

Preliminary Report on the Torngat Archaeological Project

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ABSTRACT. The Torngat Archaeological Project conducted two seasons of field work in northern Labrador in 1977-78. Surveys by boat and ground crews ranging from Nain to the Button Islands located nearly 350 archaeological sites and gathered data from many geological and botanical stations. Cultures represented in this region include all of the known arctic groups (Pre-Dorset, Dorset, Thule, and Labrador Inuit) and northern Indian cultures (Maritime Archaic, Saunders, and Point Revenge) known from the central Labrador coast. In addition to contributing to knowledge of 6000 years of culture history in this environmental and cultural frontier, the project is investigating environmental relationships and processes of culture change which have affected Eskimo, Indian, and European settlement. This paper presents a project overview and discusses TAP goals, physical setting, analytical orientation, field methods, and preliminary conclusions.

RÉSUMÉ. Le "Torngat Archaeological Project" a effectué deux missions sur le terrain dans le nord du Labrador en 1977 et 1978. Lors de ces missions, les reconnaissances faites par bateau et à pied nous ont permis de localiser environ 350 sites archéologiques entre Nain et les îles Button. Le projet a aussi permis de recueillir les données géologiques et botaniques de plusieurs endroits. Les cultures représentées dans cette région incluent les groupes arctiques déjà reconnus (pré-dorsetien, dorsetien, thuléen, et inuit du Labrador), ainsi que celles des Indiens nordiques de la côte centrale du Labrador (Archaïque Maritime, Saunders, et Point Revenge). En plus de contribuer à notre connaissance des 6000 ans de l'histoire-culturelle de ce milieu physique et culturel, le projet étudie aussi l'influence du milieu et les processus de changement culturel qui ont affecté les modes d'établissement des Esquimaux, des Indiens, et des Européens. Cet article présente un aperçu global du projet et discute les objectifs du "TAP", le milieu environnant, l'orientation analytique, les méthodes de travail sur le terrain, et les conclusions préliminaires.

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The northern coast of Labrador between Okak and the Button Islands is the most rugged and spectacular coast of mainland eastern North America. Less than one hundred years ago this area was inhabited by a large and vigorous Inuit population whose villages could be found in nearly every fjord and protected bay. Trading posts, government stations, and Moravian Mission settlements connected the area's human and economic resources with the outside world. Fleets of fishing vessels operated off the coast and scientific studies disseminated information far afield. But today, the coast of Labrador north of Nain has been abandoned for several decades, and relatively little is known about it. The last permanent settlement in northern Labrador was withdrawn from Hebron in 1959 and from Port Burwell, N.W.T., in 1978. Despite rich and varied resources, northern Labrador has reverted to a natural wilderness. The recent abandonment results from the combined effects of demographic and economic trends, social contacts, disease, and government policy; but one wonders if this is merely a modern phenomenon and not part of an older historical pattern. As a major environmental and cultural transition zone, northern Labrador could have been either a barrier or a conduit for population movements and cultural trans-

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missions for many thousands of years. The rugged conditions of the Torngat coast and its pivotal environmental and geographic position must have significantly influenced its settlement history. Therefore, archaeological research in this large and unknown area promised to add much to our understanding of human history and adaptations across a coastal arctic/subarctic boundary.

Previous work in parts of the Torngat region had already demonstrated its potential for archaeological studies. Douglas Leechman worked in the Killinek and Button Island region in 1935, identifying both Neo-Eskimo and Dorset sites (Leechman, 1943), and Patrick Plumet briefly surveyed the coast between Killinek and Eclipse Channel in 1967. The central Torngat region was known only from collectors' relics and a brief visit to Ramah Bay by a Smithsonian team in 1976 (Gramly, 1978). James Tuck's work at Saglek (1969-71) provided a local culture sequence identifying the major cultures, including Maritime Archaic, and resulted in the first detailed study of northern Labrador Neo-Eskimo archaeology (Tuck, 1975; Schledermann, 1971). Finally, the *Lacerta* survey cruise to Cape Chidley (Hofstra, 1976) demonstrated the feasibility of a large-scale boat survey.

Project Background

The Torngat Archaeological Project (TAP), conducted by the Smithsonian Institution and Bryn Mawr College with the assistance of personnel from a number of American and Canadian institutions, originated in 1976 as an extension of previous Smithsonian-related archaeological work on the central Labrador coast. Between 1968-1976 survey and excavation projects were undertaken from Hamilton Inlet to Okak, resulting in a settlement history beginning about 7000 years ago. For most of the past 4000 years the boundary between Indian and Eskimo groups is found on the Central Coast. Differences in settlement patterns, adaptations, and subsistence systems have been noted, and environmental relationships have been investigated (Fitzhugh, 1972 *et seq.*; Jordan 1975, 1978, 1980; Jordan and Kaplan, 1980; Cox, 1977, 1978; Nagle, 1979; the most comprehensive survey is in Volume 15(2) of *Arctic Anthropology*).

Underlying this research was the premise that a relationship existed between the forest-tundra boundary and adaptations of ethnographic Indian and Inuit groups in this region. Work was concentrated on defining and dating cultural complexes, determining settlement and subsistence systems, and integrating these data with environmental information. By 1975 it became apparent that the location of some cultural boundaries, such as the northern limits of certain Indian groups, lay to the north of the Central Coast region. In addition, resolution of whether Paleo-Eskimo southern movements occurred from a northern Labrador regional center (Cox, 1978:114) or from a central arctic core area (Maxwell, 1976) required information from regions north of Okak. Data on North Coast present and past environments were also needed.

TAP was organized to provide a continuation of the north-south survey transect across the coastal tree line into arctic regions of northern Labrador. Similar field and laboratory methods were to be used to insure compatibility of data from both zones. Project goals included: (1) studies of present and past

environmental variation; (2) determination of local culture history; (3) reconstruction of settlement and subsistence patterns; (4) relation of northern Labrador culture history and adaptations to external regions; (5) investigation of processes of culture change; and (6) assessment of archaeological potential and site conservation status. There were also more specific problems to address, among them regional demography; relationships between coast and interior; evidence of Norse and early European contact; problems of ethnic identification (Skraelings, Tunits, Indians, Eskimos . . .); and Neo-Eskimo (Thule and Labrador Eskimo) and European settlement history and acculturation.

TAP research proceeded on a number of premises. The first was that the northern coast is large and varied enough to have been a settlement locus for a number of regional groups of the same or different ethnic stock. Second, its archaeological remains were reasonably amenable to discovery and sampling. Third, previous research suggested that affiliation of prehistoric Indian and Eskimo groups could be determined archaeologically. Finally, it appeared that collections from different sites and resource zones could be given functional, seasonal, and perhaps social designation. We hoped that two field seasons would provide sufficient information for at least a preliminary investigation of this area.

Torngat Environments

Labrador's North Coast (Fig. 1) is a highly variable region which cannot be characterized as a single environmental unit. Three mountain ranges rise along the 475 km coast north of Nain — the Kiglapaits (1200 m) between Nain and Okak, the Kaumajets (1300 m) between Okak and Hebron, and the Torngats (1700 m) between Saglek and Killinek. The major geographic zones north of Nain are briefly described here to show the amount of environmental variation existing on the North Coast.

Okak, nested between the Kiglapait and Kaumajet Mountains, is a broad bay with numerous islands which has both deep-water runs and shallow marine basins. The inner part of the bay is forested and several large lakes are located a short distance from the coast. Caribou are not common near the coast, but Okak's bays and runs are visited by whales and harp seals during their fall and spring migrations. Seals are plentiful, as are salmon, trout, cod and avifauna, and in the past walrus were abundant. Black bears and other forest game are available, and polar bears appear occasionally. In the 19th and 20th centuries, Okak supported the largest Inuit population on the Labrador coast, with 49 sod house foundations reported at the primary settlement site, Kivalekh (Okak 1; Cox, 1977). The next bay north, Napaktok, is smaller but has conditions similar to Okak's and is the present northern limit of the forest (Elliott and Short, 1979).

While Okak and Napaktok Bays are shielded from open marine exposure by island barriers, Hebron (Kangerdluaksoak) and Saglek are large branching bay/fjord systems which extend 45-65 km into the interior. Island barricades near their mouths create large protected bays which are rich in marine resources and have excellent potential for human exploitation and habitation. Both Hebron and Saglek once supported large Labrador Eskimo populations.

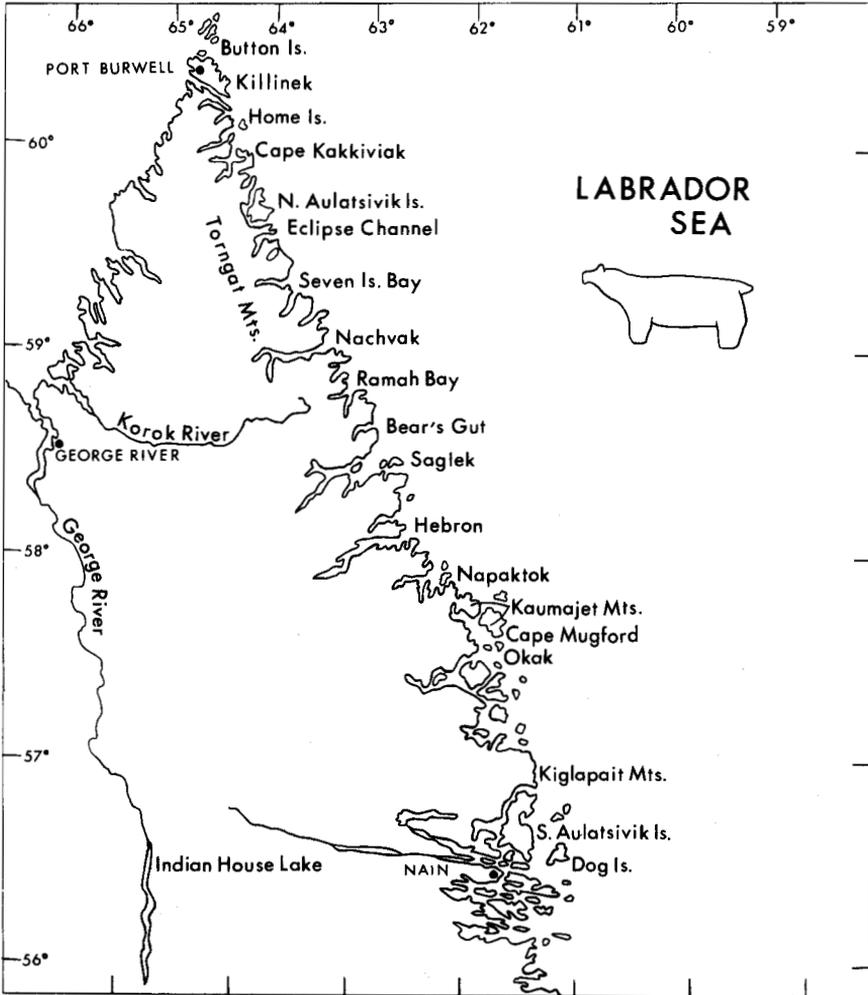


FIG. 1. Geography of the northern Labrador study region.

North of Saglek the unforgiving walls of the Torngat Mountains rise directly from the coast without the protecting skein of islands found further south. The stark and forbidding nature of the coast strikes one immediately upon leaving Kangalasiorkvik Island at the northeastern end of Saglek Bay. Ocean transit of this coast in small boats does not encourage the faint-hearted; nor does the steep north wall of Saglek Fjord, backed by looming elevations of the Torngat range, entice one to move north through the interior. Small slit fjords breach the coastal mountain wall at Bear's Gut, Ramah Bay, Rowsell Harbor and Delabarre Bay, but prospects for permanent settlement are greatly reduced from those of the larger fjord complexes. Even Nachvak, the most imposing of all north Labrador fjords, affords little respite from the severe conditions of the central Torngat coast. While caribou are frequently plentiful in these fjords, seals and fish are the staple marine resources; but only in Nachvak were whales and walrus formerly

abundant. The smaller fjords tend to lack critical faunal resources, outer coast habitation areas, and, without island protection and access to interior caribou hunting locations, are susceptible to hunting difficulties. Excepting Nachvak, these fjords were not heavily occupied in the historic period and seem to have been marginal to other population centers.

North of Nachvak, Torngat elevations gradually begin to drop, and there are several large bay/fjord complexes with islands and interior access, notably Seven Islands Bay and the Avayalik-Home Island region, both of which resemble Okak, Hebron, and Saglek in providing diverse marine resources and abundant settlement locations. Walrus were once plentiful, but large whales were not as common here in the historic period as in Nachvak, perhaps due to their shallow bays. Caribou may have been available periodically, but today are rarely found north of Cape Kakkiviak. The northernmost coast, including Killinek and the Button Islands, consists of low, barren, highly dissected skerries. More an arctic archipelago than a coast, this area is exceedingly rich in seals and sea birds, and formerly in walrus and whales. Although living spruce is not found north of Napaktok, alder, willow, and birch shrubs grow as far north as McLellan Strait, and coniferous driftwood, derived from Ungava and Hudson Bay rivers, is plentiful even on the outer islands.

Summarizing the geographic conditions of northern Labrador, one is most impressed by physiographic and ecological variation, especially the alteration of the larger ecologically-rich bay/fjord systems with outer island groups with the smaller fjords which lack suitable settlement areas, protection, and faunal diversity. Along the entire North Coast one finds variation in abundance, distribution and diversity of local fauna. Small game is available in most regions, but the important larger animals are not evenly distributed and tend to be highly seasonal. Caribou may be hunted in southern regions but are not common north of Seven Islands; large whales generally frequent only the larger and deeper fjords; walrus, once common, avoid the smaller fjords and areas with few hauling-out places; harp seals have preferred migration routes; and ring seals can quickly be "hunted out" locally in the smaller, unprotected fjords. In addition, geological resources like soapstone, Ramah and Mugford cherts, slate, nephrite, and quartz crystal are unevenly distributed.

Given these conditions, it is likely that regional resource and geographic variation have been important in settlement history and adaptations in northern Labrador. In fact, resource variation in present-day North Coast environments appears to follow patterns closely linked to physical landscape and topography. These patterns conform to recent Inuit settlement intensity and population, and they also indicate that regional variation required different adaptations and settlement patterns tailored to local conditions. For instance, an adaptation used by historic Labrador Inuit in Nachvak cannot be applied in neighboring Seven Islands Bay. Likewise, strategies used by Okak Inuit (Taylor and Taylor, 1977) might be used to greater advantage in interpreting prehistoric Dorset culture in Okak than Thule people in the Home Island region, where large whales are scarce. Broad regional generalizations on settlement patterns, subsistence strategies, and even basic adaptations are not easily supported given the degree

of environmental variation found in northern Labrador. Nor are resources in any given area necessarily comparable from one year to another, because of animal population fluctuations, changes in migration routes, hunting pressure, and local sea ice and weather conditions. Time-dependent and geographic changes must have required considerable flexibility in native adaptations, demography and settlement. Given these factors, a highly dynamic situation might be expected in relating northern Labrador settlement and culture patterns with ecological patterns and environmental history.

Field Strategy and Sampling

In pursuing these objectives TAP faced a number of scientific and logistic problems, the greatest of which was determining how to obtain adequate information from such a large and environmentally diverse region. Since TAP was predominantly a survey project, transportation loomed as the critical factor, one which was complicated by the lack of towns, support services, and local information. Nain, the northernmost community on the Labrador coast, is nearly 480 km south of Port Burwell at the far end of the study region. Only Nain, however, had regular contact with the south, while Burwell, an isolated outpost with a small government and Inuit population, could provide only food, fuel, and emergency services. To complicate matters further, in the winter of 1978 the N.W.T. Government evacuated and closed Burwell, leaving a small D.O.T. detachment. Air charter from Goose Bay, Fort Chimo, or Schefferville (650-1600 km round trip) could be used for secondary support but was unreliable because of distance, lack of local fuel depots and the unpredictability of Torngat weather and sea ice conditions.

These problems, which had been confronted by earlier scientific missions in northern Labrador, led TAP to develop a water-based survey. Fortunately, two vessels were available for 1977-78 and planning revolved around their capabilities. The Smithsonian's *Tunuyak*, a 35-foot former RCMP patrol boat built primarily for inshore use, with accommodations for 4-5 people, had been successfully used for archaeological work since 1974; however, its small size and limited cruising range ruled out independent operation in the exposed regions of northern Labrador. The project's success depended on the *R.V. Pitsiulak*, a 51-foot Newfoundland longliner built for scientific work in Labrador and loaned to the Smithsonian by geologist Stearns A. Morse of the University of Massachusetts. *Pitsiulak* required a full-time professional boat crew, but could carry an additional 6-7 scientific personnel and supplies for several weeks of extended cruising, including open-sea steaming. These vessels provided a comfortable and safe method of operation, serving as living quarters, laboratory space, and centers for communications between the boats, shore parties, and radio anchor-men in Nain and Burwell.

TAP goals required two different kinds of information from northern Labrador. Since a major part of the project was investigation of what was essentially an archaeologically unknown area, the first priority was to conduct an *extensive regional survey* from Okak to the Button Islands to locate sites and determine

general culture history. In addition, it was necessary to place this information into a regional environmental framework and determine potential for further research. Once accomplished, planning could begin for a second set of objectives centering on reconstructing local settlement and subsistence systems and investigating archaeological variation within restricted geographical locations. This aspect of the project required *locally intensive surveys* and considerable excavation and site mapping by a larger number of people in specific target regions. Given the sequence of these two sets of objectives and the available logistics, it was decided to commence extensive regional surveys in 1977 with a small, experienced group aboard the vessels until working conditions were better understood. In 1978 regional surveys were expanded by the boats, but primary emphasis was shifted to intensive survey and excavation by ground parties in the most promising research areas.

Following this strategy, plans were developed for both regional and local archaeological and environmental sampling. While an attempt was made to survey all areas of the northern coast, coverage was most intensive in the following geographic type-regions: (1) large bay/fjord complexes found both south and north of the Torngat Mountains: Hebron, Saglek, and Seven Islands Bay; (2) deep slit-fjords lacking protecting bays and islands in the heart of the high Torngat coast: Ramah and Nachvak; (3) small inlets, bays and open coast areas; (4) island zones: Home Islands, Killinek, and the Button Islands; (5) near-interior hunting and fishing areas and overland transportation routes to Ungava Bay. Lower level sampling *within* individual geographic type-regions was centered on the major habitat and resource zones presumably used seasonally or periodically by a local human population within a seasonal round. For instance, in a bay/fjord system, we investigated the fjord bottoms (including the lower valleys and river mouths, and the fjord arm intersections), outer fjord trunks (especially at constriction points and the mouth regions), bay/fjord mouth zones, and the outer coast margins and off-shore islands. These areas have been shown to be centers of seasonal activity and provided primary information on resource variability and local human adaptation on synchronic and diachronic scales, studies which have not generally been conducted in arctic archaeology. Since the TAP sampling program was developed to suit the stated objectives our methods did not include explicit random sampling. Previous experience indicated that weather, availability of shore time, and boat landing possibilities introduced random variables; the geographic extent of the survey, cost, time, and personnel limitations did not permit use of this technique.

Finally, specific field work methods were conducted at four levels of intensity. (1) *Rapid reconnaissance* was the most common method used for regional surveys. This involved site location and description on prepared forms; mapping; photography of general and specific features; collecting representative samples of artifacts, raw materials, and faunal elements found on the surface in relation to sketch-mapped features; and checking on sub-surface conditions by limited testpitting. (2) More extensive *test excavations* were conducted at promising sites in as many resource zones as possible to obtain controlled samples, details on structural features, dating and faunal materials. (3) *Full-scale excavation* was

reserved for the 1978 work by local field crews at sites of particular importance. Unfortunately, even in 1978 relatively few sites could be investigated in this manner. (4) Finally, *spot checks* were made whenever the opportunity arose for field crews to get ashore. The environmental sampling program was similar to the archaeological program described, but rarely advanced beyond the level of reconnaissance because of time constraints resulting from the priority on archaeological work.

Field Work Reports

Conduct of the 1977 field season closely followed the preliminary plan for extensive regional survey. *Pitsiulak* was under the command of Lloyd Wiseman, assisted by Almo Parsons, Robert Crowley, and Christopher Browne, and her scientific crew included archaeologists Steven Cox, Richard Jordan and Susan Kaplan, with Arthur Spiess (archaeozoologist), J. Peter Johnson (geologist), and Henry Lamb (botanist). The *Tunuyak* crew included Aron Crowell, Stephen Loring, Christopher Nagle, William Fitzhugh, and Jobie Munich, an Inuit from Port Burwell. Departure from Nain on 21 July was later than planned due to persistence of sea ice and problems with *Pitsiulak's* radar. Eventually, both vessels proceeded north making survey calls at designated target areas and arrived at Port Burwell on 5 August. Departing from Burwell, *Pitsiulak* briefly visited the Button Islands and explored archaeological sites on Lacy and McCall Islands excavated by Douglas Leechman in 1935 (Leechman, 1943, 1950). Meanwhile, *Tunuyak* tested Nunaingok, (Fig. 2), one of Leechman's sites located at the western entrance of McLellan Strait. Both vessels then made a rapid return voyage with surveys at Saglek, Hebron, and Okak, and arrived in Nain on 22 August. Although the 1977 survey was brief (33 days), significant results were obtained. Nearly 250 sites were located, mapped, and tested. A preliminary culture history had been outlined, and culture areas were defined for various Indian and Eskimo groups. Considerable amounts of environmental data were also recovered, particularly in the faunal and botanical areas. Preliminary geological data demonstrated potential for detailed work on geomorphology, glacial history, and lithic quarry studies, and underscored the seriousness of terrace frontal erosion of archaeological sites north of Saglek.

The 1977 survey produced the expected information on promising projects and locations for more intensive research in 1978. Plans were then made to establish 4-person field crews at Nachvak, Seven Islands Bay, Home Island, and Killinek. As these crews were too large to be delivered by boat, and ice delay such as occurred in 1977 would seriously jeopardize the brief season, each crew was to fly to its field location from Schefferville or Fort Chimo with a canoe and supplies early in July. This plan also permitted the vessels to work the southern coast before heading north for survey and re-supply of northern crews. This year *Pitsiulak* was under the command of Craig Williamson. Her scientific teams were to conduct geological and Neo-Eskimo surveys throughout the coast, while *Tunuyak* would concentrate on prehistoric surveys (see Acknowledgements for 1978 personnel).

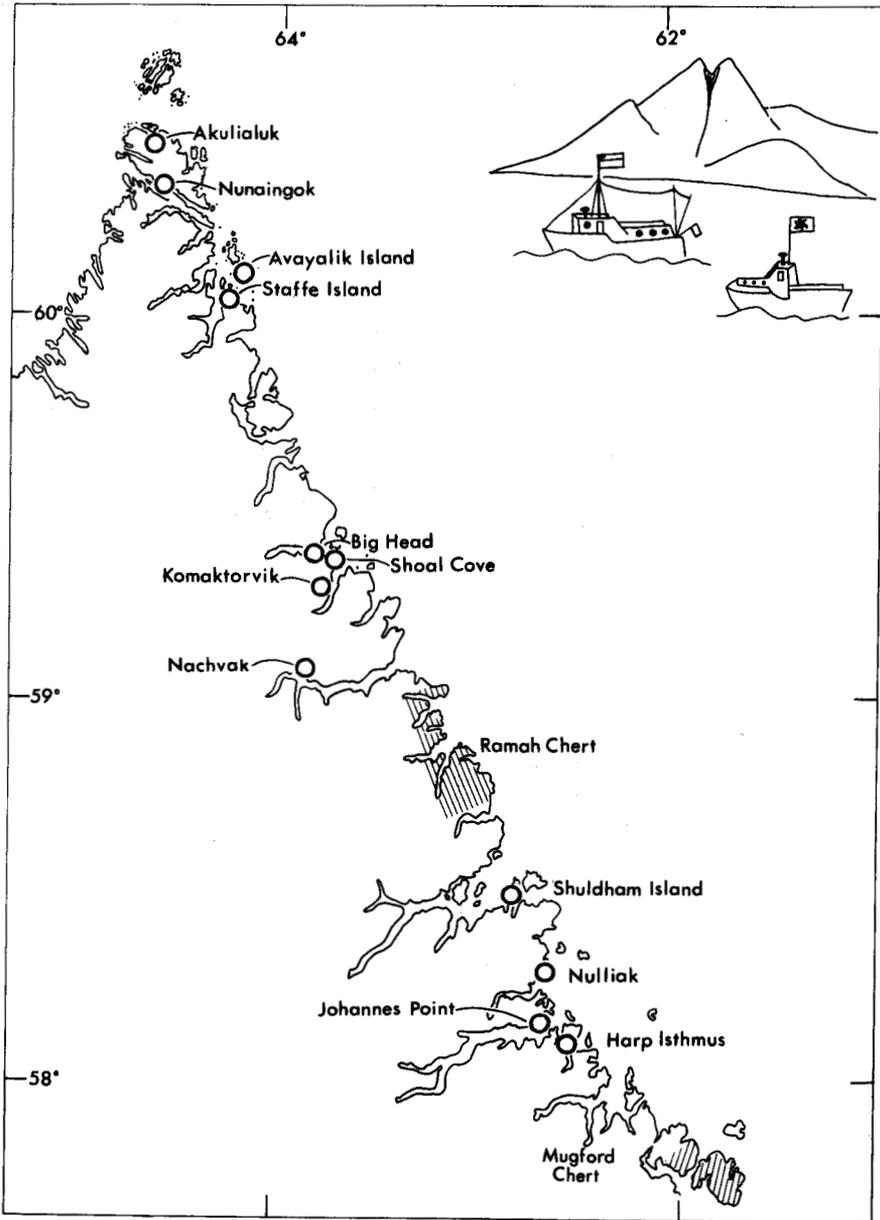


FIG. 2. Torngat site locations mentioned in text.

The 1978 season began in typical Labrador fashion with a different set of problems than the year before. Difficulties in launching the boats in Postville and preparing their departure from Nain were met by similar frustrations encountered by the three northernmost crews in reaching their destinations by air. Eventually all reached Seven Islands Bay, where they remained for several weeks, greatly enlarging our sample here. The boats finally left Nain on 20 July

and conducted a rapid survey on the way north to Ramah Bay, where scientific personnel were left with *Tunuyak* while *Pitsiulak* moved two crews from Seven Islands Bay to Staffe Island. With *Pitsiulak's* return, boat surveys and quarry studies were continued in Ramah, and continued in Nachvak prior to the departure of an interior canoe survey to Ungava Bay via the Palmer and Korok Rivers. The vessels then continued north, providing assistance to the Seven Islands Bay and Avayalik crews, and later moved north; *Pitsiulak* worked the northern part of Killinek Island while *Tunuyak* spent several days with the Université du Québec team, directed by Henry Stewart and sponsored by the Québec Ministère des Affaires Culturelles, mapping and stabilizing shore-side deposits at Nunaingok. By mid-August the weather had deteriorated badly and the northern crews were brought south to Seven Islands Bay by boat to await airlift while the vessels continued south surveying in Saglek and Hebron, arriving in Nain on 31 August. Unfortunately, air charters failed to reach the northern crews, and the final chapter of the Torngat field program involved their rescue by *Pitsiulak* and their return to Nain on 6 September.

While the 1978 season was complicated by unforeseen events, the large effort of many individuals produced important information which greatly expanded the results of the previous year. Together, both seasons resulted in information from over 350 sites from Okak to the Button Islands, including nearly 16 000 catalogued artifacts, a large volume of faunal elements, written and photographic documentation on sites ranging in time from early Maritime Archaic *ca.* 6000 years ago to the present day. In addition, investigations in specific regions have produced data on settlement and subsistence patterns for all of the expected culture periods in this area. Data on lithic procurement locations and on botanical, zoological, and geological history and processes have added important dimensions to the archaeological evidence.

PRELIMINARY CONCLUSIONS

While the potential of the Torngat field data is not yet fully explored, substantial progress has been made on a number of the project objectives. Preliminary results of more detailed nature are found in the accompanying papers on the Avayalik excavations, Dorset culture subsistence and settlement patterns, and Ramah chert and Neo-Eskimo studies. Some of the more general aspects of the work, primarily those dealing with the culture history and distributions, are summarized below.

Indian Occupations

Previous research has established that the dominant Indian occupations of the Central Coast — Maritime Archaic, Saunders (Intermediate Indian), and Point Revenge — extended to Nain and Okak, and presumably further north, since all groups used Ramah chert to varying degrees. The determination that early Maritime Archaic groups inhabited the northern coast before the northern immigration of spruce prior to 4500 B.P. (Fitzhugh, 1978a:92) called into question the distribution and nature of later North Coast Indian occupation, particu-

larly as their settlement related to the northern forest limit and Eskimo culture areas.

Maritime Archaic cultures occupied the Nain-Okak region between *ca.* 6500-3800 B.P. In contrast to the Central Labrador coast, where the largest sites and most intensive occupations occur late in the local Maritime Archaic sequence, occupations in Nain and Okak are heaviest in the early period, *ca.* 6500-5500 B.P. No large Rattlers Bight-type sites (*ca.* 4000-3800 B.P.) have been found in this area, although Ramah chert was used extensively during the Rattlers Bight period, a time when its dispersal to sites south of Labrador was also at its peak. TAP surveys have now demonstrated that Maritime Archaic sites are rare north of Saglek, but do occur in Ramah Bay, the probable source of the chert used by this culture (Fig. 3a). However, their scarcity north of Saglek is difficult to evaluate due to the effect of coastal submergence which has eroded terrace surfaces of this period and the fact that Maritime Archaic populations undoubtedly thinned near their northern limits. In view of the general lack of evidence of heavy Maritime Archaic occupation north of Okak, and of the scarcity of late Maritime Archaic sites in particular, the discovery of a large Rattlers Bight phase site at Nulliak, 15 km north of Hebron, is of special interest. Nulliak is located on the mainland near a pond whose presence channels caribou movement along a narrow terrace strip near the shore. The site, only partially investigated at present, has the remains of a caribou drive system, several large rectangular enclosures located on relic caribou trails, and two probable burial features marked by boulder mounds (Fitzhugh, 1979:60). The size and complexity of this site is unusual compared to other late Maritime Archaic sites in northern Labrador and suggests either a permanent occupation of the Hebron-Saglek area, which is not yet demonstrated for other Maritime Archaic periods, or possibly a seasonally occupied base camp established by southern expeditionary groups engaged in northern hunting and chert procurement. The increased use of this area during the late Maritime Archaic period coincides with postglacial warm peak recorded in many Labrador-Quebec pollen diagrams and might be a response to northern forest movement and more favourable environmental conditions. Internal factors relating to the growing dependency on Ramah chert in Late Maritime Archaic technology may also have influenced their increased use of the northern coast, requiring regional specialization in chert procurement and possibly assertion of access rights to northern geological and faunal resource zones after the appearance of Pre-Dorset people.

Saunders (3500-3000 B.P.) and Point Revenge (1000-500 B.P.) occupations of the northern coast followed a similar but more restricted pattern (Fig. 3a). Although the use of Mugford chert by Saunders and Ramah chert by Point Revenge necessitated northern contacts, few of their sites are known north of Nain. A small Saunders site was found in Hebron; and a single artifact in Ramah Bay; Point Revenge sites were more common, with suggestive traces occurring both in Hebron and Ramah Bay. However, evidence of permanent occupations was not found. These distributions suggest that exploitation of northern lithic sources was a primary motivation for northern forays. To date, permanent settlement is not indicated by our evidence, perhaps in part due to periodic

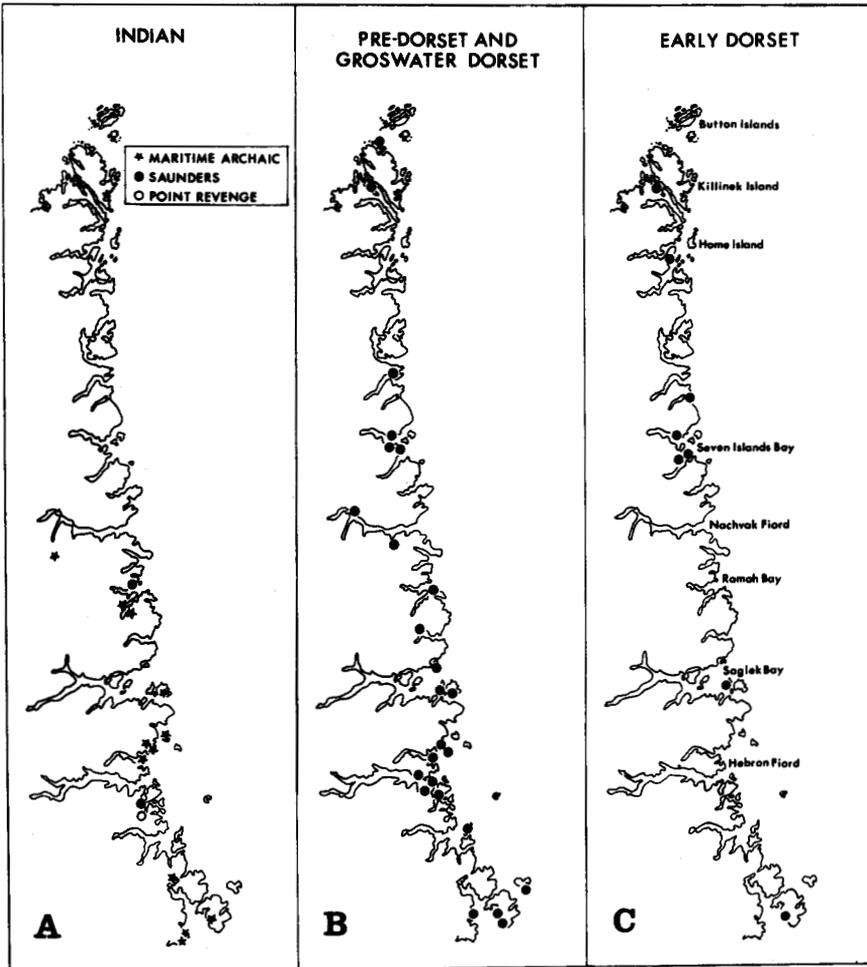


FIG. 3. Distribution of archaeological sites recorded by the Torngat Archaeological Project in 1977-1978 assigned to Indian (3a), Early Paleo-Eskimo (3b), and Early Dorset (3c). Figures 3 and 4 include only those sites for which diagnostic markers exist. Sites which can only be assigned to the general Late Paleo-Eskimo group have not been plotted. Were they included the site density would be considerably increased, but the distribution of sites along the coast would not be much changed.

Eskimo occupations of these regions. While the lack of late Pre-Dorset occupations in northern Labrador suggests that Saunders distributions would not have been greatly restricted by this group, Point Revenge use of Ramah chert would have required contacts with Late Dorset groups whose sites, some quite large, are found between Okak and Ramah Bay. Procurement of Ramah chert by Point Revenge may have occurred directly at quarry sites, as indicated by sporadic traces in this area; but trade with Dorset suppliers is also possible. More data will be needed to resolve this problem and the question of whether Saunders and Point Revenge Central Coast expansions were won competitively from Eskimos, or as seems more likely, by default following Eskimo abandonment.

These data greatly aid our understanding of Indian distributions and adaptations in central and northern Labrador. Nain and Okak generally seem to have been the limit of permanent Indian settlement, except for a possible permanent range expansion to Hebron and Saglek during the Late Maritime Archaic (*ca.* 5000-3800 B.P.), when climates were warmer and Eskimos were not present. Nevertheless, northern resources seem always to have been used and were probably acquired by limited occupation or specialized exploitation by small groups, or through contacts with Eskimos in these areas. The southern Torngat area would seem to have offered opportunities for Indian cultures already making limited use of these areas' resources to develop arctic adaptations, either during periods when the northern coast was not occupied by Eskimos or when Eskimo adaptation models were available during the past 4000 years. However, this did not occur. Nor is there evidence of experimentation in this direction. Forest dependency seems to have remained a basic attribute of Labrador Indian adaptations for more than 6000 years. Their inability to move north of the forest boundary put Indians at a disadvantage when competing with Eskimo groups who could, and frequently did, advance south into the transitional forest-tundra zones of central and southern Labrador.

Early Paleo-Eskimo

Pre-Dorset sites have been found throughout the northern coast (Fig. 3b), but their distribution and settlement intensity in the Torngat area is considerably less than has been observed in the larger bay-fjord complexes of Saglek, Hebron, Okak, and Nain. While the scarcity of North Coast sites may result in part from erosion, the absence of Pre-Dorset remains at large sites like Nunaingok and the sporadic nature of the finds suggest that the high Torngat coast was not as alluring as the more bountiful wooded and caribou-rich regions farther south. The more southern areas also contained the desired Mugford cherts which Labrador Pre-Dorset knappers preferred over Ramah chert.

An indication of the importance of caribou in the Pre-Dorset adaptation is suggested by the concentration of sites in Hebron, which lies in the center of the northern Labrador herd distribution and is close to its main calving area west of Hebron fjord. Although many small Pre-Dorset sites were found in maritime hunting locations, the largest site, containing over 40 distinct structures and find locales, was at a caribou crossing at the base of Harp Peninsula in Hebron. Until more surveys are conducted at interior locations, it remains uncertain whether Pre-Dorset groups in Labrador spent their entire winter hunting caribou in the interior, particularly since Pre-Dorset sites were not located by the Korok valley survey team.

Most of the Pre-Dorset sites date either early in the Pre-Dorset period or at its end. Few, if any, sites between 3500-3200 B.P. have been found in Nain and Okak, where Saunders (Indian) occupations occur at this time, and none have been found on the northern coast, making it difficult to link Early and Late Pre-Dorset into a single developmental sequence in Labrador. Since this transition most likely occurred north of Saglek where site erosion, low population

density, and small sites and tool assemblages make such investigations difficult, the question of Pre-Dorset continuity in northern Labrador is likely to remain unanswered for some time. However, excavations at Nukasusutok 2 in Nain (3315 ± 85 B.P., SI — 2988; Cox, 1978) and Shoal Cove 4 in Seven Islands Bay (3005 ± 80 B.P., SI — 3867), strengthen the idea of a transition from terminal, or transitional, Pre-Dorset into Groswater Dorset, which is regarded as an evolved Pre-Dorset form influenced by Dorset traits developing elsewhere but not ancestral to later Dorset development in Labrador. However, Groswater Dorset probably does contribute to later Newfoundland Dorset development (Fitzhugh, 1980a). Like its parent culture, Groswater Dorset is rare on the Torngat coast, although a major component occurs at Nunaingok, and sites of this complex are common on the Central Coast and south into Quebec and Newfoundland.

Late Paleo-Eskimo

The Late Paleo-Eskimo period in northern Labrador begins with the appearance of Dorset culture about 2500 B.P. and continues for nearly 2000 years, when it is replaced by a late form of Thule culture. Within this period major changes in population distribution, technology, economy, and settlement patterns occurred. To date, the subdivisions (Early, Middle, Late) developed for the Nain and Okak areas seem to apply as well to the North Coast.

Early Dorset culture in Labrador is believed to have been inaugurated by the arrival of a new population with a culture similar to that known from northern Hudson Bay sites such as Southampton Island T1. Few elements of continuity are found with the preceding Groswater Dorset groups which continued to persist on the central coast until about 2200 B.P., overlapping several centuries with northern Labrador Early Dorset. Radiocarbon dates from Early Dorset sites between Seven Islands Bay and Nain indicate a period of southward expansion into areas formerly held by Groswater Dorset groups. Some sites suggest a limited amount of mixing between these cultures, but generally the picture of replacement seems upheld. The reasons for replacement are not clear, but are probably related to a shift from the Early Paleo-Eskimo pattern of mixed coastal and interior subsistence and settlement to a more efficient and intensive adaptation to marine and coastal resources, a pattern that continues to persist, with modifications, throughout the 2000-year Dorset period.

Several new Early Dorset sites were found on the North Coast (Fig. 3c), the most important being the substantial component at Komaktorvik in Seven Islands Bay. However, the relative scarcity of sites suggests a small population like that of the Groswater Dorset period, considerably smaller than Middle and Late Dorset. Shallow, semisubterranean houses appear for the first time as do a new burin technology and extensive use of Ramah chert, and the soapstone complex is expanded to include use of cooking pots. Unfortunately, middens are thin and organic preservation is poor, providing no information on subsistence. Early Dorset sites are often found in the same locations as later Dorset components, indicating settlement pattern similarities. Although typological continuity between Labrador Early and Middle Dorset components had been observed, the number of Early Dorset sites seems small for the 500 years postulated for this

phase. The fact that our radiocarbon dates are restricted to 2600-2400 B.P. raises the possibility that the coast may have been abandoned for several centuries. If so, the continuities observed may result from a common ancestry further north.

The Middle Dorset period begins between 2200-2000 B.P. and lasts until at least 1400 B.P., during which a major cultural expansion into the Central Coast and Newfoundland occurs (Fitzhugh, 1980a). For some reason, perhaps Indian resistance, Middle Dorset sites are absent from Hopedale to northern Newfoundland. Farther north, Middle Dorset sites are the most numerous of any Paleo-Eskimo sites and indicate a sizeable population whose settlement pattern is similar to that of Neo-Eskimo groups (Fig. 4a). In fact, Middle Dorset winter villages are often found buried beneath even larger Neo-Eskimo settlements. The large number of sites makes possible a fairly complete study of Middle

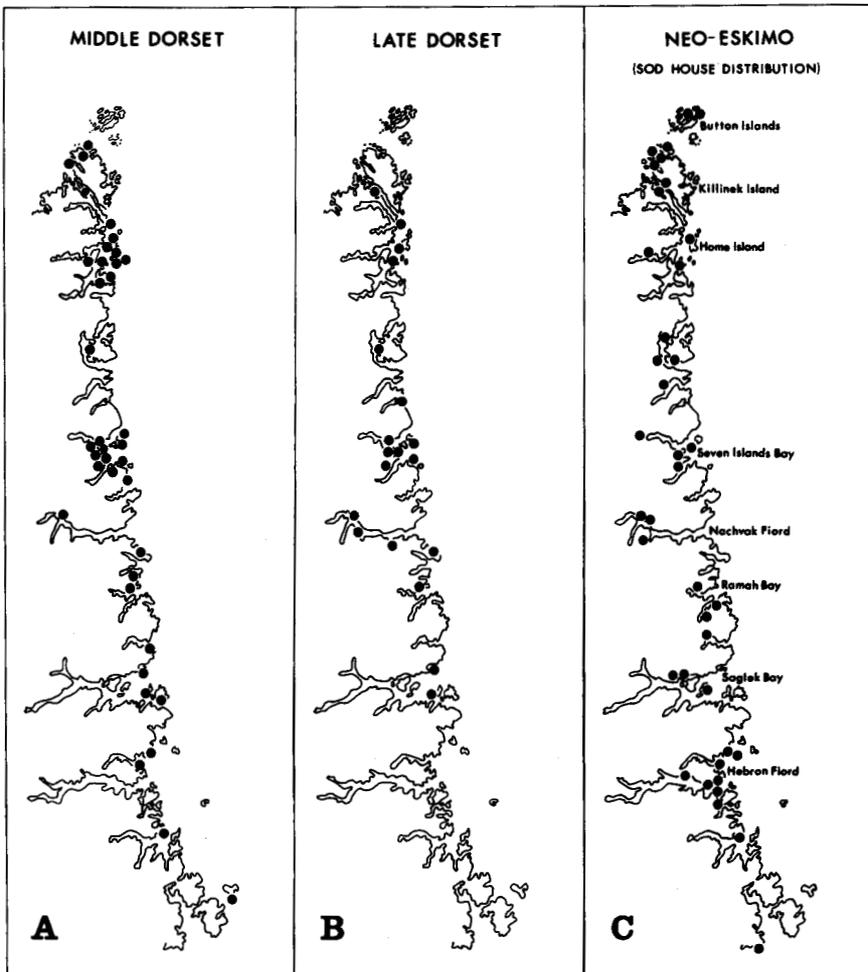


FIG. 4. Distribution of archaeological sites assigned to Middle Dorset (4a), Late Dorset (4b), and sod house sites of the Thule, Labrador Eskimo, and recent Inuit periods (4c). The latter includes only a small number of the total Neo-Eskimo sites found in the Torngat region.

Dorset subsistence and settlement from a number of locations on the Torngat coast. Where sufficient time for excavations was available, we were usually rewarded with large assemblages, and sometimes with organic artifacts and faunal remains. A number of special-purpose sites were also found, including quarries, caches, seasonally-specific settlements and house types, and a caribou fence of probable Dorset use (Fitzhugh, 1980b). With such data it is possible to begin to reconstruct a "paleo-ethnographic" view of Middle Dorset life and adaptations for specific regions. It is also possible to learn about contact and relationships between local populations in different areas through typological studies, examination of patterning and movement of lithic materials, and comparison of variations in local subsistence systems. Sites like Avayalik 1, with its well-preserved midden containing organic materials, including wooden implements and artwork (Jordan, 1979/80), will do much to illuminate many facets of Middle Dorset life in Labrador. Among the more intriguing aspects of this period are the presence of small nucleated winter villages containing several houses, some with entrance tunnels, and frequently with quantities of baleen, walrus and other faunal evidence suggesting annual reoccupation of houses throughout the winter and spring. These Dorset villages depart from the dispersed pattern of Middle Dorset winter sites on the Central Coast and converge toward an adaptation type used later by Neo-Eskimos.

The Late Dorset period (1100-650 B.P.) is another for which a large amount of new information has been made available from the Torngat area (Fig. 4b). Previously, Late Dorset was known only from museum collections (Fitzhugh, 1976:112) and a house excavation at Okak 3 (Cox, 1978). Now several winter structures have been excavated from the Torngat region, and many other sites containing house groups and other features have been mapped and sampled, perhaps the most important being the large village at Shulldham Island 9 in Saglek. Late Dorset sites are found in all the major bay and fjord complexes north of Okak, and a fairly large population is indicated.

The origins of the Late Dorset phase have been assumed to lie in earlier Middle Dorset traditions in Labrador, and it is not difficult to follow general continuities in lithic typology, raw material usage, and certain structure forms. However, as in the Early to Middle Dorset shift, this need not imply *in situ* development. The possibility of a new population movement into northern Labrador cannot be ruled out until adequate explanations are available for the lack of radiocarbon dates between 1400-1000 B.P., the absence of specifically transitional tool forms, and for the shifts in settlement patterns and house forms. The shallow semi-subterranean Late Dorset houses have well-defined axial pavements and no entrance passages. External bone middens are not found, nor are there thick internal house deposits, suggesting that these houses were used during fall and early winter rather than throughout the entire ice season as indicated for Middle Dorset houses. The shift from Middle to Late Dorset therefore may have been accompanied by a movement out of permanent winter quarters to snow houses on either land, or more probably, on the sea ice. Such a shift might signify important changes which, if originating outside Labrador, as seems to be the case, occurred about the time of Thule arrival in the Eastern Arctic.

Late Dorset persistence until *ca.* 600 B.P. must be viewed also in light of the absence of Early Thule in this area, the presence of Ramah chert-using Point Revenge groups south of Okak, and a probable Norse presence. These potential contacts makes this period one of the most interesting in northern Labrador prehistory. Late Dorset adaptation to this diverse cultural environment, including possible demographic and territorial stress in relation to these other groups, requires further investigation, as do the circumstances of their replacement by Thule culture.

Neo-Eskimo

Torngat surveys gathered more data on Neo-Eskimo settlement than for any other period (Fig. 4c). About 30 winter villages used by Thule and Labrador Inuit groups have been located and tested north of Okak, and many special-purpose sites and other seasonal occupations are now known. However, the quantity of these remains, their widespread geographical range, and the mixed blessing of deep frozen deposits are such that most of our information comes from surface data and limited test excavations.

Thule culture sites have been found from Killinek to Hebron and may exist also in Okak and Nain, although they have not been specifically identified there. Components have been found at Nunaingok, Staffe Island, Seven Islands Bay, Nachvak, and Hebron, and where radiocarbon dates are available they indicate a commencement shortly after A.D. 1400 throughout this region. The absence of early Thule seems to be related to the presence of Late Dorset groups in this area, including the northern bridgehead at Killinek. Faunal evidence indicates that the Thule economy in Labrador was based on hunting large whales and walrus, and the major sites are placed to advantage for these pursuits. The Thule occupation was brief, perhaps lasting only a century, and left thin floor deposits and poor middens. Contact with Dorset groups probably occurred, given the proximity of Thule and Late Dorset chronological and spatial dimensions, but at present the only archaeological evidence suggesting this consists of similarities between a particular type of Dorset and Thule/Labrador Eskimo boulder structure measuring 4×8 m and with a boulder or slab divider across its short dimension. In some cases these structures are associated with Dorset tools and debitage; in others with Neo-Eskimo remains. These structures may suggest the possibility of cultural exchange between the two groups or, alternatively, of persistence of earlier Dorset traditions in the Neo-Eskimo period. The complete sequence of Labrador Inuit occupation of the North Coast, from initial European contact through the twentieth century, can be traced in the large sod house villages as well as the wealth of tent rings, *qarmats*, graves, caribou fences, fox traps, caches, cairns, *inuksuks*, and other structures found in a variety of ecological and geographical areas, which attest to an extensive and highly successful Labrador Inuit adaptation to this region.

Evidence of initial Inuit-European contact has been recovered from Eskimo Island in Hamilton Inlet (Jordan and Kaplan, 1980). Artifacts and settlement pattern information indicate Inuit trade with whalers, Moravian missionaries, and Hudson's Bay Company personnel. A sequence of changing subsistence

patterns reflecting Inuit adaptations to the European economy and its direct or indirect impact on the use of Labrador resources can be followed over four centuries. These data are permitting archaeological investigation of acculturation of gradually changing geographic scope and intensity, which, combined with ethnographic and ethnohistoric information, should provide the basis for a synthesis of Labrador Inuit economic and social development. The number of sod houses, dating well into this century, and the rich collection of ethnoarchaeological artifacts and data testify to the endurance of many Inuit traditions along the North Labrador Coast despite prolonged contact with Europeans. In the face of this extensive history of settlement, the current abandonment of the coast north of Nain seems likely to be a transient phenomenon.

European Settlements

European settlement sites have too frequently been ignored by anthropologically trained archaeologists in North America, even when these sites involved direct relationships with Native American groups in their own territory. The only permanent settlements established in the Torngat region before the modern era were Moravian Mission stations and Hudson's Bay Company posts. These stations were primary agents of culture change in this area between 1771-1900. The first Moravian station was opened in Nain in 1771 and was followed by others further north at Okak (1776-1918), Hebron (1830-1959), Ramah (1871-1908), and Port Burwell (1904-1924). Each of these sites was relocated during TAP surveys, and test excavations were made at Hebron, Ramah, and Burwell. In addition, Hudson's Bay Company posts at Nachvak (1868-1906) and Killinek (estab. 1916) were located and tested. While our limited inspection of these sites was not very revealing archaeologically, future work could have considerable significance for understanding European influence on recent north Labrador culture and social history. Not only did these frequently competing organizations have different philosophical justifications, motives, ethnic/national origins, and material culture; in some cases, they were selective in their dealings with certain Inuit groups (primarily Christian v. non-Christian) with whom they interacted. These characteristics produced different effects on Inuit culture and value systems, some of which (such as settlement patterns) are easily seen in the archaeological record. The Moravian church-village settlement pattern, for instance, is a striking example of one type of adaptive relationship. The possibilities for archaeological and documentary collaboration relating to European-Inuit relationships would, no doubt, produce rewarding results. Also worthy of note is that of these European sites only one, the Moravian and Inuit settlement of Hebron, abandoned in 1959, remains standing today. This religious and economic colony with its Germany architecture and flavor is a historic site of considerable significance and quiet grandeur in the history of Eastern Canada.

Environmental Research

Torngat environmental studies have been directed primarily at coastal geomorphology and paleo-environmental history. A primary task was to extend

the strandline chronology developed for central Labrador into the northern region to facilitate archaeological dating. This project has suffered from a relative lack of emerged marine sediments containing datable materials. The most important discovery from an archaeological point of view is that the Central Coast uplift regime extends only to Saglek. North of this, raised beaches are not being formed today, and shorelines are actually being eroded, sometimes severely, by lateral removal or undercutting. Whether this results from gradual attrition along a stable land-sea interface or from relative subsidence is not clear. Nor is the duration of this condition known. Its net effect on archaeological sites, however, is clear. Many sites are being actively damaged and others have been destroyed. Site loss is greatest in the Killinek region where active erosion is rapidly damaging many Paleo- and Neo-Eskimo sites.

On a longer time scale it may be possible to date the higher North Coast marine and fluvio-marine deposits from earlier periods and to determine their relationship to post-glacial events. Some radiocarbon determinations from these formations support the view (e.g. Ives, 1978; Vilks and Mudie, 1978) that parts of northern Labrador and its shelf may have been free of ice for substantial periods in the Late Wisconsin.

In the area of paleo-ecological studies the emphasis has been on determining climatic and vegetation history revealed primarily through botanical and palynological study. During the past decade progress has been made in obtaining dated pollen sequences from a wide range of locations in Labrador and northeastern Quebec. These results are being combined with data from Torngat sediment cores, surface samples and dendrochronological sections to reconstruct vegetation history and boundaries in relation to ecological processes and long- and short-term climatic trends. To date, these studies demonstrate relatively similar patterns during the period of human settlement, i.e., a peak Holocene warm period culminating about 4000 B.P., followed by gradual cooling which levelled off between 2500-2000 B.P., and a more or less stable climatic pattern from then until the present. Except for the coincidence of the warming trend and Maritime Archaic expansion, strong correlations between vegetation and cultural changes in northern Labrador are not apparent, at least at this stage in the analysis. However, Labrador vegetation history is relatively complacent and may not reflect climatic events which are recorded elsewhere and which do seem to correlate more closely with major changes in Labrador culture history.

In addition, attention has been given to lithic source locations and procurement techniques. Mapping and sampling in the Mugford and Ramah regions has helped identify and distinguish these materials and the manner in which they were obtained and utilized. Samples obtained from a large number of soapstone outcrops along the central and northern Labrador coast are being compared to archaeologically obtained specimens by instrumental neutron activation with promising results (Nagle *et al.*, 1980). Unfortunately, source locations of schist, nephrite, and slate have not been found. Analysis of lithic types and frequencies in archaeological complexes is proving useful in determining patterns of movement in identifying "exotics" and evidence of long-range contacts.

CONCLUSIONS

As the above review and the accompanying papers show, progress has been made in achieving some of the goals of the Torngat Archaeological Project. Despite difficulties in a study of such a large and diverse area, the field strategy has resulted in both intensive and extensive sampling of the North Coast and some interior regions. Clearly, Northern Labrador's great environmental and ecological diversity and its strategic location with respect to arctic and subarctic cultures are key factors in any investigation of regional cultural history and adaptation. Preliminary analysis of Torngat data has begun with more basic questions of identifying cultural groups and their material remains, dating the changes in culture types, determining distributions in relation to environmental and external culture factors, and learning about settlement and subsistence patterns and variations in these patterns. We hope also to investigate the relationship of these data to more theoretical issues: the influence of Indian, Eskimo and European contact on their respective cultures and distributions; rates and mechanisms of culture change within cultural traditions; and the role of ecological, climatic and other natural variables. These studies will be made from a number of orientations. Ecological and biogeographic theories help illuminate matters of subsistence and population distribution, while other approaches based on cultural boundary maintenance, economy, and acculturation seem better suited for understanding internal systemic changes and factors relating to contact and acculturation.

Finally, the Torngat Project is contributing toward providing a clearer assessment of northern Labrador's archaeological potential and information on the status of its cultural resources. Northern Labrador is very rich in this respect. Fortunately, more of its archaeological sites are not in immediate danger although significant and rapid erosional damage is occurring in the Killinek area. However, as in other arctic regions, the physical evidence of cultural heritage can be easily damaged or destroyed. A record of such completeness and wealth, particularly for the past 2000 years, deserves diligent protection and conservation. Such matters have not been much considered in policy decisions affecting Labrador in the past. As plans for regional parks, oil and mineral development, and new northern settlements are discussed, it is to be hoped that proper recognition of historical and archaeological resources will be accorded.

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