several kinds of poultry are kept. The most important being geese, which are fed by grazing in the *hagi.*

The original farming culture, brought by the settlers in the Viking Age, has been remarkably well preserved in the Færoes. Old techniques are still found there, which may throw light upon the early history of farming in northwestern Europe.

However, farming was only one side of the old Norse economy. The utilization of the wild fauna through fishing, trapping and hunting was another side, which has also persisted to this day. Whale hunting and bird catching are very conspicuous elements of Færoe life, while fishing has gained immensely during the latest generations and has furnished the economic basis for the remarkable progress of the Færoe people. The Færoes had in 1801 only 5,265 inhabitants, but in 1901, 15,230, and in 1950, 29,198 inhabitants. The fisheries are now by far the most important industry, making possible a large export and import trade.

ICELAND

The barley fields of the Færoes are near to the climatic limit of possible grain production. However, the Norse farmers carried agriculture farther north, to Iceland, and kept it up there through several centuries, quite close to the arctic tundra region.

Not for Resale

Iceland, just south of the Arctic Circle, has mild winters on account of the comparatively warm sea. The Gulf Stream washes the south coast and sends a branch, the Irminger Stream, along the west coast. An offshot of the Irminger Stream runs along the north coast, but its relatively warm water is mixed with and overlaid by a cold stream coming from the north, the East Iceland Polar Stream, which washes the northeast coast. Northern winds may bring great masses of ice to the north coast, and if this happens in the late part of winter, it may fatally diminish the summer temperature.

Also in ordinary years, Iceland's summer is cool, with a temperature below that of Siberian regions of the same latitude. Favored parts of the coastland, especially in the southwest, have July mean temperatures of ten degrees Centigrade or slightly above. When the Norse settlers came to Iceland, they found birch forests in the coastland, from the coast to the mountains; today a few small remnants of these forests are left, in the shape of birch copses, a few meters high. A comparatively large stretch of lowland is found in the southwest, where the summer is also comparatively warm, and in this favored part of the country lives more than a third of the population. Iceland's population is now about 140,000; it has increased very considerably of late and has about doubled in this century. The total area of the country is 102,846 square kilometers, but only about 14,000 square kilometers are inhabited.

Most of Iceland is a plateau, lying 600 to 800 meters above the sea, with a poor and scarce vegetation, often mainly consisting of mosses and lichens. Large stretches consist of young lava, almost without vegetation. Some parts of the plateau are higher, reaching above the snow line, and covered with firns and glaciers *(jökull, jöklar)*. The climate of Iceland, with cool summers and considerable percipitation in fall and winter, favors the formation of large firns.

Iceland consists almost entirely of volcanic material from the Tertiary and Quaternary periods. Many volcanoes are still active or have had eruptions in historic times. Some of them are rather flat lava fields or cupolas, some are more or less conical, built up of loose products from the eruptions. Many of the volcanoes are overlaid by large firns, and their eruptions give rise to enormous melting of the snow and dreadful torrents *(jökul-hlaup)*. The largest firn, Vatna jökull, in southeastern Iceland, has a group of volcanoes in its southern part, among them the highest mountain in Iceland, Oræfajökull (2119 meters). Several eruptions have taken place in historic time, causing tremendous water torrents from Vatna jökull. Volcanic eruptions have brought about dreadful calamities for the farmers, not only by the water torrents, but still more by the volcanic ashes which have been spread over large parts of the island, destroying the grass and giving rise to famines and diseases among sheep and cattle.

Farming in Iceland is beset with great natural difficulties. Nevertheless, the Norse colonization in the so-called "landnam" period, 874-930 A.D., was characterized by spontaneous energy. Evidently, Iceland gave the colonists something which they lacked in old Norway.

Not for Reuse

In Iceland they found room for their expansive cattle and sheep farming. This may have been the main attraction, although the sagas put stress upon a more dramatic motive, the political tension between the king of Norway and the local magnates.

Several nations may claim part in the discovery of Iceland. The Irish monk Dicuil mentions this northern land in his geographical work, and it seems clear from his details that Irish clergymen had visited Iceland some time before the year 800 A.D. (Parthey, 1870, pp. 42-43). Furthermore, we are told by Iceland's oldest historical work, Ari Thorgilsson's "Islendingabók", that the Norsemen found Christian men or "Papar" in the island, but these went away because they would not live among heathen people.

According to "Landnáma", Iceland was discovered accidentally by Scandinavian seafarers. The first attempt at a colonization was made by a Norwegian, Flóki Vilgerðarson who set out from Scotland for the purpose of going to the newly discovered island. He had cattle with him, and he tried to make a settlement at a fiord in western Iceland. However, his cattle died because he was so occupied with fishing that he forgot to collect winter fodder. He left the country somewhat disappointed and gave it the name Iceland because he had seen a fiord full of ice.

The Norse colonization of Iceland began in 874 A.D. when Ingólfur Arnarson and Hjörleifur Hroðmarson took land. The period from 874 A.D. until about 930 A.D. was the so-called "landnáma" time, in which the inhabitable parts of Iceland were taken and settled by Norwegian chieftains and their dependents and serfs. The story of this great colonization is told in a collection of sagas, the "Landnámabók"; in this is given the names and native places of the prominent colonists. This material has been utilized for elucidating the origin of the Icelandic people. Of approximately 1,000 colonists named in "Landnámabók", about 84 per cent were from Norway, three per cent from Sweden, 12.6 per cent from Ireland, Scotland, England, the Hebrides, and the Orkneys.

However, as the Norwegian anthropologist Halfdan Bryn has pointed out, these 1,000 individuals are only about five per cent of the total number of colonists, which must be estimated at about 20,000.

The 95 per cent, whose names and native places are unknown, were mainly dependents, women and serfs. A large part of these were probably of Celtic origin.

Physical anthropology has shown that the people of Iceland are distant from the people of western Norway, although a majority of the immigrants, mentioned in the "Landnámabók", came from western Norway. For instance, blond hair is exceedingly rare in Iceland among grown up individuals. In the shape of the head there is also characteristic differences between Iceland and western Norway. Halfdan Bryn, whose comparative analysis utilizes the Icelandic material published by Gudmundur Hannesson, finds it necessary to assume that the population of Iceland has a racial composition somewhat different from that of the population of western Norway. He thinks that

Not for Resale

the differences are due to the fact that the Icelandic people are the result of an intermixture of Norwegian elements with strains from England, Scotland, Ireland, and the Hebrides (Bryn, 1928).

The Icelandic anthropologist Jón Steffensen, in his investigation of skeletal material from Iceland's heathen time (before 1000 A.D.) and from the cemetery at Skeljastaðir in þjórsárdalur (probably 11th century), is also of the opinion that a considerable contingent of immigrants came from the British Isles and especially from Ireland, as the Vikings of western Norway usually went to Ireland in their warlike expeditions, and often brought captive Irish persons back with them as serfs, and even as wives (Steffensen, 1943, p. 241).

The Norse settlers and their Celtic serfs were equally used to farming in their home countries. In Norway as in Ireland, farming meant first of all the rearing of animals. However, agriculture and corn production was also a constituent part of their civilization (about ancient Irish agriculture, see Duignan, 1942).

Certain agricultural implements and techniques may have come to the Norsemen from the Celtic world, as claimed by Alexander Bugge, calling attention to certain loan-words in Old Norse (Bugge, 1905, pp. 256 ff, 358-359). Bugge's work has been criticized by Finnur Jónsson who finds the Celtic influence upon Iceland's culture very slight (Jónsson, 1921). At any rate, Irish serfs did a great part of the work on the Norse farms in Iceland.

It is told in the "Landnámabók" that Hjörleifur, one of the first colonists who settled on the south coast near Hjörleifshöfði, started ploughing the first spring. However, he had only one ox, therefore he ordered his Irish serfs to draw the primitive plough *(arð)*. The serfs disliked that work and rebelled against their master, killing Hjöleifur and his men.

So, the first known attempt at agriculture in Iceland ended tragically. However, there were other attempts, and some of them succeeded. Evidence of this fact is found in the old Icelandic laws, in the old deeds, in the sagas, in names of farmsteads and other place names, and furthermore there are many visible traces of ancient fields. Most of this historical and archaeological material has been brought together by Björn Magnússon Olsen in an attempt to prove that corn production was of some practical importance in Iceland in the past and not, as the geographer Th. Thoroddsen meant, more for pleasure than for use.

It is evident from Olsen's and Thorarinsson's investigations that grain was cultivated in Iceland from the beginning of the Norse colonization until the middle of the 16th century. Furthermore, it appears that grain production was at first carried out in most of the Iceland settlements, although in the northern and eastern parts of the country it is not proved by written documents, but only by certain place names. The greatest importance and largest continuance of the grain production was localized in the southwestern parts of the country.

Olsen has made the interesting observation that the cornfields in the western and southern districts were mainly placed quite near to

Not for Resale

the coast or even upon small islands. He offers the explanation that these localities were less exposed to late night frosts which might be fatal to the young corn plants. Also, he thinks that agriculture was mostly a secondary occupation for the fishing population. In the northern districts, on the other hand, the place names would indicate that the cornfields were not placed upon the coast, but further up in the valleys, where corn growing may have been a secondary occupation for herdsmen, taking care of cattle (Olsen, 1910, pp.135-136). It may perhaps be allowed to set forth the suspicion that some of the place names combined with *gerði (gerðar)*, which Olsen interprets as ancient cornfields, may have been fences for cattle.

Olsen thinks that agriculture stopped very early in the northern and eastern districts, wherefore no contemporary written documents mention any cornfields in these parts. However, in the southwestern districts corn production is mentioned many times in deeds from the 12th, 13th, and especially from the 14th century, in inventories of the landed property and revenue of churches and cloisters.

It seems that grain cultivation decreased considerably during the 13th and 14th centuries, and Thorarinsson is inclined to see one of the causes of this decline in a climatic deterioration. During the 14th century, two extremely unfavorable years for agriculture (1331 and 1389) are mentioned in Icelandic annals. Nevertheless, it appears from an ecclesiastical inventory that grain cultivation was still carried on at the close of the 14th century in Iceland's most southwesterly district, Gullbringusýsla. The church in Garðar in Alftanes owned in 1397 about four hectares of sown corn land, and as it was customary to have 50 per cent of the corn land lying fallow, we may assume that the church in Garðar owned eight hectares of corn land in all. We are also told that this church owned two old plow oxen (Olsen, 1910, p. 92; Thorarinsson, 1944, p. 135).

Olsen and Thorarinsson have adduced certain facts which prove that grain cultivation still remained in existence in the 16th century in southwestern Iceland. According to the bailiff-accounts for the king's estate Bessastaðir in Gullbringusýsla, twenty-three farms paid their rents for the years 1547 to 1552, or for at least one of these years, partly in grain and (or) beer (Thorarinsson, 1944, pp. 137-140).

Moreover, Thorarinsson cites a Latin treatise, written around the year 1593 by a man from south Iceland, Sigurdur Stefánsson, who says that many inhabitants of south Iceland still make good use of their agriculture. However, Stefánsson also says that agriculture is much neglected because most Icelanders think that it is more profitable to buy imported grain than to have the trouble and expense of native agriculture. Several Icelandic authors from the 17th century say that native grain cultivation had entirely stopped. It seems that the end of the old Icelandic grain cultivation came at the close of the 16th century (Thorarinsson, 1944, pp. 140-141).

However, the learned Gisli Magnússon cultivated barley and several garden vegetables on his estate Hliðardendi in Rangarvallarsýsla in the

Not for Re-sale

17th century (1653-1687); and in the following centuries other attempts at grain cultivation were made in Iceland. In the 20th century, these attempts have met with some success (Thorarinsson, 1944, pp. 142, 144-146); we shall return to these recent experiments at the end of this paper.

Olsen has dwelt upon the fact that a great part of the place-names, which indicate corn cultivation, belong to outlying farms, parcelled off from the large estates. It seems likely that corn production was a sort of specialty for small farmers, economically and socially dependent upon the estate owners whose main interest was extensive cattle and sheep breeding. Some place-names, that is "þrælsgerði", seem to indicate that the cultivators were serfs. Probably, the serfs could win emancipation by this sort of colonization. This custom was known from Norway; previously we have mentioned the famous example of Erling Skjalgson who let his serfs make their own cornfields. Many of the serfs in Iceland were probably of Irish descent; this is reflected in the place-name "Iragerði" (Olsen, 1910, pp. 137-143).

The sagas were mostly put into writing long after the time of their story. Nevertheless, what they tell us about agriculture does probably correspond to actual conditions. We shall mention a few examples.

In Niál's saga we hear about Halgerd's first husband, Thorvald, who was a great estate owner and also possessed the Bear Islands which lie out in the Breiðifjörður, rather far off from his domicile, Straðfelli in the Hvammsfjörður. Meal and dry fish were produced at the Bear Islands, evidently by some of Thorvald's dependents; he went there in a big boat with eight men to bring back provisions. In one of these trips, he met his slayer. In another part of Niál's saga we hear of Atle, a workman, coming from the east, asking for work on Niál's estate. Niál's wife Bergthora, asked him what work he could do. Atle said that he was a farmer, but willing to do other kinds of work. Bergthora engaged him and used him for executing a deed of blood revenge.

On the other hand, we learn in the sagas that certain kinds of agricultural work might be the estate owner's personal job. Especially the work of sowing seems to be a favorite occupation. Höskuld, the Hvitamesgoði, woke up an early spring morning, took the seed corn basket in one hand and the sword in the other hand and went to the field and started sowing. There in his field he was surprised by his foes, Niál's sons, and was killed by Skarphedin. Gunnar of Hliðardendi was sowing in a field near his home on a spring day when Otkel galloped across the field and rode in upon him, injuring him and hurting his feelings, from which incident very bloody consequences arose. The warlike hero Gunnar loved his fields so much that he could not leave Hliðarendi when he was banished from the country. Gunnar's famous words, "the fields are yellow, the *tún* is cut", refer to the ripe barley fields and the mown hay field, which he would not leave. We learn from this that agriculture was not regarded by the old Icelanders only as serf's work. A noble hero like Gunnar loved the fields he himself had sown.

Not for Sale

Olsen has shown that a system of four years rotation, known in Norway, was used in Iceland. A field was divided into four parts, and each of them was cultivated two years in succession, laying fallow two years. Before sowing, it was manured and tilled. Sometimes seaweed was used for manure.

Probably not all Icelandic farmers had oxen to draw a plow; it seems that the cornfields were in many cases worked with spade, as it was considered a man's work in a day to till forty-nine square fathoms (Olsen, 1910, p. 144). In this connection we should remember that the cultivating of small fields or "reitar" in Norway was also spade work; in the Færoes tilling is also done with spade, and in the Hebrides likewise (with so-called *caschrom*, see Mitchell, 1880, p. 95).

Another feature, which must have come from Norway, is the use of irrigation, mentioned in the Icelandic lawbooks "Grágás" and "Jónbok". Irrigation was used in some places, not only upon meadows, but also on cornfields (Olsen, 1910, p. 84). In this connection we must remember that irrigation is used from past times in the Gudbrabds Valley in Norway (Hatt, 1915). Olsen mentions two localities where traces of artificial water channels have been visible in connection with remnants of ancient fields, namely in Landssveit, in Rangárvallasýsla, and in Landbroti in Skaftafelssýsla. Furthermore, irrigation of cornfields is mentioned in a deed from 1343 about water rights of the Kálfafell church in Hull in Flótshverfi in Skaftafelssýsla (Olsen, 1910, pp. 103, 108, 110).

Irrigation of meadows is used in many parts of Iceland in modern times, since the middle of the 19th century. P. B. Feilberg mentions as an example, certain irrigation constructions in Grund, an estate in Eyjafjorðarsýsla in north Iceland. Water from a river is led into large and solid enclosures, where the water covers the surface in a thickness of two feet. The water stands there for several weeks in the spring time, protecting the field against frost, and depositing fertilizing substances, as nitrogen, phosphoric acid, calcium and potassium. The phosphorus content of Icelandic rivers, especially the glacier rivers *(jökull-ás)*, seems to be very great. Afterwards, the water is again turned off. The fertilizing properties of glacier rivers is also seen in many places in Iceland where such rivers produce natural irrigation of meadows (Feilberg, 1897, pp. 52-53; Stefánsson, 1920, pp. 32-36; Sigurðsson, 1940, pp. 184-185). However, in later years drainage is claiming more interest in Iceland than irrigation. It is hoped that great areas of humid moorland may be turned into good grassland by drainage.

Eggert Olafson, who travelled in Iceland after the middle of the 18th century, mentions irrigation of the *tún* or home grassfield in north Iceland and east Iceland as an old art, almost forgotten. He says that old irrigation channels may still be seen, and he heard a tradition about a clever old man who brought the water to high and dry fields by means of leather conduits, and so irrigated the grassland. Olsen thinks that the ancient Icelanders sometimes irrigated the cornfields, lying fallow, in order to fertilize them (Olsen, 1910, pp. 144-145).

The grain cultivated by the ancient Icelanders was barley and it

Not for Resale

is not proven that they cultivated any other kind of grain. Rye is mentioned in a poem from the 11th century, but this does not prove that rye was cultivated in Iceland. Rye was probably imported from Norway, from where considerable quantities of grain went to Iceland during the Middle Ages. Certain small islands in Breiðifjörður were named Rúgeyar (Rye Islands). It may be that rye cultivation has been attempted there, but we have no proof of a regular rye production. Neither do we, in the old literature nor in the place names, find anything about ancient cultivation of oats or wheat in Iceland (Thorarinsson, 1944, pp. 142-143).

However, Thorarinsson has thrown more light upon the ancient grain cultivation in Iceland by his pollen analysis of certain strata belonging to the home fields of two ancient farms in Thjórsárdalur, devastated and deserted by Hekla's eruption in 1300 A.D. Thorarinsson could determine the niveau of the first settlement, the "landnam" niveau. At this niveau, charcoal began to appear, and at the same point the amount of betula pollen decreased and the quantity of grass pollen increased. Evidently, the first settlement brought a shrinkage of the birch forest and a corresponding augmentation of the grassy vegetation. The facts are best explained when we assume that the first settlers burned the natural vegetation and in that way promoted the growth of grasses and so improved the pasture. At the same time, the burning of birch copses was probably also a first step in agriculture. Thorarinsson's pollen analysis indicates that a number of weeds were introduced with the "landnam"; among these were *Spergula arvensis* and *Polygonum aviculare*. Of special interest is the find of a few pollen of the *Myrica gale* or bog myrtle. This plant does not grow in Iceland today. It was used in the Middle Ages in Scandinavia and the British Isles instead of hops in beer brewing. The find of the pollen of bog myrtle in Thjórsárdalur makes it probable that this plant was used and perhaps even cultivated in Iceland in ancient times (Thorarinsson, 1944, pp. 123-129).

It is also of great interest that Thorarinsson's pollen analysis has disclosed pollen cultivated cereals, belonging to two species (Thorarinsson, 1944, pp. 163-170). One of these is identified as barley, the other as oats. This shows that grain cultivation took place in Thjórsárdalur from the "landnam" until the devastation of the valley in the year 1300 A.D. Barley was the main cereal, while oats may perhaps have been a sort of weed in the barley fields. Such an intrusion of oats in barley is known from Jutland in the early Iron Age (Hatt, 1937, p. 28). As mentioned above, there is no literary proofs of oat cultivation in ancient Iceland.

Another plant which may have been cultivated in ancient Iceland is flax. We have no absolute proofs of this, but a few place names seem to indicate flax cultivation, among these *Linakrar* near Njál's estate Bergthorshvoll in Rangárvallasysla (Jónsson, 1900,pp. 4-5; Thorarinsson, 1944, pp. 171-172). These *linakrar* are ancient fields of the "Celtic field" type (Hatt, 1949, p. 162).

Not for Resale

A sort of substitute for grain is the lyme grass, *Elymus arenarius* (Icelandic: *melur*), which grows wild in many parts of Iceland in sandy places. Eggert Olafsen asks whether *melur* represents a degeneration of the corn which ancient Icelanders cultivated or whether the ancient Icelanders may have cultivated the *melur* (Olafsen, 1772, Vol. II, p. 681)? To the first of these questions, the answer must be no; lyme grass is not degenerated barley. To the second question a definite answer can not be given. Such an authority as Sigurður Sigurðsson finds it probable that *melur* was cultivated; he suggests that *melur* is sometimes meant when the sagas speak of cereal culture (Sigurðsson, 1940, p. 122); but positive proofs of this are lacking (Thorarinsson, 1944, p. 147).

The production of meal from the kernels of *melur* is described from western Skaftafellssýsla by Eggert Olafsen. In August it was cut with a sickle well above the root and collected in small bundles. Twenty bundles made a sheaf, and six sheaves made a horse burden. This wild corn was brought home, dried, and thrashed. The straw might be used for thatch. The kernels were kept, and during the winter they were dried in a special drying house (Icelandic: *sofnhús*) by means of a fire. Over the fire was placed a wooden grate with a layer of straw, upon which the *melur* grain was placed. This grate was called *sofn*. The fire was kept low, but the heat was considerable, and after a while the *melur* grain was hard and could be ground upon the primitive hand mill. The meal was eaten as porridge, or as flat cake, or as a sort of raw dough, mixed with whey. This dough was a very nourishing food; the shepherds took a lump of it with them when they went out herding sheep all day. The production of meal from the *melur* required much work, and the yield was very small. Olafsen says that the people were satisfied if they got one barrel of meal from forty horse burdens of *melur*.

It seems that western Skaftafellssýsla was the only district in Iceland where *melur* was used for human food. The reason why the people in that district stuck to that old industry was, according to Olafsen, the remoteness of western Skaftafellssýsla; the people did not buy any foreign corn because they would have to bring it a very long and difficult way from the distant harbor. The coast of this district, and most of Iceland's south coast, is sandy, dangerous and without harbors (Olafsen, 1772, pp. 829-832). The making of *melur* meal was carried on in western Skaftafellssýsla until the beginning of the 20th century (Thorarinsson, 1944, p. 146).

The reason why the *melur* grains were dried over fire was their softness. The heat made them hard and fit for the quern. Probably, the Icelandic barley in the Middle Ages was likewise dried in the *sofn* before grinding. This is the opinion of Eggert Olafsen (Olafsen, 1772, pp. 957-958) and of Olsen (Olsen, 1910, pp. 149-150): and both of them remind us of the fact that the Færoe barley is actually dried by fire; the drying house is called *sodnhús* (Bruun, 1929, pp. 186-188). Olafsen says that the attempt of cultivating barley in Iceland, which the Danish government undertook in the middle of the 18th century by means of

Not for Resale

Danish and south Norwegian farmers, failed because these people did not know the process of drying corn over fire. Icelandic barley must have soft kernels, for climatic reasons, and may be hardened by drying over fire. The same has been done in parts of Norway. In Verdal, Norway, an oven for drying malt is called *sonn*. The name, and probably the idea of the oven for corn drying, has come to the Norse people from the Celts (Bugge, 1905, pp. 257, 359).

The collecting of *melur* is especially interesting because the technique of preparing meal from this wild grass is probably similar to the ancient mode of dealing with barley. There are, however, several other wild food plants in Iceland. Most important is a lichen, Iceland moss *(Cetraria islandica)*, growing profusely in low regions of the highland, especially in the northern and eastern parts of the country. Iceland moss was formerly gathered in large quantities and used instead of meal, in the form of gruel and porridge. It was possible to spare one-third of the annual purchase of corn by using this substitute. Grains of *Potentilla anserina* were also mixed with the meal (Aðils, 1926-27, p. 472). An edible seaweed, dulse *(Rhosdymenia palmata*, Icelandic: *söl)*, grows at the coast, especially in the southern and western parts of the country: it is washed and dried and eaten with meat or fish. *Archangelica officinalis* (Icelandic: *hvönn)*, is eaten as a delicacy, both stem and root. Other wild plants, used as vegetables, are scurvy grass *(Cochlearia officinalis*, Icelandic: *skorfa-kál)*, and sorrel *(Rumex acetosa*, Icelandic: *túnsúra)*. Furthermore, many wild berries (blueberries, blackberries, etc.) are collected (Sigurðsson, 1940, pp. 68-69).

Gardening has increased very much in late years. Potatoes have become an important food resource, and the growing of potatoes "a reasonably dependable business in Iceland" (according to the Ministry of Agriculture). Several kinds of cabbages, beets, and other vegetables are produced in Icelandic gardens. Marvelous results are now obtained in hot house gardening by means of heat from the hot springs. In the saga time, gardening was not entirely unknown. We are told, for instance, in the Laxdöla saga that the famous Gudrun had a *laukagarðr*. Beets and onions were introduced early. However, gardening was a rare thing until lately (Sigurðsson, 1940, pp. 191-199). The Icelanders got their vegetable food from wild plants.

Now, it should be emphasized that corn and vegetables were not nearly as important to the Icelanders in former days as in modern times. Nowadays, bread-corn is regarded as the most indispensible of all the necessities which Iceland must import. It was only a hundred years ago that bread became a usual food among common people in Iceland. Formerly, the Icelanders lived almost exclusively on meat, milk, dried fish, and butter (Thoroddsen, 1913-14, p.213). Meal was used for porridge, which was eaten with milk or sour milk (Aðils, 1926-27, p. 472). According to Jón Steffensen's investigations of skeletal material, the Icelandic population was formerly practically free from *caries dentium;* only the last three or four generations have been infected

Not for Resale

with that disease. This is probably due to the fact that, formerly, the Icelanders lived much more from animal food than now. On the other hand, Jón Steffensen, in his investigation of the skeletons from a medieval cemetery in Þjorsádalur, found distinct evidence of scurvy, due to C-avitaminosis, caused by the lack of vegetable food in the diet (Steffensen, 1943, p. 255-258).

The rareness of corn in ancient Iceland is also reflected in high corn prices. Around the year 1200 A.D. in southwestern Iceland, Arnessýsla one pound of meal cost as much as one pound of butter (Thoroddsen, 1913-14, p. 213). However, it seems that corn prices were falling in the 14th and 15th century, probably because more corn was imported and the population diminished after the great plague (1402-04). The value of one pregnant cow (one *kú-gildi*) was equivalent to three *vættir* meal (one *vætt* equal to thirty-five kilograms) in the 11th, 12th and 13th centuries; in the 14th century, four *vættir*, and in the first half of the 15th century, six *vættir* meal were paid for with one *kú-gildi* (Jóhannesson, 1933, p. 26, note).

What the Norse emigrants found in Iceland was, first of all, room for their expansive cattle farming; but they utilized also other opportunities which the new land offered. A great example of an all around colonist is Skallagrim, the poet Egil's father, such as he is described in Egil's saga. Although the saga was first written around 1200 A.D. and may not in all details be historic truth, it gives a realistic picture of life in the period of colonization. Skallagrim took land in western Iceland, at Borgarfjörður. In the 29th chapter of Egil's saga, we are told how Skallagrim strove to utilize all natural resources, which was quite necessary, as there was not, to begin with, cattle enough to feed the people. Skallagrim let some of his men carry on fishing in the sea, seal hunting, and egg collecting. Drift timber he used for boat building. One of his farms he placed at a point where drift timber came in from the sea, and at this place he had cornfields made and called the farm *Akrar*, that is, "cornfields". Some of his men he sent inland to catch salmon in the rivers and also to herd cattle and sheep which found good pasture in the mountains in summer. Furthermore, he was an able and industrious smith and made iron of the bog iron ore.

The colonization period lasted about 60 years, from 874 A.D., when the first settlement arrived, until 930 A.D., when Iceland was politically organized as a republic. During that period, practically all land of value from a farmer's viewpoint was occupied.

The following centuries brought a prosperous development of cattle farming. Þorkell Jóhannesson, in his interesting book about the free workmen in Iceland, has named the period 930 to 1300 A.D. "the age of farming" (Zeitalter der Landwirtschraft). Farming, supplemented with fishing, gave the population all the necessities of life.

In the first generations of this period, the population increased very rapidly. At the end of the 11th century, the tax paying farmers were numbered; this census was occasioned by the introduction of liability to pay tithes to the church. The number of tax paying farmers was, at

Not for Resale

that time, 4,560, and upon that basis, the total number of Iceland's inhabitants has been estimated at 77,000 to 80,000. However, this seems to represent a culmination, for during the following centuries, the population density seems to have decreased, partly from economic causes (Olsen, 1907-15, pp. 295-384; Jóhannesson, 1933, p. 31).

The rapid increase in population density during the first part of the age of farming was a result of the utilization of the natural opportunities which the cattle farmers found in this new country. The low land between the coast and the mountains, and the valleys which stretch far inland in continuance of the firths, had rich natural pastures. These were quickly occupied; the influx of settlers was very rapid in the "landnam" period, and the natural increase of the population was also very lively. In that way, all useful land was taken up, and the settlers went beyond the natural limits. Deserted farms in mountain valleys and on the plateaus are witnesses of a retreat which had often taken place in medieval time. Without doubt, the natural resources were some what diminished by the human influences. Especially, the birch forests were destroyed, not only by the clearance fire method of the farmer, but also by charcoal burners. It was difficult for the forest to regenerate so close to its climatic limit when exposed to the cropping of large herds of sheep. In some places, the destruction of natural vegetation made the wind erosion very active. In southern Iceland, certain areas, formerly inhabited, are now bare lava fields because the wind has blown the soil away. Volcanic eruptions have also caused much devastation. A climatic deterioration may have taken place in the late Middle Ages, although some authorities have denied this. Also, without a climatic change, the human influences would diminish the natural resources.

The most important domestic animals were sheep, cows, and horses. Less prominent were goats and swine. However, it seems that swine prospered in Iceland in the "landnam" time. There are several narratives in the sagas about colonists whose swine broke away and got wild and were found again later when they had increased to numerous herds (Schönfeld, 1902, pp. 252-254). Swine breeding was continued in Iceland until the 15th century, and then it stopped entirely. Different kinds of poultry were also introduced in the "landnam" time, but they never gained significance.

The milch cows received most care. They were kept during winter in stables and fed with hay. The sheep were driven out every day in winter to seek their food beneath the snow, and brought back in their stables at night. The work of the shepherd was especially hard in winter. In modern times, the sheep are better cared for and also given hay in winter. The horses, although they were indispensable as means of transport, were mostly left to shift for themselves during winter; only the favorite riding horses received a better treatment.

The necessity of providing winter fodder for the cattle compelled the farmers to collect hay. The very first Norse attempt at colonization in Iceland was a failure, because Floki Vilgerðson forgot to collect winter

Not for Research

fodder. Hay harvesting was, and is, a most important work in summer. In the sagas, the concept "work" is almost identical with "hay making" (Schönfeld, 1902, p. 27), although there were, of course, many different kinds of work upon an Icelandic farm in the saga-time (Jóhannesson, 1933, pp. 74-78).

For instance, it was necessary to provide fuel for the hearth. The burning of charcoal was carried on as long as there was any birch forest left. Peat was dug, or sheep dung from the stables or folds was cut into pieces and dried for fuel. Fences were made of stones and sod. The summer was a very busy part of the year. In the spring, the cattle were sent out on the natural pastures. In May, the lambing season came and in June, the sheep's wool was shorn or plucked, and then the sheep were driven into the mountains. The milch-cows and milch-sheep were driven to the *sel,* or summer dairy farm in the mountains; there, a herdsman tended the animals, and women took care of the milk and prepared cheese, butter, and *sykr,* a sort of curdled milk which was, and is, a chief article of food in Iceland. July, August, and part of September was the time of hay making. The grass in natural meadows and good pastures was cut with the scythe, raked, and turned, and lastly, when dry, the hay was tied into large bundles and carried to the hay barn by means of horses. Very good hay was cut in the *tún,* the manured home field, which was fenced in. In the last part of the hay harvest, the corn harvest began, if the farmer had a corn field.

After harvest, the animals were brought from the mountains. The sheep, belonging to the different owners, were separated in special folds. As in the Færoes, the sheep had owner's marks cut in the ears. The fall was also the time of slaughtering. In winter, there was hard work for the shepherds who looked after the sheep in the day time. Other people took care of the cows in the stables, feeding them with hay, milking them, and removing the dung.

A very important work during the winter was the spinning and weaving of the wool. The homespun cloth, *vaðmal,* was not only clothing for the family and the servants, but also an important article of commerce. *Vaðmal* served as a standard of value, a sort of money. Another standard of value was the *kú-gildi* or cow's value; to have full value, the cow should be with calf.

The farms, which the "landnam" men established, comprised very large areas and were in many cases quite considerable estates. Also in later times, the Icelandic farms were big. In the Færoes, the subdividing of farms resulted in villages or hamlets and a parcelling out of the homefields in small lots. In Iceland, the large, solitary farm was continued as a characteristic feature. Only a small part of the farm's area, the home field, is given cultivation and manure. The largest area is utilized without any cultivation. This system is old, for the "landnam" men brought it with them from Norway. A Norwegian historian has called this primitive economy "harvest farming", in contradiction to real agriculture. Skappel assumes "that in the time of quite primitive farming 85 to 90 per cent of the crop came from uncultivated land"

Not for Resale

(Skappel, 1937-40, p. 235). This was in medieval Norway. Since then, economic evolution has augmented the importance of real agriculture in Norway considerably. In Iceland it may also be said that agriculture, in the form of grass cultivation, has increased and improved considerably in modern times. The *tún* or home field is now intensively cultivated and much increased in area.[1] On the other hand, the *sel* or summer dairy farm is now given up.

However, in late Middle Ages farming did not make any progress in Iceland. Þorkell Jóhannesson has called the period 1300 to 1550 A.D. "the age of fishing" (Zeitalter der Fischerei). After 1300 A.D., the products of fishing came in great demand. Formerly, Iceland exported wool, wadmal, and hides. In the 14th century, the Hanse merchants got hold of the fish trade, which had a center in Bergen; and dried fish and fish oil became the most saleable of Iceland's products. The result was that many Icelanders turned from farming to fishing. At the same time, the prices of corn and other products of farming fell. The great plague which raged in Iceland (1402-04) and killed off one-third of the population, also did much harm to farming and many farms were deserted.

The expansive power of the Norse cattle farmers, characteristic of the "landnam" period and the first part of the age of farming, was quite spent in the late Middle Ages. But, when this expansive power was at its height, it could not find room enough in Iceland, and therefore, Icelandic farmers went across the western sea with their cattle and colonized Greenland.

GREENLAND

Eric the Red, the man who started the colonization of Greenland, was born in Jæren in southwestern Norway. He came to Iceland as a child with his father Thorvald who had to leave Norway because of manslaughter. At that time, Iceland was already largely settled, and Thorvald took land in a rather bleak and unattractive part of the country, Drángaland in Strandasýsla (northwestern Iceland) facing the Arctic Ocean. In this region, less adapted by nature to farming than to fishing and seal hunting, Eric the Red grew up. Later on, Eric married Thorhilde (or Thjodhilde), a woman of a respectable family, and settled in Haukadal in Dalasýsla, a more populous and attractive district. However, Eric was as combative as his late father had been. He was exiled from Haukadal for homicide, and later on for new manslaughter he was outlawed and had to leave Iceland for three years. He made his ship ready for a long journey, saying that he wanted to find the land which the Norwegian Gunbiörn had seen when he was driven west from Iceland by a storm, and if Eric succeeded in finding that land, he would return to his friends in Iceland.

[1]According to unofficial information from the Icelandic Ministry of Agriculture, the acreage of the **tuns** increased from 23,061 hectares, average for 1919-23, to 43,208 hectares in 1949. In the same period, the crop of **tun** hay increased from 59,800 tons to 159,700 tons, and hay from uncultivated land decreased from 106,200 to 60,000 tons.

Not for Resale

Eric sailed west from Snæfellsnes in western Iceland and came to a part of East Greenland which he called Miðjökull, evidently because the land was covered by inland ice. Eric was looking for habitable land, and therefore he sailed south along the coast and came to West Greenland, of which he explored the southern parts systematically from a cattle farmer's point of view. He used three years in exploring activity. In the summer time, he went into the fiords. He selected a dwelling site for himself at Brattahlid in Eric's Fiord (now Tunugdliarfik in Julianehaab District), the most attractive and fertile region in Greenland. He explored also the great system of fiords in the Godthaab District, and in the last summer he explored again the southern part of East Greenland's coast (Nørlund, 1936, pp. 17-18). He did not winter in the fiords, and probably he did not have any cattle with him on this journey. He probably lived on fishing and seal hunting.

After three years, Eric returned to Iceland and landed in Breiðifjörður. He told his friends about the new land, which he gave the name Greenland, to make it more attractive for settlers. His propaganda for the new land met with success and the following summer, which was 985 A.D., fifteen years before the religion of Christ was legally introduced into Iceland, twenty-five ships with settlers, cattle and other goods left western Iceland (Breiðifjörð and Borgarfjörð) and sailed for Greenland. Only fourteen of these ships reached Greenland, according to the "landnam" book; of the others, some were driven back and some were lost.

This first European migration to Greenland was a great undertaking; as Nørlund remarks, the greatest enterprise ever directed towards Greenland. On board the ships may have been between 500 and 700 persons (Nørlund, 1936, p. 19). In the following years, the migration continued. For example, in Thorfin Karsefni's saga we are told that Thorbjörn Vifilson on Laugarbrekka came in economic difficulties; he then sold his landed property in Iceland and went to Greenland, accompanied by a considerable number of friends who would not part from him. They had a difficult journey, lost their way upon the sea, but nevertheless, at the beginning of the winter they reached Herjolfsnes in southern Greenland. Later on, Thorbiörn continued his journey to Brattahlid and met his old friend Eric the Red, who received him well and gave him land nearby on Stokkenes.

So, around 1000 A.D., the Norse farmers in Iceland were expansive enough to settle that part of Greeland where the natural conditions allowed cattle farming. They brought with them an aristocratic form of social organization. A few chiefs took land, and they allowed the lesser men to settle. Eric on Brattahlid was the leading authority as long as he lived. Most of the settlers lived in the so-called *Eystribygð* (eastern settlement), in what is now Julianehaab District. The *Vestribygð* (western settlement) lay around the present colony of Godthaab.

Very few Norsemen settled on the open coast towards the sea, where the natural conditions were not favorable to cattle farming. In the

Not for Resale

inner fiords, the summers were, and are, warmer, and the vegetation more luxuriant; and there, the ruins of the Norse farms are very numerous. However, the Norsemen were also fishermen and hunters, and these activities were vitally important. According to Thorfin Karlsefni's saga, there was a great scarcity in Greenland that winter when Thorbjörn and his followers arrived at Herjolfsnes, because the men who had gone upon fishing and hunting expeditions had caught very little, and some of them had not returned (Grønlands historie Mindesmærker, 1838, Vol. I, p. 373).

Fishing and hunting expeditions were a necessary part of the economy of the settlers in Greenland. In Bjarni Jónsson's so-called "Grönlands Annaler" it is said that all the great farmers *(stórbœndr)* in Greenland own ships which they send north for fishing hunting; it is necessary for the Greenlanders to undertake these expeditions to the uninhabited northern coasts to get drift wood and for hunting (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 238-245). An archaeological find, a runic stone, found in a cairn on the small island, Kingigtorssuaq north of Upernivik, near seventy-three degrees north, shows that the Norsemen's expeditions might have penetrated to this point.[1]

It seems unlikely that the Norsemen, making such extended voyages, should not have found the American continent, and a number of Norse voyages to America are mentioned and even described in details in medieval Icelandic sagas.

One of the first Norsemen who saw the American continent, was Bjarni, the son of Herjolf who went with Eric the Red and settled at Herjolfsnes. Bjarni, a rich and independent young man who owned a seagoing ship, was at that time in Norway; but he returned to Iceland in the summer, his father having sailed for Greenland in the spring. Bjarni decided that he would in search of Greenland and spend the winter with his father. He did not know the route, and before he reached Greenland he saw other lands, which were since identified with some of the lands discovered by Eric the Red's son Leif.

Leif visited Norway in the year 1000 A.D. and met the king, Olaf Trygveson, who converted him to the Christian religion and exhorted him to bring Christianity to his countrymen in Greenland. On his return journey to Greenland, Leif lost his way, like Bjarni, and found "Vinland the Good", a wonderfully fertile land with self-sown wheat, grape vines, and large trees. Leif is also credited with the discovery of a flat forest land, Markland.

Several Vinland voyages are described in the sagas. Attempts were made at colonizing Vinland. The greatest venture was that of the Icelandic merchant Thorfin Karlsefni. In Thorfin Karlefni's saga, we are told he took 160 men with him (Grønlands historiske Mindesmærker, 1838, Vol. I, p. 409). The expedition is said to have

[1]Even farther north, in Inglefield Land, about seventy-nine degrees north, Norse artifacts have been found; these may perhaps have been brought so far north by Eskimo, trading in Norse utensils as curiosities (Holtved, 1945).

Not for Resale

lasted four years (A.D. 1007-1011). Karlsefni had his wife with him, and there were several other women. Evidently, the idea was to lay the foundation of a permanent settlement, for cattle were also brought. The colonization did not succeed, because the natives, whom the Norsemen called "Skrælings", were hostile and numerous. Karlsefni and his people got the opinion that, although the land had many natural riches, they would have continually to fear hostilities from the original inhabitants. Therefore, they prepared their return to their home country.

It is generally agreed that "Markland" was Labrador. About the position of "Vinland" there is much dissension. Different authors have placed it differently, between Florida and northern Newfoundland. One, H. P. Steensby, has placed it inland, in the St. Lawrence Valley, and the narrative of Karlsefni's voyage may support the theory that Karlsefni's expedition went up the St. Lawrence (Holm, 1925). F. Hansen, in his great work "In Northern Mists", has placed Vinland in the world of fancy, comparing it to the isles of the blest in classical myths and similar islands in Irish folklore. This view has met with strong opposition from many sides. It cannot be denied, however, that the sagas of Vinland voyages contain many folklore motifs. For instance, Karlsefni's expedition met the Unipeds, and the "Skrælings" of Vinland evince certain traits that remind us of mythical, supernatural beings; that is, they have a curious predilection for milk, which agrees with "Nisser" and "Huldrer" in northwestern European folklore, but contrasts singularly with the food usages of American aborigines (Nansen, 1911, Vol. II, p. 15). Attempts at identifying the "self-sown wheat" with American cereals have not been successful. However, abundance of wine and wild corn are essential features of the Insulæ Fortunatæ, described by Isidorus whose work was widely known in Iceland (Nansen, 1911, Vol. I, pp. 345-353).

However, in spite of these and many other folklore elements, the Vinland sagas may perhaps contain a kernel of truth. It cannot be doubted that the Norse Greenlanders made trips to the American continent. From Icelandic annals it is known that a ship from Greenland arrived at Straumfjörðr in Iceland in 1347 A.D., coming from Markland; on its return journey from Markland, the ship was driven over the sea to Iceland (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 15). In Markland, the Norse Greenlanders probably fetched timber, one of their greatest necessities. In the Vinland sagas, we are told that the ships were loaded with wood when they returned to Greenland. This is probably a realistic trait.

Another trait, that also looks like a piece of realism, is the great interest which the Vinland voyagers took in good pastures. Cattle farming was certainly the most important business of the Norse Greenlanders. It has been suggested that the name Vinland might originally have nothing to do with wine, *vin* being an ancient Norse word for pasture (Nansen, 1911, Vol. II, pp. 62 ff). It is a difficulty of this theory that the place names with *vin* are supposed to belong to an earlier period. However, the idea that Vinland might simply mean

Not for Resale

"pasture land" has given rise to an attempt at localizing Vinland outside of the region of wild grape zones and maize culture, in northern Newfoundland (Tanner, 1941).

The sagas mention the discovery of the American continent (Markland, Vinland) as occurring very shortly after the settlement of Greenland, which seems probable. In this early period, before the sailing route to Greenland was well known, a ship destined for Greenland, might easily happen to lose its way and land in Labrador.

The story of Tjorfin Karlsefni's expedition leaves the impression that the colonization of Vinland was given up mainly because the natives were numerous and hostile. In fact, this is probably the essential reason why no permanent Norse colonization was made in pre-Columbia time upon the American continent. Greenland was uninhabited when the Norsemen arrived there, although fragments of boats and stone implements indicates the presence of inhabitants (Grønlands historiske Mindesmærker, 1838, Vol. I, pp. 168-176).

What makes all attempts at localizing Vinland hypothetical, is the absence of any trustworthy archaeological evidence of Norsemen in pre-Columbia times upon the American continent. Several attempts have been made to produce such evidence but so far, the results have been unconvincing.[1]

On the other hand, in Greenland the archaeological material from the Norse Icelandic colonization is rich and abundant. Danish investigations are responsible for this material. In 1880, G. F. Holm made a survey of ruins in the old East Settlement in the Julianehaab District (Holm, 1881). His work was continued by Daniel Bruun who made archaeological and topographical surveys of the East Settlement and the West Settlement (Bruun, 1896, 1917). Daniel Bruun's thorough knowledge of habitation, daily life, and archaeological remains in Iceland (Bruun, 1918) and the Færoes (Bruun, 1929) made it possible for him to understand and interpret the remains of the Norse settlements in Greenland. The old literary sources were also explored in order to throw new light upon the topography of ancient Greenland, especially by Finnur Jónsson (1898). A comprehensive view of the Norse or Icelandic colonization of Greenland was given by Daniel Bruun (Bruun, 1918).

Then followed a series of more intensive investigations of important archaeological sites in Greenland, bringing a flood of information (Nörlund, 1924, 1929; Nörlund and Stenberger, 1934; Roussell, 1936). The foremost leader of these newer investigations is Poul Nörlund, and he has given an instructive view of the results (Nörlund, 1936).

[1]Bronsted discusses the so-called Kensington runic stone and other finds brought forward by Hjalmar R. Holand and others. In Bronsted's opinion, none of these finds give clear evidence of the presence of Norsemen on the American continent in pre-Columbia time; probably, all Scandinavian archaeologists will agree with Bronsted on that point. Nevertheless, Bronsted thinks that such evidence may perhaps some day appear, and he proposes a systematic search for medieval Norse dwelling sites in America (Bronsted, 1950).

Not for Resale

Nölund's assistants, especially Aage Roussell, have continued his work. An important comparative study of the architecture of farm buildings and churches in the Norse settlements of Greenland was made by Roussell (Roussell, 1941).

According to an old manuscript which Bjarni Jónsson copied in the 17th century in his "Greenland annals", there were 190 farms in the East Settlement and 90 in the West Settlement (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 229), or 280 farms for all Greenland. On this basis, the medieval Norse population of Greenland has been estimated at 3000, at the time when all the farms were occupied. In many cases it seems evident that a subdivision of farms had taken place. The natural increase of the inhabitants would necessitate such subdividing. The ruins show a not inconsiderable density in the central part of the East Settlement, with two focal points: at Brattahlid, Eric the Red's farm where the secular authority had its seat, and at Gardar (now Igaliko) where Greenland's bishop resided. Christianity was introduced very shortly after the first immigration, and early in the 12th century Greenland became a bishopric. There were twelve churches and two monasteries in the East Settlement and four churches in the West Settlement. Bishop Arnald arrived in 1126 A.D. and took up his seat at Gardar on a tongue of the land between the two best populated fiords, Ericsfiord and Einarsfiord. At Gardar an imposing cathedral was built of stone and another large building was the Episcopal dwelling house. There are ruins of many other buildings, among them two large stables or cow houses. The Episcopal farm was the biggest in Greenland and the archaeological investigation of Gardar has thrown much light upon the economy of Norse Greenland (Nörlund and Roussell, 1929).

The two cow houses were enormous buildings. The largest of them had an inside length of 63.5 meters and an inside breadth of 41.2 meters. The other one had the same breadth and a length of 41.5 meters. They were both divided in two compartments by a transverse wall; the eastern compartment was in both cases a little larger than the western and they were solidly built. The walls were made of large blocks of sandstone, with turf and earth as filling, 1.5 meters thick. Outside the stone walls were thick mounds of turf. Stall stones, large flat flags of sandstone, were found in the eastern compartments, along both long walls. The number of stalls in the eastern part of the larger cow house had been sixty-five, and in the eastern part of the smaller cow house, forty-two. These two cow houses together had room for more than a hundred cows. The western compartments of the cow houses were probably used for hay. Besides there were horses, pigs, and large numbers of sheep and goats on the Norse farms. A number of ruins at Gardar were probably winter stables or storm shelters for the flocks. Some of these buildings lie scattered upon the home field or *tún,* but most of them lie directly against the surrounding *tún* fence or outside of it. There are also folds that presumably were used as milking pens or night folds where sheep and lambs were separated at night, so that the sheep could be milked in the morning before the animals were driven out to the mountain

Not for Resale

pastures. Certain larger enclosures may have been used as grazing folds or as cattle pens in spring and autumn when the animals could be out in the day time, but had to be stabled at night.

The area of the *tún* at Gardar is more than 15 hectares. It has natural boundaries on three sides; a steep mountain side on the west, a stream on the south, the fiord and some lakes and marshes on the east, and a fence of stone and earth towards the north and northeast. The vegetation of this large home field was used for hay making; it was probably the watch dog's job to keep the animals away from the *tún*. Probably additional hay was brought in from other places. In summer, sheep and goats have grazed upon the mountain slopes, and the cattle were probably sent by means of boats to good pastures near the fiord. Nörlund cites, in this connection, a description of Greenland from the 14th century by Ivar Baadson, a Norwegian priest who lived in Greenland for many years as a steward of the Episcopal estate. In this description, it is said that "on the right as one sails into the fiord to the cathedral, which stands at the head of it, there is a large forest which belongs to the cathedral, and in the same forest the cathedral has all its cattle grazing, both large and small" (Nörlund, 1936, p. 134; Jónsson, 1898, pp. 278-79).

The "forest" in this text may have been a copse wood of birch and willow, as Nörlund remarks. Nowadays, the locality is a bare and inhospitable district devastated by wind. Evidently, conditions must have been more favorable for pasturing in the Middle Ages. The very existence of the large cow houses and numerous sheep stables and folds seems to prove that the natural conditions have been better than they are now.

In fact, Gardar is now the home of a small farming community of mixed blood, descending from a Norwegian, Anders Olsen from the island Senjen in northern Norway, who settled Igaliko as a cattle and sheep breeder in 1780 A.D. Hay making and a little kitchen gardening is practised on the old *tún*, but the whole production is certainly far below that of the Episcopal estate in the good period.

However, the Norsemen at Gardar, as everywhere else in Greenland, did not live entirely by farming. This is evident from the animal bones found in the layers of kitchen refuse in the farm yard. Sealing was very important, for bones of the saddleback *(Phoca groenlandica)* were more numerous than those of any other animal and without doubt, this seal was taken in the fiord. Other seals, such as the bladder-nose, must have been taken at the open sea coasts; and the walrus, of which many skulls were found, was caught father away, on hunting trips to the east coast and especially to the northern part of the west coast. Fishing was probably very important in the fiord, although very few fish bones were found. Perhaps the fish refuse has been used for cattle feed, as in northern Norway.

Among the land animals, the caribou was the most important. Among the domestic animals, sheep and goat occur most frequently. There were also remnants of oxen, pigs and horses. The Norsemen have

Not for Resale

kept pigs in Greenland, as they also did in Iceland in medieval times. In Iceland, the pigs were driven out on the hill pastures together with the sheep in the summer; the same method may have been used in Greenland. From their bones it is seen that the cows in Greenland were small animals, about the same size as the small race which we had in Denmark in medieval times. The horses were also mostly of a small race; they were probably not very numerous in Greenland. The sheep were mostly of a "goat-horned" form and somewhat more powerful than the medieval sheep in Denmark; Degerbøl thinks that this may be due to an adaptation of life in a mountainous country (Degerbøl, 1929, 1934, 1936).

The great importance of the cows depended upon the milk production. Milk, from cows, sheep, and goats, was an essential part of the diet. Butter, cheese, and curdled milk *(skyr)* were vital dairy products.

One would expect that summer dairy farms were used in the mountains, as in Iceland and Norway. However, archaeological proofs of this seem, so far, to be lacking. The remains of inland farms, that have been investigated, seem generally to be meant for all year habitation, having cow houses and sheep stables. An exception is a small ruin in Austramannadal in the West Settlement (Roussell, 1941, pp. 229-230), which may have been a summer dairy farm, if it is not the last remnant left of the buildings of an ordinary farm.

The landed property of the cathedral was certainly very considerable; all Einarsfiord (now—Igaliko Fiord) belonged to the cathedral, says Ivar Baardson. The numerous farms of that fiord were "leased farms under the see, but all the same they have been independent working units" (Nörlund and Roussell, 1929, pp. 134-135), and not summer dairy farms.

In the "Speculum Regale" or "King's Mirror", a sort of encyclopedic work from the beginning of the 13th century written by a Norwegian, very good information is given about the natural condition and economy of Greenland. The book has the form of a dialogue between father and son. The father says that in Greenland there are good pastures and large and good farms, for the people there have much cattle and sheep, and much butter and cheese is made. The people live much upon that, and also upon meat of caribou, whale, seal, and bear. As to cereal culture, the father says that the country has not much benefit of that, but "there are men—and they are looked upon as the highest and mightiest—who try, as an experiment, to sow. But the greater number in that land do not know what bread is and have never seen bread."

The information about Greenland in the "King's Mirror" is remarkably sober in its form and seems to be quite realistic. Nansen has pointed out that this old work contains some climatological details which are surprisingly correct and in accordance with modern science (Nansen, 1925, pp. 8-10). Cereal culture can not have been any success in medieval Greenland, nevertheless, it must have been tried; and the Episcopal farm at Gardar is one of the places where such trials would

Not for Resale

be made. Nörlund has suggested that certain enclosures at the border of the home field were used for cattle in the spring and autumn and in that way were manured, while in summer the same enclosures were perhaps used for grain growing (Nörlund and Roussell, 1929, p. 140). In this connection he mentions also the finds of mill stones in Greenland. By his investigation at Gardar, fragments of three mill stones were brought to light; their radius was 15 to 20 centimeters. Previously, other mill stones were found at Gardar and also at several other large farms in the East Settlement, among them Brattahlid (Nörlund and Stenberger, 1934, pp. 131-132), mill stones have been found. In one of the island farms, excavated by Vebæk, east of the Igaliko Fiord, a half part of a mill stone of gneiss was found, 31.5 centimeters in diameter (Vebæk, 1943, pp. 87-88). That grain was ground in Greenland is therefore probable, and this means that porridge and probably also bread were eaten.

We can not know for a certainty whether the grain was domestic or imported. However, there is reason to believe that the imported grain came mostly in the form of flour (Nörlund and Roussell, 1929, p. 142).

In the closing part of Ivar Baardson's relation are some surprising utterances. We are told that much snow falls in Greenland, but it is not as cold as Iceland or Norway. On the mountains and below there are fruits as large as apples and as good to eat, and "there grows the best wheat that can be". It has been suggested that this might refer to Vinland (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 264). It may perhaps also be an old man's beautifying memory. Ivar Baardson had been steward of the Episcopal estate in Gardar for many years. He remembered certainly the glorious summers in the inner fiords, and perhaps also some promising attempts at grain growing on the Episcopal farm.

The clergy would naturally have a special interest in grain growing. Bread and wine are necessary for the performing of the holy communion and the procuring of these items must have been a serious problem for the priests in subarctic surroundings. As to wine, a substitute, used at the holy communion, was a beverage made from the berries of *Empetrum nigrum*, which grows profusely in Greenland.[1]

European civilization had its origin in lands of wheat and wine. Wheat represents the Christian God's body, wine his blood. It may be understood that the island of wine and wild wheat was beloved in northwest European legend and saga, and that the priests at Gardar took a lively interest in grain growing.

However, more vital than all grain growing experiments was the problem of bringing the cattle safely through the Greenland winter.

[1]In the Icelandic bishop Paul's saga it is told that bishop Jon from Greenland came to Iceland on a visit, and taught people how to make wine from crowberries. Jon had learned this art from the Norwegian king Sverre (Gronlands historiske Mindesmaerker, 1838, Vol. II, p. 765).

Not for Resale

Two things were necessary: sufficient winter fodder and warm stables. In Greenland, as in Iceland, the hay making was indispensable and willow twigs were also used for fodder.

A curved leaf knife was used for cutting twigs, and a short scythe for cutting grass. Remarkably well preserved specimens of both implements were excavated by Roussell in a room in the ruin of a large and complex farmhouse, in Austmannadal, West Settlement (Roussell, 1941, p. 270, 273, Fig. 169, 295-6). The scythe is called a sickle by Roussell; however, Stenberger has the right designation (Stenberger, 1943, p. 202). The blade of this scythe is only 20 centimeters long, 2.2 centimeters broad; the wooden handle is missing. From Nörlund's and Stenberger's excavation at Brattahlid has come a fragment of a sharp edged iron blade, 15 centimeters long, with a curved back; this fragment is interpreted as a sickle (Nörlund and Stenberger, 1934, p. 133, Fig. 99); it may well be a fragment of a scythe. The scythe was used for cutting grass in the level home fields, but also in outlying pastures which were often uneven and stony. Sickles and scythes of iron were also found in a Norse farm, in the Vatnahverfa district southeast of the Igaliko Fiord, East Settlement (Vebæk, 1952, p. 114).

Willow twigs were probably an important winter fodder; they were presumably also used for bedding in stables and perhaps in dwelling houses too. Roussell has published three well preserved curved leaf knives from his excavations in the West Settlement. One of them is mentioned above, and two others were found in the Sandnes farm (Roussell, 1936, pp. 111, 117, Fig. 89). It may be remarked that Roussell found a layer of willow twigs upon the floor in one of the rooms of a stable complex belonging to the Sandnes farm (Roussell, 1936, pp. 45-46, Fig. 32).

The necessity of warm stables taxed the inventiveness of the Norse farmers in Greenland, for the winters were much colder in Greenland than in any other part of the Norse culture region. It is interesting to observe that the Norse Greenlanders have used several expedients or devices for keeping the cold out of the cow houses.

We have mentioned the large cow houses at Gardar which had stone walls, 1.5 meters thick, and in addition very thick mounds of turf on the outsides of the long walls. At Brattahlid, the secular center of ancient Greenland, similar turf mounds are found enclosing the cow stables on all sides. As Nörlund writes, "The intention of these mounds has undoubtedly first and foremost been to provide shelter against the cold; that is why they are principally to be found at the stables which houses the animals that were most precious, the most indispensable, and the most irreplaceable of all the 'inhabitants' of the farm: the cows" (Nörlund and Stenberger, 1934, p. 85).

Such turf mounds were used around the byres everywhere in Greenland. Another device, used everywhere to economize the warmth, was the placing of a hay barn in immediate connection with the stable. In Brattahlid there was found a third device; a long and narrow door passage, in one case with a curved course, evidently intended to prevent

Not for Resale

the cold air from entering the stable. We will again cite Nörlund: "How the necessary minimum of fresh air has been able to get in through this narrow canal to the twelve cows is a problem" (Nörlund and Stenberger, 1934, p. 92). Another problem is; where did the Norse farmers get this device? Roussell suggests that it may be a local invention, as, so far, it is only known from Brattahlid and from another big farm, "Undir Höfda", in the East Settlement. Roussell remarks also that projecting entrance passages are known from a Norwegian Viking Age house and also from Icelandic excavations of medieval farms (Roussell, 1941, pp. 220-221). These examples are, however, unlike the door passages of the Brattahlid stables. It can not be denied that these remind us somewhat of the passage ways of Eskimo houses. Could the farmers of Brattahlid have seen Eskimo dwellings on their hunting expeditions in the north?

Eric the Red's estate at Brattahlid was in the course of time split up into several farms. Nörlund and Stenberger have investigated the remains of four farms at Brattahlid. One of these, the "South farm", was comparatively small, but it has the particular interest that its main building is a complex, containing dwelling, stable, barn, and smithy. Roussell suggests that this centralized farm building may have been the home of a superior servant who personally owned a few animals; and he thinks that such centralized complex buildings were very common in Greenland, the natural form for small and medium sized farms (Roussell, 1941, pp. 160 ff). The old system, where the dwelling is a separate building and stables, barns, and store houses lie scattered about the home field, is apparent in the ruin groups of the big farms or estates. The centralized, complex house, where dwelling rooms, livestock rooms, barns, and sometimes other storerooms are concentrated in one large block, is an adaptation of Greenland's winter climate and the lack of fuel. Generally, the cow stable is placed near the middle of the block, surrounded by other livestock rooms and barns and dwelling rooms. There are ordinarily special entrances for the dwelling part and the livestock part, but there is often a passage between them, so that people might tend the cattle in the hard winter without leaving the house. The entrance to the byre from the outside is frequently a long and narrow passage. This large centralized house is the final architectural result of the Norse farmer's endeavor to protect his animals against the rigorous Greenland winter (Roussell, 1941, pp. 159 ff).

It may be added that the centralizing tendency has not always taken the human dwelling into the block. For instance, at the big Sandnes farm in the West Settlement, there is a special dwelling house and two large stable complexes, each containing a cow byre and several sheep and goat stables and barns. In one of the stable complexes, the byre has not only been used for cows, but also for pigs; the excrement of the pig was preserved. Evidently, the pigs have shared the warmest room in the stable complex with the cows (Roussell, 1936, p. 43).

The cleaning of stables must have been an important work. In the byres, the floor was generally laid with stone, and a gutter in the middle

Not for Resale

collected the urine. Some of the many spades and shovels of wood, whale bone, and antler, which Roussell found in the Sandnes farms, may have been used for cleaning the stables.

END OF THE NORSE SETTLEMENTS IN GREENLAND

In Ivar Baardson's relation, we are told that "now the Scrælings have all the West Settlement, and there are enough horses, goats, cattle, sheep, all wild, and no people, Christian nor heathen". Further, we learn that Ivar Baardson was one of those who were sent by the Law Speaker, that is, the secular authority at Brattahlid, to the West Settlement to drive the Scrælings out; "and when they came there, they found no man, neither Christian nor heathen, but some wild cattle and sheep, and they fed themselves upon wild cattle and sheep, as much as the ships could carry, and sailed home with that" (Jónsson, 1898, p. 328; Nörlund, 1936, p. 134). The expedition may have taken place about the year 1360 A.D., as Ivar Baardson appears to have returned to Norway before 1364 A.D.

This seems to have been the end of the West Settlement. The East Settlement lasted considerably longer, although historic accounts are not known later than the year 1410 A.D., when an Icelandic ship left the Greenland shores after a four year visit.

Poul Nörlund's remarkably successful excavation of a Norse cemetery in Herjolfsnes (now Ikigait) in the southernmost part of the East Settlement (Nörlund, 1924) proved definitely that the Norse settlers had not been quite without contact with Europe during the 15th century. The dead persons were buried in their wearing apparel, and the clothing was surprisingly well preserved in the frozen soil. It came out that the Norse people at Herjolfsnes have followed the fashions of western Europe, and a few of the dresses reveal cultural influences which must be dated to a late part of the 15th century. Herjolfsnes, the southernmost harbor in Norse Greenland, must have had a few visits by ships during the 15th century, although official communications had ceased entirely. Probably, it happened that Hanseatic or English traders, going to Iceland after dried fish, were beaten off their course and landed in Greenland where they traded with the inhabitants (Nörlund, 1924, p. 254).

Accordingly, we may assume that the last of the Norse Greenlanders did not die before some time in the 16th century. However, when John Davis rediscovered the Davis Strait and West Greenland (1585), and the Danish-Norwegian government resumed its interests in Greenland, the Norse settlements were entirely dead.

Why did the Norse settlements succumb? Many answers have been given to this question. A large number of real or possible adversities have been pointed out by different authors. It appears that the Norse people in Greenland were exposed to so many dangers that their final extinction may seem less surprising than the fact that they maintained themselves during a half millennium.

The Norse farmers had reached the climatic limit of their farming culture. They could not expand farther in Greenland, and they would

Not for Resale

not have been able to maintain themselves at all if they had been less versatile. They lived partly upon hunting and fishing; hunting seals and reindeer seems to have been as important as animal husbandry, according to the finds of animal bones in the middens (See papers by Degerbøl). Even the inland farms, placed at a considerable distance from the fiords, lived partly upon the hunting of marine animals (Roussell, 1938, p. 64; Vebæk, 1943, p. 114). But the Norse people could not do without their cattle and sheep, for milk products were essential for their well being. As far as possible, they made themselves self sustaining. They extracted iron from bog iron ore (Nielsen, 1929). However, much fuel was necessary for this process, and fuel was scarce. Many implements were made of bone and wood, but iron was indispensable, for instance for the scythes, used in hay making. We must assume that most of the iron had to be imported. Iron and timber are mentioned in "Speculum Regale" as imports to Greenland (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 327). Grain was also imported, although perhaps regarded as a sort of luxury.

In Thorfin Karlsefni's saga it is told that the Icelandic merchant Karlsefni spent a winter in Brattahlid as Eric the Red's guest. When Yule was near, Eric became despondent; and Karlsefni asked for the cause of his dejection. Eric answered that he feared his guests would say elsewhere that they had never passed a worse Yule than when Eric the Red entertained them in Brattahlid in Greenland. Karlsefni said: "We have in our ship both malt and corn; take as you want it and make a feast as great as you like". Eric accepted that, and a Yule feast was prepared, the stateliest that people had seen in a poor country (Grønlands historiske Mindesmærker, 1838, Vol. I, pp. 402-407). Beer was perhaps the most beloved cereal product; and the saga gives a true picture of how rare this luxury was in Greenland. In the sequel we learn that Karlsefni claimed a special reward for his generosity, as he asked Eric to give him the young widow Gudrid in wedlock.

In "Speculum Regale", some of the export articles of Greenland are mentioned: products of goats, sheep, and cattle (hides, seal skins, rope made of walrus hide, and walrus teeth) (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 327). The walrus products were highly prized, for the ropes and thongs made of the hide were exceedingly strong, and were used in ships, while the teeth were used as ivory in European art industry. The main object of the hunting expeditions north of the settlements was probably the procuring of walrus teeth for the export trade.

As in Iceland, the homespun wadmal or frieze was a valuable commercial article. It is told, in Thorfin Karlsefni's saga, that Eric the Red's son Leif had a love affair with a high born woman in the Hebrides, and as a parting gift he gave her a gold finger ring, a cloak of Greenland wadmal, and a belt made of walrus teeth (Grønlands historiske Mindesmærker, 1838, Vol. I, p. 384).

The lack of iron and wood in sufficient quantities was probably the worst natural handicap which the Norsemen met in Greenland. The

Not for Resale

first settlers had large seagoing ships; when these wore out or were lost, new good seagoing ships could not be built in Greenland, although this was attempted. In Icelandic annals, it is recorded that in the year 1189 A.D. a ship from Iceland arrived in Breiðafjörð in Iceland with thirteen men aboard; the planks of that ship were held together by means of wooden pegs and sinews. The master of the ship was Asmund Kastanrasti. The following year, Asmund left Iceland; but his ship was lost with many good Icelandic men (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 762).

In 1261 A.D., Greenland became a tributary of the Norwegian king. Probably, it was promised that the king would maintain communications with the home country. To some extent, this was done; in part of the 14th century a ship, the "Greenland Knarr", sailed in regular route between Bergen in Norway and Greenland, until it sank in 1367 or 1369 A.D. The king tried to uphold a sort of trade monopoly, for it was forbidden to sail to Greenland without the king's permission. This monopoly was, of course, an obstacle to the Greenland trade (Nörlund, 1936, pp. 102-103). As the official navigation to Greenland stopped entirely, it may seem justified to give the monopoly the blame for Greenland's isolation. However, the results of Nörlund's excavations at Herjolfsnes have made it evident that the isolation was not perfect. As we have seen above, the Norse Greenlanders must have received a few visits by sea during the 15th century.

The isolation meant hardships for the Norse farmers in Greenland, but the isolation was not absolute. Since their economy was mainly self-sufficient, it seems unlikely that isolation could alone be the cause of the extinction of the settlements.

It seems necessary to assume a casual relation between the expansion of the Eskimo, coming from the north, and the extinction of the Norse farmers in Greenland. Now, the question is, in what way did the Eskimo act upon the Norse settlements? Was it a hostile conquest and annihilation? Or was it a peaceful penetration and absorption?

Some authors have found the last alternative most probable. It was strongly advocated by F. Nansen who said: "Deserted by the mother country, and left to their own resources, the Greenlanders were forced to adopt the Eskimo mode of life, and became absorbed in them. This took place first in the more northerly and more thinly populated Western Settlement, and later in the Eastern Settlement as well". (Nansen, 1911, Vol. II, p. 102). Nansen lays some weight upon a passage in the annals of the Icelandic bishop Gisle Oddson, written in Latin before 1637 A.D., where it is said under the year 1342 A.D.: "The inhabitants of Greenland voluntarily forsook the true faith and the religion of the Christians, and after having abandoned all good morals and true virtues turned to the people of America" (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 459; Nansen, 1911, Vol. II, pp. 100-101).

It is not known where Gisle Oddson got this statement, but it accords with the view that the Norse Greenlanders, not being able to uphold their farming, threw their energy upon the other side of their economy,

Not for Resale

the hunting and fishing, and became amalgamated with the Eskimo who were quite superior to the Norsemen as hunters of sea mammals.

However, the intensive and extensive archaeological work in Greenland has given no support to the theory of a peaceful amalgamation of the two peoples and their cultures.

Nörlund's finds in the burial ground at Herjolfsnes prove that the Norse Greenlanders in the 15th century were good Catholics, worshipping the Virgin Mary and Jesus. They upheld their European culture, following to the best of their ability, the fashions of western Europe. The material culture of the Norse Greenlanders is known from excavations of numerous ruins and graves; there is no evidence of any important cultural influence from the Eskimo, unless it should be the doorway passages in the stables at Braatahlid, mentioned above.

The Greenland Eskimo have taken over a few elements from the culture of the Norse people; most important is the cooper's technique. The Eskimo knew and used iron before they met the Norsemen; they hammered native iron cold, as native copper. But they did not know how to extract iron from ore, as the Norsemen did; this useful art, the Eskimo did not acquire from the Norsemen. The ordinary Greenland Eskimo works iron "cold" by filing and hammering (Birket-Smith, 1924, p. 83).

On the whole, it is remarkable how little the Eskimo have learned from the Norsemen. The Lapps have learned many times more from the Scandinavians. Evidently, the Lappish reindeer breeders could receive and utilize cultural impulses from the Scandinavian farmers, while the Eskimo hunters had very little use for the Norse culture elements.

The skeletal material from the burial ground at Herjolfsnes, from the 15th century, does not indicate any racial mixture between the Eskimo and the Norse people (Nansen, 1925, p. 430). On the other hand, the skeletons from a Norse burial ground in the West Settlement, at Sandnes, from around the year 1300 A.D., excavated by Roussell and examined by the anthropologist K. Fischer-Møller, has a very few hybrids, showing mixture of Nordic and Eskimo stock. But the great majority of skeletons from Sandnes and from another Norse burial ground in the West Settlement, at Anavik, excavated by Roussell and examined by Fischer-Møller, are apparently quite free from Eskimo admixture. Fischer-Møller has also examined a large collection of Eskimo skeletons from West Greenland, belonging to a period prior to the beginning of the Danish colonization; he did not find any signs of Nordic hybridization in this material.

The West Settlement Norse people were a branch of the Nordic stock, closely related to the inhabitants of the southwestern Norwegian districts of Jæren and Sogn. The Norse Greenlanders had rather more of the brachycephalic (Alpine) element than the Norwegians. Fischer-Møller suggests that this may be due to an admixture of Celtic (Irish) blood. The Norsemen in the West Settlement were probably somewhat smaller than the contemporary Norwegians and Fischer-

Not for Resale

Møller thinks that perhaps, in the isolated settlements of Greenland, we have the beginnings of a separate Greenland-Nordic racial type. He does not regard the smaller stature of the Norse Greenlanders as a sign of degeneration. He does not find any evidence of degeneration in the skeletal material from the West Settlement. There is no sign of malnutrition or insufficient nutrition, nor any chronic disease except a few cases of rheumatism, not surprising under the severe natural conditions in Greenland. Among the female skeletons he did not find any pelvic deformities which could form a hindrance to childbirth (Fischer-Møller, 1942).

Fisher-Møller's results may be taken as a corrective to the dark and lugubrious picture which Fr. C. C. Hansen gave of the Norse Greenlanders in his publication of the skeletal remains from Herjolfsnes. Professor Hansen found evidence of a serious degeneration, reduced stature, many cases of chronic diseases, especially rachitis, and consequent bodily deformation. Several female skeletons showed pelvic deformations which would prevent childbirth. On the whole, a decline of vitality, probably caused by intermarriage in a small isolated community, and by serious undernourishment. The last Norsemen at Herjolfsnes were, according to Hansen, a degenerate race, doomed to destruction. However, as Fischer-Møller points out, the skeletal material from Herjolfsnes is in an exceedingly bad state of preservation. It seems hardly possible to draw safe conclusions with regard to bodily defects from this material. On the other hand, the skeletal material from the West Settlement is much larger and much more satisfactorily preserved.

Hansen supposed that the Norse Greenlanders in their last period had been under the necessity of eating much vegetable food of wild plants (Hansen, 1924, pp. 487-493). In all probability, wild vegetables played as great a role in Greenland as in Iceland. The use of vegetable food from uncultivated plants has been general and quite important for a long time in all north European countries (For Norway, see Holmboe, 1929; for Finland, Manninen, 1931). In Denmark, the collecting of several kinds of weeds and other wild plants has played a role for prehistoric agriculturists (Hatt, 1937, pp. 26-27; 1943, p. 12). Hans Helbæk has made a very instructive analysis of the contents of the intestines of a corpse from the early Iron Age, found in a peat bog in the middle of Jutland. The remains of the last meal of this Iron Age man were found in the stomach, the small intestine, and the large intestine; the detailed analysis gave valuable information about the nature and composition of this last meal. It was "a gruel consisting of barley, linseed, *Camelina* seeds, and fruits of *Polygonum lapathifolium*", and lesser quantities of several kinds of weeds. The *Polygonum* and other weeds can not be regarded as accidental impurities from the grain field; they must have been collected and put into the food (Helbæk, 1950, p. 338).

We may safely assume that the collecting and eating of wild plants was a usual trait among the early farmers of northern Europe, and it is not likely that this has in any way caused degeneration.

Not for Resale

The Icelandic population has had to stand very severe hardships and also starvation. This caused a stagnation of the population density during several centuries, but in spite of almost continuous famine and defective hygiene during many generations, the Icelandic people do not show any sign of degeneration. On the contrary, Iceland has a very healthy and highly gifted population (Bryn, 1928, pp. 15-16). It seems unlikely that the nearest relatives of the Iceland people, the Norse Greenlanders, should have died out from degeneration. Such a conclusion can not safely be drawn from the very defective and badly preserved skeletal remains from Herjolfsnes, especially not, when it is seen that the larger and better preserved skeletal materials from the West Settlement do not reveal any sign of degeneration.

A series of archaeological investigations by Therkel Mathiassen has disclosed the history of the Eskimo culture in Greenland and especially the emigration of the Eskimo. As we have remarked already, the Norse settlers found their part of Greenland uninhabited. The remains of former inhabitants, mentioned by Are Frode, have not been found by modern archaeologists. However, in the northern part of the west coast of Greenland, the Eskimo arrived early. We must assume that an Eskimo population was living in Disko Bay by the 10th century (Mathiassen, 1934, pp. 165 ff). In the 13th and 14th centuries, the Eskimo at Disko Bay, and also further north, in the Upernivik District, came into frequent contact with the Norsemen who made hunting and trading excursions northwards. Norse influences are seen in the introduction of coopering, spoons of medieval form, and other things. Also a few objects which must have come directly from the Norsemen, pieces of bell metal are found in the Eskimo dwelling sites.

Towards the close of this period, in the 14th century, the Eskimo began a great migration southward. This migration brought about the destruction of the West Settlement about 1360 A.D., of this event we get a glimpse in Ivar Baardson's relation.

Soon afterwards, the Eskimo penetrated the East Settlement. In Icelandic annals it is told that, in the year 1379 A.D., the Scrælings made attacks upon the Norse Greenlanders, killed eighteen men, and caught two boys, making them slaves (Grønlands historiske Mindesmærker, 1845, Vol. III, p. 33). This does not look like peaceful relations. However, there may have been more peaceful periods, and the hostilities may have been local and intermittent. An Icelander, Bjørn Jorsalfar, stayed in the East Settlement from 1385 to 1387 and was judge and revenue officer for the district of Ericsfjord. From his account we learn that Eskimos were living near the Norse settlement. Bjørn Jorsalfar rescued two Eskimo from drowning, and they served him faithfully. The Norse people subsisted constantly by cattle breeding, and Bjørn received from the farmers, as his due, 260 legs of mutton (Grønlands historiske Mindesmærker, 1845, Vol. III, pp. 436 ff; Nörlund, 1924, p. 256).

Mathiassen thinks that there may have been several causes behind the southward expansion of the Eskimo in Greenland: overpopulation in the north; an improved kayak technique which made it possible to

Not for Resale

get through the comparatively mild winters in south Greenland; and perhaps also, as Nörlund proposes, a certain curiosity to see the Norsemen's settlements and get hold of their strange possessions. However, the Eskimo expansion went farther; they rounded Cape Farvel and settled also upon the East Greenland coast (Mathiassen, 1936, p. 119).

In somewhat more than a century, Eskimo and Norse people lived together in what is now the Julianehaab District. The Norse farmers held themselves in the inner fiords, while the Eskimo took up their abodes in the middle parts of the fiords, often quite near to some Norse farms which were probably the first sufferers. The large amount of Norse objects, which the archaeologists find in the Eskimo ruins, may be witnesses of Eskimo plunderings of Norse farms. In the course of probably somewhat more than a century, the Eskimo encroachments resulted in the total extinction of the Norse farmers in the East Settlement (Mathiassen, 1936, pp. 78-79). The Eskimo have some legendary traditions about the ancient Norse people, written down about the middle of the 19th century. These traditions are, of course, unhistoric; nevertheless, they may give a true picture of the more or less unfriendly relations between the two peoples, sometimes leading to bloody conflicts, where the superior archery of the Eskimo made itself felt (Rink, 1866, pp. 198-209).

One of the causes of the downfall of the Norse settlements in Greenland was probably a climatic deterioration, diminishing the possibilities of cattle farming. G. F. Holm, in his description of ruins in the Julianehaab District (Holm, 1881, pp. 72-73), found it difficult to understand how it would be possible to collect winter fodder for the cattle, unless the climate had been milder. Forty to fifty years later, the same opinion was strongly voiced by Poul Nörlund. In fact, the idea that the climate must have been milder at the height of the Norse colonization comes naturally to anyone who travels among the numerous ruins of considerable farms in the ancient settlements.

Historians and men of science have hotly debated the question, whether or not a climatic change took place during the late Middle Ages. Arguments against the theory of a climatic change were given by the Icelandic geographer, Th. Thoroddsen (Thoroddsen, 1913-14) and by Fr. Nansen (Nansen, 1925). I would also mention the argumentation of the Norwegian agricultural historian S. Hasund who warns against the rashness of accepting as proof of climatic change the fact that the 14th century brought a decline for the farmers in Norway. Economic deterioriation may, of course, come from other causes, and Hasund demands proof of a more unequivocal sort (Hasund, 1942-44, Vol. II, pp. 163-174).

However, the claims of absolute proof of a climatic change in the late Middle Ages is actually complied with by peat bog geologists, studying the history of vegetation.

The change from the drier and warmer sub-boreal climate to the moister and cooler sub-atlantic climate which took place at the

Not for Resale

beginning of the Iron Age has made itself visible in the peat bogs. The sphagnum peat from the sub-boreal period is much transformed and humified; the sphagnum peat from the sub-atlantic period is less transformed. Evidently, the wetter and cooler climate made the peat bogs moister and promoted the growth of the sphagnum. The horizon between the two climatic periods presents itself clearly. Now, the Swedish geologist Erik Granlund pointed out several such horizons in Swedish peat bogs; he called these horizons "rekurrens ytor", that is, recurrent surfaces, and numbered them, from above, RYI, RYII, RYIII. RYIII is archaeologically dated to the beginning of the Iron Age, about 600 B.C., RYII to about 400 A.D. and RYI to about 1200 A.D. (Granlund, 1935, pp. 157 ff). Granlund has also pointed out older recurrent surfaces from about 1200 B.C. and about 2300 B.C.

In peat bogs in North Jutland, RYI, RYII, and RYIII have been pointed out, and RYI has been archaeologically dated to about 1300 A.D. (Valdemar M. Mikkelsen in Steensberg, 1952, pp. 120 ff).

So it is evident that a climatic change, analogous to the change from sub-boreal to sub-atlantic climate at the beginning of the Iron Age, had taken place in the late Middle Ages in Scandinavia. We do not know exactly how big this climatic change was, nor do we know how much it may have influenced economic life. The retrogression of agriculture in Norway and Iceland may have had several causes, but it seems probable that one of the causes was a climatic change (Cf. Thorarinsson, 1944, p. 161).

Peat bog investigations in Greenland, by the geologist Johs. Iversen, have shown that a climatic change also occurred there in the late Middle Ages (Iversen, 1934). However, the change in Greenland went in another direction than in Scandinavia, for in Greenland, the climate became drier, that is, more continental. According to Iversen, it is unlikely that the summer temperature underwent any change worth speaking of, but the increased dryness caused a deterioration of the pastures. In addition, a serious attack from the larvæ of a certain butterfly, *Agrotis occulta,* occurred at the end of the Norse period and may have been one of the causes of the destruction of the West Settlement. Iversen happened to see a local attack by the same species of butterfly in 1932 when he visited the Godthaab District. The larvæ devoured all the leaves of the bushes, all the herbs, grasses, and sedges; even moss and lichens were attacked. A layer of cocoons and scaly hairs, belonging to the butterfly, were found in the peat bogs at a level belonging to the end of the Norse period, proving that a general attack of *Agrotis occulta* had taken place in the West Settlement at that time.

Iversen succeeded in determining both the beginning and the end of the Norse period by peat bogs in the Godthaab District. The beginning of the period appeared as a layer of charcoal in the peat bog. Evidently, the Norse settlers had burned the natural bush vegetation to promote the growth of grasses. The pollen analysis shows a very sudden increase of grasses and herbs immediately above the layer of the charcoal. Scattered pieces of charcoal occur throughout the Norse period, the

Not for Resale

charcoal disappears, the peat shows increasing dryness, the layer of remains of the *Argotis occulta* occurs, and at the same time the pollen of *betula* and herbs decrease, and the pollen of *salix* increases; evidently, the willow bushes have spread over the old, deserted pastures.

So, we may consider three factors, contributing to the destruction of the West Settlement: 1) A climatic change, bringing dryness and deterioration of the pastures. 2) A general attack by the *Agrotis occulta*, causing annihilation of the pastures over wide areas. 3) Attack by the Eskimo, coming from the north.

Are there any traces of the life of the ancient Norse colonization in Greenland, except the ruins of buildings and vestiges of fences and enclosures? Is it possible to point out living results of this ancient activity?

As we have said, the victorious Eskimo borrowed a few technical elements from the Norse, of which coopering seems to be the most important. The Scandinavian influence upon the Lapps is much stronger and more important than the Norse influence upon the Eskimo.

During the first centuries of the Norse colonization in Greenland, there was a rather lively connection between Iceland and Greenland. As Roussell has pointed out, there seems to be a connection between the architectural development in Greenland and Iceland, and there is some reason to suppose that Greenland influenced Iceland. The centralizing tendency, a response to the severe climate, is visible in architectural development in Greenland and Iceland. However, the winter cold is much more severe in Greenland, and it may be that the so-called passage house of Iceland was first invented by Greenland farmers. As Roussell says, "it is very much within the bounds of possibility, that this very convenient passage house, which we know only in Greenland and in the Iceland of later times, was an invention of the enterprising Greenland farmers, who lived under conditions where the winter cold was a much more powerful foe than elsewhere within the Nordic culture region of those days" (Roussell, 1941,p. 242).

There was a sort of literary life in ancient Greenland, at least in a part of the Norse period. Sagas were told, and verses were made and recited. An Icelandic poet, Skjald-Helge, is said to have lived in Brattahlid some time in the 11th century. One of the Edda-poems, about the death of Gunnar and Högni and Gudrun's revenge on Atli, has the title "the Greenland Atla-mál". Without doubt, this poem was composed in Greenland, says Finnur Jónsson; a few other Edda-poems may also be of Greenland origin (Nörlund, 1936, pp. 80-81; Jónsson, 1920, pp. 308-314). The Greenland member of the Norse family of nations took its part in the ancient Norse cultural life.

The living nature of present day Greenland contains elements which are due to the activity of the ancient Norse people. A part of the Greenland flora was introduced by the Norsemen. C. H. Ostenfeld says that probably "about thirteen per cent of Greenland's 390 species of vascular plants were brought into the country through the old Norse colonization". We may assume that these plants came in with the hay

Not for Resale

which the settlers took with them in the ships to feed the cattle and sheep which they brought with them (Ostenfeld, 1926, pp. 17 ff). Another botonist, M. P. Porsild, thinks that only six species may safely be assumed to be Norse introductions, fourteen others are possible, but doubtful (Porsild, 1932).

Did the Norse voyages to the American continent bring new plants to Greenland? Johs. Iversen has found in the West Settlement, in the bottom of the Godthaab Fiord, an Iridacé, *Sisyrhynchium angustifolium,* a plant whose home is temperate North America; it is known from Newfoundland and from several places in the St. Lawrence region. Iversen suggests that Karlsefni's expedition may have brought this plant when Karlsefni returned to Greenland. They may have had some hay with them in the ship, and in the hay may have been fruits of the *Sisyrhynchium* (Iversen, 1938).

SIGNS OF A NEW AGRICULTURAL IMPULSE IN THE SUBARCTIC

In a few hundred years, a climatic change has made itself felt in many lands, especially around the northern Atlantic. I shall not enter here upon a discussion of this remarkable phenomenon, as there is a large and increasing amount of literature on the subject. I may refer to a marine biological paper by the Danish zoologist Ad. S. Jensen upon recent changes in the distribution of animal species in the arctic and subarctic area, from Greenland in the west to Eurasia in the east (Jensen, 1939), and to a general discussion of the climatic change of a group of Swedish geographers and geophysicists (Ahlmann, Sanström, and Angström in *Ymer,* 1939, pp. 51-82). The climatic change has brought an increase of temperature; it remains to be seen whether the change will be lasting or transitory. However, the question presents itself, how does climatic change influence farming in the subarctic region?

Iceland, on the arctic border line, is interesting in this connection. As we have seen, grain cultivation was carried on in Iceland during more than a half millennium, decreasing in the 13th and 14th centuries. However, it remained for a long time in the most southwesterly district, Gullbringusýsla, probably until the 16th century. Since then, government officials have attempted several times to revive grain cultivation and these attempts have met with some success on agricultural experimental stations in the 20th century. Some authors have taken this fact as an argument against the theory that the extinction of grain cultivation in Iceland in the late Middle Ages should be due to a climatic deterioration. However, Thorarinsson has suggested that the recent climatic change may be the cause of the relatively favorable results of grain growing experiments in the present century. The average summer temperature for the decade 1928 to 1937, was in Stykkishólmur (in west Iceland) and Berufjörður (in east Iceland) 1.2 and 2.4 degrees Centigrade higher than for the decade 1878 to 1887; and the average temperature for the year was 1.6 and 2.1 degrees Centigrade higher than 50 years ago (Thorarinsson, 1941, p. 296). This

Not for Resale

rise in temperature means very much when we are near to the northern limit of possible grain cultivation.

According to Klemenz Kr. Kristjánsson, leader of the experimental farm at Sámsstaðir, Rangárvallasýsla, the chances for barley and oats to ripen fully appears to be nine out of every ten years in south and southwest Iceland, three out of every five years in the northern and eastern districts, and one out of every two in the western part of the country.

Experiments at Reykjavik and at Sámsstaðir have shown that the so-called Donnes barley (a six row barley) gives the best yield between April 20th and May 10th. If it is sown not later than May 10th, it can ripen fully if the mean temperature for July and August is not less than 10.4 to 10.6 degrees Centigrade and the precipitation not over fifty to sixty millimeters each month. Cool springs and warm late summers are favorable for the growing of corn.

Many varieties of barley and oats have been tried. Certain Norwegian sorts have given the best results, especially Donnes barley and Nidar oats, because they mature early. Experiments were also made with rye and wheat. Spring rye seldom ripens, but winter rye matures when the weather is average or better than average. Spring wheat has matured when the weather was exceptionally favorable, and winter wheat has matured in an average season and is preferable to spring wheat.

Kristjánsson concludes "that the growing of barley and oats can be practised in the milder climatic regions of Iceland . . . Although the corn may not mature in unfavorable seasons, it will yield as much nutrients to an acre as an average hay field. In fact, the growing of corn may rather compensate the ill effects of seasons that are unfavorable for the growing of grass for hay making" (Kristjánsson, 1946).

The good results of the experimental farms have not, so far, made corn growing a regular element of farming in Iceland. It seems doubtful whether the farmers will take to corn growing, and it may also be doubtful whether the favorable climatic conditions of the latest decades will continue. In 1952, barley and oats froze in southwest Iceland for the first time in many years, and did not produce any grain, except at Sánsstaðir and a few favored localities on the southern coast (Private letter of January 13, 1953 from Mr. Arni G. Eylands, secretary in the Ministry of Agriculture, Reykjavik).

Farming in Iceland will continue as animal husbandry, yielding dairy products, meat, wool, and hides. All the bread corn will be imported. Corn growing may perhaps be taken up, but only if it is profitable from a stock breeders viewpoint.

The great problem of farming in Iceland is the high cost of human labor. Farming must compete with fishing and industry. It seems vitally important for farming to introduce labor saving machinery. The future may bring a depopulation of certain out-of-the-way regions in Iceland, even if the favorable climatic change may continue.

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NUNIVAK ESKIMO PERSONALITY AS REVEALED IN THE MYTHOLOGY

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INTRODUCTION

An anthropologist who is well trained in both social anthropology and clinical psychology said to me after reading the myths of the Nunivak Eskimos of Alaska that he could not see the motives of the characters. He said, "Of course, from the symbolism I can guess at the motives but one isn't really told why anybody does anything." As I had myself recorded these stories and had lived with the Nunivak Island people long enough to acquire much of their viewpoint, I was surprised by this statement—the motives seemed so obvious to me. Yet the comment made me see that they are indeed not explicit and further that I had not previously seen much of the motivation because it is so deeply buried. The dynamics of the personality can be seen in the mythology, however, if one examines it carefully. Although the procedures are laborious, their products are rewarding.

Source Material. Nunivak happens to be the area of Alaska best represented in different collections: the Curtis expedition in the 1920's, Himmelheber in 1936-37, myself in 1939-40 and 1946. Even Rasmussen in 1924 got three stories from the part-Eskimo trader on Nunivak Island (Ostermann, 1952, pp. 260-262), but these are not being used here because they were not told by a local person. The three collections present altogether about ninety myths and tales, of which exactly sixty from Himmelheber and Lantis have been analyzed for this paper. It can be said with assurance that the criteria listed by Ruth Benedict for acceptance of a mythology as adequate for intensive study are satisfied: culture is well known; folktales have an important place in tribal life; folklore was still living and functioning when recorded; there is a large body of material, collected over a period (Benedict, 1935, Vol. I, XII).

As part of a study of Nunivak personality, the stories that I had recorded in 1939-40 and published in 1946 in "The Social Culture of the Nunivak Eskimo" were analyzed in 1949 and a paper on them presented at the XXIXth International Congress of Americanists. Curtis's collection had been read about 1937 and not studied thereafter; the Himmelheber collection was not yet available. Because Curtis did not name his storytellers and interpreters for each story but had used, I knew, the immigrant trader from Norton Sound, his folktales were not then and still have not been included in this study since they could not be handled on the same basis as the other collections. For example, stories told by men could not be separated from those told by women, by shamans separated from laymen's. Actually there is reassuring similarity of Curtis's material to the later recording, as one example "The Origin of Nunivak Island" (Curtis, 1930, p. 74; Himmelheber, 1951, pp. 35-37; Lantis, 1946, pp. 265-267).

Not for Resale

By comparison with the other sizable northwest Alaskan mythologies (Garber, Nelson, Ostermann-Rasmussen) and by internal evidence of the range of tales in my collection, it seemed representative of the area. Still, nearly two-thirds of the stories had been obtained from one shaman. Since this was a psychological study, it was open to a charge that it presented chiefly one personality. Since 1949, Himmelheber's collection has been published, and it now can be seen that plots, emotional tone, and style of neither collection are aberrant, relative to all available material from the area. Although the number of his published stories is smaller, it adds some that are to be expected in this area but that I did not happen to get, for example the Deceitful Husband motif (Himmelheber, 1951, p. 103; Lantis, 1938, pp. 162-165). We now know enough of Nunivak mythology, therefore, to publish some conclusions about its psychological significance.

Of the Himmelheber collection, nineteen stories have been studied in detail. See Appendix A for notes on *Der gefrorene Pfad* (The Frozen Path) and a list of the nineteen. From my mythology, the only stories not used are "Thunder and Lightning," "A Short Story," "The Sandpiper," and "Bladder Feast Legends," eliminated because too fragmentary or not really stories with a development of plot. Actually, "A Powerful Shaman" and "A Very Powerful Shaman" probably should have been excluded, but in or out they do not change the conclusions. See Table 1 for comparison of sources.

TABLE 1

Number of:	*Himmelheber*	*Lantis*	*Total*
Stories used	19	41	60
Overlapping stories	7		
Stories told by males	17	30	47
Stories told by females	2	11	13
Storytellers	6	7	11
Shared storytellers	2		
Stories by principal informants*			
Kusauyax (M)	0	25	25
Kangalix (Gangelich) (M)	8	2	10
Nusalax (Nusalach) (F)	2	6	8
Alalikax (Alalikach) (M)	5	0	5
Anagakax (F)	0	4	4

*All of these people are now deceased.

The remaining informants each told only one or two stories.

Kusauyax told principally Poor-boy sagas about obtaining magical power and becoming a great hunter or shaman, but also myths of marriage with supernaturals and birth of supernatural children, some tales of revenge, of haughty or deceitful women, war stories, and humorous stories.

Kangalix told Raven myths and tales (Raven the Creator and the Trickster respectively) to both recorders, his others being tales full of conflict, with strong emotional content and usually tragic ending.

Not for Resale

The conflict is between two brothers, two sisters, husband and wife, and two shamans.

Alalikax's were traditional Nunivak stories except one about a tree. One cannot generalize about so few tales.

Nusalax told apparently very old, highly symbolized myths on generic themes with cosmogonic character, and also stories of poor boys obtaining power and wealth.

Anagakax's stories were closer to everyday Nunivak life. Some are fragmentary.

For methodological reasons relating to other parts of my study of Nunivak personality and for a reason of practical importance to the reader, namely that unfortunately the Himmelheber and Curtis collections of tales are not so accessible for checking as mine is, it still is presented as a unit without incorporating *Der gefrorene Pfad* stories. For this second writing, however, the latter were analyzed on the same outline as originally applied to my own. Whenever a generalization has been made on his stories or an example taken from them, this is stated. If this is not specified, the Lantis collection and the original conclusions on it are meant. In other words, whatever contradiction or corroboration comes from *Der gefrorene Pfad* is added to, not incorporated into, the original basic study. After the Nunivak mythology is looked at by itself, then it is compared with the Nelson, Garber, and Rasmussen material, and finally with generic Eskimo mythology.

Method of Study. The stories must be studied in detail; for as Himmelheber points out (1951, pp. 24-25), the storyteller inserts some customary activity as an indirect means of letting the hearer know what is happening, for example the competitive Messenger Feast or the ritualized spring seal hunt, and similarly little things that bespeak harmony or hostility between the characters. One must know Eskimo culture in order to understand this symbolic action, just as a spectator must already have an image of castles or ships or drawing-rooms to identify a meager stage setting, just as he must know something of the value system of playwright and actors in order the appreciate figures of speech, jokes, double meanings, and local allusions. The Westerner acknowledges that he cannot understand classical Chinese drama or Javanese dance without interpretation, but many think that they can understand a "primitive" folklore, forgetting that it too has been subject to a long process of symbolization (see Essene, 1953, p. 157). As A. I. Hallowell has said, the problem "is to be able to look behind the scenes of the dramatic action in order to discern what is both culturally significant and relevant to the personality structure of the people" (1947, p. 533).

As paraphrased by Hallowell, Cassirer pointed out how " . . . human experience is articulated through various symbolic means—language, myth, art, religion, science—and the mediative role that such symbolizing activities play in building up a meaningful and objective world for our human species" (Hallowell, 1947, p. 550). Hallowell continues: "Myths and other oral narratives, then, may express

Not for Release

meanings that the native cannot easily translate into discursive forms of speech, if he can express them at all. Yet such meanings may be intelligible to him intuitively, and they are of psychological importance. The oral narratives represent such meanings in a 'dramatic' or 'presentational' form rather than in terms of a discursive intellectual statement" (1947, p. 552). There is intelligibility in any symbol system once its basis has been understood even though it can scarcely be translated into articulate speech, as in the case of higher mathematics, or even though it simply never yet has been so translated—as with intimately shared values and emotions—because no student has tried to. The student must first recognize these meanings, then interpret their psychological significance, then test his inductions by other kinds of data (Hallowell, 1947, p.553).

Having already analyzed Nunivak children's free drawings and mosaic block tests, I adhered to a strict form for the analysis of each tale, to guard so far as possible against impressionistic conclusions influenced by earlier impressions from the other material. The fact that one body of data was from children, who were more subject to new influences, and the other from adults, mostly elderly and traditional, helped prevent confusion. The Rorschach tests were, in 1949, in process of interpretation by experts.

Each of the sixty stories was analyzed for (1) direct portrayal of the material aspects of life, that is, setting and culture; (2) the culturally-idealized personality traits exhibited, male and female; (3) personality, male and female, implicit in characters, situations, and—so far as I could see and understand them—symbols, regardless of explicit code; (4) interpersonal relations, especially in the family, as acted out whether or not in agreement with ideals. See Appendix B for examples.

None of these, frankly, gave quite so much new insight as was hoped for. The missing essential was supplied when it was remembered that these myths are literature and should be considered as such. I then asked regarding each myth the question one would ask when writing a critique of a play or short story: What is the theme, the conflict, or problem, and how is it resolved? (On reading Ruth Benedict's impressive analysis of Zuni mythology after doing this much smaller one, I found that she had set herself two problems: the themes in Zuni folklore and their relation to the culture; the literary problems of the narrator (Vol. 1, xiii.). Seeing the problem-situations and their handling in each story, one can see better the rationale, the self-view and world-view of the group. From the listed problem-situations, interpersonal action, and personality characteristics, I have tried to separate out and state in psychological and social anthropological terms, (1) goals, the desires of the protagonists, (2) the threats confronting them, (3) their defenses. The narrator reveals unwittingly that he is confronted or has seen others confronted consciously or subconsciously by threats, obstacles, conflicts —call them what you will—which may arise either outside or inside himself. Within his picture of the world, we look at his protagonists'

Not for Resale

behavior to see how he, the storyteller, handles both the inner emotional dangers and the external dangers of his world, that is, his "defenses."

Finally, to arrive at an integrated statement of personality, there must be further study that is difficult to describe. It seems to require chiefly intuitive and experimental association of aspects of behavior that are not associated consciously by the people under scrutiny, to see where one can secure the "best fit" of the most variables.

Does this personality-construct come from the old indigenous life? From the culture portrayed, there is no doubt that the stories refer to Nunivak life before the coming of school and missionary with their new value systems. References to caribou and wolves, both of which disappeared from the Island about three generations ago, to storehouses on stilts (also gone), clay pots, polyandry, details of ritual, details of home life, the non-material circumstances of life and the characters' reactions to them establish the thoroughly indigenous Eskimo quality of the stories.

CONFLICT-SITUATIONS (THEMES)

Three types are presented:

1) Conflict between the individual and the physical world or between the individual and a combination of natural and social forces.

2) Interpersonal conflicts.

3) Internal conflict, or man against himself.

Conflict Between the Individual and Providence. The most common problem in this category is poverty and the subordinate status of a young person who is orphaned or for some other reason not of his own doing lacks the proper facilities and magic to obtain wealth. Although this individual may be presented as hungry and poorly clothed, this is not a theme of hunger per se. Others in the community have food. Nunivakers live in a sub-arctic environment of generally adequate food.

The Poor Boy does not appear so often in the Himmelheber stories, but there is no question of his importance in the culture (see Lantis, 1946). We must mark the fact that the young hunter, the hero so prominent in other Eskimo mythologies, is here a more pathetic figure, with status disabilities added to the material difficulties of life.

Other, less common themes are the problems of maturation and old age, death of a loved one, war, childlessness, life in physical isolation, and a few others that appear rarely and uncertainly.

If our categorization of these rather miscellaneous themes is correct, they appear in thirty instances, although not necessarily thirty tales since there may be more than one conflict in one story.

Tales of encounters with the larger animals and of storm at sea are generally family-owned, short accounts of ancestors and have no real plot. Also, they usually do not include supernatural elements and symbolism. This type of story has been excluded from the analysis for these reasons and also because it was not included in my published collection (see Introduction and Appendix A herein). Threats from the natural world are not unimportant and are not being disregarded; in fact they contribute to one of the most important aspects of Eskimo personality, as we shall see.

Not for Resale

Interpersonal Conflict. There are forty-eight examples of bad personal relationships (see Table 2), although not all are of such importance that they constitute a story theme. There seems to be twenty-one of the latter.

Several of these, such as the conflict between wife and in-laws, between poor and wealthy, obviously mirror real life. Ethnographically, the emphasis should be on "situation" rather than on "conflict," since expression of hostility was well controlled by such devices as tabus on direct speech between virtually all categories of affinal relatives. The stories reveal, though, that despite such cultural devices (and in part because of them?) the suppressed antagonism persisted. Occasionally one sees a real case of marital difficulty or sibling conflict, just as occasionally it appears in the mythology, but on the whole in real life as in story life there are more instances of basically good relations than of basically bad ones.

As Himmelheber commented (1951, p. 10), the grandmother figure, who is a stock character in Nunivak literature, reflects real life in her role of companion and home provider for the orphaned. The stories go even beyond such material assistance: the grandmother is idealized as the source of magical power, especially power to escape from supernaturally aggressive people (see "The Young Man," Appendix B). Unquestionably the grandmother-grandchild relationship (male or female) shows the purest love and altruism of all relationships portrayed. She probably represents the wished-for mother, and her prominence in both collections of stories confirms what has been stated elsewhere: scarcely any Nunivakers reached adulthood in a "normal" family of own father, mother, and children. Many of them needed grandmothers.

The fact that the grandmother companion of Orphan Boy appears widely in other Eskimo mythologies does not deny her local meaning. Actually, in other mythologies, aunts, uncles, and other relatives have the protector role more often than they do here and grandmother less often. Table 2 shows the relative frequency of the various relationships in Nunivak stories.

Most of the kin relationships need no explanation here. However, a few cases of conflict between two unrelated people, male or female, require a reservation. More or less stock characters such as the cannibal woman have been included in the first three brackets of Table 2. The protagonist who encounters her may be a hero or a heroine. Sex apparently does not matter in certain types of situations in which one character is thoroughly evil. The sex of this bad person may be important psychologically as a symbol of threatening men or threatening women (or spirits) but not in the interpersonal relationship.

Even with this reservation, the male-female hostility obtrudes in a record of interpersonal relations that presents indulgent fathers, hardworking and protective mothers, and grandparents who always come to one's rescue. Even co-husbands and co-wives seem to have

Not for Resale

TABLE 2

Interpersonal Relations in Nunivak Folklore (41 Stories)

Relationship[1]	*Good*	*Bad (Conflict)*	*Contradictory or Unclear*
Unrelated males[2]	7[3]	5	0
Unrelated females	1	5	0
Unmarried male-female	1	7	0
Husband-wife	16	6	1 (chiefly good)
Father-son	7	0	0
Father-daughter	5	4[4]	0
Father-children	1	0	0
Mother-son	7	0	1 (chiefly good)
Mother-daughter	4	0	0
Mother-children	1	0	0
Grandfather-grandchild	3	1	0
Grandmother-grandchild	16	0	0
Man—in-laws	4	2	0
Woman—in-laws	0	5	1 (chiefly good)
Uncle-nephew	2	2	0
Uncle-niece	0	0	0
Aunt-nephew	1[5]	1	0
Aunt-niece	1	1	0
Brothers	8	2[6]	0
Sisters	2	2[7]	0
Brother-sister	0	0	1 (prob'ly bad)
Wealthy-poor	2	5[8]	0

1. Not including traditional enemies in war stories.
2. Not including Raven's encounters with other animals.
3. In one case, two men and their wives are friends: one entry in table.
4. The relationship in two cases: parents-daughter.
5. This case is complicated by fact that adopted son is husband's nephew.
6. In one case, older brother is good to younger brother while latter is self-centered and disregards older brother or is overtly hostile. In the other case, the roles are reversed.
7. Same situation as with brothers.
8. In two of the five cases, poor boy is treated ill by everyone except the chief's wife.

Not for Resale

no conflict (Himmelheber, 1951, pp. 93-106). Excluding the wealthy-and-poor relationship, where do we find the highest proportion of conflict? Between unmarried male and female, husband and wife, father and daughter; between unrelated females, a woman and her in-laws, who are usually her mother- and sisters-in-law, and two sisters; finally between unrelated males, uncle and nephew, and a man and his in-laws. One suspects that to these Nunivak narrators it is the women who cause all the conflict. For example, more female than male characters have trouble with their affinal relatives. One might connect this with the fact that most of the tales were told by men, if it were not for the other fact that the women narrators have given the same picture.

The conflict between men and women appears even more frequently in Himmelheber's collection (see Table 3). Probably the combination

of male raconteur, interpreter, and recorder, which he had for nearly all his stories, did affect the selection of themes and description of relationships. Comparison with other mythologies from west Alaska shows, however, that his is sufficiently representative for the present purpose, which is a more or less experimental study.

In this category of themes in the Lantis mythology, the most common plot presents the Haughty Girl: the resistant, independent young woman who rejects all suitors or leaves all husbands or insists on living alone, and who must be overcome. Rarely is the husband shown leaving the wife. Himmelheber did record a good version of the classic Feigned Death, which seems to have been a west Alaskan staple (Lantis, 1938, pp. 162-165; Himmelheber, 1951, pp. 103-106; Nelson, 1899, p. 467; Ostermann, 1952, pp. 185-187). In this, the husband pretends to die but actually goes away to marry a woman in another settlement. This story stands alone, a remarkably stable combination of plot elements. In the pre-settlement and early settlement life, apparently husbands did desert their wives often and easily. Despite this, Haughty Girl appears

TABLE 3

Male-Female Harmony and Conflict in Nunivak Stories
(Himmelheber Collection)

Story, by No.[1]	*Narrator, by Letter*	*Nature of Relationship, for Married Couples and Unmarried Unrelated Couples*		
		Good[2]	*Bad*	*None*
1	A	1	1	
2	B	1	1?	
3	C[3]	1	1	
4	D		1	
5	E		2	
6	A			1
7	A			1
8	A	1		
9	E		1?	
10	B			1
11	A	1	1	
12	C		1	
13	A			1
14	B	1	1	
15	A	1	1	
16	A	1	1?	
17	B	1		
18	B		1	
19	F			1
Total		9	13	5

1. See Appendix A for titles and pages of stories.
2. Not including happy-marriage endings extraneous to plot, as in "And then her children grew up and got married."
3. C was a woman; all other narrators were men. All now deceased.

Not for Resale

more often than Deceitful Husband. In Pre-European time when communities were larger and more numerous, the "chief's" wife and daughter may have been attractive but unattainable to the men of his village. The critical question is whether stories of the haughty young woman would still be told generations later unless they still appealed to storytellers and listeners, unless they still expressed some attitude toward or of women. Biographical data from the older Nunivakers suggest why this theme appears so often.

Cultural Evidence: Because men and boys lived a life apart in the men's ceremonial house, spending almost no time in the family home, because of conduct-tabus between brothers and sisters, and because mothers and daughters worked so intimately together, a girl was unprepared emotionally for the usual early, arranged marriage. (Most of this situation persisted to 1940.) Married at eleven, twelve, thirteen years to a strange man twenty to thirty years old, she would run away, weep constantly or, rarely, resist physically. The man would soon give up the fight. From his circumscribed masculine associations in adolescence and self-conscious masculine training for the life of the hunter, he was not well prepared either for life with a creature who not only was resistant but who might be dangerous to his power as a hunter. This does not deny that there were flirtations, but marriage was likely to be difficult.

An earlier deeper experience undoubtedly also contributed to the Rejecting Woman figure. Although for probably the majority of individuals the period of weaning was easy and the child continued to have the mother's affection, nevertheless the ease of marital separation and a high mortality rate made it absolutely necessary for some deserted or widowed mothers to give their children for adoption. Also kinship obligations required that boys especially be given to elderly people who needed them more than the child's parents did. Adoption was traumatic for many of these children, as my Nunivak biographies and autobiographies show.

Even more important was the custom, no longer practiced, of sending all boys to live in the men's house at about five years of age, while girls remained with the mother. This universal experience of males supposedly was accepted with remarkable ease. With the mythology evidence at hand, we can question the Nunivakers' bland assumption that *all* the little boys preferred to leave their mothers and sleep with their older brothers in the kazigi.

One story openly symbolizes the conflict at the level of basic sexual relationship, namely a tale on the Symplegades theme, familiar enough in Europe and northern Asia and widely known among Eskimos (Lantis, 1938, p. 135). Here two brothers, setting out to obtain wives, go in their kayaks between mountains that periodically crash together, killing the wayfarer. The boys manage to go between the cliffs by the customary power of magic songs, which in this case have the special feature of the brothers referring to each other, that is, apparently calling upon the power of their masculine and kin relationship. The stern of the kayak of each is broken off but they manage to go on to a happy conclusion

Not for Resale

of their quest. A particularly interesting feature of the symbolic clapping-cliffs is that little people with round mouths dwell between them and bite and kill those who attempt to go through (Lantis, 1946, pp. 281-282). This being the only story with obvious symbolism of sex intercourse (some others refer to intercourse literally and nonchalantly), I suggest that the poor adjustment with females is not merely or initially marital but is deep and started early with mother-symbols. A generic male-female conflict is the basic one rather than merely the sexual relationship, which seems to have been matter-of-fact.

The possible alternative explanation for this Clapping-cliffs image, namely that women and sex intercourse are dangerous to the hunter because of the concept of uncleanness, still does not explain the Rejecting Female.

In other stories, male-female conflict is more diffuse and usually resolved in the case of a married couple by one spouse simply leaving or in the case of unmarried couples by suitor or community overcoming the resistant one. The alternatives of submission or flight are the common Nunivak devices for resolving interpersonal conflict. The story characters almost never are overpowered by open confrontation and physical conquest, only rarely by trickery, but often by supernatural means. The Nunivaker's power is not in himself but is externalized in an amulet or a song.

Although the Hammer-child or Monster-child story (see Appendix B) has sexual elements, it is complicated by punishment for breaking ritual tabus, by father-daughter relationship, in-law conflict, and shaman-community conflict. It is not at the primitive sexual level of the two young men who are avowedly seeking wives. Both stories contain oral aggression, the meaning of which will be discussed later.

In summary, the seeming contradiction between the concept of mothers and grandmothers who are always good and the concept of women who in many other relationships are shown as arrogant (rejecting) or aggressive or otherwise objectionable can be explained by the child's, especially the boy's, loss of a mother, his seeking an ideal mother-wife, and his frequent disappointment in marriage. The sex relationship in the past was further complicated by the not-yet-adequately explained relation of women to the sea mammals. If women observed all the ritual tabus, they could actually bring the animals; if not, women were dangerous to the hunter. The man's world was centered in the kazigi, the woman's in the home, and there were barriers between them. The dichotomy was even objectified in an everyday artifact still in general use in 1940. Men's wooden dishes—each person had his individual ones—were triangular or oblong; women's were square or round.

Internal Conflict. Sometimes involved in the interpersonal or in the individual-versus-the-world conflicts but sometimes appearing alone is the third major type of problem. This is man against himself, of which we find seventeen instances. Many of these are central themes, not just incidents. The internal conflicts are the most significant but

Not for Resale

are also the most difficult to identify and to analyze. To understand them, we must reach farther, over more gaps of evidence than in the preceding. So far as literary theme or problem reveals, there are the following: isolation, that is, the need for escaping from isolation into a satisfying social relationship; guilt, which is verbalized as a problem in only two tales (about the String-figure Spirit and "The Dead Wife") but is implicit in many; the dangers and rewards of compulsion; the loss of one's magic power (which can be restated as the loss of a defense system?); and a conflict of loyalties, for example, loyalty of a man to his mother and to his wife, possibly implying a dependency relationship.

In several cases sin and crime are portrayed, with punishment presented not in the form of tortures of guilt but as social punishment. There also are cases of punishment by the supernatural, which we must regard suspiciously as being really a feeling of guilt and a punishment by the superego (conscience), although not so recognized consciously by the Eskimos. The sins thus punished are covetousness, envy, physical aggression, stubbornness, and willfulness, in most of which there is an implication of focused hostility and in all of them inadequate socialization.

The symbolism of certain specific threats from the supernatural reveals many more than the number (17) of occurrences of internal conflict cited above. The symbolic details—apart from the larger themes —must be gathered together by themselves to ascertain, if possible, the intrapersonal conflicts that do not appear at or near the overt level but are deeply embedded in the personality. This will be done in the next section.

Before leaving this section, let us see what Himmelheber's stories can add to it. He was told one having a different and more explicit statement of conflict of loyalties or identification than appears in the same theme in the Lantis collection. In this version of the Haughty Girl (Himmelheber, 1951, pp. 45-54), the young woman is at first resentful because her possessive father will not let her marry, later she refuses to marry. She learns to hunt (indicating her identification with her father and other males). She takes a bear-husband but leaves her bear-son because of his odor, and she eludes her husband. She enters a contest with a chief's daughter who is a kind of amazon and destroys her and her father. Finally the young woman marries happily. The contest with a Huntress and the latter's father may be a contest with the heroine's other self, that is, her abnormal self, and her own father. Does the Haughty Girl imply generally a homosexual woman, to whom men are not attractive? Emotional aberration may be suggested by marriage to a dog, as in the famous Dog-husband, or to a bear. On present evidence one can say only that Huntresses do appear in Alaskan Eskimo mythology (Lantis, 1938, pp. 157-159) and such real-life women were described to me on Nunivak Island while womenly men were not, and that a conflict over one's masculine or feminine identification is strongly implied in the above story.

A puzzling and suggestive myth from Himmelheber (1951,

Not for Resale

pp. 58-59): A younger brother, who wants to do what his older brother does, disregards the latter's warning not to laugh. According to the narrator, that is the point of the story. What the youth really does is to go into a cave while hunting cormorants, where he encounters little men who use a fire-drill on themselves as a joke. They bore their own hand, ear, eye, finally anus, whereupon the boy laughs. In punishment the younger brother can talk only in imitation of his older brother, thus becomes the Echo. This intriguing myth by Kangalix, who had a strong, yet unhappy identification with his father, is overtly a story of male sibling relations and covertly a more basic story of male competition and male sexuality. For what, really, does the youth get his supernatural punishment? For disobeying the older brother, who is traditionally a substitute father? For being entertained by the fire-drill? Psychological analysis of folklore at times is confusing, at other times enlightening.

THE PERSONALITY

Intelligence. Not much attempt has been made in this study to ascertain thought processes as such or to make any inferences on intelligence. Himmelheber commented that his Nunivak-Kuskokwim tales seemed to him inferior to the West African Negro ones he had collected, in action (plot), logical construction, and wit (but see his story about the wedge, 1951, p. 92). On the other hand, he thought the Eskimo stories more poetic (1951, p. 17). I would add that in his mythology there is a current of strong emotion, of fear and a feeling of the seriousness of the occurrences described. This is not the medium for a show of intelligence—Eskimo technology serves for that—but for the emotion of man's relationship to the natural universe.

The Id. Here "id" is used to indicate basic physical drives, *not* limited to sexuality. Elimination, sex intercourse, and other body functions are referred to casually, and there is little direct portrayal of conflict over id-needs. Raven of course satisfies his hunger by debonairly disregarding others' rights and needs. He is not presented so much a glutton as a lazy creature who, since he does not work, must get his food by trickery. He is everything that a Nunivaker should not be: self-centered and willful, deceitful, without conscience, and lazy. He does not kill people (he introduced death into the world, but this was one of his acts of wisdom in the Creator role), he just robs them. In only one Raven incident is there a sexual element (Himmelheber, 1951, pp. 32-33); and lechery, portrayed by either human or animal characters, never is a theme in Nunivak folklore. It does not contain any body of animal stories so extensive and elaborated as those about Blue-jay in the Plateau area, for example. Giving admittedly a value judgment, I would say that Alaskan Eskimo literature is too sophisticated to tolerate many such obvious tales.

Nunivak stories present nothing *explicitly* indicating sex conflict, between the id and either the superego (conscience) or the ego. There is, however, occasional explicit sex frustration by reality: the young man attains an age at which he needs and seeks a wife. After difficulties, he always finally gets one even if he has to steal another man's

Not for Resale

wife. In one case, he steals five men's wife, a record in polyandry (Himmelheber, 1951, pp. 93-102). There is so little of a "sex problem" that one cannot help wondering whether it is repressed, but I can find little evidence that it is, except in one narrator. As we have seen, the problem of relations between the sexes is more complex and general than mere frustration of sex satisfaction.

One unclear myth presents a conflict between hunger and fear of the supernatural (Lantis, 1946, pp. 291-92). If poor hunting and consequent hunger are interpreted as punishment for breaking tabu or ritual, then we can understand this story in terms of conflict between hunger and conscience. When the villagers in this myth are afraid to admit that they are hungry, probably this is because they feel guilty and have good reason to fear punishment. The one girl who complains of hunger, although the people try to stop her, is transported supernaturally into a good life. There undoubtedly is some assumption here that is obvious to a Nunivaker but that we outsiders do not understand. The best explanation seems to be that the poor young girl knows she is blameless, hence dares to speak out. This myth is reminiscent of "The Two Brothers" (Lantis, 1946, pp. 265-67) in which a person also gets help by doing what he is *not* supposed to do: complain about the weather, the great Sila.

If the concept of id is used broadly to mean self-gratification of any kind—doing whatever one wants regardless of mores—then we have a few examples. Although there are not many out-and-out morality or cautionary stories, we do have "String-figures" (Lantis, 1946, p. 292), "The Dead Wife" (1946, p. 293), "Mayogoyax" (1946, pp. 308-09), and "Where the Echo Comes From" (Himmelheber, 1951, pp. 58-59). In these, the conflict with the mores is stated and the wrong-doer is punished by the supernatural, which in each case looks suspiciously like the conscience.

Where the offense is not against the supernatural but against another person, Nunivak protagonists' reactions are not uniform. Sometimes the self-gratifying wrong-doer is punished, sometimes not. In Himmelheber's story (1951, pp. 103-106) of the deceitful man who leaves his wife for another woman, he is punished not by guilt or the supernatural but by the aggrieved wife. Her revenge is excessive, however, and she cannot control it.

In one version of the story of a man who expels his wife in order to take another, the aggrieved woman finally returns and marries him again; in the other version she does not marry him on her return but she does not punish him, either (Himmelheber, 1951, pp. 71-91). The two endings may differ because told by different sexes.

Men are shown to be competitive as regards women. A man freely takes the woman he wants and she usually just goes along. "The Little Bird" is unusual in having two love episodes and the wife resisting other men (Lantis, 1946, pp. 293-97). One who does not know the culture probably would suggest at this point that such stories are wishful, indicating a frustrated desire to have extra or different women. The

Not for Resale

stories are wishful but not just for a primitive sex satisfaction, rather for wealth and power. In real life, the strong well-to-do men who bossed the men's house took mistresses or abandoned their wives about as they wished. This was a prerogative of power. The community disapproved, envied, and usually tolerated. Whichever one of these three the storyteller felt most strongly seems to have determined his ending of such a story.

Going beyond the explicit into the implicit, repressed, highly symbolized desires, we find two stories told by an unsuccessful shaman, whose autobiography of his childhood was obtained after both these collections of tales were secured. Besides the Echo, already discussed, he told about a shaman contest (Himmelheber, 1951, pp. 60-61). The good shamans on their spirit-flight have to overcome the following obstacles presented by the bad shaman: a large "Zauber" lamp surrounded by four beavers that try to burn them; a conical fish-trap (they swim through it); a large dog (in the form of small fish, they swim in through his mouth and out through his anus); an axe, which is really the shaman's wife; live animals serving as stones holding down his skylight. The threat in the last is supposedly the animals' biting the travelers. It is hard to interpret all the symbolism of this rather poorly told story, but there do seem to be some sexual elements. In Freudian terms, the axe would symbolize castration or death or at least a general robbing of power. Certainly here all the obstacles threaten not merely to block the shamans' journey but to entrap them and take away their magic powers. Nunivakers are reluctant to tell their dreams—I obtained a few—but until we have a good amount of dream material, we probably cannot know the common local symbols.

In summary, physical sex and food are not prominent elements in this mythology. However, sex and food—especially the latter, as we shall see—in their social implications and in relation to a general anxiety are important.

The Ego. "Ego" as used here refers to the organized, realistically-functioning self. It is that part of a person that manages to keep his various and often conflicting motivations under control and to turn them into adaptive and adjustive behavior. The world does not see all the ego processes just as it may not see all the desire or all the guilt that the person feels, but the world sees the results. The ego is, however, more public than the other aspects of the personality.

Merely because Nunivak Eskimo protagonists are presented in problem-situations, we must not assume that they continue long in them. The action moves forward. Even though the hero's motives may not be verbalized, still he obviously is motivated somehow to surmount his obstacles. The core of the total personality revealed in action, final resolution of problems, in descriptive as well as narrative detail is that of a *strong ego-ideal.* In other words, Nunivakers have a clear image of what they want to be, as individuals, and a clear picture of themselves in their actual world, realistically striving to be what they desire. With one exception, this ideal is so well defined and so completely accepted

Not for Resale

that in the stories it is simply taken for granted. In the one exception, it is stated openly that the unsuccessful hunter *should* be poor. Food should not simply be given to people (Himmelheber, 1951, pp. 31-35).

Twenty-seven of the forty-one myths and tales show that men are or try to be excellent hunters, good providers for their families, and generous benefactors of the community. To achieve their goals, the characters are persistent, usually cautious and judicious, observant, rational, willing to admit fear but also striving to overcome it, responsible, diligent and methodical, in most cases finally effective. They are affectionate and properly paternal, although in a few instances ashamed of their children for not meeting social expectations. Thus the ideal is further defined. Men who are poor and dependent are ashamed.

Women take good care of their children and at the grandmother stage are the youths' chief refuge in a difficult world. They are good workers, that is, diligent, remarkably self-sufficient, foresighted, also persistent, sometimes to the point of stubbornness.

All these traits indicate *good orientation to reality*. Except in the Raven tales which must be considered separately, there is little bombast or pretense. In a few tales the hero is in conflict with society and behaves anti-socially in order to forge ahead to his goal of achieving the status of a wealthy man, who in the old days was a sort of chief. After attaining his goal, however, he is pictured as assuming social responsibility by establishing a family and usually also a village, and by distributing the products of the hunt.

Himmelheber has commented with some surprise on these Eskimos' idealization of their physically hard life. He points out that in dance as well as myth they portray daily pursuits, not only all kinds of hunting but women's berry-picking and other tasks, as if glorifying them (1951, pp. 23-24).

People cannot help showing the aspect of their lives in which their intense desire, anxiety, and happiness of attainment are centered. They must express this interest culturally. As Northwest Coast art shows intense concern regarding status, so everything that Rasmussen called "intellectual culture," Eskimo carving and other arts, their religion, and scientific observation of animals, show the importance of man's power over the natural world.

In this literature there is almost nothing on the problems of growing up except, for the boy, the problem of getting magic to make him a good hunter (Lantis, 1946, pp. 272, 275, 277, 278-280, 281, 283, 284, 286, 288) and—less difficult—obtaining a wife. Perhaps the animal-mother motif (bear-mother or dog-mother who is repugnant to her daughter-in-law) contains, besides the young woman's dislike of her mother-in-law, a picture of the son's attachment to his mother and problem of leaving her. It may be, too, a statement of Nunivak morality: the mother should be cared for (Lantis, 1946, pp. 268, 291).

For the girl, there is the problem not of getting a husband but of accepting the husband who wants her, of being a submissive woman.

Not for Resale

Probably implied here is her difficulty in leaving her parents and becoming part of her husband's family, all related to the ideal of the good submissive and hard-working wife.

The idealized success story is of course simple wishful thinking, but the characters and even many of the circumstances of their careers are not unreal. In everyday life, Nunivakers did strive as portrayed. Nearly all became self-sufficient; a few in each village were outstanding. Such competition, such demand of effort by everyone required some fantasy success for those not getting real success and for everyone feeling the strain of his own strong ego-ideal. Regarding the strain, in one story when the chief's wife is merely late in entering the kazigi during a festival, the chief gets angry and kicks her out bodily (Lantis, 1946, p. 290).

Competition and contests are prominent in Alaskan Eskimo culture and are presented in these stories as what Himmelheber calls "wager-contests" (1951, p. 22), usually between the hero and an evil aggressive person. This type of wager-contest is a classic struggle of good and evil. On the other hand, in Orphan Boy stories, in some stories of bad feeling and struggle between two brothers or between shamans, and in those about strong chiefs, social competition and shame are implicit. Shame occasionally is verbalized, competition rarely. The heroes in such struggles are not presented as having unusual physical strength although endurance is mentioned, only occasionally presented as being clever, principally in the war stories. Also, except in war stories they do not achieve their goals by organizing community effort, the only cooperation being that of pairs: two brothers, husband and wife, and so forth. How Nunivakers do win their objectives is significant.

The personality is not quite what it seems at first. The readiness to accede to others' desires, the tendency to submissiveness, to allow oneself to be carried along suggest *ego restriction.* In this mythology and culture it means a close limitation on the individual's ability to be aggressive against people in furtherance of his competitive ambition and satisfaction of his other desires. Just how much his view of his own power, his intrinsic strength, is restricted is hard to determine from the mythology. Logically the person might still have a feeling of his own strength, his inherent ability to dominate others which, however, he inhibits for social reasons. Probably this is really the situation.

Part of the ideal and also a real "felt need" is good socialization and social participation. There is a story of two brothers who dislike living alone and in darkness and who seek other people (Lantis, 1946, pp. 270-72). This idea appears elsewhere although less prominently. The common theme of the childless couple's desire for children expresses more than merely need for sons to support one (Lantis, 1946, p. 313).

Although most punishment and destruction come from natural-supernatural agencies, there are a few cases of personal-social punishment. The grandfather is killed in "Dog-husband" (Lantis, 1946, p. 268), sisters-in-law in "Hammer-child" (1946, p. 275), uncle in "Big Eagle" (1946, p. 281). In each case, punishment is given by the injured

Not for Resale

person, and the offense is uncontrolled id or ego in an unsocial act. These stories represent a plea for tolerance and acceptance of others: the girl's father should tolerate her dog-husband and dog-children, the young women should not criticize their brother's step-child (and wife) for being peculiar, the uncle should not become angry when his young nephew is mischievous. The ultimate in tolerance is shown by the wife of a man who wants only a daughter and purposely loses his sons. She continues to be his dutiful wife although she knows what has happened and wants her sons (Himmelheber, 1951, pp. 118-121).

This laissez-faire attitude would be fine if it did not ultimately show a seeming paradox: a kind of *discretism* among a very well socialized people. Although close, it is not exactly individualism or individuation as these terms are applied to United States life, for example. People not only restrain their aggression but they become restricted, even submissive, not impinging on others. This is explained by other parts of the mythology and the culture.

On close examination, one sees that a person attains his objectives not solely by effort expended directly against the obstacles but by allowing himself to be compelled or manipulated by magic or by acquiring special magical power to compel others. Thus a person satisfies the demands of ambition, of a high ego-ideal, not merely by skill or by working with other people but by submitting to compulsion by supernatural means, thereby getting some magical power—one's own symbolic compulsive, dominating power.

The Nunivak concept of magic and of most other supernatural power presented in the story-life is exactly that on which the people used to operate in real life and still do occasionally. When the heroine, Little Bird, puts a pebble amulet in her mouth in order to escape Tricky Woman (Lantis, 1946, p. 296), she does what any Nunivaker would do when feeling about to be overwhelmed by danger. The many amulets possessed by the typical Eskimo of whatever region are thought to have either protective or compulsive power. To a Nunivaker, songs and *even thoughts* similarly can—or in the old days, could—force others to the fulfillment of one's own desires.

On the assumption that the supernatural agencies are objectifications and personalizations of forces in the individual or real but intangible forces pressing on him from outside, we must analyze most critically these supernatural elements, for example the circumstances under which they appear. The stories illustrate the situations in which the individual submits to supernatural power: (1) When a defense is needed against a feeling of inferiority and against real inferiority. The poor boy or the younger brother who is inexperienced becomes a shaman and uses the greater compulsive powers of the shaman to escape from his low status to a much higher one. Whether or not a shaman, he acquires a magic ear or a song, a special parka, or some other device which *automatically* kills animals without the use of the kayak, harpoons, bow and arrow that he as a poor boy cannot acquire (Lantis, 1946, pp. 272-273, 276-277, 281, 282-284, 284-285, 285-286).

Not for Resale

These details, unlike many in European folklore, do not portray escape by mere rescue by supernatural agent but are like some of the other tales familiar to all of us, in which the person escapes permanently from his disability by obtaining his own supra-reality power. The peculiarity in the Nunivak stories, however, is that this is achieved by a kind of wish-for-omnipotence, not real-life domination by maneuver or force but rather by a psychologically basic will-to-power.

This fits the high ambition, the too demanding ego-drives (or ego-needs), the satisfaction of which may be frustrated not only by physical reality but also by the counter demand of social self-restraint or ego restriction. Even though the will-to-power is directed usually toward the sacred food-animals, such as the seals that are the basis of wealth, nevertheless it is possible that people too may be subject to these strong forces. This threat rarely becomes an actuality between ordinary laymen, but is common in shamans' relations with each other and with the community, because shamans have so much more of the essential magic power than have other people. And perhaps they have a stronger power-drive.

(2) The theme in two other stories, "The Young Man" and "The Younger Brother," shows the Eskimo's need to supervene reality generally—a more general insecurity—his need for magic even when not poor. One story presents the problem of retrieving lost personal magic and the other of guarding magic from a covetous man trying to take his younger brother's amulets. The myths show that this power must be held at the risk of life itself.

(3) Another type of story shows the treatment of the haughty girl who will not accept the usual suitors but who must submit finally to unnatural husbands and supernatural power (Lantis, 1946, pp. 267, 273, 277, 288). In "The Chief's Daughter," the girl is magically dismembered by the compulsive song of the young man who undertakes to overpower her. This magic is obtained from the youth's grandfather and with his help the girl is put together again and married by the young man. The same magic power is seen in "Hammer-child." Coupled with the earlier suggestion regarding men's feelings of being rejected by their mothers and of being reluctantly accepted back into the women's house by the young wife, this forcing of women's submission by supernatural means adds evidence that men may feel inferior and frustrated in their relations with women.

In other tales, girls are stolen and carried away by men and women, usually without any statement of physical force. The kidnapper's motives may be implied, but any motivation of the girl's ready submission is scarcely even implied. In one case, possibly she wants children although this never is stated (Lantis, 1946, pp. 276-277). She submits because, without her own magic, she cannot oppose the person who has magic power.

All peoples have some areas of uncertainty, some feelings of inadequacy, and many different devices for reducing the resulting anxiety. The psychological means or device in the present case might

Not for Resale

be called submission to the objectified power of the wish. Does the remainder of the culture confirm this and show a basis for it? Why do these people take this particular means of reassuring themselves? Several cultural "determinants" seem to reinforce each other, and altogether they cover virtually the individual life span.

Cultural Contributors. (1) Being carried almost continuously on someone's back, usually inside the parka, the infant travels, watches people, observes the world at large, and participates in nearly all activities at the volition of another with whom he is so intimately associated that the two become almost one body. The infant regards the world over his mother's or sister's shoulder as she moves about her daily tasks, and during the day he sleeps on her back, feeling the other person's movements even while he sleeps. Remarkable responsiveness to the feelings and desires of others is developed early. The intimacy of the child enclosed within the adult's parka goes beyond that of the child on the cradle-board slung on the mother's back, probably equals the mother-child intimacy of the infant carried on the bare hip, and gives greater security. To prevent the child's soiling her, the girl nursemaid or young mother is constantly and subconsciously attentive to the baby's restlessness in order to slip him quickly from the parka. The baby similarly senses irritation when the mother-figure has not been warned. As a result, the infant is trained early, and with little fuss, to kick slightly when he needs attention. But he must not kick too hard. Thus submission and being physically aggressive in only the gentlest way bring satisfying rewards. (In pre-European times moss served as a diaper, but then and now diapers often have been discarded as a nuisance.) Toilet training should not be emphasized. It is only part of a generally permissive, warm, gentle, intimate relationship, which includes also breast-feeding and feeding pre-masticated food to about three years, the age of remembering.

There is ordinarily no startling change from this situation to one of free locomotion and independent action, which may come slowly to the young Nunivaker impeded by bulky fur clothing. If he clamors to be placed again on the back, he almost always is accepted again temporarily. Such experience in infancy is not the sole explanation for inhibition of vigorous self-assertion in adult life, but it sets a trend.

(2) Just as willfulness and aggression are punished or at least disapproved in the stories, so in everyday life aggression against people is severely censured. This is true not only in stated morality, for example in the contempt for the thief, but also in such behavior as children's play, in which there is no sport of boxing. There is strong criticism for slapping, hitting with the fist, or similar bodily aggression. The child thus gets additional training in the proper, that is, unaggressive, physical and emotional relation to others. (Wrestling, finger-pulling, tug o'war and other tugging sports are acceptable.)

(3) At the same time the child, male or female, is honored *individually* by the community for his steps up the ladder of skill:

Not for Resale

first bird killed, first seal, first song composed, first dancing in the kazigi. Thus develops a person in many ways strong and self-reliant, in others inhibited, even timid.

(4) That Nunivakers feel the burden of inhibition of aggression is shown by their high admiration of the wealthy men who not only are skillful hunters but who, as the biographies show, formerly displayed greater personal aggression than other people. They ordered others around. They connived to shame less successful men. Sometimes they and the shamans controlled the community in so compelling a fashion that the only recourse of ordinary people was flight: removal to another settlement. (This recourse is illustrated in "The Younger Brother," in which the abused boy simply forgets about his older brother who has sent him away and does not try to return home.) Less often, by common agreement the community would rise against a shaman—seldom against a wealthy man—when no individual dared oppose him. Virtually the only means of aggression available to a Nunivaker in ordinary interpersonal relations was aggressive thinking—with its corollary, gossip—which was endowed with all the accumulated repressed force.

(5) Whether the people were vindictive is not clear from either mythology or real life. Eight, possibly nine stories in the Lantis collection, excluding war legends, contain revenge. It is usually not the main theme, however. Unlike the versions from farther north, the hero's quest to rid the world of monsters is not invariably a revenge expedition. In Nunivak warfare, on the other hand, a common objective was to avenge a relative's death in a previous battle. This does not tell much about the personality, though. People wanted revenge—this seems clear—but we do not know how often they sought it, especially in extreme aggression. Implied in the Orphan Boy's becoming wealthy and distributing goods to the village is revenge achieved through shaming other hunters.

"Inhibition" as it is described here does not have the connotation it often has in the United States. Eskimos, especially males, have not been inhibited in self-expression through the arts. They have inhibited—even repressed into the subconscious—only hostility, the urge to violent action. In consequence, the latter bursts its bonds occasionally.

The Superego. This usually is defined as the internalized and possibly distorted moral code of the individual's culture, that is, the code as he, with his particular life experience and ego-structure, applies it to himself—his conscience.

The mythology shows that these Eskimos recognized the phenomena of repression, subconscious compulsion, and possibly other defenses. Two myths illustrate the operation of abnormal compulsiveness, in both cases by supernaturals, and show that it defeats the aims of these spirits. In one, the wife's ghost pursues the husband who has disobeyed her funeral instructions and has too quickly forgotten her. In a version of the obstacle-flight motif, he throws objects in her path, which she must compulsively stop to count and pierce or burn. He of course escapes,

Not for Resale

demonstrating that his self-possession and ingenuity outrun her compulsions (Lantis, 1946, pp. 292-93). In one incident in "The Two Little Birds," an old man who seeks to kill the heroine and her daughter with a long knife is similarly outrun when Little Bird magically places rocks in his path and he, instead of going over or around them, stops to cut each one. Although both stories were told by the same man, their elements are not aberrant and individual.

At the beginning of the story about the ghost wife, the husband is panicked when alone with his wife's corpse and flees in terror, neglecting to carry out her ritual instructions. On arriving at another village, he promptly marries another woman, having completely forgotten the first wife. Later, when he recalls, his conscience forces him to return to the first home, and there ensues the pursuit already described. Here we have a case of genuine repression following trauma and guilt.

Cultural Evidence. Froelich Rainey (1947, pp. 275-76) recorded at Pt. Hope and I (1950) on Nunivak Island—each at the time unaware of the other's information—descriptions of actual experiences as follows: a man meets a supernatural being when out traveling alone, is very frightened, returns home and becomes ill but cannot understand the cause of the illness, having forgotten the whole encounter. Later, when it is recalled and the instructions from the supernatural are carried out, then the man recovers from his illness. A significant detail in these true accounts appears in two Nunivak myths also, namely, that the people who deliberately offend important spirits vomit or lose their appetite. In the action of these stories the operation of the superego is clearly indicated. We can reconstruct the process: id or ego comes in conflict with the superego. The individual cannot face the guilt that develops, so he "forgets" (represses). Finally some mental association breaks through the barriers, and the situation or the focus of the anxiety is recalled. Then after self-punishment and physical release, in most cases satisfactory control of the anxiety-producing situation is achieved by means of ritual and magic.

The link between, on the one hand, story and real-life experience of being overwhelmed and compelled by supernatural agents and, on the other hand, the sensing of compulsions within oneself probably is that the former (supernatural) is an objectification and symbolization of the latter (anxiety and defense). The process is in the same class of psychological mechanisms as projection, but instead of motives being projected into real people, they are projected into extranatural creations. The apparently stupid ghost or giant or dragon who is outwitted by the clever hero—a combination familiar in many mythologies—suggests this hypothesis, which is not new to European culture: these spirits are projections of man's own "blind" compulsions and rigidities, the unreasoning parts of his behavior. The specific storyteller may not always be objectifying his own behavior but the behavior of other types of people whom he has observed. In any case, the Devil is human. Because the Eskimos' malevolent supernaturals are not presented as

Not for Resale

beguiling tempters or fire-and-brimstone punishers, as the Devil is presented in Christian folklore, it probably is no less true that some of them at least are projections of human impulses and behavior. We recognize our own devils; we may not recognize other people's.

The submission of a person's physical drives to his ego or occasionally of both to the superego is made into an acceptable, positive value by the concept of individual supernatural power acquired in this process of submission and suppression. The process, further developed and clarified, is familiar in Christianity, where miracle-working power has been obtained by submission to the will of the Deity. In many Nunivak myths, hostility is implicit and it finally finds expression; but it is usually by magical means rather than by physical aggression. In other words, by thinking and wishing hostility rather than by acting in hostile fashion. And in Christianity's earlier days, black magic was not entirely extraneous and foreign to it.

How can a people as realistic as the Eskimos so readily accept this idea of every person actually having the power to counteract reality for good or ill purposes? Going about their work on land or sea, even under hazardous conditions, they have as little specific anticipatory anxiety as an experienced truck driver on a highway. The children are thoroughly prepared in step-by-step education throughout childhood and adolescence for their practical work of securing food and other material necessities. A people highly competent technically, living in an environment that contains adequate resources (in Bering Sea), a people not easily panicked in the face of real dangers such as storms, nevertheless apparently cannot depend on this competence solely. There is a sense of constant threat, and a fatalism about it. It is not merely scarcity of food that threatens. The many supernatural terrors cannot always be personifications of hunger. The mythology gives us some good clues as to what really is threatening the Eskimo.

Emotional Threats to the Individual (Emotional Conflicts). As we saw in discussing problem-situations, various dangers may threaten a person from outside himself, not only from the physical universe but from a clash of the self-interest aims of two or more people. A person may be threatened also by the force of his own poorly controlled emotions. As stated at the beginning, Nunivakers by not being explicit regarding their motives make the personality analyst's task difficult. The responsiveness to others that they show in daily behavior and that the characters of their literature show explains partially why motives are not stated. At the level of consciousness, the motives are so obvious in the culturally formulated and generally accepted personal goals that they usually need not be stated although they can be verbalized. Their other motives the Eskimos dare not admit, and in fact cannot admit them since they almost always are below consciousness. These motives can be figured out only by going into the subconscious, in this case using the symbolism of the mythology as our vehicle.

Our task now becomes a bit gruesome. Himmelheber comments on the bloody element in this mythology (1951, p. 21). It tells a lot to the

Not for Resale

TABLE 4
Physical Dangers in Nunivak Mythology

Danger	*Number of Occurrences*	*Danger*	*Number of Occurrences*
Cutting or stabbing[1] (usually both)	21	Falling	4
		Hooking	3
Biting or eating	15	Consumed by mass of worms	2
Dismembering	9	Starvation	2
Burning	5	Physical combat	1
Blow on the head (in two cases, hit by skull)	4	Strangling	0

1. One case is implied, others specific.

clinical detective. The physical dangers that threaten or actually overtake the human characters, including animals that take human form, appear with the following frequency in the forty-one myths (Table 4).

Although in addition there are ten cases of drowning and five of storm or freezing, not all are threats from evil beings. In some cases, these same dangers are used by the hero against these evil beings, but unfortunately the direction of the threat was not always indicated in my original tabulation. Although the hero similarly may stab the bad character or cut off his head—instead of magically causing a river suddenly to swell, in which the evil one drowns, for example— *the table presents only the threats against the hero,* not the cases of their use by him, as with storm and drowning.

Certain other sources of anxiety and conflict are more difficult to classify. There are five episodes in which *possibly* there is a death wish (own death) (Lantis, 1946, pp. 266, 279, 283, 292, 293). This depends on one's interpretation. Any of the above threats of course might be evidence of depression and death wish. As we shall see, however, they probably come from other sources. In fifteen episodes there is trickery of one character by another. Four or five of these, though, are in the two Raven tales. Ten is a remarkably low number of cases of deceit and trickery for all the remaining stories, compared with most Plains Indian mythology, for example.

In contrast, the reader is impressed by the many instances of slashing the throat or cutting off the head, dismembering or cutting off particular parts of the body, stabbing and, most strikingly, biting. One thinks immediately of methods of warfare in this region in which spears, bows and arrows and knives were used, and enemies' heads were cut off (Lantis, 1946, p. 169; Himmelheber, 1951, pp. 127-128). One can understand why there is no barehanded combat in these tables and very little use of blunt implements, these being prohibited in real-life combat. But one cannot so easily account for the peculiar dangers of biting.

In "The Young Man," two old men try to kill the hero with ice chisels which, instead of points, have little live muskrat heads that try to bite him. The hero kills the muskrats by cutting off their heads although for the time being, at least, does not kill the men. Later when he cuts off the heads of wicked opponents, they keep bouncing and trying

Not for Resale

to bite him until the eyes are cut, which ends this unusual form of aggression. In still another incident, the hero encounters an evil woman who is cooking a human head with the stated intention of eating it. Her children say that they want to eat the hero's eyes. In another tale, the wicked aunt kills her nephew by cutting his throat, although the threat is actually eating or at least biting since the aunt is described as having a big mouth. (Himmelheber's version is more explicit: the woman is a cannibal, with a mouth from ear to ear, who cuts off people's heads and eats them (1951, pp. 107-109).) In the Lantis version of the same story, another evil woman cooks and eats people (1946, pp. 289-90).

Again, in the cycle about the heroine, Little Bird, a big worm in the sea, a common figure in the art of the region (see Nelson, 1899, fig. 158, p. 446), is described here as having a large mouth on its breast. Again, a willful girl who persists in making string figures when she is not supposed to, is challenged to a cat's cradle contest by the Spirit of String Figures. The one who wins is to eat the other. The girl by deceit and speed of movement wins the contest but later vomits human flesh and dies, having unwittingly eaten the Spirit when she won the contest (Lantis, 1946, p. 293).

A Himmelheber tale shows a switch on the general theme. The aggrieved first wife kills the second wife of the deceitful husband by tricking her into putting her head into boiling water. Then the first wife turns into a bear (1951, pp. 103-06).

How can we account for this element? In the course of my study of Nunivak child development, before noting the common occurrence of these elements in the mythology, I had observed that even though children are nursed at the breast until after all milk teeth have erupted, there still is only the mildest punishment for biting the breast. The child's behavior in this respect is regarded more with amusement than discipline. Also, even though the child spends most of its early life on someone's back inside the parka, there seems to be virtually no biting behavior. It seems unlikely that the dangers to self or others by biting come from this early bodily association.

Kissing is associated with sex intercourse and is inhibited in other intimate contacts, yet there seems to have been little shame and no guilt regarding kissing. Today, in imitation of the newcomers' behavior, children or adolescents may kiss, but the generally Puritanical Christianity that they have acquired does not encourage it. In the old days although kissing was inhibited, other oral behavior was not. Teeth and lips were and are used freely in moistening and working skins, pulling rawhide lines taut, and similar practical behavior. Our concern, moreover, is not merely any oral behavior. This threat is *oral aggression* associated significantly often with eating.

A possible explanation is fear of and guilt regarding cannibalism, which may have occurred in the far past. Real starvation seems to have been rare here, occurring in only a few family traditions and in only two Nunivak myths; and in no case did cannibalism follow. As there is no evidence of cannibalism from other material, one should be cautious

Not for Resale

in assuming that it explains the obvious fear of oral aggression—especially cautious when an alternative explanation is at hand.

Although there is not starvation, there is a more general and common insecurity, symbolized by another form of oral aggression. In the stories, it is the mass of worms in a pit or river into which the hero may fall and into which, of course, his evil opponent finally does fall. This is not the same as the large man-worm to which we have already referred, which seems to be a sex symbol (Lantis, 1946, p. 287). The mass of worms is especially significant because it is a common image appearing in the dreams of the youth about to become a shaman. When a lad loses interest in events around him, loses his appetite, has nightmares, and wastes away, he probably will dream of a mass of worms.

These, fortunately, are more easily explained than any of the other symbols. Despite the precaution of placing large coarse mats over drying fish and meat to keep off blow-flies, a person may enter his storehouse one day to find a good part of his winter's food supply all worms. In the old days, when fish were put in pits in the ground more often than in storehouses above ground, this also occurred, so that we have in the tales the image of worms in the fire-pit of a house or in some pool or river. This suggests immediately a food anxiety, which was present although not the dominant and crippling anxiety that it was in more northerly groups. Appearance of this repugnant image in the religious novice's dreams and fantasies suggests that it symbolized an even more general insecurity than literal hunger. The mass of worms may have symbolized loss of support, of a solid foundation, or, more strongly, death.

The final possible explanation appears in the fact that the most highly symbolized examples of oral aggression seem to be associated with masculine symbols, that is, the two are present in the same instrument. This is most vividly portrayed in Hammer-child, a male monster-child in the form of an old-style stone hammer with a wide mouth containing many teeth. Hammer-child kills caribou by biting, and he kills people. Finally he is transformed by his shaman father into a fine boy who becomes a good hunter. Since the male-female antagonism seems to imply fault in the female more than in the male, with masculine aggression justified by feminine recalcitrance, it appears that not sex aggression but another common form of aggression by males is symbolized here. There undoubtedly is guilt and fear of retaliation for killing and eating the animals, which have souls. There may be guilt for eating one's totemic animals, or, more likely, all animals.

The evidence is as follows. (1) There is complete animism. Nunivakers say that the only animal that does not have a soul is the dog, against which they are often brutally aggressive, even their own dog teams. Noticeably, the dog is the only domesticated animal, the only one over which man is sure of control.

(2) There is the concept of interchangeability of human and animal. In the forty-one myths and tales there are fourteen instances

Not for Resale

of animal-human conversion and six of human-animal conversion. For example, a man hears two people singing. When he goes to them, he finds the husband singing and the wife dancing. With no apparent motivation, he becomes angry and hits these two little people. They run away and disappear. When he follows, he finds only two fish in a pool and the piece of ice that had been their drum. The implied moral is that one must not be irresponsibly aggressive, for the object may be a food animal (Lantis, 1946, pp. 300-301).

In the stories when animals appear in human form, they are stated much more explicitly as being human than in many North American mythologies. The narrator would explain that the fox really was a man but sometimes he was like a fox; or Raven was a man but had a beak on his forehead.

Himmelheber comments that the number of Nunivak animal stories seems small for a culture in which the hunt dominates religion (1951, p. 26). Nunivakers do not need animal stories since animals in the guise of spirits, human beings, or magic symbols are in nearly all the stories except war legends. When man meets man, he is threatened with real arrows, knives, and firebrand, and trusts in the same weapons. When he goes into the natural-supernatural world, he needs magic and a clear conscience, for the animals have powerful protectors.

(3) In several rather unusual incidents, a human conversely is treated like an animal although retaining human form. For example, the Wicked Aunt who has a big mouth suggesting that she is a predatory animal or a monster is hooked in the ear and pulled up through the skylight by the heroes (Lantis, 1946, p. 289). In another tale the hero drills a hole in the jaw of his deceitful wife and tows her behind his kayak as if towing a seal. Also the man's small magic spears stick in the nostrils of his evil parents-in-law (Lantis, 1946, p. 281). In still another case, the Poor Boy obtains from supernatural beings the power to hook things he desires, even drawing them from far away (Lantis, 1946, p. 272). With his power to steal by hooking, as one draws the floating seal carcass to the kayak, he becomes a shaman.

(4) There are stories of marriages between human beings and animals, usually ending by one or both resuming original form and breaking up the marriage.

(5) In religion, there is a belief in reincarnation in another form, usually as a human being but apparently it may be as another kind of creature. To consume an animal may be to consume a person.

(6) There is the special treatment of both human skulls and animal skulls. Human skulls, up to about fifteen years ago, were taken out of their cairn graves at the edge of the village and put on a high place on the tundra, usually within sight of the village. The heads of bearded seals were set up in the house in a place of honor and were treated with the same tabus and ritual care as human corpses and skulls, finally being buried among the rocks with special little receptacles. The flesh of small seals' heads was eaten, apparently including the eyes. The tabus are revealing, especially tabus on the use of any sharp instrument, such

Not for Resale

as sewing needle or sinew shredder, while seal head or human corpse was being honored and its spirit was near (Lantis, 1946, p. 194). Indeed, in one myth a woman kills a man magically with such a tool (Lantis, 1946, p. 266).

(7) In the old days, hunters going out in the highly ritualized spring hunt for seals and walrus *placed a human jawbone in the kayak, the better to catch the animals.* Thus in overt act as in the symbolism of the mythology, the hunter's relationship to the food animals was dramatized.

(8) For the child participants in the Bladder Festival, the emotional climax, strong enough to be called a crisis, occurred when the men *gave the young boys and girls to a seal-spirit to eat.* The spirit did no physical harm to the children but in mauling them and perhaps biting them, he and the other initiates terrified them.

It is not argued here that the mythology comes from this traumatic experience, but rather that both ritual and myth come from the same basic concept of the relationship between man and game animal. The concept is not merely intellectual. The individual puts into it his strongest emotion. This emotional content, this constant fear of the animal turning against man, probably did start (at least for the Nunivakers) when the child was eaten by the seal-spirit, and it was then reinforced by all the hazards of life.

This Eskimo conception of the world still has force. As recently as 1952 or 1953, the following statement was made at Pt. Barrow:

" 'Nature is made up of the hunted and the hunters.' This rather unexpected statement, in English, was made to the writer in the course of the bloody business of butchering some twelve huge walrus carcasses out on one of the moving ice floes of the Arctic Ocean. The speaker, an Eskimo hunter, was not merely voicing a platitude;" (Spencer, 1953).

In the stories it is not man stabbing, slashing, and biting the spirits encountered in his wanderings. The spirits try to cut and bite him. His own type of everyday behavior thus becomes a threat to him.

Religion and mythology show that either the animals themselves or the great spirits that protected them would take revenge on man for not showing respect to the animals, for not observing all the tabus and ritual (Lantis, 1946, p. 199). In one tale a young woman, for example, offends a seal by referring to it as a fox. After she has cooked and eaten the seal, her stomach swells so that she cannot go through the entrance into her house. Her grandmother by magic use of her big needle helps the girl pass through and the latter then vomits whole sealskins. Later the fox, honored by her reference, marries her, but the story ends unhappily (Lantis, 1946, pp. 308-309).

By their acts of not only the usual butchering of animals but also the chewing and lip-moistening of skins, the people always have before themselves images of both men and women cutting and biting some part of the animal. The cannibal women cutting off human heads and boiling them is not hard for a Nunivaker to imagine even though he has never known a case of cannibalism.

Not for Resale

It appears that these people who are among the world's most effective hunters, that is, among the greatest human predators against animals, feel continuous guilt for this very effectiveness and so must enter into the myriad small rituals, must observe the tabus, load themselves down with amulets, rush to confess what seem trivial offenses, practice the magic, in order to reduce their anxiety. We who analyze hunting in terms of bird-spears, harpoon-heads, and other cultural forms forget that psychologically it is an act of aggression. When people depended solely on hunting and fishing, the physical need for food, social need for prestige of the great hunter, psychological need to satisfy an ideal of the self, the suspense, competition, excitement of the chase, fear of defectiveness of equipment at the crucial moment, fear of personal injury or death in storm and accident—all this built up a tension that was released, often, in a frenzy of attack on the caribou herd or walrus herd. The hunter must have sensed his own deep hostility against these creatures that so often eluded and frustrated him. The hunter had sound psychological reasons for fearing revenge from them.

In a tale recorded by Himmelheber, the Wolf-people show their resentment against men for injuries received (1951, pp. 55-57). The antagonism between man and animals thus occasionally is even expressed openly.

There is collateral evidence for the anxiety regarding oral aggression and moreover for the hypothesis that this is not a simple fear of aggression from independent outside agents but a projection of the individual's guilt and conflict regarding his own behavior. There is the Iglulik statement, recorded by Rasmussen and quoted by Weyer (1932, p. 333), that *the Eskimos' greatest problem is that their food consists entirely of souls.* By their frequent symbolic presentation of the dangers of biting and eating, Nunivakers show that they agree.

In a situation in which the aggression essential for survival becomes a common threat, one can understand much better the Eskimo's need for compulsive power. A Nunivak man expressed this when he said that in order to be a good hunter one must have the right songs. Songs are the hunter's means of drawing the animals to him willingly. Repeatedly statements were made on the island that the seals were pleased by all the fine entertainmnt in the Bladder Festival and were willing to come back and allow themselves to be killed. If not well treated, they grew vindictive (Lantis, 1946, p. 308). Drawing the animals to oneself by these techniques reduced not just guilt but the source of guilt—the force of the hostile act, the inevitable physical aggression.

Do hostile thoughts arouse as much anxiety as do hostile acts? My answer is based on impression, it is true, but an impression from daily observation: hostile thoughts are accepted more than action. Nunivakers constantly attribute to each other antagonistic attitudes, in projection of their own or in a sophisticated reading of others' attitudes. Yet they will smile at, talk with, and work with the same people.

Another effect of the cultural demand to inhibit aggression is the

Not for Resale

occasional sudden, violent and apparently inexplicable act in which one person may kill another with no show of emotion. This type of behavior seems to have been more common on the Arctic Coast where all anxieties apparently were more acute, where the inducement to aggression was greater but at the same time the dangers of it to the self and to survival of the community were much greater. In such instances the aggressor was experiencing a sudden release of repression.

Probably the emotional state was not so different—although the effect was quite different—when a person who apparently was simply traveling along was suddenly confronted with a vision (Himmelheber, 1938). He was experiencing a release of ordinarily repressed drives, now acceptably objectified, usually presented as threatening him, and finally controlled or repelled by him.

The above is summarized as a hypothesis, that these people's efforts by ritual and magic to draw the animals to the hunter—to make them want to come and be killed or at least to overcome their resistance by greater spiritual power than the animal-souls possess—are not only efforts to get food but additionally and importantly to mitigate the hunter's own physical aggression. Being in conflict about it, he must do something to reduce or avoid the conflict. Thus is established the *emotional need* to use and submit to those aspects of religion that have been referred to here as compulsive supernatural power, concentrated in ritual and magic. The latter, endowed with emotions of respect, fear, guilt, dependency, desire to prove oneself, and hope for success, are more than impersonal formulae. The readiness to accept this particular satisfaction of the personal need, instead of some other means, starts from but is not and need not be wholly explained by the infant's prolonged satisfying experience of submitting to the motives and judgment of the one on whose back he dwells. Similarly, by getting such satisfying attention to his own drives and desires, he gets a sense of compelling power within himself. One body behaves virtually as a function of the other.

As stated in the Introduction, one's interpreation must be tested by other kinds of data. Before going on to completely different data such as that from the projective tests, one can profitably examine other parts of the local culture. Accordingly the hypothesis to explain the stabbing-cutting-dismembering-biting symbols was applied to behavior that had not previously been accounted for psychologically.

I could never get from the Nunivakers or my own observations a satisfactory explanation for the sacredness of each individual's everyday dishes from which he eats seal-oil. Although these wooden dishes bear painted designs portraying bird, fish, or mammal, usually with harpoon or spear stuck into it, the design alone does not adequately account for all this: new dishes formerly had to be made ritually at a given time, had to be consecrated, and could not be used between the Bladder Festival in December and the opening of the heavily-ceremonialized spring hunt for sea-mammals. It now appears to me that this and other customs of the routine business of eating were done to demonstrate to

Not for Resale

the animal spirits that eating them was not a hostile act but was a ritual act performed with reverence, this in addition to the sheer magic of the design portraying success in the hunt.

Even more clearly, the hypothesis explains the disparity of emotional intensity in the spring and autumn hunts for seals. When one finds that a diligent hunter obtains as many seals by setting nets in the fall as by hunting with kayak and harpoon in the spring, one wonders why people have not carried out all the ritual in the autumn as they did earlier in the year. If hunger were the only motivation, then there would be as great emotional need for assurance of production in both seasons. In the spring, supplies of seal oil are more likely to be exhausted and people are hungry for it even when they still have other foods; in the autumn, they are facing winter when, in this area, they get no seals, hence are anxious to store a supply. My first explanation of disparity in amount of ritual and magic, the latter especially a good evidence of anxiety, between spring and autumn was the higher valuation of the greater skill in hunting with harpoon. Yet hunters said that it took much knowledge and skill, too, to set a seal-net under the ice in just the right place. This realistic motivation, namely, valuation of skill with the harpoon, does operate; but I now suggest that another and more basic difference is in the greater personal aggressiveness required in the spring hunt, the greater emotional build-up, occasional frustration of seeing the animal almost in one's grasp and then get away, the consequent danger, and in the greater physical danger which sometimes is interpreted as retaliation by Nature. In the case of netting, the seal kills himself: he simply blunders into the net and drowns.

Defenses. Not all anxieties and defenses can be given in so much detail, and undoubtedly most do not deserve so much attention. Having obtained in the beginning a fairly good idea of the threats to Nunivak life portrayed in the mythology, we now quickly summarize the defenses.

(1) The following *defenses against external threats* such as hunger appear most commonly:

wish fulfillment, which in the Raven tales, unlike the others, takes the form of easy satisfaction of food needs at others' expense;

altering reality, that is, modifying the environment, for example, in the story in which two youths who live alone in darkness go to find people and sunlight and finally bring the sun to its present regime (Lantis, 1946, pp. 270-272);

avoidance or flight, which the mythic heroes, despite their supposed power, show about as often as the poor scared Nunivakers themselves;

denial of reality, alertness and caution, restriction of the ego, also portrayed although not quite so commonly.

(2) Among *defenses against those threats arising within the individual,* there appear all that Anna Freud mentioned in her well known work on the defenses:

displacement, undoing, isolation, reversal, rarest in this mythology, at any rate the most difficult to recognize;

introjection, identification with the aggressor, sublimation, can be seen but their importance not clear, need more study;

projection, turning against the self (?), reaction formation, repression, the four most common defenses.

Not for Resale

This last combination perhaps can be explained as follows. There is a reaction against the individual's own drives that are culturally disapproved. Where possible, as in social relations, he acts the opposite of the way he feels until this behavior becomes a fundamental and habitual part of the personality: reaction formation. Some of the things about which he feels guilt and anxiety, he inhibits and restricts; others he represses. Or, where necessary, he continues the behavior and represses the guilt, as in hunting. The Eskimo friendliness and agreement with others is not just a pose. It often is a subconscious reaction rather than a hypocritical conscious reaction—although the latter is not unknown—against the person's own desire to act alone and to gratify himself, or to dominate others (what he probably wants most), or even to be hostile. His deeper motives then are projected. His desires and judgments on himself are externalized, given form in imaginal creations, the familiar supernatural beings of religion and mythology, and they come back against the individual. Thus he can come face to face with his superego and usually can come away from the encounter with increased power. Nunivakers do not often show the more irrational and devious defenses. This whole psychological complex is adequately adaptive and healthy.

A complex type of defense that is rare in real life is equally rare in the mythology: conversion of an anxiety into an injury or illness. There are not half a dozen instances of sickness in this mythology and no one is struck blind or lame. The few cases of illness that do occur are explained by magical acts of one person against another or by specific punishment for wrong-doing, which may represent either objective occurrences or a socially acceptable phrasing of subjective anxiety-and-defense. In both story and real life, evidently hypochondria was not permitted.

Integration of the Personality. This is not a morbid mythology in which most of the characters die, overcome by the inherent conflict of their situation. Almost always, destructive forces are combatted successfully. Death of a protagonist occurs in only three stories. Only nine of the forty-one stories can be said to have an unhappy ending (see Lantis, 1946, pp. 267, 269, 291, 293, 297, 302, 304, 307, 309). A higher proportion of Himmelheber's stories, seven of the nineteen, end unhappily (1951, pp. 37, 44, 59, 92, 106, 109, 128). Still, in this natural, non-experimental projective system of the mythology, there appears an objective and effective people, much too busy meeting the world to think about the emotional conflicts within themselves. It is for us outsiders to figure out how this happens.

We must see the various pertinent parts of the culture in relation to each other as they focus on the individual. One cannot say that animism alone accounts for the fear of retaliation against man by animals. There are other animistic religions, for example in West Africa; yet there does not seem to be quite the same effect on the personality. Fear of the displeasure and aggression by animal and other spirits is reinforced in the Nunivaker's situation by (1) his material circum-

Not for Resale

stances: the fact that without agriculture or an abundance of wild food to be gathered, he is dependent and vulnerable physically. Added to necessity, (2) the culture's remarkable technological development and (3) its ideals of personal performance and self-reliance—what has been called here "high ego ideal"—force the individual to an effectiveness that brings forth the admiration of outsiders but, as the Eskimo knows, may bring the anger of caribou, seals, or even the great deity, Sila. The culture presents dilemmas and it then presents formulae for escape from them—because people are not willing to remain long in a dilemma. For dealing with the animals, there are amulets and tabus; for dealing with Sila, there is self-restraint. Finally, (4) although the boy and girl get good technical training and some preparation of the emotions, they still are usually not well enough prepared emotionally for their adult roles. The unsubmissive women, "chiefs," and shamans, against which Nunivakers sometimes are resentful in fiction and fact, seem to have a common element of poorly socialized power-seeking and independence. These, as well as the resentment against them, are part of the culture and are outlets for different personalities. But these are not the best adjustments, from the standpoint of united community life.

Visitors admire the Eskimo's broad friendly smile, his patience, his permissiveness toward children, his frequent tolerance for the less capable and the aberrant members of the community (although there are limits to this whereas scarcely any limit to the tolerance for child behavior), and his generosity and sharing. Behind this bland exterior is a rich, gruesome, emotion-propelled imagination that projects onto the sky-screen of the mythology what the Eskimo does not look at in his own personality or open up for a direct look by the visitor. In this, we suspect that he is not so different from the remainder of the world.

COMPARISON WITH PERSONALITY AS REVEALED IN RORSCHACH TESTS

It perhaps is unfair to the Rorschach analysts to present this material for the first time not by itself but as an adjunct to the mythology study. However, since there is no plan to publish soon the Rorschach study in its entirety and since it is interesting in the present connection, some results of it are given with the analysts' permission.

There were thirty-two tests, given to twenty-one males and eleven females, ranging in age from nine to forty-five years. Fourteen were under eighteen years, the remaining subjects eighteen years old or older. Interpreters were used with nineteen subjects; the others answered in English. Range in number of responses: 13 to 55. Average: 31 R. Median: 29 R. (This is a good average.) Nunivakers accepted the ink-blot test easily because it operated on the same principle as their old game of trying to see shapes in the clouds. All tests were given by me at Mekoryuk September 6 to November 4, 1946, as a part of field work supported by the Arctic Institute of North America, and all were interpreted in 1949 by Drs. Eugenia Hanfmann and Alice Joseph of the

Not for Resale

Harvard Psychological Clinic. Their interpretations were analyzed statistically by the Laboratory of Social Relations at Harvard University. This last part of the study will be given elsewhere.

The Rorschach specialists had read nothing about the Nunivak area and were told nothing about it. Regarding the subjects, they were told only the age and sex of each. They did not communicate with each other regarding the test protocols. Before they saw the tests, they gave individually a free-association commentary on Eskimos which I recorded. As an experiment, each analyst scored each subject on a personality rating sheet prepared by Dr. David Aberle. From my general knowledge of the subjects, I also scored them. When this was done, Dr. Hanfmann and Dr. Joseph, again individually, gave their impressions of Nunivak personality types. Although no two of us agreed well on the exact rating of degree of a trait shown in a test, we agreed quite well on the summaries. It may have been that the rating sheet was a little too complex, requiring a fineness of distinction that neither Rorschach test nor direct observation alone could give, for example between "very," "moderate," "slightly," and "not" persistent, or "marked," "moderate," "slight," and "no" wish to dominate others. Or it may be that we can verabalize oustanding characteristics of people, using big lumping words, but do not have sufficiently objective verbal measures of fine individual differences and especially of degree of a trait. We probably are too subjective in our distinctons between "moderate" and "slight": what is moderate to one person is slight to another. This rating procedure was experimental and no matter what its results it was worthwhile. I am grateful to all participants in the project.

Before giving their free association, Dr. Joseph and Dr. Hanfmann recalled that they had read de Poncins's *Kabloona* (about a group of Central Eskimos) but could not recall any specific articles and in any case had not read much on the American Arctic. They had not read any ethnography on Eskimos. Dr. Hanfmann had seen the movie, *Nanook*. Both mentioned the following impressions, not in this order, of course.

Hard life of the Eskimos; their patience, persistence, endurance.

Hanfmann added: Skill, coordination, strength, self-reliance.

Joseph added: Keen observation. Also surmised that the greatest threat came from nature rather than people.

Permissive treatment of children.

Joseph emphasized the close warm relationship between mother and child. Hanfmann said she had "a fairly idyllic picture" of parent-child relations.

Cooperation and sharing within small groups.

Family the important socio-economic unit.

Joseph added: Probably individual gets greatest security from the family.

Not many inhibitions regarding sex, no guilt about it.

Occasional open fighting, but infrequent.

Joseph added these impressions: Eskimos are shrewd, practical; friendly, outgoing, not sullen; have a contrast: bundled in clothes during outdoor work, naked in the home; gay, relaxed, crowded home; good development of imagination (she recalled ivory carvings but did not know folklore); occasionally impulsive, even to sudden murder or impetuous generosity; leave their old people to die; marriage fairly stable; contrast between wide expanse of the natural environment and the narrow enclosed home; landscape is horizontal, man and the animals the only vertical objects.

Not for Resale

Both said they *did not know:*

Amount of illness and injury.

Eskimo religious belief or nature of religious experience, attitudes regarding death and the dead; but Hanfmann speculated that death might be the focus of some other anxiety.

Amount of competition.

Joseph added: Possibly great competition for resources, not for status.

Degree of possessiveness or identification with things and places.

Hanfmann added: Did not know relation to authority.

Joseph added: Did not know sanctions, how people were disciplined; their defenses, except possibly withdrawal at times and open aggression at other times; sibling rivalry; tabus and mores; expression through music; division of labor; adoption, or sharing in training of children.

Dr. Joseph, who had had more experience in studies of non-literate peoples, for example the Saipanese and the Papago Indians, added the following *speculations and guesses.*

Possibly the Eskimos believed that injury or illness was caused by sorcery or loss of soul, probably did not regard it as punishment for wrongdoing.

Shaman had power over others because of laymen's awe of his supernatural power.

Seniority and proficiency in providing would give privilege and status.

Eskimos are cruel to domestic animals while wild animals would be respected more, because of their supernatural power.

Probable attachment to people rather than places. Yet must be stolid, if they can abandon their aged.

Anxiety possibly connected with being alone.

Eskimos probably are not evasive. No place to hide!

Probably have great pleasure in food.

Patriarchal, in sense that man is of more value to the group and has more prestige than woman. Male children probably desired more than female.

Probably not much romantic love.

Having heard of Eskimos who were hysterics, especially the women, Dr. Joseph wondered "why repression ever would appear among them to such an extent that they would become hysterics." She speculated that they might have frustrations, not in sex but in material things.

A very few of the above impressions are not true of Nuniwagamiut or are not so characteristic of them as of other Eskimo groups. They were stated (and repeated here) for methodological reasons. The raters were given no indication of the accuracy of these ideas.

Now we give the specialists' impressions several weeks later after intensive study of the thirty-two Rorschach protocols from Nunivak. Regarding possible influence on my work, this time-table should be noted: I recorded Dr. Hanfmann's observations on the tests when I had just started my analysis of the mythology, but Dr. Joseph's more extensive observations were not recorded until I was just completing the analysis and had formulated my main conclusions. These two (Joseph and Lantis) can be taken as independent lines of evidence on Nunivak personality.

Dr. Alice Joseph's impressions and generalizations of Nunivak personality after intensive study and formal analysis of Rorschach protocols, as dictated to the writer:

They have meticulousness of observation. Extreme specifity and concreteness of observation. A compulsion? Obsessional?

Not for Resale

There is free expression of emotion. Great spontaneity, emotionality. More constriction in adolescents.

An emphasis on body parts, human and animal. This may be explained partly by closer elationships with people, but not romantic enduring relations with the same people. There is some transiency of relations. Affection is diffuse, not limited to a few people. (Emphasis on body parts) partly explained by detail of observation, partly explained by aggression—frustrated aggression.

A good deal of dependency.

The emphasis on detail—alertness—sometimes goes with anxiety, shown by "shading" response. It's a kind of defense: escape into reality. Activity, busyness is a defense against anxiety.

Extroverts: probably ninety percent of the subjects.

"Black shock"—they avoided a whole-black response but stayed around the black mass by attention to details. They did not evade, but substituted reality answers for anxiety answers.

Probably some blocking of introversion. Some fear connected with relations with people. These people have imagination but sometimes are afraid to use it.

They're preoccupied with sex, but there is not a conflict and guilt in same sense as in our culture.

Aggression pretty high, but not much smoldering hostility—pretty direct. They're not revengeful. But aggression shows in the detailed critical responses. There is some conflict regarding aggression.

Repression is a fairly common defense.

Anxiety is high in some cases. Of the group as a whole, one can say that it is focused rather than diffuse. Focused on "the world" or on people more often than on own competence. They seem to be a self-confident people.

Some seem to have guilt, but are not driven or torn by guilt. It is not clear whether it's a "shame culture" or a "guilt culture"—I think guilt.

Some fear of coercion. The attitude toward domination is not clear.

I think they're a conforming people, but not submissive, ingratiating. They are quite individual. Individual but not individualistic. Well socialized.

Wish for domination: inquisitive but not bullying. Cognitive domination rather than emotional domination of people.

Fear of physical danger, in some; not general.

Jealousy in a few; may go with acquisitivenss, possessiveness.

High energy. Very persistent. Only a few languid individuals.

Intelligence: some, superior; most, high average; one girl low average; one boy a moron.

Competition: difficult to evaluate. It probably is implicit in aggression and acquisition. Good-natured, not bullying and revengeful. (Competition is) not pervading. It did not run through the whole record. It is not consuming. They can take time out for emotion and expressiveness.

A few people are depressed. Some suicidal tendency in specific people—not general. Manic-depressive, possibly.

It's difficult to get a schizophrenic reaction with these records.

They're impulsive.

Oral aggression—goes with dependency.

One or two cases of hypochondriasis, physical incompetence.

Dr. Hanfmann's comments were, for the most part, of a different order. She discussed the tests themselves and expressed basic questions on them: the fact that the responses were brief, not qualified (possibly due to less than complete translation by the interpreter or inadequate English when no interpreter was used), the kind of "detail" answers, lack of integrated combined "wholes," the seemingly conspicuous lack of "movement" images although the protocols are unclear on this, the many "form" responses indicating to her "a high degree of constriction," and the possible difference between adolescents' and adults' protocols.

Not for Resale

Children and adolescents are more productive, somewhat less stereotyped, although still same general pattern. They show more anxiety. Adults in contrast are simply constricted. Children show fear more openly. I don't know whether they are less inhibited.
Children: more records that are similar to our culture.
There may be more sex disturbances in the adolescents.

When the two analysts' total ratings on the group are compared trait by trait, it is found that on most of them the trend is in the same direction although one may have more frequently checked "slight" on a given trait, for example, while the other has checked "no." Since we already have Joseph's summary virtually trait by trait, space will not be taken to list Hanfmann's ratings of the group, too. The only trait, especially pertinent to mythology, that was overlooked in Joseph's summary is this: The quality of subjects' thinking was rated as "practical" most often, next "imaginal," least often "abstract."

The differences were as follows: Joseph saw in the responses more *aggression* and *anxiety.* (Hanfmann in general was more cautious.) Joseph thought the anxiety was "focused," while Hanfmann thought it "diffuse." Joseph saw *dependency as a problem* more often, also *wish to dominate,* marked *concern regarding achievement,* and high *persistence.* Hanfmann, on the other hand, registered more cases of *mood swing.* She said, too, there were "deviants—a few—who are not introverts as in our culture but are neurotics."

Traits that stand out, although not indicated by the raters' previous impressions of Eskimos, are constriction and inhibition, stressed by Hanfmann (regarding pathology, however, she mentioned "inhibited-compulsive and hysterical-impulsive. Both types present."), and conflict regarding aggression, various anxieties, notably anxiety regarding interpersonal relations, and the defense of escape into reality," noted by Joseph. Other traits may be as true and significant in the personality but were more anticipated. The following specific traits, besides the ones just mentioned, seem significant when compared with the personality-construct obtained from the mythology.

"High average" intelligence, good—even meticulous—observation. This concreteness may be compulsive, however.
High energy, persistence.
Extroversion, good socialization.
Conformity but not submission—"quite individual." (Agreement with mythology? There may be a difference of view regarding inhibition and submission.)
Preoccupation with sex, but not conflict and guilt about it as in our culture. (This preoccupation, even disturbance, is probably more characteristic of the adolescents tested, as Hanfmann suggests.)
Emphasis on body parts, human and animal, and the possible sources for it: close relationship with people, detail of observation, frustrated aggression.
Dependency, and its association with oral aggression.
"Repression a fairly common defense," actually in the ratings the most common defense.

The other characteristics, which are less widely shown or are more qualified, would require more detailed discussion of the protocols than is appropriate here. We will not try to push the comparison to its limits. One comment seems in order, however. Apparently the type of response (Form) that has led Hanfmann to say that the subjects are constricted

Not for Resale

has been interpreted by Joseph as concreteness and specificity of observation. Probably both are right. I suspect that they are just phrasing differently the same underlying trait.

COMPARISON OF NUNIVAK WITH OTHER ALASKAN ESKIMO MYTHOLOGIES

Three mythologies are being used in this summary comparison. Number and type of stories, their provenience, and other identifying information are given in Table 5. Although Nelson recorded a long creation myth, his collection seems incomplete in other types of myths (see Table 6). One cannot help exclaiming, "What! No Haughty Girl,

TABLE 5

Comparison of Three Collections of Alaskan Eskimo Mythology

Name of Recorder	*E. W. Nelson*	*K. Rasmussen*	*C. M. Garber*
Pages	452-99 514-15 516-17	38-42 151-168 169-253	29-255
Total number of stories	23	29 (39)	31
Date of recording	1877-81	1924	1930's (?)
Locality	Lower Yukon (below Paimiut) Pikmiktalik St. Michael Unalit villages (Norton Sound)	Colville R. Kangianeq (nw. of Colville) Utorqaq R. Nunataq R. (Noatak) Pt. Hope Kotzebue	Wales (Bering Str.)
Number of narrators	6 or more[1]	7	5
Number of stories, by type:			
Raven creation myths	1	2	1
Other creation myths	1		
Other myths and tales	20	26	27
Story-cycle		1 (10 parts)	
War legends	1	0	3
Nature of story ending:			
Happy	5	13	23
Neutral[2]	8	7	2
Unhappy	8	9	6
Unhappy or neutral?[3]	2		

1. Since Nelson mentioned at least six lower Yukon and Norton Sound villages as sources, he must have had this number of narrators.
2. "Neutral" refers to creation myths telling how men, land, etc. were fashioned or to an ending in which a situation is returned to its original state. A few of the latter might be called "happy."
3. The rater could not judge the intent of these.

Not for Resale

no Poor Boy, no Monster-child?" Even though our purpose is not to study merely occurrence of plots and characters but to learn as much as possible about the psychology of groups farther north and see whether it resembles the Nunivak, still the other two collections are better. Twenty-three is too small a number of stories for valid generalizations on interpersonal relations and personality.

The few myths that Nelson got from Sledge Island, Bering Strait, and Kotzebue Sound people and the few that Rasmussen obtained from Cape Prince of Wales, King Island, Nunivak Island are not being used here. It seems best to take only those stories in each report that have come from a contiguous area, so that we have greater probability that all good storytellers within a given region knew the same myths or at least that conditions of life were nearly the same. Thus the Bering Strait people could express one type of experience, the people who travel between northwest interior and coast another kind, if there is a basic difference between them.

All three collections agree in showing vivid imagery of animal-human transformations and dealings, and giant or other fabulous animals. Some things that are implied or hinted in Nunivak stories are explicitly described in the others. Perhaps the recorders have assisted this process. Nelson's stories, for example, obviously have been written in his own style, not surprisingly in view of the probable inadequate local knowledge of English at the time of his visit.

In his stories it is explained that the animal characters become human by raising their beak or snout, like raising a mask, or by removing the coat. Rasmussen's narrators said that an animal would raise its hood or remove its coat, meaning its entire hide. This sort of thing is not described so clearly in Garber's stories, but they on the other hand are generally clearer about the way a person turns into an animal. They tell of human characters putting on an animal's skin or putting in the mouth an amulet from the animal, thereby becoming it.

Man's relations with the animals are presented in several ways. " . . . Raven thought that if he did not create something to make men afraid, they would destroy everything he had made to inhabit the earth." So he created a bear (Nelson, 1899, p. 455). Again, later, the first man deplores the excessive killing of animals. Since this idea does not occur in the other books, one wonders whether Nelson, a naturalist, might have suggested it by some means.

Generally the animals, acting either on their own or under the magic control of evil-doers, are killing men. For example, Yukon—Norton Sound (Nelson): Giant eagles kill people (1899, pp. 486-87); a woman creates a bear to tear up people in revenge for mistreatment of her nephew (1899, pp. 485-86). Bering Strait (Garber): A female brown bear kills a woman, then rears her fetus (the boy, after learning his identity and that his bear-mother plans to eat him, tricks her and burns her up) (1940, pp. 216-27); a woman by magic creates a whale that upsets and kills an umiak-load of hunters (1940, pp. 148-53). Northwest Alaska (Rasmussen): An eagle carries off all the women

Not for resale

TABLE 6
Occurrence of Certain Common Elements in Three Collections of Eskimo Mythology

	Source, with Page Reference of Stories		
	Nelson	*Rasmussen*	*Garber*
Common plots:			
Feigned Death (Deceitful Hsuband)	467-70	185-87	0
Haughty Girl (who takes animal or abnormal human husband)	0	157-59 226-28	43-54 115-24 180-88
Sun-sister, Moon-brother	481-83	0	0
Marriage with Moon-man	0	226-28 (unhappy)	67-76 (happy)
Monster-child (who kills grandparents)	0	164-65 194-200	115-24
Giant Eagles Give Ceremonial	486-87[1] 494-97	38-40	102-08
Poor Boy Becomes Wealthy	0	169-71 188-90 201-04	43-48 131-38
Brother(s) Avenge Mistreated Sister and Rescue Her	0	169-71[2]	60-66 115-21 242-55
Younger Brother Avenges Loss of Older Brothers	0	Story-cycle (esp. 229-32)	160-64
Common character types:			
Strong Men, Giants	471-73 499	237-29	125-30 180-88 228-33 242-55
Cannibals	481	232-35 240-46	97-101 160-68
Grandmother-helper	485[3]	169-71 191-92 208-11 212-16	77-85
Childless Couple (who get child by magic)	497-99	204-08	0
Hero Who Becomes a Hawk	490-94	Story-cycle (esp. 252-53)	39-42 180-88 204-15

1. Mythology contains Giant Eagles and Origin of Ceremonial, not combined.
2. Brother grieves for lost sister, and poor orphan boy takes his place in avenging and retrieving girl.
3. An aunt in grandmother role.

Not for Resale

of the village (Ostermann, 1952, pp. 169-71); a young seal that a man is trying to take home alive scratches him so that he dies (1952, p. 152). This story shows the bitterness of the contest between man and animals: The hunter's mother, in revenge for his death, flays the seal alive and lets its body slip back in the water. In revenge, it causes an earthquake and the whole settlement sinks into the sea.

There are animal monsters, like the giant mouse with a "long twisting tail" that would bite people to death and eat them (Ostermann, 1952, pp. 154-57). (Dare we point out the association of the masculine symbol with oral aggression?) Some others are referred to only as strange animals that kill people. (Ostermann, 1952, pp. 204-8; Garber, 1940, pp. 160-64).

Sometimes the animals help the human characters, as when an old-woman-wolf in the pack of wolves that has killed a girl and her young brother restores them to life, in caribou form (Ostermann, 1952, pp. 173-79). The pleasantest anecdote tells how the hero makes camp on the edge of a forest, leaves his caribou meat on his sled and lies down by the fire to sleep. He "wishes people will come who would like to eat all his lovely caribou meat and help him to build a kayak." He wakens in the early morning to find that girls are cooking his meat while men are making his boat. Squirrel gathers pine cones and boils resin out of them. Beaver cuts wood and shapes it for the frame. Birds with long bills split spruce roots and stitch the bark cover. All the animals are there, each acting according to his or her nature although in human form. The hero selects the prettiest of the girls, a red fox, and marries her (Ostermann, 1952, pp. 239-40). There are a few other such happy marriages: man and polar bear girl (Garber, 1940, pp. 195-203), a man and owl girl (Ostermann, 1952, pp. 235-37).

With very few exceptions, wolf and bear are symbols of ferocity. The wolf especially has become more than an animal. It is human aggression, too. In Bering Strait war stories, the war cry is a wolf howl (Garber, 1940, pp. 189-94), and here Monster-child is a wolf-boy (1940, pp. 115-24). Another interesting symbol in all three groups of stories is the falcon. The triumphant hero who becomes a great hunter or who kills evil people or monsters is transformed into some member of the hawk family (see Table 6). Here is a local symbol of masculine aggression, not quite an equivalent of lightning and diving airplanes since these falcon-males are heroes and are threatening only to man's enemies. Probably there are other symbols, not so obvious, that could be interpreted with closer study.

The specific association of the hero who undergoes Son-in-law Tests and the hawk occurs also in a Nunivak myth. Instead of his being transformed into a falcon, the hero is warned of danger by his hawk amulet (Lantis, 1946, pp. 280-81). That Nunivakers understood the symbol is doubtful.

Psychologists will find the color symbolism especially interesting. In one case, the magic boy found by a poor childless couple is challenged by his older brother in the sky-world to find the bird so bright that

Not for Resale

one cannot look at it. When he finds it, at his mother's direction, it is a bird with beautiful colors (Osterman, 1952, pp. 204-8). Elsewhere, a good woman is described as so shining that only her backbone shows dark, whereas bad women have dark breasts (Ostermann, 1952, pp. 165-67). On the other hand, in a Cape Prince of Wales story there is a many-colored evil man who steals the chief's wife (Garber, 1940, pp. 77-85). Color and brightness probably are an expression of emotionality, here as elsewhere.

In view of the interchangeability of human and animal, the following figures of speech are not surprising. 1) The brother and sister transformed into caribou eat reindeer moss like the others, but "strange to say, the moss was not moss when they got it into their mouths; it was like guts and whale skin and meat and all kinds of tasty food" (Ostermann, 1952, p. 174). 2) Two brothers who have been lost in a fog at sea visit grandparents who are spirits (ghosts? seals?). On their journey home the youths come to a village where the chief murders strangers. A magic ulo (woman's knife) from the grandparents by itself cuts up the bad chief and his son. " . . . it cut them up exactly in the same way as seals are cut up . . . " (Osterman, 1952, p. 211). 3) A strong man who is also a shaman, apparently to make his brothers strong, cuts off their heads and orders his mother to cut them up like seals, put them in a kettle and cook them. Then he restores them to life (Garber, 1940, pp. 242-55). For comparison, see the Nunivak tale about a very strong shaman (Lantis, 1946, p. 308).

In these cases the dismemberment is to good purpose, but that is not the point to be made here. What is most striking is the ease of thinking that man and seal are or can be cut up in the same way—the readiness of the image. (Eskimos' knowledge of anatomy of course aided the identification but only made the psychological and religious threats in dealing with the animals the greater.) All this leads us to say that northwest Alaskan mythology compared with the Nunivak one is basically "the same, only more so." The combinations of elements are expectably different in each mythology, but many of the identifications and projections by themselves are the same. In material so far recorded, Nunivak stories lack the bright color-images. Since Nunivak Islanders had had little experience with wolves and bears, these did not appear so often in the stories, either. But other wide-mouthed biting things can be substituted.

Lower Yukon and Norton Sound. In Nelson's collection of stories, man generally is in a bad state. Besides the usual tragic Feigned Death (1899, pp. 467-70), there is a story in which a man is cruel to his wife; she flees and is helped by a giant; the husband is contrite but then becomes cruel again, and the giant blows hims away. Unusual in this story is the mother's sending away her son who has become a murderer (1899, pp. 471-73). The father of Sun-sister and Moon-brother becomes a cannibal, really a ghoul, finally is bound by shamans (1899, p. 481). Then we have this myth:

There is a close relationship between a mother and son. He will not eat food prepared by anyone else (implying that he will not marry the local women?).

Not for Resale

He is regarded as "strange." He sets forth and it is revealed later that he has seen a woman in his dreams and is trying to find her. He says that no one will weep for him if anything happens to him (yet his parents already have wept for him when he left home). His uncle gives him amulets. He enters a contest with an evil shaman and in the form of a gyrfalcon darts through an eagle (the shaman) and, as an ermine, eats his way through it. His anger gives him strength. He kills a brown bear and a polar bear that guard the young woman he seeks, and learns that they are her brothers. He marries her but then decides that she and her parents plan to kill him, so he cuts her throat and returns home. Later he marries a girl in his own village and lives happily (Nelson, 1899, pp. 490-94).

This is given so fully here because it includes elements seen already in Nunivak mythology (going through the body of the evil shaman; killing the deceitful wife and her parents—in the Nunivak myth, by implication they are seals while here they are bears), and adds others that are characteristic in northwest Alaska: the haughty young man, the falcon, eagles, and bears, and the brothers who try to protect their sister.

In another myth, real personal inadequacy and feelings of inadequacy are presented. Depression and desire to die are explicit, and the hero does die (Nelson, 1899, pp. 474-75). Even the myth describing the origin of festivals, a Colville River version of which so pleased Rasmussen that he named his book containing it *Festens Gave*, is here more morbid, containing an episode of a shaman killing his newborn grandchild in order to use its mummy as a powerful charm (Nelson, 1899, pp. 494-97). The mood of this mythology certainly is gloomier than the Nunivak one (see Table 5). Eight or ten sad stories in a total of twenty-three is a notable proportion of tragedy. An interesting question is whether the gloominess reflects the particular conditions of life in this area in the 1870's or simply shows the aboriginal mood better than collections made a generation later. This cannot be answered when we have only twenty-three myths and legends, including the depersonalized creation myths telling how land, grass, and other things were made and the generalized type-stories that Nelson has made by combining local versions. Here is an invitation to further work recording stories in the area.

Bering Strait. When we move on to the village of Wales where Garber was told thirty-one stories by two excellent raconteurs and three moderately good ones (in this writer's opinion), we can feel comfortable with all these familiar elements: In addition to the common plots and characters, there is a lot of magic, for example people rescued from mistreatment by help from the spirits or by magic practiced by human beings; murder more often by witchcraft than by direct personal contact, except in war stories; theft of women, easy marriage and separation; little community activity, good deeds accomplished instead by a single hero or by brothers; and fatalism. A man is afraid but says that one will die anyway, so might as well meet the danger. And in thirty-one stories, there are eleven incidents of evil slashing, biting, and eating, and the Clapping Cliffs too! (Garber, 1940, pp. 115-24).

Evaluation of the Wales mythology by itself: (1) There seems to be greater physical harshness of life than on Nunivak Island. There is a little more

Not for Resale

starvation (Garber, 1940, pp. 109-14, 173-88) and more incidents in which animals do harm to people (1940, pp. 216-17, for example). One incident is unusual in west Alaskan mythology outside Raven tales. An evil woman accuses her nephew of gluttony whereas she is the glutton (1940, pp.204-15). Whether this represents a simple food anxiety, disrespect to the food animals, or the general symbol of oral aggression, I would not guess without first-hand knowledge of the group.

(2) A few characteristics probably can be attributed to association with Siberian Eskimos and Chukchee as much as to local experience. There is, for example, Raven the Creator but not Raven the bumbling Trickster, at least not recorded. It is psychologically significant, though, that there are no humorous stories.

(3) There seem to be closer relations between brother and sister than in Nunivak mythology. Anyway, there is a repeated theme of boys going to the rescue of their sister.

(4) The young hunter's relations with affinal relatives generally are good, probably better than in most western Eskimo folklore. But at least one woman has the usual troubles with mother-in-law (1940, pp. 195-203).

(5) There are stories detailing remarkable self-sufficiency, for example the boy in a floating coffin (1940, pp. 204-15). This presents the ego-image of the person alone in the world, maintaining himself by skill (and a little help from his amulets). Both Himmelheber and Lantis recorded such stories on Nunivak, but there the self-sufficient person is noticeably often a woman alone with her infant (Himmelheber, 1951, pp. 71-91; Lantis, 1946, pp. 273-75).

(6) There is a well formulated ideal: good hunter, plenty of food, many fine sons, a beautiful wife who is a good seamstress. Along with all the magic, the Wales mythology also has probably more stories of realistic skill and ingenuity used in ridding the word of evil than does the Nunivak (Garber, 1940, pp. 131-47, 165-68, 189-94).

(7) Turning from the ideal, there is considerable hostility between men and women, even a story of a mother trying to kill her son. This occurs in what seems to be a distorted version of the Northwest Coast "Loon's Necklace," yet one cannot assume that this is recently foreign (1940, pp. 33-38).

TABLE 7

Occurrence of Male-Female Hostility in Wales Mythology (Garber Collection)

Relationship among Principal Characters	*Number of Cases*	
	Good	*Hostile*
Father-daughter	1	1
Mother-son	2	1
Brother-sister	3	1 ?
Two or more brothers	4	0
Unmarried, unrelated man and woman	0 ?	4
Husband-wife	8	6

(8) In fifteen of the thirty-one stories there are evil men or women who are not monsters in form, except the strong-men-giants, but who are murderers—monsters in behavior—even toward their spouses in some cases. Some are shamans and chiefs. Others are unexplained. Even though there are so many of these bad characters, there also are so many heroes to kill them that most of the stories end happily.

Still, this category includes men with a compulsion to kill, not always punished. In one case a giant of a man kills people and takes their goods. He cannot stop even though he knows he does wrong and warns his son not to be like him. Finally his own people trap and kill him (1940, pp. 228-33). Such stories are morality tales against murder, which must have been a real threat, both within and outside the individual. It deserves further study.

(9) The moral sometimes is more obvious than in Nunivak myths. A man, for example, murders his good friend to get the latter's wife. The victim's

Not for Resale

relatives and friends try to get revenge, but fail. The man murders his wife. Then his conscience drives him out of the village and he never is heard of again. No magic is practiced (1940, pp. 154-59).

(10) The reader is given some insight into kin responsibility and group solidarity by the fact that a relative warns an intended victim, who usually is a bad person, but does nothing materially to save him. In the end, relatives are glad when an evil person is killed (1940, pp. 242-55). Although family pride and solidarity are not lacking (note tales of revenge), here as in some other themes there is shown the separateness of the individual. Perhaps this is literary necessity, to point up the moral that aggression causes one to lose friends and family.

(11) A prominent character in this area is the Strong Man, the Giant. Sometimes he seems to typify just brute strength, at other times the "chief" or shaman. In some stories he is evil, in others he eliminates evil (1940, pp. 125-30, 180-88, 228-33, 242-55). In some cases he seems to be a paranoid projection of the desire to kill or at least dominate and make others afraid, occasionally to kill in a good cause and become a hero. In other cases—or to other narrators and listeners—the figure represents the protector that a dependent person wants. In either case, the image undoubtedly grows out of feelings of dependency and inadequacy.

(12) It should not be surprising that along with the realistic skill and the fantasied power, there is also passivity. Different stories portray different aspects of the personality, or different personalities in the community. As an example, after a little boy's parents die of starvation and freezing, the ghosts of his family bring him food. He is rescued by his aunt. When a youth, he is carried away by an evil man but rescued by a little fish that carries him home. He is taken into a cave by another evil man, then rescued by Raven. He becomes a shaman (1940, pp. 109-14). (There is an interesting question of possible sex symbolism here and its relation to shamanism.)

Long ago, anthropologists became aware that whereas most North American Indians actively sought supernatural assistance, the eastern Siberian peoples were passive recipients. Shamans were elected for the office by the supernatural powers rather than their seeking it. Alaskan Eskimos were closer to this than to the American formulae.

Here is a good example of the relation between history and psychology. What this Bering Strait tale hints is confirmed by real life. A person *subconsciously*, but not overtly, sought the shamans powers because he was dependent in position or poor—or much poorer than he wanted to be— like this orphan. The need, the motivation must have been often the same whether the young man cut off a finger (northern Plains), took sweathbaths until he was lean (northwest California), or merely moped and daydreamed, as did the Alaskan Eskimo youth, to get supernatural aid. Genuine self-pity probably feels the same, no matter how it looks. The culture provided the specific objective and the pattern of behavior to attain it; or, in a less mystical phrasing, the youth had heard of people having many nightmarish dreams in which they flew through the air but never has heard of chopping off one's finger. When in need of recognition, he took that one of the few courses known to him that was compatible with his personality. Finally, the narrator telling of such a person formulates what his audience knows and wants.

More can be learned about the Bering Strait people than the traits noted here. Nelson and Rasmussen each got a few stories from the area, and Curtis recorded folklore in several of the villages. It is hoped that someone will be tempted to compare them.

Not for Resale

Northwest Alaska (Kotzebue, Point Hope, and the rivers). Rasmussen got a fuller variety of stories, including one humorous tale (Ostermann, 1952, pp. 167-68). Not only motifs but details show a similarity to Nunivak folklore that is surprising in view of the distance between them. For example, a shaman in a seance goes under the earth, where maggots eat all the flesh from his bones; then he returns to earth (to life) (1952, p. 166). Such death and rebirth may be implied in the Nunivak shaman's visions of maggots, although not acted out.

Rasmussen heard two versions of the Monster-child myth, which also state more clearly what is implied in the Nunivak version, namely, that the infant with broad mouth that bites and kills its grandparents and others is sent as a punishment for tabu-breaking. In the Nunivak case, the aloof girl and her parents disregard certain tabus connected with her puberty. In Garber's Wales version, Monster-child is born to a Haughty Girl, perhaps as punishment for her arrogance. As on Nunivak, the Bering Strait boy is a masculine symbol as well as a symbol of animal aggression, that is, a Wolf-child. This version even includes the Clapping Cliffs. No tabus are mentioned (Garber, 1940, pp. 115-24). In the Colville River story, on the other hand, it is explained that the young mother failed to smear feast food on the baby's mouth (every person in the settlement is supposed to share in the feast), therefore it stretched from ear to ear and had a crowd of sharp teeth with which the infant killed the parents as well as grandparents (Ostermann, 1952, pp. 164-5). In the Noatak version, Monster-child, a spotted hair-seal, is born to a chief's daughter who is married but childless. " . . . people were always talking about it, saying: 'Why haven't you any children?' " (1952, pp. 194-200). If one could get together all the different versions of Monster-child in west Alaska, one probably would have a good catalogue of all the sources of guilt for women. It is remarkable also how other myth elements adhere to the basic motif, until the Noatak, Wales, and Nunivak versions each becomes an epitome of regional mythology.

Another specific reminder of Nunivak is the Kotzebue version of the Clapping Cliffs. The falcon hero and his uncle are drifting down the Yukon River when they hear noises ahead, "and they see two steep cliffs running out into the river on each side, opening and closing like a mouth, like a great mouth chewing, and every time they close, all the water in the river runs back in enormous whirlpools." With the aid of a magic song, Falcon paddles through although of course the stern of his boat is broken (1952, pp. 243-44). The magic song and the association of oral aggression with the cliffs are details lacking in Garber's version.

It would be monotonous to repeat all the concepts, already familiar from the previously discussed mythologies, that also appear in northern Alaska. Another case of an assumption being made plain deserves notice, however. A club-footed boy who is derided and nicknamed Fright is assisted by the Spirit of the Air to become big and strong. He avenges his father, a poor man who has been mocked. But Fright goes too far. With a compulsion to kill, he kills everyone he comes near. Spirit of

Not for Resale

the Air comes again, saying that he cannot take any more blood offerings, and "If you kill any more people, I must eat you!" Fright then uses his magic rod for killing caribou instead of people (1952, pp. 188-90).

General characteristics of the Rasmussen collection: (1) There is some male-female hostility, but the pattern is that the hero in his wanderings marries a woman, lives with her until they have a child, then gives her beads or other wealth with which she is well pleased, and moves on to the next episode, the next marriage. Hostility appears in six stories at least (Ostermann, 1952, pp. 185-87, 187-88, 191-92, 212-16, 226-28, 240-46), one of which has the Lorelei motif, complete with foaming river, cliff, beautiful voice singing an enticing song and the traveler's longing. Whether old or whether brought by some whaler or trader, the Eskimos have made it their own: The story ends with the girl, an owl, flying away and the man freezing to death.

Besides girls who will not marry, there are two stories about young men who are haughty. One marries a bear-woman, the other is killed and returned to life by the girl who loves him (1952, pp. 159-64, 191-92).

(2) One of the six stories just referred to (1952, 212-16) contains also the theme of revenge. In both the Rasmussen and Garber mythologies, this is prominent. A woman incites her sons to avenge the death of her father (1952, pp. 38-42). Fright is incited by his father to get revenge for the insult to the latter. The whole Falcon story-cycle is motivated by revenge for the death of Falcon's brothers. Training a child for revenge is not just fantasy; it reflects the old culture (Nelson, 1899, pp. 292-93).

(3) Poor Boy or Orphan Boy is not absent (Ostermann, 1952, pp. 169-71, 188-90, 201-4) but he is not so important as in Nunivak folklore. There are two explanations for the importance to Nunivakers of the Poor Boy character. First, the principal narrators were poor people. Second, Nunivakers had a better formulated concept of wealth and probably also of status than did the people in north Alaska. It is unlikely that the twelve or fifteen year difference in recording had much effect. Probably the biggest difference is that the Nunivak Orphan Boy often seeks simply to become a shaman or a wealthy man, turning the tables on the villagers who had ignored him, whereas in north Alaska he seeks physical revenge.

(4) Regarding the monstrous animals, the wolf and other symbols already mentioned, the emotions that they appeal to are probably no different from those in the Nunivak area. There have been only substitutions in the forms of symbols themselves. However, in the Kotzebue story-cycle the dismemberment of an evil man (1952, pp. 243-44) and several of the other forms of mayhem are already familiar to us. The Nunivak external heart is the only general type of symbol that seems to be absent. Admittedly, the Rasmussen collection has not been—although it should be—combed as carefully as the Nunivak ones have been.

(5) In personal relations, the absence of Sun-sister and Moon-brother incest and the presence of a protective relationship of brother toward sister seem to give the northwestern stories a different stamp. It must be remembered, though, that the Nunivak Sun and Moon myth recorded by Lantis presents aunt-and-nephew incest, while the Himmelheber one has a husband-and-wife quarrel (Himmelheber, 1951, pp. 43-45; Lantis, 1946, pp. 268-69). Nelson did record the familiar brother-and-sister incest theme (Nelson, 1899, p. 481), hence we know that a respect relationship between brother and sister was not always presented in west Alaska.

Parent-child relations generally are good. In one story, parents bring their son back from the dead (Ostermann, 1952, pp. 222-23). There are the familiar son-in-law tests for the hero (1952, pp. 246-51), otherwise few cases of relations between affinal relatives. An unusual tale of adultery concerns a man's conquest of his daughter-in-law while his son is out hunting. The sacred drum reveals this to the husband, who hangs himself. The drum, thrown away, is found later in a whale (1952, pp. 223-24). The affront to the animals by breaking tabus during the hunting season seems to be involved as much as the injury to the husband.

Not for Resale

In summary, these northwest Alaskan myths on the whole do not end so cheerfully as Garber's or so tragically as Nelson's. They probably give a good representation of literature and view of life as of the early 19th century. Numerous references to the men's ceremonial house, to caribou hunting and seal hunting (especially the former), meagerness of reference to the specialized activities of whale-hunting, lack of any reference to commercial whaling or trapping, and other allusions suggest that these stories present well embedded cultural and personal values of Eskimo life. The ever-present supernaturalism is further evidence. While Garber's stories include several tales containing no magic, only one in this Rasmussen collection lacks supernaturalism. It is recognized that people may incorporate new ideas into an old plot and an old setting. Rasmussen's principal storytellers were elderly men who in their travels might have picked up a character here, a piece of a plot there. But there is no evidence that they had changed their basic themes, their view of the world. With the possible exception of more epidemic disease (not reflected in the mythology), the threats to happiness and life, the heroic deeds to get rid of them were basically the same in 1924 as they had been in 1824 for the person living the Eskimo way of life in which hunting was important above everything else. Young men who today seek security in wage work and recognition in the new settlers' society probably will change the literature.

The "Eskimo" content and tone of these myths from the great rivers of northwest Alaska are especially noticeable, compared with the changes in material culture that the people have made in adaptation to an inland life. When Falcon-man starts his big trip down the Yukon, he travels in a birchbark canoe, but when he asks his uncle what fine food he desires, the uncle replies "young bearded seal" and one appears in the river. The uncle next wishes for spotted seal, then mountain sheep, goslings, caribou, white whale, but never fish. Yet this story was told by a man from the area where the excellent shee-fish are caught. Although fishing with leister and snaring small animals (by evil men) are referred to, these obviously do not have the value of big-game hunting. At point after point, the experiences and values expressed are typically Eskimo and surprisingly old Eskimo. For example, it is usually stated specifically that the hero is pulling his sled—no dog team. This mythology, like its people, is limited neither to coast nor to interior but encompasses them both.

THEMES AND PERSONALITY TYPES WIDESPREAD IN ESKIMO MYTHOLOGY

A Ph. D. dissertation at the University of California by Frank J. Essene, entitled "A Comparative Study of Eskimo Mythology" (unpublished), gives an excellent opportunity to see which mythic elements that we have been dealing with are generic Eskimo. (I am grateful to Dr. Essene and the University of California Library for the loan of the thesis.) Although Essene's purpose was different from ours, his material can be used easily. He has compared the mythologies of

Not for Resale

the different Eskimo regions and the whole of Eskimo mythology with those of interior Canadian Indians, Northwest Coast Indians, and northeast Asian tribes, for presence and type of characters and plots. We shall consider his enumeration of these, disregarding, as outside our objectives, his conclusions regarding historical origins and connections.

Mistreated Wife. In every area; but what usually happens to her and her husband is different in the three major Eskimo regions.

Girl Who Refuses Suitors. "All Eskimos," that is, all areas. If she appears apart from the Dog-husband story, she is killed or otherwise punished.

Mysterious Housekeeper (usually Fox-wife). All major regions, but not all local areas. (In our analysis, this motif has been included in husband-wife relations, not dealt with separately.)

Fools, Incompetents, Gluttons, Tricksters, Liars, Bachelors. Rather rare.

Heroes. "Roughly a third of all Eskimo folklore falls under this heading." About half of the hero tales are about Orphan Boy (Poor Boy). All Eskimos have such stories. He usually lives with a female relative: grandmother, aunt, or sister. If he has no living relative, someone in the village befriends him. In Greenland and the Central Region he often is transformed to an animal. He overcomes his enemies. In Greenland and Alaska, he is a saviour overcoming monsters and/or supplying people with food. The Orphan Boy who takes revenge, then is unable to stop killing is known to all Eskimos. Another type of hero, Strong Man, also is virtually universal. Nearly everywhere he is a savior.

Heroines. Greenland and Alaska. Always successful.

Land of the Dead, Vengeful Ghosts, Malevolent Spirits. Greenland and west Alaska.

Sedna (woman under the sea, who guards sea mammals). All regions from Greenland to Yukon River.

Incest Theme. All Eskimo areas, connected with the origin of sun and/or moon.

Animal Stories (excluding Creation). Dog-husband and Swan-maiden motifs are known in all areas. (In my analysis, the latter was not mentioned by itself. It was included in male-female relationships.) Stories about animal families are west Alaskan.

Shamanistic Contests. Greenland and Alaska.

Artificial Animals. Greenland, west Alaska. Animals made in order to kill enemies, get revenge. Usually successful.

Dwarfs, One-sided People, Child Monsters. Greenland and west Alaska. Dwarfs generally are harmless.

Giants. All major regions but not all local areas. Essene says never malevolent. Probably true of genuine giants who are not merely big strong men, but not always of the latter.

Fabulous Animals. All areas. Generally dangerous.

Transformation of Human to Animal. Greenland, west Alaska.

Not for Resale

The "Conclusion" of Essene's recent short article on Eskimo mythology (1953, pp. 154-57) applies well to west Alaska as to other Eskimo regions.

"The preponderance of stories about heroic individuals reflects the small amount of group action. The unsystematic nature of the myths shows that religious beliefs are not complex. The lack of stories of a defintely sacred character correlates with the absence of a priesthood. There is little attention to characterization as opposed to the more careful work with the plot. Action is the keynote to both stories and real life. Finally, the style is terse and stiff, a feature that in most art forms is indicative of great age . . . Eskimo mythology while differing sharply from Indian folklore shows many resemblances to that of certain Siberian peoples. It seems reasonable to assume that most Eskimo mythology was brought from the Old World a long time ago."

Most of the plot synopses that he gives have been taken from Central and Eastern Eskimo myths and tales; and the generalizations that are based directly on them are not fully applicable to the area we have been studying. This is especially true of the animal-spouse stories, which, he says, have considerable erotic detail. He probably is right that as a class these stories have more eroticism than any other; but in west Alaska, for example in Rasmussen's collection, even these have notably little embellishment of detail. His generalization that the Haughty Girl theme represents simply criticism for resisting sexual advances also ignores the fact that in Alaska almost always it is specified that the girl is a chief's daughter. In these larger, more status-and-wealth conscious villages, an additional—if not substitute—explanation is pride and especially the father's pampering of the girl (Lantis, 1946, p. 277).

Generalizing in psychological and social anthropological terms the material on theme distributions that is presented in the thesis, it seems that the percent of stories dealing with interpersonal relations is high. There is remarkably little about the winds, the cold and ice.

Husband-and-wife stories are numerous. (1) There is the animal or supernatural wife who is insulted by her husband's family. Usually the man loses both wife and child. This is the theme of Swan-maiden. (2) There is the good wife who is appreciated (Mysterious or Unknown Housekeeper). (3) Animal-husband implies difficulty between the woman and the community. Either one may reject the other. (4) The Mistreated Wife in the Central and Eastern Eskimo regions generally escapes, while the husband is killed by other people. In Greenland, the wife may return and effect a reconciliation. The Western Eskimo pattern is that she is befriended by a supernatural being. Occasionally she returns to her husband. (5) Moon-man's theft of women is often a means of rescuing a lonely or mistreated woman, occasionally it is to satisfy Moon-man's desire. (From my study of Alaskan mythology, I would add that marriage with Moon-man often is presented as a very happy marriage, giving us one of the rare love stories of this area.)

Animal Foster Child also implies difficulty between family and community. When people try to kill it, the child escapes or is saved. Child-Monster stories state or imply supernatural paternity. A supernatural being or a shaman takes possession of the woman to inflict punishment on her or the community.

Not for Resale

As for murder and all other forms of extreme aggression, considered together, there seem to be female aggressors as often as male, and in some areas more often. It would be interesting to see whether in each region there is a consistent association of type of aggression with sex of perpetrator.

There is a notable sparsity of parent-child stories, that is, ones in which conflict or love between parent and child is the central theme. The commonest explicit parent-child stories are those about the childless couple who get a son by magic or by supernatural intervention. This son customarily becomes a great hunter-benefactor or a hero who kills monsters. The hero's origin may represent the need and longing of parents for strong and heroic sons. It may be a device to indicate the magical nature of the hero.

The many stories about brothers imply competition. One brother, often the youngest, has more ingenuity, grows faster, is stronger, is a better hunter, or restores the others to life and avenges their death. Outwardly, there usually are good relations between brothers, although occasionally one covets or insults another's wife.

The courses available to the Orphan Boy vary somewhat from region to region, but every group seemed able to imagine two or more of the following: He demonstrates that the community's judgment is wrong, that is, he gets a socio-psychological but not physical revenge, by becoming successful and wealthy, by saving the community from monsters, or by giving food to the village. Or he takes harsh revenge, killing people until killing becomes an obsession. He almost invariably is himself killed. Or he escapes by transformation to an animal or a supernatural. He overcomes his enemies and sometimes becomes wealthy.

Although Nunivakers did not know Sedna, they had a psychological equivalent in various spirits which made certain that man treated the sea mammals right. No matter where the Sedna character came from, she could not have become so widely accepted if she had not been given a necessary function of personifying and also relieving guilt.

The Nunivak material is not contradictory to the generalizations regarding any major category of Eskimo myths. (We are not considering the Creation myths.) The hero tales must surely represent an ego-ideal, no matter what they additionally mean here and there. Eskimo culture seems organized on a formula of the strong self-reliant hunter who keeps his worst fears well hidden, including fear of his own impulse to kill. The only thing he does not have a formula for controlling is his wife.

CONCLUSION

Types of Stories. For years anthropologists have been trying to distinguish between myths and tales. In one of the most recent statements, Essene says, "Myths are often classified as those stories with a high emotional content, and particularly those having to do with religion. Myths often must be recited in a letter-perfect fashion. [That is, the local people think they must be. The plot may not change, but the wording usually does.] . . . Tales or folklore, while often containing

Not for Resale

elements of the supernatural, are generally recognized by the listeners as fiction. Normally, the story-teller is allowed to vary a tale within certain limits . . . the legend, tells the purported history of a people. Though seldom even approximately accurate, it is usually believed to be completely true" (1953, p. 154).

In Nunivak literature, the Raven and other animal anecdotes would be considered tales by almost anyone. They may be improbable but are not mystical. To the listener, the characteristics and intentions of the animal characters are obvious, taken for granted, and he can have fun in identifying with them or in divorcing himself from them, laughing at the other fellow who is stupid. He has fun in the open disregard of mores and sanctions. There is pleasure in avowed exercise of imagination and ingenuity.

Nunivak war stories have no supernaturalism and are clearly legends. There is apparently no symbolism; traits of individuals and villages are portrayed directly. Again there is open identification with the war heroes and rejection of the enemy and the losers. There is, however, another element: horror instead of fun. The narrator says in effect, "We, Nunivakers, have suffered at the hands of these people." The emotional appeal is great, but again not mystical.

Most of the stories can be classified as myths. They deal with the supernatural, the mysterious. There seem to be two principal moods: yearning, wishing; and uneasiness, fear. Here is the best place to look for the unacknowledged identification and projection, for symbolism, for the subconscious. Myths utilize religious concepts and beliefs even when they are not "religious." Probably Essene's statement should be modified slightly: Myths may have no greater emotional appeal than war legends, but they tap different emotions and in a different way.

In the present work, Creation myths perhaps have received less attention than they deserve. A detailed comparative analysis of all Creation myths of Alaskan Eskimos might yield psychologically significant differences, for example, between the concept of the first people coming out of a pea-pod and of First Man being created from clay. I surmise, though, that one would find it hard not to be misled by cultural diffusion. Sacred myths apparently have been learned from other groups and repeated with little change even when they contradict the creation myths from still other sources, repeated locally. It is a poor Alaskan Eskimo mythology that does not have two different accounts of the origin of the world and man. In contrast, Creation myths that have purely local reference or that also present a human theme, such as the story of two brothers that accounts for the origin of Nunivak Island, may be deeply felt (Lantis, 1946, pp. 265-67).

The deep personal meaning of a living mythology at times seems undervalued by many of our folklorists. Perhaps that is the trouble: They have become folklorists rather than philosophers, psychologists, or students of literature. A recent paper by Stith Thompson should not be criticized too harshly since it is admittedly concerned chiefly with collecting and cataloguing. The very wording of references to mythology

Not for Resale

shows that folk literature is regarded more in the category of jolly dancing on the green than expression of moral judgment, of desires and fears in the individual's dealings with people and Nature. Religion is scarcely mentioned. Although emphasizing throughout his paper the traditional nature of folklore, Thompson does pose this research question, "What . . . is the relation of the individual to the tradition which he carries on—how compulsive is the tradition of his social group and how much freedom is there for the expression of individuality?" (Thompson, 1953, p. 592). Unless the stories are memorized word for word—they seldom are—they always give freedom to the individual, perhaps not in substitutions of characters or large changes in plots but in phrasing or other minimal differences that psychologists are now learning to interpret. What we must look for now are the *particular local devices for personal expression.* One must not attribute to the kind of mythology dealt with in this paper the formalism and traditionalism of other types of folklore such as riddles, aphorisms, or ritual songs.

Methodology. Just as it has taken many years to learn how to use the various techniques for clinical analysis of personality, so it will take long and wide experience to learn the proper techniques for "field" analysis of it. By this term is meant use of material at hand in the everyday setting of the individual rather than in clinic and laboratory. Margaret Mead, Jules Henry, and a very few others are pioneering in this work, and more will follow. Experience is most important. Until we have it, we must beware of too strict rules of procedure, and we must be both tolerant and cautious, but not derisive, regarding claims and conclusions. For example, the exact number of occurrences of a specific type of relationship or behavior in a mythology probably is not important. Anything that appears twelve, fifteen, seventeen, twenty times in forty-one stories—to take the Nunivak number just dealt with—certainly deserves close attention and probably will yield important insight regarding these people. But only one or two instances of a certain symbol or plot-episode may be important too, in the way that that rare vivid, very disturbing dream is revealing. One story may give the essence of a frequent experience in this culture area or give a cultural value as no other does. Archaeology provides a good analogy. One Plainview spearhead with a mammoth bone will reveal more to the excavator about the history of his site than a dozen arrowheads, all of one type and one recent level that is already well known. The archaeologist, from training and experience, knows how to relate the finds vertically and horizontally. Now we must learn how to interpret folklore in emotional depth as well as in occurrence in different people, groups of people and regions, that is, vertically as well as horizontally.

To get the necessary information, we must do what Viola Garfield has requested in a recent article (1953). It is important to know the circumstances in which stories are or have been told naturally, not artificially at the request of the ethnographer. One should record more of narrator's and listeners' reactions as the description and narration progress, the change of mood as the narrator turns from one kind of

Not for Resale

story to another. I have realized since reading her article and since trying to understand the personal meaning of Nunivak mythology that, although I observed it, I did not record enough of the above kind of information. We are looking not just for the spearhead but for the mammoth bone, too.

The Nunivak material provides some examples. The statements on male-female conflict and the suggested reasons for it were not based only on the local examples of the widespread Haughty Girl motif. In this case the important find is not just the story equivalent of the particular spearhead; it is the whole local complex of male-female hostility, shown in other stories as well. Since the elements are combined, repeated, developed differently in each local or perhaps regional mythology, it cannot be assumed, either, that the explanation of the theme which is appropriate for Nunivak can be applied elsewhere. And it certainly cannot be said, "All Eskimo groups tell the story of the girl who refused suitors. That's just something that all Eskimos know." Our reply is that virtually all Eskimos—perhaps all—know how to make a harpoon head but not all are principally dependent on harpooned sea-mammals. We want to know the number, variety, elaboration of harpoon heads compared with arrowheads.

Even when unelaborated, the persistence in repeating an old story, when not required to be told for ceremonial reasons, ind.cates that the story has some local meaning and a function in expressing the people's feelings or suggesting the solution—real or wishful—of a problem. Unless the whole group is neurotic or unless again there are ceremonial reasons, a people do not continue making f shing gear generation after generation when no fishing is available. This particular activity may be relatively unimportant, but not to be ignored.

Of course there are universal human problems, such as the adjustment that the young spouse must make when moving from consanguineal to affinal relatives' home or even to new independent home. In such case we probably look not at number of instances of readjustment or conflict but at the persons involved and the solutions of difficulties. Another example is provided by the Eskimo Orphan Boy stories. Every group has had real orphans and stories about orphans, but what happened in the latter varied from group to group and region to region, as we have seen. Do these d fferent endings of the classic myth — it usually contains supernaturalism — present real "type" responses of the different areas? Does the poor orphaned boy really seek revenge, perhaps not by murdering but by humiliating his enemies? Or does he become dependent upon a stronger person, a benefactor, and merely dream of revenge? After we have decided what the "type" behavior is, then we can study and generalize on the "level" from which it comes.

It must be recognized that not only in the large general differences between tale and myth but within the latter category, some stories may be mainly direct portrayals of individual needs, wishes, strivings, for example the insulted person who seeks revenge, with wishful

Not for Resale

supernaturally-obtained successes. Others may be devious well-masked projections, with the wishes and fears themselves expressed in supernatural forms and forces. Others may be a realistic statement of moral judgment, that is, of society's ethic which may not have become a part of the individual's ethic, his superego. Still others may present a cognitive exercise in humor, imagination, logic, like the story of the wedge that Himmelheber heard on Nunivak Island (1951, p. 92). If a wedge thought it was human and tried to behave like a human, what would happen? Well, it would burst its belt and when it sat down on a bench, it would split the wood. Sometimes this exercise that is prominent in tales is extended to myth. If animals are like people, how do they feel when their young ones are killed? Is this murder? Questions on (a) the aspect of personality that is being expressed—and appealed to—and (b) the directness or indirectness of expression must be our guides in methodology.

Use of Material. Turning from the methodological problems which, as the reader can see, will require a lot more work and the best field and clinical judgment, we come to problems of the objective; the formulation of a personality-construct. Several years ago Clyde Kluckhohn, presenting "a general theory of myth and ritual as providing a cultural storehouse of adjustive responses for individuals," said, "To some extent, every society tends to have a type anxiety." " . . . every culture has a type conflict and a type solution" (Kluckhohn, 1942, pp. 65, 71, 78). He noted that myth and ritual allow a discharge of the emotions of individuals in socially accepted channels. Further, there is not just expression of emotion. Myth and ritual gratify most of society by anxiety reduction. They "tend to represent the maximum of fixity," "sanctified habit systems." This is necessary in "those sectors of experience which do not seem amenable to rational control, and hence where human beings can least tolerate insecurity" (Kluckhohn, 1942, p. 68). By these two cultural forms one can predict the future by making it conform to the past. In ritual one does this by action; in myth, by and in imagination. If each society does have its type problems, then folklore can present one or a few solutions that will be helpful to many individuals in that society. We assure Kluckhohn would agree that the solution may be entirely in the imagination; but that can be useful in relieving tension.

Such statements as the above regarding type anxiety approach the concept of "national character," "modal personality," or "basic personality structure." Hallowell has recently phrased it as "the major central tendencies that are characteristic of a series of individuals who belong to a single society, tribal group, or nation . . ." (Hallowell, 1953, p. 606). Was the purpose of this analysis of Nunivak mythology to show the basic personality structure of Nunivakers? The answer is no. We did try to find *some* major central tendencies in emotion, attitude, and behavior and to give a "personality construct" but not "the personality structure." I am not yet convinced that any one kind of production by a group of people, either entirely of their own making or in response to a

Not for Resale

test, can show the whole personality of all the central tendencies, in reference to a possible national personality, or can show the whole range of personality-types, in reference to individuals. It may be—though I doubt it—that the essential of basic personality structure is a pool of common attitudes, knowledge, emotions and expectations that can be tapped in the same way that one can get a few cc's of water to test the whole tank-full. Although the Rorschach seems to give a better sample than other projective tests, I prefer to see a variety of natural and manufactured tests. Behavior in sports and other recreation, special aptitudes developed or undeveloped, religious belief and behavior, and several other fields need to be sampled for evidence.

The fundamental question here pertains to the completeness and validity of sampling. Mythology does show more about the people than any other art form in Eskimo culture. The women do not practice most of the graphic arts and some types of dancing and singing, but both men and women can tell the stories. Moreover, on Nunivak, as demonstrated by both Himmelheber and myself, daily activities are described in the myths, often as introduction to the narrative. The art form is not rigid: no two versions of a story are exactly alike, showing that there is good opportunity for individual expression. Fabulous beings, non-natural artifacts, and magic transformations show that the content samples the imaginal as well as the real and objective. (Imagination can be applied to the latter, but the student cannot be so sure of it as when dealing with the obviously imaginary.) Even so, I have not tried to test or demonstrate and so cannot conclude that the personality traits shown in the mythology comprise all the common ones of the group. I have tried to show, however, that what the mythology does portray is valid for real life experience: certain common threats, common ideals and goals, common reactions, even those that are well concealed in daily life. Admittedly this checking against culture and everyday behavior has not been spelled out here rigorously and thoroughly for all conclusions, chiefly to save space. One monograph on the culture already is available for such comparison and further publication on both culture and personality will follow. Finally, I have tried to show here and there how these common tendencies affect each other and can exist together. This provides a construct, a hypothetical personality that can be tested in the future.

Findings, Local and Comparative. Sixty Nunivak myths, tales, and legends, obtained from eleven narrators, were used in the basic analysis. Nineteen were recorded by a man, forty-one by a woman, on different visits to the island. Then eighty-three stories from at least twenty narrators comprised the west and northwest Alaskan mythologies that were compared with the Nunivak, to see whether it contains a sample of typical stories of its region and to see how in totality it resembles or differs from each of the other mythologies. Aside from museum collections of such artifacts as hunting implements and potsherds, no comparably large local production has been studied. No one, for example, has made a detailed study of sixty or eighty masks. The only

Not for Resale

comparable body of material that now is being studied is the Eskimo music collection at the University of Alaska. Therefore, while recognizing that sixty dream analyses or autobiographies undoubtedly would show somewhat different facets of the "national character" (in Hallowell's sense) or different proportions of the same traits that the mythology shows, we dare nevertheless to present the latter as one kind of evidence on personality.

In the literary themes that provide a basis for telling a story, for example the man who feigns death so that he can slip away to marry another woman and whose first wife seeks revenge, the *most frequent conflict-situations* are the following.

Poverty, dependence, and aloneness in the world. The haves against the have-nots.

Occasional conflict between husband and wife, frequent conflict between unmarried male and female, between a woman and her husband's relatives, two females, and less frequently two males.

Compulsion and guilt-conflict regarding aggression.

The *commonest personality characteristics* in Nunivak mythology:

Id-needs not repressed. Some stories of self-gratification, of id forcing action contrary to mores, but not frequent or prominent. Punishment not consistent. Sex and other body functions presented naturally.

Strong ego-ideal. Both males and females have clear image of the kind of people they are supposed to be and apparently want to be.

Orientation outward to reality. Activity, skill, and self-reliance emphasized.

Strong restraints on aggression. Evidence of ego restriction, of a conflict regarding dependency. People tend to passive tolerant relationships, at least outwardly. Well socialized, want to be with people, while maintaining the separateness of the individual.

Forced by pressures toward high achievement, yet with aggression inhibited or even repressed, solution is found in magic: compulsive supernatural power. Drives and conflicts highly symbolized.

Principal source of guilt is impulse to extreme domination, to murder or mutilation of either human beings or game animals which, like people, have souls.

Defenses: wish fulfillment, altering reality, avoidance or flight, projection, reaction formation, repression the most common. Denial of reality, alertness and caution, turning against the self, ego restriction also shown.

Personality adequately integrated, strong, and outlook cheerful.

In order not to distort the Rorschach analysts' interpretations by too great condensation, no summary is attempted here. Reference to this separate study of Nunivak personality will show agreement with the conclusions from mythology on several important points. Some things that appeared strongly in the mythology did not show up clearly in the Rorschach Test and other things vice versa. This is to be expected because of the difference in medium.

The three other Alaskan mythologies that were compared with the Nunivak, namely, Lower Yukon—Norton Sound, Cape Prince of Wales, Kotzebue—Point Hope—and—rivers, show:

More examples of typical Eskimo heroes ridding the world of monsters than the Poor Boy seeking wealth and status by becoming a shaman or a great hunter as on Nunivak Island.

Many mythic elements, supernatural forms, the same.

Most common forms of aggression the same: slashing, biting, and eating.

Not quite so much male-female or in-law hostility in Rasmussen's northwest Alaskan collection although most patterns the same.

Not for Resale

Brother-sister relations portrayed more often and prominently. Relations are good.
Probably a more threatening physical world. Difference in cheerfulness between Nelson's and Garber's collections of stories—the former with pessimistic, the latter with optimistic endings—may reflect difference in period of recording or difference in narrators' and recorders' personalities.
Same ideal of good hunter and good wife, of self-sufficiency.
Greater paranoid tendency or else a different symbol for the same tendency: more Strong Men and Giants. Some are protectors for mistreated people, others are threatening to the community.
Same dangers of masculine and sometimes feminine aggression in killing people and animals, but some difference in symbols: wolves, bears, and falcons more common than in Nunivak myths.
Revenge a more frequent theme.
Compulsive behavior and its dangers are shown.
Animal-human conversion a prominent element.

It must be understood that such lists distort reality. We are discussing not material artifacts but psychological artifacts of the Eskimos: types of characters, human relationships, and whole plots, which cannot be so easily categorized or summarized. For this reason, no attempt will be made to summarize further than has been done already the characters and themes shared by all Eskimo areas.

No assumption is made regarding the story-personality of any other Eskimo group besides the Nuniwagamiut. All that has been shown is that there are enough similarities in the mythologies so that the Nunivak one cannot be considered abnormal relative to western Eskimo patterns. Emphases, proportions, and total configuration are specific to each mythology. Especially when comparing all Eskimo folklore, one cannot go far in stating the varying subtleties of personality or the subconscious and its projections.

Advantages of Folklore Analysis for Psychology. Despite the limitations, there are good reasons, all related, for undertaking the laborious analysis of folklore. (1) Mythology or the fore inclusive folklore bridges the objective and subjective segments of the world. As reported by Ruth Benedict, Franz Boas said that a central problem of anthropology "'was the relation between the objective world and a man's subjective world as it had taken form in different cultures'" (Hallowell, 1953, p. 599). Hallowell has said further,

"Since perception is fundamental to all human adjustment in the sense that it is made the basis of judgment, decision, and action, to experience the world in common perceptual terms must be considered a prime unifying factor in the integration of culture, society, and the functioning person" (1953, p. 608).

A young person learns about people by being the object of their action, by observing them, by hearing about the behavior of real people, and by hearing and seeing representations of behavior in various art forms, which in Eskimo culture include mimetic dance and song, graphic arts (especially masks and ivory carvings), and the literature. This list of means of perceiving people is progressively social, that is, shared. The more people who hear the same stories told by the same narrators—on Nunivak, such sharing was high—the greater the opportunity for all to perceive human behavior and the natural world in the same way. There always will be difference in perception because of differences

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in conditioning experience and in intelligence, vigor, neural sensitivity, etc. But mythology does make the storytellers' subjective view objective, and the objective in turn becomes a common subjective experience.

(2) Mythology shows both culture and personality. It shows not only a culture-pattern, as does any cultural form, but also a larger measure of the individual personality than do such things as stone lamps and fur boots. There is something of the individual in everything he produces; the individual difference of the material artifact is likely to be small, however. No attempt has been made in this study to analyze the personalities of narrators. With a large collection of stories, this could be done.

(3) A function of mythology implied here but not discussed specifically is relief of anxiety. We have been trying to ascertain what the Nunivak people are expressing to us. The reverse question is what does the mythology say to them individually? For example, it conjures up cannibals and other monstrous creatures, then usually slays them, although not always. It is important to find out what these monsters really represent, then one can begin to find out what their eradication means to the audience.

(4) Mythology gives the student opportunity to see a big chunk of the subjective projected into a fairly stereotyped form without his having to use artificial clinical techniques that the subjects may resist. One should use as many different techniques as possible, but there are limits in time, acceptance, and productivity of the various media.

Implications beyond Local Personality Study. The most interesting, it seems to me, pertain to the conception of the animal kingdom. Here, as around the world, one psychological basis of the animal-human interchangeability is the desire to transcend one's limitations, the simple wish for the powers one does not have: the strength and ferocity of the bear, the weasel's ability to escape or to attack viciously and surreptitiously, the bird's speed of travel, ability to see far, and to escape.

This interchangeability has in Eskimo mythology and experience an immediacy and a reality that it lacks in many other parts of the world. Eskimo myths do not always tell of that past time when animals could take human form at will. Very recently shamans could transform themselves into animals or call forth animal spirits in the community's hearing, if not right before their eyes; and even laymen occasionally observed animal behavior that they thought and still think can be explained only by human motives, perhaps direction by a spirit or a witch. Once one has talked to people who have had such experience, one realizes how feeling toward the animals, especially in a hunting culture, becomes basic to much of the individual's behavior.

While psychologists currently say that adults' projection of human emotion and motivation into animals is juvenile behavior and generally evidence of unwillingness to grow up and live entirely in a human world, one must understand that the relation to animals may be different in cultures outside the Euro-American orbit. In these other cultures,

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many important animals are not domesticated or under man's control but are free and independent, in a sense coordinate with man. Often they seem not only stronger but cleverer than man.

Then when animals are given their own souls, man is in a dilemma. The Hindu religion has solved the inherent conflict of animism by proscribing the killing of animals. Christianity has avoided the difficulty by denying that animals have souls; therefore it is difficult for Christians to understand the fear of animals and the guilt in killing them. Orthodox Judaism may have a remnant of an ancient attitude in the prescriptions and tabus that make it safe for men to kill and eat animals. It might be well for anthropologists to take a new look at animism, for example in West Africa, from the standpoint of clinical psychology.

The Eskimos, having little food except that to be obtained in undomesticated animals, could not avoid the dilemma. Moreover, the most important food-animals were birds, caribou, sea-mammals, and in a few areas salmon, char, or herring—all of them migratory. In a few areas there were local herds of caribou and musk-oxen and non-migrating fish. However, few peoples in the world in recent times have been so dependent on wandering animals. The beluga will come in large numbers, then there are no beluga. No wonder that when they do appear, there is likely to be an Eskimo frenzy of killing, partly from a realistic understanding of food necessity and partly because the animals' behavior cannot be controlled and regulated. It defies man and challenges him. One would think that domesticated reindeer would be a welcome relief. But they do not provide the test of a man, in a religious as well as a secular sense. Probably Eskimos must have different personalities before they can substitute reindeer herding for hunting and trapping. Someone should study personality-types in West Greenland, with its commercial fishing, sheep-raising, and new religion. And a new folklore in the making?

One can at least speculate on reasons for the Eskimo animism and the guilt for killing animals. These factors seem to contribute to it: (1) A normative view of the world or a straining for a normative concept. If no one does anything wrong, all the spirits will be satisfied and life will proceed normally. (2) An exaggeration of man's effect on the natural world. Not knowing the existence of viruses, submarine eruptions, electron clouds from space, or all the other forces over which man has little or no control, the assumption of his large influence has a corollary: his responsibility for the good and bad that occur. (3) An inadequate understanding of probabilityt. We do not yet know the probability of annual increase or decrease of caribou in Alaska. Although something has been learned about fox cycles of increase, there is still much ignorance about arctic life. For knowledge, we substitute guesses based largely on our knowledge of life elsewhere; the Eskimo substitutes imagination, principally a projection of himself.

The Greeks and Romans helped to make life tolerable by attributing personality, a sense of humor and whimsicality to the gods. The latter acted on their own, not just in response to man's behavior, therefore

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he was relieved of considerable responsibility. Jews, Christians, and Eskimos are alike in thinking that deities, Jehovah or Mary or Sila, act in response to human behavior, either good work and sincere pleas or bad deeds, defiance of morality. The result is a large measure of guilt for man.

Eskimos believed that some supernatural beings acted on their own. This concept of independent whimsicality and evil shows up prominently in the mythology. What does not show so openly is man's fault in any deviation from the normal, except as occasionally misfortune is attributed to evil shamans. The guilt is present, however. The sight of people in the Nunivak church in recent years sobbing and convulsed as they recited their sins publicly or of an entire congregation falling on its knees to cry genuine tears for the death of Christ, for which each person must feel guilt, according to the missionary, makes one realize that this part of Christianity has meaning for the people whereas many other parts do not.

Robert Lowie used to give a dramatic ending to his course, "Primitive Religion," by saying, "There will always be religion because there will always be sin in the world." Regarding religion in general, many anthropologists now might want to substitute for "sin" a less subjective and qualitative term. We talk about feelings of inadequacy, fear, and offenses against morality. But for the subjective aspect of Eskimo religion and mythology—and for many others—one can sum it all up in the one word. Not needing preachers to explain the text, Eskimos understand the meaning of their own old testament.

The fascinating unanswered question is this: Do people feel guilty because their religion tells them they are (as many students have assumed) or do they feel guilt from psychologically earlier or deeper sources and then turn to religion, as Professor Lowie implies? This is basically a question of the sequence and interrelationship of influences on the individual from his culture and his natural world, a question that anthropologists probably are not yet ready to answer. Such questions, though, may be an incentive to more study of the apparently bizarre and often frightening supernatural life portrayed in mythology and of its emotional meaning—what the people are trying hard to express—in terms of the culture's own symbol system.

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APPENDIX A

Hans Himmelheber's published collection (135 pages) of Nunivak stories, *Der gefrorene Pfad (The Frozen Path)*, 1951, was obtained on a five-months visit to the island in the winter of 1936-37. The stories were told in a natural setting with village listeners. They were recorded in Eskimo, then translated into English by a local youth, finally from English to German by Himmelheber. Before publication of my collection, I had not communicated with him regarding the stories or seen his material, and apparently he had not seen mine before writing his manuscript although he has reported that he saw it before final

publication. He says that more than half of the stories obtained have been omitted to avoid repetition (1951, p. 23). The book obviously is intended for public consumption more than for research.

Our collections agree in these characteristics:

Both contain exclusively stories picturing the old unacculturated life. The only one I might doubt is Himmelheber's story about a tree, which seems to be a morality tale on the evils of smoking (1951, pp. 111-17).

Both show the typical Nunivak story-form, with an introduction, often giving the annual cycle of hunting and ceremonial, and with a formal ending.

There is the same local assumption that the teller must make no mistakes although obviously there is variation from one narrator to another.

All stories were said to be true, yet wunderbar.

Differences between the two collections:

Himmelheber's contains small range of supernatural manifestations, a characteristic on which he comments. My collection probably has more supernaturalism because nearly two-thirds of the stories were told by a shaman, because to all of the old people I probably talked more about religion, and they had a longer time in which to learn my attitudes and come to trust me.

Himmelheber has, in proportion to total collection, a few more Raven tales. Since he got most of his stories from Nash Harbor people, especially Kangalik, while mine came from Mekoryuk, the explanation may be an influence by Kangalik and his family who had lived a few years at St. Michael on the mainland—an interlude in their Nunivak life—where Raven was more prominent in mythology. Also selection for publication might account for the difference.

Himmelheber obtained or at least has published more ancestor stories (Ahnengeschichte). His primary interest in the graphic arts (see his "Eskimokunstler"), in such forms as paintings on drumheads and kayak covers, provided a good introduction to the ancestor exploits thus portrayed. Since most of these are short accounts of bravery or ingenuity in hunting sea-mammals and do not contain any plot or "conflict," I did not include them in my Nunivak mythology and have included only one of Himmelheber's in the present analysis. They were omitted also because in most cases the identity of his narrators of ancestor stories was not recorded.

My collection of stories contains more songs. I do not know why.

Himmelheber divided Nunivak stories into four types: (1) Myths, origin accounts, and legends. (2) Animal stories. (3) Hero journeys or sagas and tales (Märchen). (4) Ancestor stories. Except for the combining of legends and myths, this seems as good as any division. Although the sagas and tales do include heroic righting of wrong, they are, as selected by Himmelheber for this category, stories of very human evil, for example, the Deceitful Husband. This is different from the mysterious evil of beings in animal or monstrous form who kill people without apparent cause. This collection does not contain much of this element of abnormality that can not be explained by the overt story but only by a religious and psychological interpretation.

Of the thirty-four stories in *The Frozen Path,* nineteen have been analyzed for this paper. Others were eliminated because they were obtained in the Kuskokwim River region, were mere hunting incidents, or were "Stűtzer," amusing little jibes, as about the man who sat and let a game-bird fly away. One, "Der Holzkeil," was included because it has a little more of a story. The following are the ones used:

* 1. How Raven Created Nunivak Island.
* 2. How a Woman Came Down from Heaven and Created Nunivak Island.
* 3. How Nunivak Island Was Peopled.

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* 4. How the Sun and Moon Originated.
5. About a Girl Who Would Not Marry.
6. The Wolves (That Behaved) as Men.
7. Where the Echo Comes From.
8. A Shaman Story.
* 9. How Raven Tricked Various Animals.
*10. Big Adventures of a Little Mouse.
11. The Wife (Who Was) Driven Out (First Version).
12. The Wife (Who Was) Driven Out (Second Version).
13. The Wood-splitter.
14. The Wife with Five Husbands.
15. About a Man Who Left His Wives.
*16. The Bad Sister.
17. Experiences of a Tree.
18. About a Father Who Wanted Only a Daughter.
19. The Big and the Little Brother.

* Part or all of story in Lantis collection also.

APPENDIX B

As examples of the technique of analysis used on each of the Nunivak stories, two are given here, one told by a woman about a woman and her monster-child, the other told by a man about a young man who has lost his hunting-power.

"Hammer-child" (Lantis, 1946, pp. 273-76).

Setting and culture, in order of appearance.

Characters live where trees grow.
Evidence of abundant life: plenty of wood, food, dances in winter, indulgence of a child.
Menstrual hut. Suggestion that should not hold dances when girl is having first menses. Family pretends not to know about it and has dances.
Mother informs girl in advance regarding menstruation but not pregnancy.
Grandmother makes a fawn parka for baby immediately after birth.
Bodies left in house, sealed up. (Could be just necessity in this case.)
Concept that aggression can be either good or bad: "You killed your grandparents. Now you can kill animals to eat."
Caribou hunting. (Not reindeer.)
People encounter strange visitor when going out at night to relieve themselves. (Is this symbolic?)
Big Village. Large house. Storehouse on piling.
Proper entertainment of a guest: giving her new dishes to eat from, never used before.
Immediate marriage without courtship. (Reflects old culture?)
Poor boy, an orphan, lives with two old women. Pity for poor boy.
Good fortune: woman is loved and married by sons of wealthy families.
Concept that it requires supernatural aid to be an outstanding hunter; amulet kept in secrecy.
Shaman gets very thin "when practicing his medicine."
Fear of shaman, helplessness before his power. By his drumming, shaman's thought and desires become others' compulsive thoughts and actions.
Suitor's mother comes to ask for the girl.
Wealth and hospitality: two kinds of wooden dishes, two oil pots for new daughter-in-law.
Polyandry: layman husband in one village, shaman husband in another.
Infant brought to woman to suckle although it is kept and cared for by others.

Explicit personal traits representing culture-values: male. (These are not always more explicitly portrayed in the stories but are explicitly-stated values outside the stories.)

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All male characters are good hunters, except shaman: no statement about his hunting.
Shaman is aggressive.
Men marry for love.

Implicit personality traits: male.

Man (the father) who is good hunter and well-to-do is willful and possessive, but is punished for breaking tabu.
Young men are passive: submission to mother, wife, and shaman.
Masculine aggression is presented symbolically as oral aggression, in Hammer-child himself. Symbols: form of stone hammer; cradled in grandfather's sock; wide mouth, many teeth, killing by biting, blood smeared on the mouth. Only alternative explanation is that Hammer-child represents a seal offended by broken tabu, but he finally is transformed into a boy and seems to be regarded from the first as a boy.

Personality traits representing explicit culture-values: female.

Woman shows forethought even in midst of panic, to provide clothing.
Women love children, make good clothes for them even when no blood-kin.
Mother resents any slur against her child. (Explicit in culture?)
Mother gives up her child when has to for good of community.

Implicit personality traits: female.

Wealthy man's favored daughter is aloof.
Woman submits to intercourse although she fears the strange young man
A woman fears childbirth.
Woman more compassionate than man. Pleads against husband's fear and ire in order to save grief to daughter.
Antagonism between female affinal relatives.
Women are vengeful.
Initial submissiveness of woman, followed by aggression and flight? (Overt explanation is compulsion by shaman who controls her.)
Feminine passivity and submission? Girl infant always is passive except that she will not wear a fur parka, always wears gut-parka. Does this symbolize the internal organs or a smooth feminine skin or a creature of the sea? Probably the last, since she had "something like scales" on her body.

Interpersonal relations.

Father loves daughter: extremely indulgent.
Young girl imitates mother's work and life exactly. Girl's play-life in own play-house constitutes an invitation to man to visit her? Competing with mother?
Girl conceals from mother that man visited her.
Father initially shows more concern than mother for girl's happiness. Later, mother protects her from father's fear and anger.
Hammer-child is put in maternal grandfather's grass sock—symbol of grandson taking grandfather's place or simply done to emphasize size and shape of Hammer-child?
Man disregards his wife's pleas.
Woman upbraids husband, points out that she was right.
Young woman keeps Hammer-child even though he has killed her parents. Apparently he does not symbolize any hostility of hers toward parents. He is a symbol of conflict—which she accepts despite grief and resentment of deed—between her mysterious husband and her father. Hammer-child sent by husband, apparently to punish woman's father for breaking a tabu.
Stranger is treated with friendliness and hospitality.
Young man is attracted to young woman immediately. Marry without ado.
His sisters accept his wife and love his step-daughter but grow resentful when latter dislikes fur clothes they make for her.
Conflict between woman and sister-in-law. She takes revenge by oral aggression (Hammer-child).
Poor boy and grandmother figures are spared the mass revenge.
Great love between husband and wife: he remains with wife instead of

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staying in the kazigi; she entrusts her secret supernatural power (Hammerchild) to him; he respects and keeps the secret.
Mother-in-law loves daughter-in-law.
Mother-in-law tells young woman she can decide for herself, then makes decision for her, apparently intended for her good.
Community fears shaman's power although he has not hurt them.
Father makes kayaks for both son and daughter as fine as possible.
No statement of co-husbands' jealousy.

Problem (Theme or Motive)
Shaman's control over laymen; his role as keeper of the mores.
Man's control of woman; the nature of sex.

"The Young Man", (Lantis, 1946, pp. 278-80).

Setting and culture.
Man has house on coast and house inland.
Description of a rich man: clothing of most valuable fur; diligent successful hunter; takes good care of skins; observance of ritual; gives sweatbath in honor of wife's pregnancy; gifts to poor people to secure divination and to get their prayers and good omens; big distribution of gifts in honor of son's birth.
Using caribou antlers as screen when hunting caribou.
Symbolism or religious belief concerning the external heart?
Amulets: mink, grass towel, cotton ("cotton-grass"), rat skin (muskrat?), a stake, grandfather's parka.
Carelessness regarding an amulet is punished by loss of it.

Personality traits representing explicit culture values: male.
Father's pleasure at birth of son.
Boy's eagerness to be a good hunter.
Submission to ritual, magic instruction.
Compliance, obedience of grandfather's and father's instructions.
Young hunter is brave and daring. Goes into strange situations even when encounters supernatural beings.

Implicit personality traits: male.
Young man is careless regarding tabus, does not resist temptation.
Expectation of death. Man expects to die anyway, so risks danger. (Meaning? A rationalization of disobedience? Guilt, expectation of punishment?)
Symbols of male aggression: Evil men try to kill hero with ice-picks that have little muskrats at the end that try to bite him. He kills muskrats by cutting off their heads, cutting eyes, finally (since heads remain alive) kills external heart in an ornament, supposedly by cutting. (Is the heart that continues beating a symbol of tenacity of life? Or tenacity of evil?)
Young man's animal-helper is a mink, an aggressive biting animal. Apparently means that both good an devil show oral aggression.
Ambivalence toward women? Evil cannibal woman, whose children say they want to eat hero's eyes, tries to kill him with big knife. Instead of fighting her, he flees; then sets up magic barrier, river full of worms (locally represents a food anxiety or general anxiety). Woman is carried away on river. He takes her knife.
Ambivalence toward women? Hero is friendly with two girls. Has intercourse with them, then kills them without compunction. (It is understood without saying that everyone whom hero meets is a threat to him?) Accepts food from woman who appears friendly, although her husband is evil; then kills her and her husband.
In the house of an evil person, food turns to worms. Evil ones are man and wife who stole young man's magic parka. Or are they only the agents to punish him for being careless with the parka?
Only by magic can young man escape from threats and win contests. Magic comes from grandparents.
Young man is a tool of others' motives: grandmother has made grandson

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kill the people who threatened him, without his knowing that she has done it.

Personality traits representing explicit culture values: female.

Women feed and entertain a stranger even though there is hostility between them.

Implicit personality traits: female.

Although seem friendly, women have hostile motives, are treacherous.

Wish for rejuvenation: grandmother by magic becomes young again and marries grandson. Symbol of identification of alternate generations?

Interpersonal relations.

Boy tries to emulate father. He is instructed by father.

Grandfather loans magic parka to son and grandson for hunting. When it is lost, new parkas are made for grandparents to placate them and get their help.

When young man disobeys father, loses the parka. Does not try to conceal loss. Father does not scold but helps him.

Both grandfather and grandmother help grandson.

Young man repeatedly disobeys rules but grandmother guides him. (Is this intended to show that he is a hero who can behave differently from others?)

Young man eats with and has intercourse with supposedly evil women, with no repugnance. Finally kills them.

Grandmother becomes young again and marries grandson. What happens to grandfather?

Problem (Theme or Motive).

Retrieving lost magic power is necessary for success.

Necessity of eliminating threats to this power: ridding the world of evils.

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