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THE PREHISTORY OF THE SOUTHWEST COAST OF NEWFOUNDLAND

by

© GERALD PENNEY, B.A.

A Thesis

submitted in partial fulfillment of the requirements

for the degree of

MASTER OF ARTS IN ANTHROPOLOGY

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ABSTRACT

This study represents three (1979-81) field seasons of archaeological survey and excavation on the southwest coast of Newfoundland. Prior to this research our understanding of its prehistory was limited. Survey results suggest that this submerging coast was thinly populated throughout most of the prehistoric period.

Excavation at the multi-component L'Anse à Flamme site revealed distinctive and previously unrecognized Recent Indian lithic assemblages. Four other southwest coast sites were found to contain similar assemblages which are herein proposed as the Little Passage Complex. The complex may represent either Indian cultural florescence and coastal re-occupation or new migrants following Dorset demise. Its relationship to the historically known Beothuck remains unclear, however, radiocarbon age determinations from Little Passage sites elsewhere on the Island, place it late in the prehistoric period.

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The able assistance of the following crew members is acknowledged: Shaun Austin, Andy Benoit, Zelda Cohen, Ross Hinks, Ann Hogan, Gerard Joe, Ellen Penney and James Tillotson. The help and kindness provided by the Jerry Fudge family of Gaultois and the Melbourne family of Burgeo is appreciated. The late chief of the Newfoundland Micmac, William Joe, steadfastly encouraged this project.

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CHAPTER I

INTRODUCTION

The Conne River Indian Band Council's land claim statement, Freedom to Live Our Own Way Land (Usher 1980), incorporated historical references to and oral accounts of Micmacs in Newfoundland, but did not include archaeological data. Prior to the research sponsored by the Band Council, the southwest coast was essentially an archaeological terra incognita.

J. P. Howley's (1915) definitive work, The Beothucks or Red Indians, deals very briefly with prehistoric events on this coast. On a map showing "places where remains, relics, etc. of the aborigines (Beothuck) have been found" (Howley 1974:Plate XI), he records stone implements in Placentia Bay and at Cape Ray, burials near Burgeo and in Placentia Bay, and a Micmac village in Conne River.

Excavation of the Cape Ray Light site (CdBt-1) by Urve Linnamae in 1967-68 revealed it to be a major Palaeo-Eskimo site occupied between about 2300 and 1500 B.P. Linnamae's 1968 survey of Placentia Bay found Dorset sites on Long Island, and in the abandoned fishing communities of Bordeaux and Tack's Beach.

Howley's reference to a Beothuck burial on Rencontre Island, one of the Burgeo Group of Islands, warrants elaboration. The burial, accidentally discovered

in the 1850s, was reported to a circuit clergyman who sent grave goods and a skeleton to McGill University. Details of the burial are embodied in a paper entitled "The Beothiks or Red Indians of Newfoundland," delivered to the Royal Society of Canada on 29 May 1891 by the Rev. Dr. George Patterson. Howley reproduced Patterson's account.

The burial, under a rock shelter, enclosed the complete skeleton of an adult male and associated grave goods. Exposed upon the removal of birch rind wrappings, these included:

> oblong pieces of carved bone, together with flat circular stones, some glass beads, two iron hatchet heads, . . . a bone spear head, the handle of a knife with part of the blade still in it, also some flints designed for arrowheads. (Patterson 1892:157-158).

Unfortunately, this post-contact burial has contributed little to our understanding of events on the southwest coast at the time of European rediscovery. Some grave goods, but not the lithics, have recently resurfaced at the McCord Museum in Montreal (J. Tuck, personal communication, March 1982).

Two Beothuck burials were discovered by fishermen during the 19th century on Hangman and Tilt Islands, two of the Ragged Islands on the west side of Placentia Bay. It is not entirely clear if they are pre- or post-contact burials. The Tilt island burial may have held only one individual; its bone sample is limited to a rib, a tibia, a

patella, a metatarsal, and an unidentified bone. Grave goods include a single arrowhead, three small beads, two large flat beads on a stick, a feather, and stitched birch rind. The Hangman's Island burial held one individual, whose attire, "birch rind with stitched holes and a number of wrinkles neatly cut and holed" when combined with an absence of weapons indicated "a woman's grave" to Howley (1974:293). Twenty-four bone charms (pendants) were also recovered.

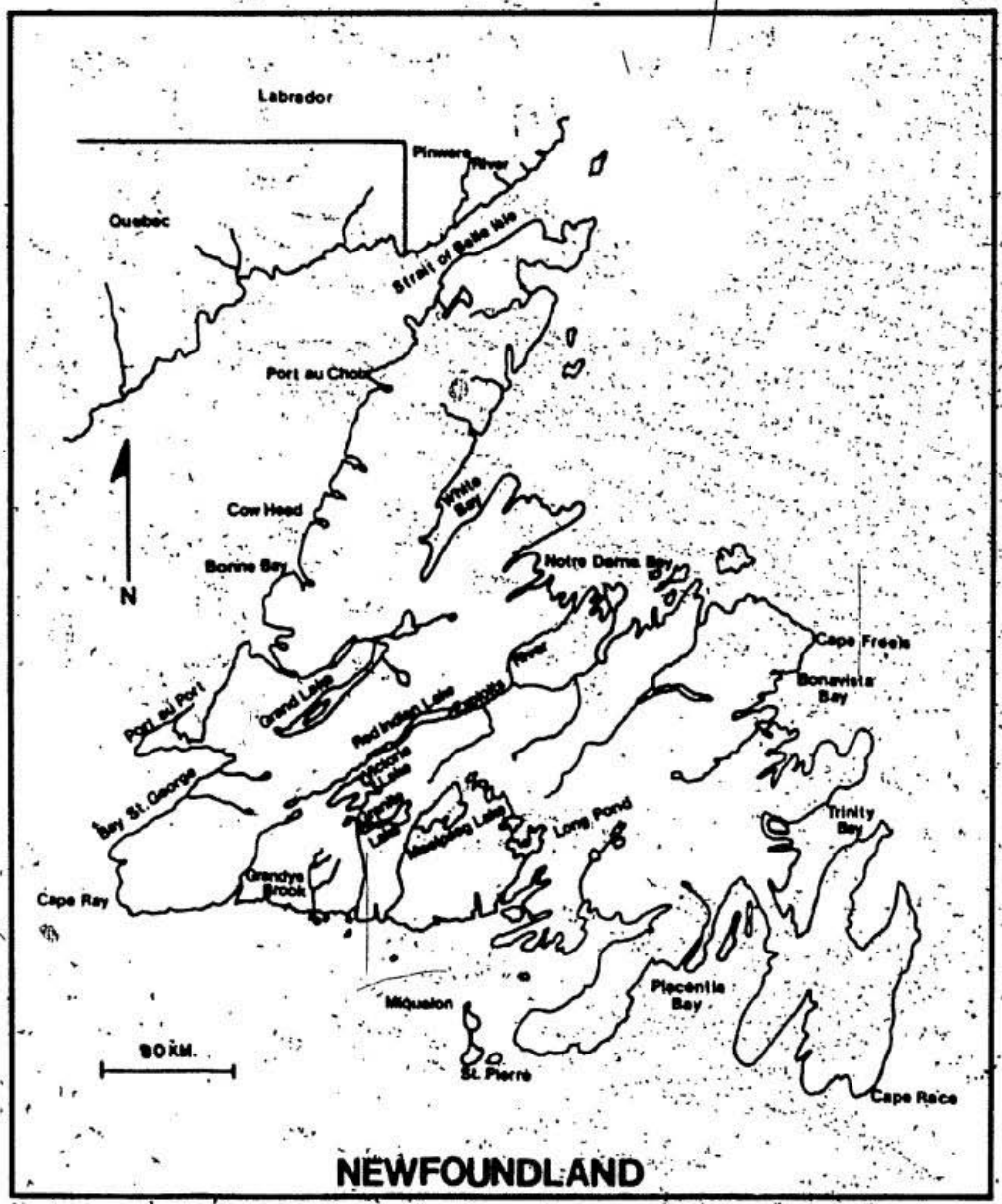
Howley, a Newfoundland Government geologist, spent considerable time on this coast mapping and prospecting. He often used Micmac assistants, and noted their village on his map.

Initial Micmac migration between Cape Breton Island and Newfoundland possibly occurred as early as the 17th century and continued, although often sporadically, over the following centuries. Resource depletion on the mainland, the conquest of Acadia by the English, and the demise of the Beothuck early in the 19th century, are thought to be factors which encouraged migration. The 150 Micmac who arrived at Bay St. George in 1787, were the last to cross the Cabot Strait in such numbers (Pastore 1978:20). They and their descendants were to maintain familiar relations with Cape Breton during the next century while the Newfoundland Micmac population was becoming permanent.

From Bay St. George, most Micmac moved eastward, and by mid-19th century Conne River was a firmly established village. Located at the bottom of Bay d'Espoir, the village neighboured the interior of the Island with its large caribou herds. Bay d'Espoir may have attracted Micmacs because of its proximlty to the French islands of St. Pierre and Miquelon, where there were priests who could minister to their spiritual needs. Conne River Micmacs are known to have hunted and trapped the interior of the Island during the 19th century as Millias (1907) and Speck (1922) have delineated family trapping areas.

Red Indian Lake, the Exploits River, and to a lesser extent Grand Lake, are from historical accounts and preliminary archaeological surveys and excavations, considered the homeland of the Beothuck during the historic period (Map 1). Nothing was known, however, concerning prehistoric use of the interior north from the hinterland of the southwest coast to the above mentioned rivers.

In 1967 David Sanger, then of the National Museum of Man, undertook an archaeological survey of part of the area scheduled to be flooded for the first Bay d'Espoir hydro development. Flooding of a chain of lakes stretching from King George IV Lake in the west to Long Pond near Bay d'Espoir in the east was proposed. His survey, although restrained by time and prior flooding of the eastern lakes, included three large western lakes: George IV, Granite,


Labrador
Pinware River
Quebec
Strait of Belle Isle
Port au Choix
Cow Head
White Bay
Bonne Bay
Notre Dame Bay
N
Cape Freels
Bonavista Bay
Port au Port
Grand Lake
Red Indian Lake
Victoria Lake
Bay St. George
Long Pond
Trinity Bay
Grandys Brook
Cape Ray
Miquelon
Placentia Bay
St. Pierre
Cape Race
NEWFOUNDLAND

Map I

and Victoria. He was unable to locate any prehistoric or historic sites during a seven week stay. Sanger's (1967:5) conclusion, based on archival research, the nature of the terrain, and negative survey results, was "that the western portion of the Bay d'Espoir reservoir area was never extensively utilized by prehistoric populations in Newfoundland."

In summary, knowledge of south coast prehistory was limited to a major Palaeo-Eskimo site at Cape Ray, Dorset sites in Placentia Bay and Beothuck burials near Burgeo and in Placentia Bay. The results of Sanger's survey suggested, at best, a marginal interior occupation. Micmacs migrated to Newfoundland some time after ca. 1600 and congregated at Conne River during the 19th century.

The impetus for the archaeological survey of the southwest coast came from the Conne River Indian Band Council who are anxious to understand its prehistory, this desire having resulted from their dealings with the Federal government concerning the registration of Conne River as a native community. Documentation of native use and occupancy is also required for land claims.

During the 1979 summer field season, a survey of the shoreline of Bay d'Espoir and Hermitage Bay located five prehistoric sites. Two sites, Branis Point (ClAw-1) and Copper Head (CkBa-1), were disturbed by European occupations, however, Isle Galet (CkAx-1), L'Anse à Flamme

(CjAx-1), and Eagle Head (CjAx-2) were better preserved. Excavation of L'Anse à Flamme in 1980 provided evidence of distinct, and previously unrecognized, Recent Indian lithic assemblages herein proposed as the Little Passage Complex. Further coastal survey in Bay d'Espoir, Hermitage Bay and in the Burgeo to Cape La Hune area during 1980-81 located another 14 prehistoric sites. Survey results, and data from the excavation of L'Anse à Flamme, are used to formulate a cultural history of the southwest coast.

CHAPTER II

NEWFOUNDLAND AND LABRADOR PREHISTORY

Archaeological research in Newfoundland and Labrador has intensified at an unprecedented pace during the past 25 years. The prehistoric period now spans almost 9,000 years from the earliest dated sites in southern Labrador to the time of European re-discovery. Human prehistory throughout this period is both complex and dynamic. The illusion of the Beothuck as the sole aboriginal inhabitants of the Island, a 19th century idea, has been dispelled. Their actual place in Newfoundland cultural history is one aim of current research.

Throughout these 9,000 years marine resources, were instrumental in sustaining Indians and Eskimos who populated, and re-populated, coastal Newfoundland and Labrador.

Initial Peopling

The first evidence of prehistoric occupation comes from the Strait of Belle Isle. Man first entered the region, quite possibly from the Northeast via the Quebec north shore, following the retreat of Wisconsin ice. Renouf (n.d.), detailing the work of McGhee and Tuck (1975), examined the technology of the first immigrants,

and demonstrated a Palaeo-Indian origin for their triangular projectile point technology.

The Cowpath site (EjBe-7), excavated in 1975, produced quartz and quartzite triangular projectile points, quartz scrapers, pièces esquillées, and bifaces--all suggesting considerable antiquity. Pinware Hill (EjBe-10), tested by McGhee and Tuck in 1973 and 1974, contained similar quartz triangular projectile points. Pinware Hill's assemblage also included small quartz endscrapers, some with graving spurs, bifaces, and pièces esquillées. Radiocarbon dating confirmed their antiquity--Pinware Hill dated to 8855±100 B.P. (SI-2309), and Cowpath to 8600±325 B.P. (SI-2606). These dates indicated an earlier northeastern expansion by late Palaeo-Indian cultures than previously hypothesized.

Maritime Archaic Tradition (7000-3000 B.P.)

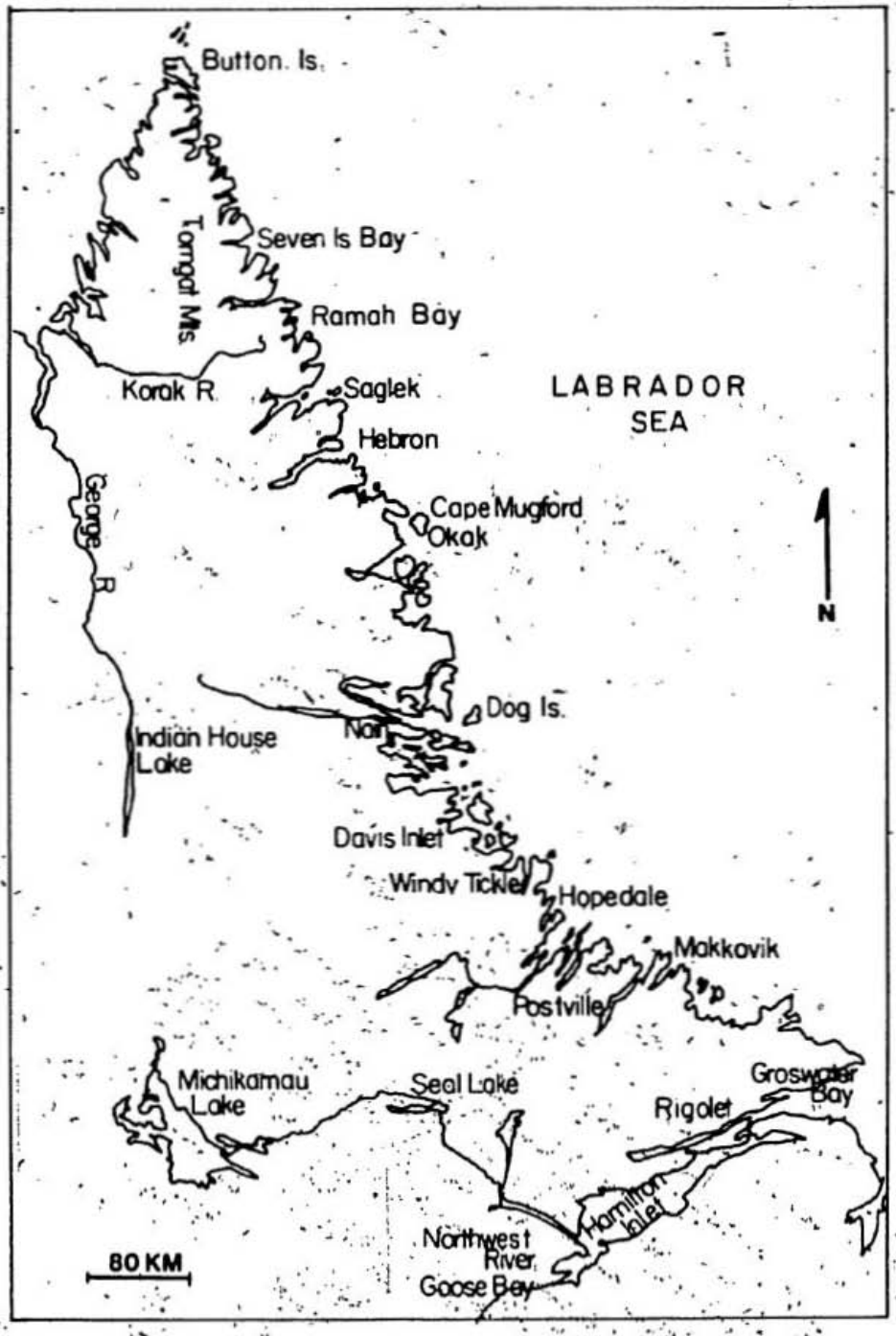
Marine resources in the Strait of Belle Isle sustained Early Archaic hunters and gatherers, especially when paired with near-shore terrestrial resources. The Barney site (EjBe-18), radiocarbon dated at 7060±65 (SI-2310), is thought to demonstrate in situ cultural evolution. Its assemblage of contracting stemmed projectile points, quartz scrapers, bifaces, pièces esquillées and bipolar hammerstones, derive from older Cowpath and Pinware Hill assemblages. Other sites which

helped to establish an Archaic cultural sequence in the Strait of Belle Isle are: Arrowhead Mine (EjBe-16), radiocarbon dated 7255±85 B.P. (SI-1799); Fowler (EjBe-14), radiocarbon dated 6855±115 B.P. (I-1705); and Juniper (EjBe-15), radiocarbon dated to 6240±75 B.P. (SI-2314).

Renouf (1977:41) observed assemblages from both Fowler and Juniper, especially projectile point forms, as being so similar "as to be considered essentially contemporaneous, certainly representative of the same 'stage' of development within the local sequence." It may be that successful adaptation to local resources, and an improving climate, were combining to encourage population growth, and eventual migration northward from southern Labrador.

Fitzhugh (1975; 1978) has defined two Maritime Archaic complexes, Sandy Cove and Naksak, for central and northern coastal Labrador during the period ca. 6000-4500 B.P. (Map 2). Sandy Cove (5200-4500 B.P.) sites, although concentrated in Groswater Bay, are found as far north as Windy Tickle whereas Naksak sites appear confined to the Nain-Okak region. These are followed by the Rattler's Bight phase (4000-3700 B.P.) which marks the cultural unification of the central and northern Labrador coast.

The first evidence for the Maritime Archaic Tradition on the Island comes from the Beaches site (DeAk-1) in Bonavista Bay. A radiocarbon age determination



General map of the Central & Northern Labrador Coast

Map 2

of 4900±250 B.P. (SI-1384), from a culturally unmixed Layer 2, dated bipointed and stemmed bifaces, ovate bifaces, a gouge, a celt fragment and an abrader. A blade core industry producing multiple arris macroblades is unique to this site. Two other multi-component Bonavista Bay sites, Bloody Bay Cove (DeAl-1) and Fox Bar (DeAk-3), have Maritime Archaic components whose undated lithic assemblages compare favourably with the Beaches.

The excavation of two Archaic cemeteries, Port au Choix (EeBi-2) on the Great Northern Peninsula and Curtis (DjAq-1) on Twillingate Island, provided information concerning mortuary practices. The Port au Choix cemetery, with over 100 individuals, radiocarbon dates to between 4290±110 B.P. (I-3788) and 3230±220 (I-4380). Tuck (1976a:163) suspects that if every individual burial was radiocarbon dated a "full range of dates from 2000+ B.C. to around 1200 B.C. would emerge," indicating a millennium of use. Akaline soils and good drainage at Port au Choix preserved not only human skeletons but also grave goods reflecting elaborate bone and antler industries.

Curtis, radiocarbon dated to 3720±90 B.P. (GAK-1254), is slightly more recent than Port au Choix. Its ground stone artifacts are comparable to those of Port au Choix, but acid soils at Curtis destroyed both human and animal bone, which provided so much data at Port au Choix (Macleod 1962).

Maritime Archaic artifacts are found at numerous stations around the Island. A Maritime Archaic component at Cow Head (D1Bk-1), on the northwest coast, has an age determination of 4130±150 B.P. (DAL-326). A determination of 4540±135 B.P. (S-1859) from Feature 1 at Cape Cove 1 (DhAi-5), in Bonavista Bay, dated such Maritime Archaic tools as a contracting stemmed lance. An Archaic component at L'Anse à Flamme (CjAx-1), on the southwest coast, radiocarbon dated to 3590±110 B.P. (S-1976).

The Maritime Archaic Tradition disappears from the Island around 3000 B.P., its most recent determination is of 3230±220 B.P. (I-4380) for Port au Choix. The reasons for its disappearance remain as obscure for this region as it does for central and northern Labrador where its demise occurs before 3500 B.P.

Intermediate Indian (3500-2000 B.P.)

This period follows the disappearance of the Maritime Archaic Tradition, or at least the disappearance of such cultural expressions as elaborate mortuary practices, sophisticated ground slate industries, and stemmed projectile points. Central and northern Labrador is typified during the intermediate period by advances and retreats of small groups of Indians. In southern Labrador Indian populations appear more stable. Madden (n.d.) and Tuck (1982) maintain that population fluctuations in

central and northern Labrador are the result of northern expansion by Intermediate Indians from the south. On the Island there is an unexplained gap of 1200 years (3200-2000 B.P.) during which no Intermediate Indian sites are reported.

Early Palaeo-Eskimo (4000-2200 B.P.)

The initial location of Palaeo-Eskimo settlement is the Saglek-Nain region of northern Labrador. Two sites, Upernavik Island site K (IcCv-3) in Saglek fjord and Bouverie Island-3 (HfCh-3) near Nain, contain artifacts typologically similar to those of Independence I in the High Arctic and Sarquaq in Greenland. Assemblages of contracting stemmed endblades (mostly edge serrated), gravers, narrow microblades, burins, and the absence of sideblades, would qualify as Independence I if found on the islands of the High Arctic. Even the Independence I preference for fine grained colored cherts was observed at site K whose occupants preferred "close-grained banded, mottled cherts" even though Ramah and black chert outcrops are present in Saglek Bay (Tuck 1975:144).

Sites relating to a pre-Dorset culture in Labrador (3800-3100 B.P.), including an Early and Late stage, are more numerous than those of Independence I. Its wider site distribution, as far south as Hopedale, support McGhee's (1978:40) observation that pre-Dorset culture had

a more efficient adaptation and a richer economy." Lithic assemblages include small, carefully formed triangular, bi-pointed and tapering stemmed endblades, unifacially ground and unground burins, utilized burin spalls, gravers, and a core and blade industry. Extensive amounts of quartz crystal and Ramah chert occur at most sites (Cox 1978:98).

During the past decade researchers in northern and central Labrador have gathered enough data to postulate a cultural continuum from pre-Dorset to Groswater Dorset, which in Groswater Bay dates 3200-2800 B.P. Evidence from Nukasusutok-2 (HcCh-5), near Nain, and from Okak-4 (HjC1-4) support a Transitional pre-Dorset period (3200-2800 B.P.). During this period, technological change and southern expansion, as far south as Newfoundland, signify cultural florescence.

Groswater assemblages are recognized by high side-notched (box-base) endblades, notched and ground burins, and burin-like tools. Fitzhugh found external comparisons between Groswater and Independence II to be significant. Cox (1978:104) may have captured the essence of this relationship by explaining both Groswater and Independence II "as terminal pre-Dorset phases co-existing in different geographic areas."

In Newfoundland, Early Palaeo-Eskimo sites, i.e., Groswater, are found on the Cow-Head Peninsula, Bonne Bay, Bonavista and White Bays, and on the southwest coast. Cow

Head cherts, used extensively at Factory Cove (D1Bk-3) and at the multi-component Cow Head site (D1Bk-1), were exchanged across the Strait of Belle Isle, and eventually found their way to Groswater populations in central Labrador (Fitzhugh 1980:25; Tuck 1982:214).

After 2100 B.P., Groswater occupation of the Island discontinues, for reasons currently unknown. Middle Dorset sites on the Island often contain intrusive Groswater components, but until quite recently these were unrecognized. Groswater does not appear as intense as later Dorset occupations, but recent archaeological surveys on the southwest coast and in Bonavista Bay indicate a wide ranging geographic distribution.

Dorset (2500-500 B.P.)

Dorset culture, with temporal subdivisions of Early, Middle and Late, represents an in-migration of new peoples and ideas possibly from the resource rich Foxe Basin--Hudson Strait region. Early Dorset sites in northern Labrador are found at Komaktorvik (IhCw-1) in Seven Islands Bay, and Nain where Dog Bight L-3 (HdCh-3) radiocarbon dated at 2455±75 B.P. (S1-2153). Early Dorset technology includes such innovations as tip-fluted triangular endblades, notched and multiple notched asymmetric knives, stemmed and notched "tabular" burin-like tools, ground slate endblades, and angular soapstone

vessels. Mugford chert, the preferred raw material of the Early Palaeo-Eskimo period, is replaced by Ramah chert; and quartz crystal is used for microblade manufacture.

Early Dorset sites have not been found south of Nain and Fitzhugh (1980:598) argues for a low Early Dorset population, based on the few early Dorset sites located during the Torngat Archaeological Project. Dorset sites appear concentrated on outer islands and exposed headlands, and are absent from the bottoms of bays and protected inner island runs where earlier Palaeo-Eskimo sites are located. This settlement pattern possibly reflects a greater dependence by Dorset peoples on coastal resources and ice edge hunting.

The Middle Dorset period (2000–1400 B.P.), the longest time span within the Dorset era, is marked by southern expansion, reaching Newfoundland by 1800 B.P. Few Middle Dorset sites have been found in southern and central Labrador, and this area is often proposed as a "no-man's land" during this period. However, the remaining coastline from the Button Islands in northern Labrador to the Burgeo Islands in southwestern Newfoundland was inhabited by Middle Dorset populations.

Some researchers (Harp 1964; Linnamae 1975) considered the geographic distance between Newfoundland and the "core area" (Maxwell 1976) responsible for a cultural isolation of Newfoundland Middle Dorset populations--

cultural isolation being demonstrated by changes in material culture vis à vis the core area. On the Island such changes include a major increase in tip fluting, a decrease in the number of burin-like tools and sideblades, and the absence of semi-lunate knives and ulus. Microblades tend to be larger in Newfoundland and surface grinding of tools is more extensive. Raw material is locally available chert, with Ramah chert found in only trace amounts.

We are now acquiring more recent radiocarbon dates for Dorset sites on the Island. Linnamae's (1968) radiocarbon date of 1090±80 B.P. (GAK-3275) for Bordeaux-2 (CmAm-5) in Placentia Bay, was once suspected as being too late for Dorset occupation. It was commonly assumed that Dorset occupation ceased sometime before 1400 B.P. Dorset components at Stock Cove (CkAi-1) in Trinity Bay (Robbins 1981) and at Isle Galet (CkAx-1) in Bay d'Espoir (Penney 1980) are radiocarbon dated to 1280 and 1345 B.P. Lithic assemblages from these sites include complete and partially ground endblades, some of which are edge serrated, triangular endscrapers, tabular, ground burin-like tools, and quartz crystal microblades and scrapers.

Late Dorset sites (1100-450 B.P.) are known only from northern Labrador. A Late Dorset house at Okak-3 (HjCl-3) is radiocarbon dated at 1005±95 B.P. (S1-2154), and 895±85 B.P. (S1-2506). Cox (1978:111) typifies Late

Dorset assemblages by a near absence of tip fluting, a wide variety of notched and stemmed bifaces, a decline in microblades but with an increased variety of sizes, and tabular, ground burin-like tools.

Recent Indian (2000 B.P.-Contact)

Until quite recently the designation Recent Indian and Beothuck were regarded as synonymous, as researchers were primarily concerned with tracing Beothuck culture from the historic to the prehistoric--formulating "an archaeological identity for Beothuck" (Devereaux 1970:1). During the 1964-65 field seasons H.E. Devereaux and crew surveyed Red Indian Lake and the Exploits River in central Newfoundland for Beothuck sites and located Pope's Point (DfBa-1) and Indian Point (DeBd-1), the latter reported by Speck (1922:22). Devereaux also visited and tested sites on the northeast coast, one of which was the Beaches site.

The Beaches (DeAk-1) in Bonavista Bay, first reported by T.G.B. Lloyd during the 1870s, contained 13 circular housepits on the western side of a tombolo bar and three more on its eastern end.. The housepits were circular, some measuring as much as 12 feet in diameter, and of a semi-subterranean mode of construction with depths varying from a maximum of two feet to six or seven inches (Lloyd 1876:222). Devereaux, in 1965, could only locate

four housepits on the western side of the bar, and none on its eastern end. One housepit, although extensively tested, produced only one flint chip and an iron spike head. The dearth of artifacts was attributed to high seas having flushed out the housepit.

Housepit No. 4 at the Beaches, excavated by Devereaux in 1966, contained 25 stone and 20 iron artifacts. Its culture Layer III produced flake tools, a stemmed projectile point, sheet iron fragments, square iron fragments, square iron nails, and a pipe stem. Devereaux (1969:no pagination) concluded that because of the mixture of iron and stone, Housepit No. 4 was occupied during "the period of 1600 to 1800 A.D." A test trench, dug towards a wooded bank, located 79 stone tools fashioned from grey silicified slate. These exhibited such typical Dorset traits as tip fluting and grinding. Wood charcoal from the trench radiocarbon dated to 1950±100 B.P. (GAK-1481).

The Indian Point site, on Red Indian Lake, tested in 1965 and excavated in 1969-70, was stratified. Its upper level artifacts include large amounts of unburned caribou bone, fire-cracked rock, iron pyrites, as well as arrowheads and spear points formed from European iron. Lower level artifacts include stone projectile points, bifaces, abraders, hammerstones, and abundant red ochre. The most common artifacts were "small triangular end scrapers and bifaces, which may have been used for knives"

(Devereaux 1970:51). Comparison of upper and lower levels was difficult because of the dissimilar technologies. A radiocarbon date of 360±100 B.P. (I-6562) on wood charcoal from Feature 33 indicated a very late prehistoric occupation. Beaches material was used in support of a Beothuck designation for the prehistoric component.

Raymond LeBlanc excavated Wigwam Brook (DfAw-1) in central Newfoundland during the 1972 field season to research late historic Beothuck encampments. A Maritime Archaic component at Wigwam Brook consisted of a "number of flakes (16) of Ramah chalcedony, one complete biface, two broken bifaces of Ramah chalcedony and one adze fragment" (LeBlanc n.d.:116). A small sample of 19th century manufactured goods post-dating Beothuck occupation, possibly resulted from a brief Micmac or European bivouac.

The major occupation of Wigwam Brook was distinguished by housepits, hearths, fire-cracked rock concentrations as well as iron and glass artifacts (LeBlanc n.d.:157). Housepits were pentagonal in outline with mounded central hearths. These conform to earlier descriptions of Beothuck houses (Howley 1915; Speck 1922) which suggested that Beothuck construction techniques differed from other Algonkian groups such as Micmac and Montagnais-Naskapi. Artifacts from Wigwam Brook were compared to Beothuck artifacts from Indian Point.

Meanwhile, Paul Carignan's (n.d.) work at the Beaches revealed a multi-component--Archaic, Palaeo-Eskimo and Beothuck-- site. Culture layer 1 was occupied by all three groups, and presented some problems in distinguishing cultural assemblages. Cultural layer 2 held only Maritime Archaic material and was the bottom-most artifact level.

Its Beothuck component was small--only six corner-notched projectile points could be identified as Beothuck when compared to the Beothuck component at Indian Point. Four small corner-notched projectile points, initially assigned to an undetermined cultural affiliation category, were later (Carignan 1977) included with the Beothuck component. Carrignan (1975:159) was unsure of the origin of Beothuck material culture, but suspected its roots were to be found "in an earlier proto-Algonkian horizon widespread throughout the maritime Gulf of St. Lawrence area."

In 1973 and 1974 Carignan obtained research contracts from the Archaeological Survey of Canada for salvage work in Bonavista Bay. A series of radiocarbon age determinations ranging from 1750 to 1050 B.P. for Indian sites in Bonavista Bay (Carignan 1977:220-221) was synchronous to the period when Eskimos controlled the Island. Carignan found both Indian and Eskimo assemblages on most sites and thus, suspected a short interval between successive occupations.

His multi-component Beaches site did not provide enough data to formulate a "clear evolutionary trend in artifact forms from maritime Archaic to Beothuck" (Carignan 1975:141). However, at other sites in Bonavista Bay, he observed some cultural affinities between Beothuck and Maritime Archaic. Ground stone tools such as celts and gouges previously thought to be within the exclusive domain of Maritime Archaic were found on Beothuck sites (Carignan 1977:219). Another lithic link was the macroblade technology of the Maritime Archaic Tradition, as demonstrated at the Beaches, and "the degenerate form of blade-like flakes found at Beothuck sites" (Carignan 1977:222-23). Large rhyolite lanceolate bifaces, which were previously suspected as being only a Maritime Archaic trait, were found at Brown's Beach, Cape Freels-1 and Cape Freels-3 and suggested to Carignan (1977:219) a "cultural link" between Maritime Archaic and Beothuck.

This lithic complex of corner and side-notched projectile points, triangular bifaces, and thumbnail scrapers made from locally available rhyolite cherts is now referred to as the Beaches Complex. During the 1970s this complex was believed to represent prehistoric Beothuck "despite the fact that neither a firmly dated component nor a site containing both native and European material had been reported," (Tuck 1982:211). Radiocarbon determinations from Beaches Complex sites in Bonavista Bay (Table 1) do, however, indicate Recent Indian activity in this area.

Table 1

Bonavista Bay "Beothuck" Radiocarbon Determinations
(c.f. Austin n.d.; Carignan 1975, 1977)

Site	A.D. Determination	Lab. No.
Sailors Site	375±75	S-1000
Fox Bar	445±80	I-7510
Bloody Bay Cove	1020±55	S-999
Cape Freels-1 (Loc. 3)	1045±90	S-830
Brown's Beach	1100±60	S-998
Cape Freels-2	1145±80	I-8247
Brown's Beach	1155±80	I-8249
Brown's Beach	1165±60	I-8248
Cape Freels-1 (Loc. 12)	1200±80	I-7507
Cape Freels-3 (Loc. 11)	1205±80	S-832
Cape Freels-3 (Loc. 7)	1255±105	S-867
Cape Freels-1 (Loc. 6)	1450±110	S-830
Cape Freels-1 (Loc. 9)	1605±65	S-868
Cape Freels-2	1740±100	S-831
Cape Cove-2	1818±55	S-1861
Cape Cove-3	1855±110	S-1862
Cape Cove-3	1920±130	S-1863

Recent Indian prehistory on the central and northern Labrador coast is equivalent to the Point Revenge complex; its initial presence in Hamilton Inlet (Fitzhugh 1972:116), at Henry Blake (FjCa-20), radiocarbon dates at 875±105 B.P. (GX-1578). Fitzhugh (1978:166) reports Point Revenge as seasonally present on the central coast between Hamilton Inlet and Nain "throughout the period 1500 to 325 B.P." Lithics include small corner-notched prjectile points, flake points, flake scrapers and corner-notched bifaces. The raw material is overwhelmingly Ramah chert--at Winter Cove-4 (GcBi-4) 98 percent of all flakes and most tools are made from Ramah chert. The means by which it was obtained remains puzzling as Point Revenge sites are not found north of Nain where Ramah chert outcrops. Quarrying journeys or trade with the Dorset, who were firmly established there during Point Revenge times (Cox 1978), were two possible means of obtaining Ramah chert.

The origins of Point Revenge remain concealed and its wide-ranging summer coastal adaptation sharply contrasts with the Intermediate Indian emphasis on large, inner coastal sites. Fitzhugh (1978:172) speculates that data from Newfoundland and the Strait of Belle Isle could support a Saunders (Intermediate Indian)-Point Revenge transition, but this transition "is not indicated yet for the central coast or interior Labrador." Point Revenge

sites, as known from the central Labrador coast, are not found in southern Labrador or on the Island. Fitzhugh often refers to Harp's sites in the Strait of Belle Isle (Harp 1963) in external comparison but these have slightly older radiocarbon dates and their lithic assemblages do not resemble those of the central coast.

Summary

Man first arrived in southern Labrador from the St. Lawrence basin after ca. 9000 B.P. During the following millennium Archaic hunters and gatherers moved into this region where an abundance of natural resources is suspected as having encouraged in situ cultural evolution. From southern Labrador Archaic populations followed the Labrador coast northward and after ca. 5000 B.P. migrated onto the Island.

Palaeo-Eskimos first arrived in northern Labrador from the eastern Arctic islands after ca. 4000 B.P., and by following the coastline reached the Island by ca. 2700 B.P. They, and the following Dorset culture, were to occupy sites all along coastal Newfoundland and may have been at various times the sole occupants of the Island.

The southwest coast was a temporary homeland to most prehistoric cultures. However, its difficult topography and marginal sea mammal resources may have necessitated a more generalized economy.

CHAPTER III

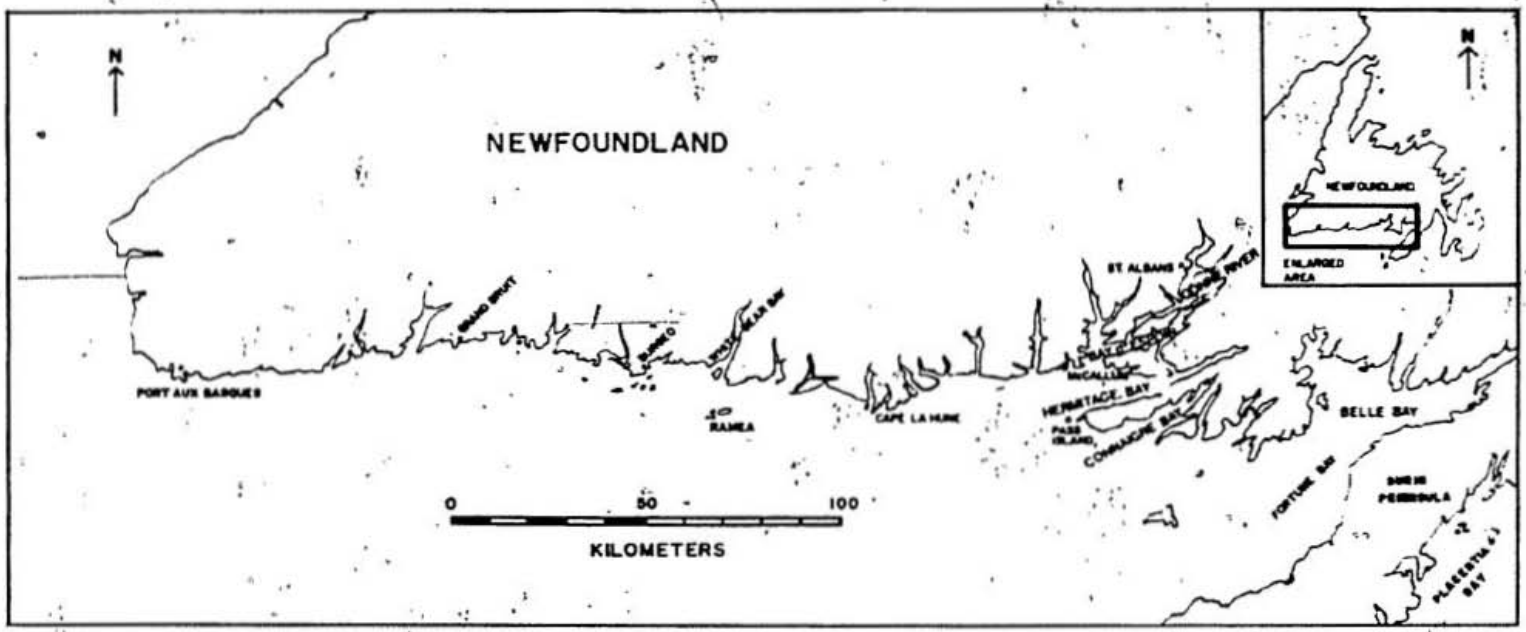
ENVIRONMENT AND RESOURCES OF THE SOUTH COAST

The south coast of Newfoundland is the region bounded by the Burin Peninsula on the east, and Port aux Basques on the west. As a geographic unit it includes Fortune Bay, with lesser bays--Belle Bay and Connaigre; both Hermitage Bay and Bay d'Espoir; and the coastline westward to Port aux Basques. The designation southwest coast excludes Fortune Bay and its lesser bays, and is generally considered as the coastal region bounded by Pass Island on the east, and Port aux Basques on the west (Map 3).

Quarternary Events

Newfoundland was the scene of considerable research by Quarternary geologists mapping the maximum extent of Wisconsin glaciation. Islands in the eastern High Arctic, also geographically peripheral to the main continental ice sheet, were similarly mapped. Researchers have, however, interpreted their findings under two divergent theories.

Prior to the 1960s investigators maintained a theory, referred to by Ives (1978:25), as the "maximum Wisconsin viewpoint." It considered Laurentide ice to have completely dominated all the valleys and summits of the


NEWFOUNDLAND
N
PORT AUX BASQUES
RAMEA
CAPE LA HUNE
ST ALBANS
HERMITAGE BAY
PASS ISLAND
CONNAIGRE BAY
BELLE BAY
FORTUNE BAY
PLACENTIA BAY
0
50
100
KILOMETERS
NEWFOUNDLAND
ENLARGED AREA

Map 3

northeast coast of America, extending north to Baffin Island, and to the eastern edge of the Continental Shelf.

More extensive research during the last two decades led to the formation of a "limited" theory of Wisconsin glaciation. It now appears as if certain regions of eastern North America and the Arctic were not totally ice-burdened throughout all Wisconsin phases. Increased distance from a central continental ice sheet is presumed the critical factor in minimizing ice cover. High mountains in Atlantic Canada and the Arctic, which stood high above the covering ice sheet, were found to have remained ice-free, especially during the Middle and Late Wisconsin stages (ca. 18,000-10,000 B.P.). During this latter period Laurentide ice in Newfoundland was confined to the top of the Northern Peninsula. Elsewhere on the Island local ice cap complexes were responsible for restricted glacial action. Grant (1977a:251) suspects that glaciers "skirted numerous coastal nunataks including the western tablelands of the Long Range Mountains, possibly small enclaves along the south coast, . . . most of the Burin Peninsula, and terminal parts of the Avalon."

The archaeological significance of these ice-free areas, or nunataks, has not yet been demonstrated in this Province. The only evidence of man in the Far Northeast immediately following Wisconsin glaciation comes from

Debert in the Bay of Fundy, radiocarbon dated to 10,600 B.P. (MacDonald 1968).

Sea Level Change

The elevation and preservation of sites by isostatic rebound or their destruction by eustatic submergence following glacial unloading are critical elements in the formation of cultural sequences. On the Island there are varying regional responses. The south coast has a submerging coastline, although little work has been done on the rate of submergence; the Northern Peninsula and most of Labrador have emerging coastlines.

Tucker et al. (1982:172-3) found evidence for recent submergence at two Burin Peninsula sites. At Little St. Lawrence, peat exposed 1.7m below the present foreshore radiocarbon dated to 970±50 B.P. (G.D.C.-2569). Wood contained in the peat, birch (Betula sp.) and balsam fir (Abies balsamea), dated at 1080±50 B.P. (G.S.C.-2617). At Point May, on the extreme southern tip of the peninsula, an eroding peat deposit 1.0 to 1.2 meters above the high tide level radiocarbon dated at 5360±70 B.P. (G.S.C.-2613). Its waterlogged wood, spruce (picea sp.) and larch (larix sp.), dated at 3260±60 B.P. (G.S.C.-2580).

The destructive effect of coastal submergence on southwest coast archaeological sites is well demonstrated. All that remains of many sites are water polished artifacts

found on the present beach. If this process is as pernicious as it appears, then many of the sites located during these surveys are in danger of being completely eroded.

Geology

The southwest coast is part of the Gander tectonic zone of the Appalachian Mountains (Williams 1978). Its rock formations are mostly non-metamorphic Palaeozoic, metamorphic and granite. Coleman-Sadd (1974:8) classifies Bay d'Espoir rocks into four groups: "Little Passage Gneisses, Gaultois Granites, the Baie d'Espoir Group, and North Bay Granites."

The regions physiography is characterized not by its geology, but rather the process through which rock formations were exposed. The fiord-like inlets of the south coast are the remnant trails of glacial advance to the sea. Glaciers planed the uplands of top soil and left only exposed granite bedrock.

Palaeo-Climate

Pollen cores taken from the Avalon Peninsula (Terasamae 1963) were an initial attempt to reconstruct the Island's climate and vegetation during the Holocene. Profiles showed no distinct zones throughout their lengths indicating unchanging climatic conditions. A pollen

analysis of peat recovered from a bog near Bay St. George did, however, reveal a break in its profile. An undated break near its base "represented an invasion by boreal species of Pica, Pinus, and Abies in an environment already suitable for their growth" (McDonald 1969:19).

Recent palaeo-botanical research in Labrador (Jordan 1975; Morrison 1970; Short and Nichols 1977) was partially sponsored by the Smithsonian's Department of Anthropology. Lamb's (1980) research in the Strait of Belle Isle is presented here.

His most southerly site was Whitney's Gulch, 16 km west of Blanc Sablon, P.Q., now 98m above sea level. Its pollen stratigraphy revealed an initial "open tundra" with several species of willow. After 9500 B.P. willow was replaced by birch and alder which "apparently covered the coastal hills around Whitney's Gulch from about 9000 and 5000 B.P." (Lamb 1980:124). Trees arrived after 6000 B.P., but coastal forests do not deposit large quantities of pollen as does the mixed park and the forest tundra of the interior. Lamb's (1980:133) climatic interpretation is one of "continual warming to a maximum warmth at 4000 B.P. . . . climate deteriorated rather markedly about 2500 B.P."

A recent palynological study at two sites on the Avalon Peninsula (Macpherson 1981:193) supports Lamb's interpretations. It notes the final disappearance of

glacial ice between 10,000 and 9700 B.P. Following glaciation, tundra was replaced by birch, and by spruce and balsam fir after 8300 B.P. The period 5300-3200 B.P. appears as one of maximum warmth. After 3000 B.P. changing oceanic temperatures affects cyclone patterns in all of Eastern Canada and causes "a regional deterioration of climate."

Present Climate and Vegetation

The climate of the southwest coast is maritime, and average weather conditions are responses to the effects of the sea. Oceans have two immediate consequences on adjacent land masses. First, is their moderating influence which tends to blend the seasons. Second, is the often dramatic amount of precipitation, usually rain and fog, resulting from seasonally inverse sea and land surface temperatures. Hare (1952:53) reports that most precipitation in this area falls from southerly or southeasterly streams of warm moist air over-running cooler air masses.

The high relief of land along this coast, in many places rising almost vertically from the sea, confines forest growth to the bottom of the fiords. The barren tablelands of the fiords are typified by numerous ponds, small lakes, and tundra. Large trees are found only at the

bottom of Bay d'Espoir, the longest fiord on the southwest coast.

Bay d'Espoir softwood is predominantly balsam fir (Abies balsamea), and black spruce (Picea mariana). Hardwood is limited to scattered stands of white birch (Betula papyrifera), yellow birch (Betula alleghaniensis), and tamarack (Larix laricina), mixed with the softwoods. There are also small stands of white spruce (Picea glauca) and white pine (Pinus strobus). Cokes' (n.d.:13-14) field survey of Bay d'Espoir calculated balsam fir to represent over 50 percent of the trees; black spruce accounted for between 20 to 30 percent, white birch ten to 20 percent, yellow birch less than five percent, and white pine and tamarack accounted for less than five percent.

Oceanographic Features and Fish

It was probably not the forests but the resources of the sea which attracted prehistoric man to this coast. It is washed by four offshore water masses: the Gulf Stream, the Labrador current, slope water, and coastal water. Water depth increases dramatically just offshore with the 100 meter curve almost paralleling the shoreline from Pass Island to Burgeo.

Deep water and an absence of arctic ice permits year round fishing for certain species, especially cod (Gadus morhua). This species, which only comes to shore on

the northeast coast during summer in pursuit of spawning capelin (Mallotus villosus) can be taken year round. Other species such as pollock (Pollachius virens), winter flounder (Pseudopleuronectes americanus), and redfish (Sebastes mentella), found only in offshore waters elsewhere in Newfoundland, are shore fish on this coast (Steele et al. 1979).

Sea Mammals

Migratory harp (Phoca greonlandica) and hood (Cystophora cristata) seals, who annually give birth in the Gulf of St. Lawrence and off the northeast coast in early spring, are infrequent visitors (Sergeant 1965). Small harbour seal (Phoca vitulina) populations are still found although their present numbers are reduced by bounty hunting (Boulva and McLaren 1979). Grey seals (Halichoerus grypus), who have breeding colonies on the Gulf Islands, migrate along the southwest coast en route to summer haul-outs on Miquelon (Mansfield and Beck 1977). Walrus (Obodenus rosmarus), once numerous in the Gulf, were over-hunted early in the historic period.

Various species of migratory whales (Steele et al. 1977) appear during spring and summer although none winter. Pilot whales (Globicephala melaena), porpoise (Phocenidae), and dolphin (Delphinidea) come close to shore during summer, and are small enough to be hunted with an

unspecialized technology. Beluga whales (Delphinapterus), may have also frequented this area.

Bird Species

Sea birds, especially cold water alcids, are still an important dietary resource. Alcids reach their southern limit on this coast and it is doubtful if their numbers ever approached those of more northern companies (Godfrey 1966). Migratory ducks and geese, who winter south of Nova Scotia and summer in the Arctic, are temporary visitors, although some mergansers (Mergus sp.) stay on to winter. Many of the islands in the Burgeo archipelago and around Ramea are sea bird rookeries. The Penguin Islands, off Cape La Hune, and the two Fox Islands in Hermitage Bay are home to various species of gulls and terns which were hunted before the days of industrial pollution.

Land Resources

Land and river resources compliment those of the sea. Atlantic salmon (Salmo salar) rivers such as Conne River and Grandy's Brook are among the most productive on the Island. Numerous ponds provide trout and land-locked salmon. The caribou (Rangifer tarandus) herds of the interior migrate to the southwest coast during winter, where the moderating effect of the sea exposes plants and

grasses. Caribou, prior to the construction of the trans-Island railway and development of the interior at the turn of this century, were quite numerous. However, estimates of caribou herd size during this period vary from a low of 40,000 to a high of 200,000 (Bergerud 1983:132).

Peters (1967:137) lists 14 species of indigenous land mammals including caribou. The majority are, because of Newfoundland's insular nature, recognized as subspecies. Mammals range in size from a non-hibernating American black bear (Ursus americanus) to the Arctic hare (Lepus arcticus). His list includes two members of the rodent family, the beaver (Castor canadensis), and the muskrat (Ondatra zibethicus); the otter (Lutra canadensis); and two members of the candid family, the now extinct Newfoundland wolf (Canis lupus) and the red fox (Vulpes fulva). The lynx (Lynx canadensis) and the pine marten (Martes americana), the latter an endangered species, typify the boreal forest. Other indigenous mammals such as bats and voles were probably marginal to the hunting and gathering efforts of prehistoric man. Two other land mammals--the arctic fox (Alopex lagopus) and the polar bear (Thalarcotos maritinus) often accidentally arrive on the island via pack ice from Labrador.

The southwest coast is exposed and elevated. Suitable areas for settlement are at a premium and good agricultural and forest lands are confined to the bottom of

Bay d'Espoir. Its European population, which remains low, has survived on the resources of the sea. The absence of migratory harp seals, an important resource in the lifeways of prehistoric hunters and gatherers elsewhere on the Island, may have been partially responsible for its low site density.

CHAPTER IV

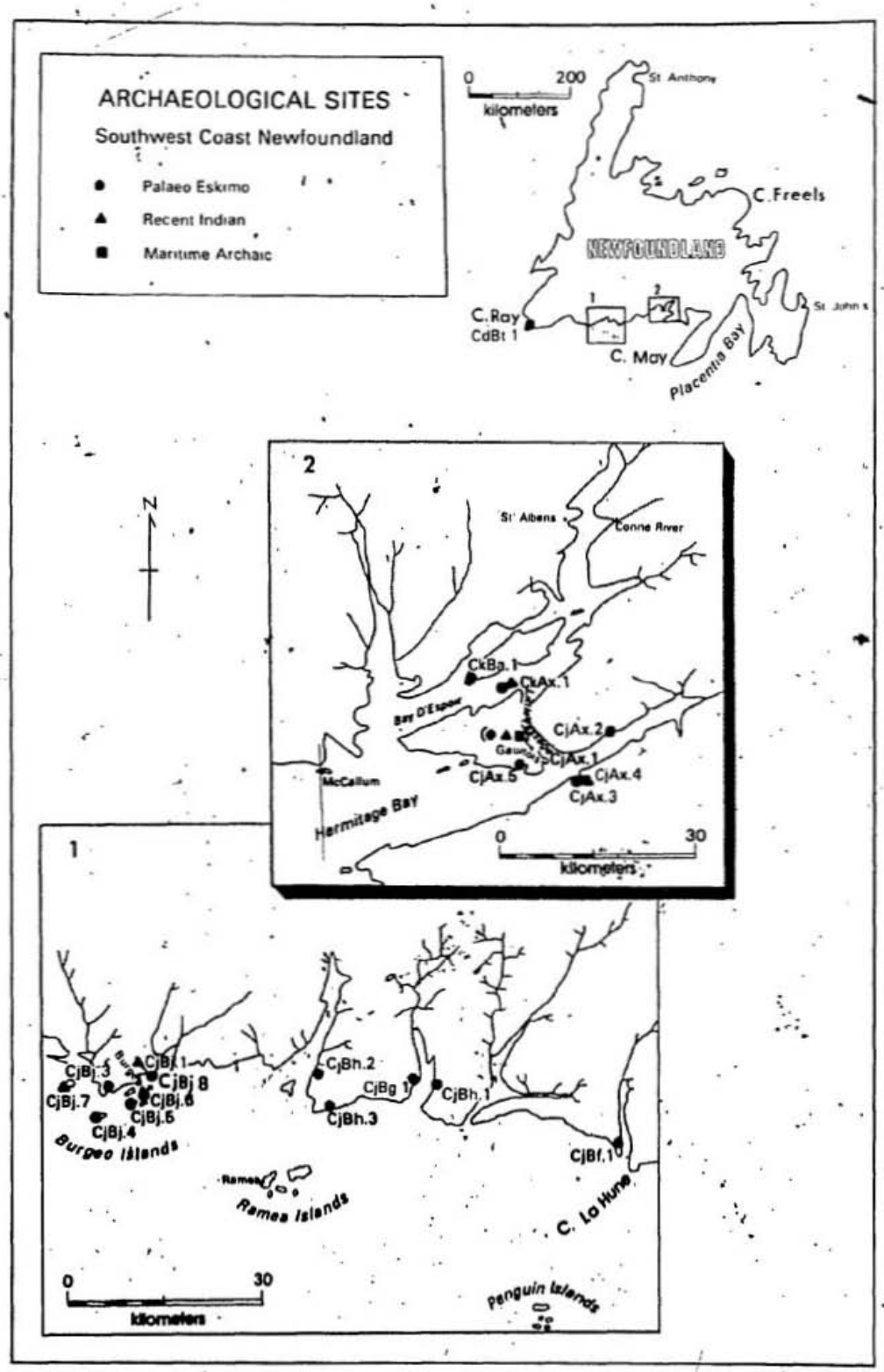
THE EXCAVATION OF L'ANSE A FLAMME AND SURVEY SITE DESCRIPTIONS

Archaeological survey along the southwest coast, during the 1979-81 summer field seasons, revealed 19 prehistoric sites. Site assemblages are all lithic, except for one pottery fragment, and indicate occupation by Archaic and Recent Indians, and Palaeo-Eskimos. Sites are indicated by Borden number (Map 4).

A difficult topography and low population has meant limited road construction. The first road to link with the Trans Canada Highway was completed to Bay d'Espoir in 1967. A second, to Burgeo, was established in 1980. Local roads are non-existent in the Burgeo area, no roads connect Grand Bruit, Francois, or Grey River with Burgeo.

Survey was accomplished with the aid of a six meter open boat powered by an outboard motor and owned by the Conne River Indian Band Council. The exclusive emphasis on coastal transportation is acknowledged as a limitation of the survey. The 19 sites are to be interpreted as an aspect of the coastal segment of prehistoric seasonal rounds on this coast.

Sites and data are presented in the following order. L'Anse à Flamme is first followed by Eagle Head and the other Hermitage Bay sites. Bay d'Espoir sites are next


ARCHAEOLOGICAL SITES
Southwest Coast Newfoundland
Palaeo Eskimo
Recent Indian
Maritime Archaic
0 200
kilometers
St. Anthony
C. Freels
NEWFOUNDLAND
C. Ray
CdBt 1
C. May
St. John's
Placentia Bay
2
St. Albans
Conne River
CkBg. 1
CjAx. 1
Bay D'Espoir
CjAx. 2
CjAx. 1
CjAx. 5
CjAx. 4
CjAx. 3
McCallum
Hermitage Bay
0 30
kilometers
N
1
CjBj. 3
CjBj. 1
CjBj 8
CjBj. 7
CjBj. 6
CjBj. 5
CjBj. 4
Burgeo Islands
CjBh. 2
CjBg 1
CjBh. 1
CjBh. 3
CjBf. 1
Ramea
Ramea Islands
C. La Hune
0 30
kilometers
Penguin Islands

Map 4

presented with Isle Galet the first. Burgeo sites are dealt with in an east/west direction with Cape La Hune the first and Upper Burgeo the last. This format is also followed in Chapter IV, Artifact Descriptions.

L'Anse à Flamme (CjAx-1)

L'Anse à Flamme is situated on the eastern end of Long Island near the Hermitage Bay entrance to the Little Passage. The Passage, a sheltered, narrow channel some 12 km long, connects Hermitage Bay and Bay d'Espoir, and separates Long Island and its fishing community of Gaultois from the mainland. The site was accidentally discovered in 1977 by students collecting sod to cover a playground. Former Gaultois resident, Thomas Kendell notified Clifford Evans, Archaeological Technician at Memorial University of Newfoundland, who informed the writer.

Testing during 1979 resulted in the recovery of some 100 lithic artifacts. Two prehistoric components--Palaeo-Eskimo and Recent Indian--were identified. A Palaeo-Eskimo component was represented by quartz crystal and chert microblade cores, microblades, ground slate endblades, tip-fluted endblades, bifaces, and scrapers.

A Recent Indian component was more problematical. The distinctiveness of its lithic assemblage--small corner-notched projectile points, triangular bifaces, and flake

scrapers--encouraged further investigation. The site was excavated in 1980.

The site, in a clearing on a granite sloping shoreline, is at the base of a high range of cliffs (150-200m) which drops in a finger-like projection to the sea (Plate 1). Surrounding vegetation is mainly stunted spruce and fir, whose vigorous growth despite thin soils produces a near impassable barrier to foot travel. A cleared area, locally referred to as Stephen's Hay Garden, measured approximately 35 x 50 meters. A European occupation, possibly relating to fishing, was brief. Gaultois residents could not recall seeing above ground structures, however, pylons from a possible stage cribbing were observed at low tide. European artifacts include stoneware, red earthenware, refined white earthenware, wrought and cut nails, dark green and clear bottle glass, and a few sherds of clear table glass. The unearthing of a pony shoe hints that such an animal may have grazed here.

The application of Binford's straight line regression formula (Binford 1961:20) to 82 pipe stem hole diameters produced a mean date of 1855. This possibly indicates the influx of European immigrants to the southwest coast following the Napoleonic wars (Mannion 1977:6-13). Suitable living areas are at a premium and during the 19th century even the most seemingly inhospitable coves, inlets and islands along this coast were occupied by near-shore fishermen.



Plate I

L'Anse à Flamme

Excavations

Datum was established by cementing an iron peg into bedrock on the west bank of a small gully which runs in from the salt water. Excavation was carried out in a metric grid system incorporating a 1979 test area (Figure 1).

Covering vegetation was grass. Site depth increased north to south towards datum. The north wall of N14E3 was approximately 13 cm below sod level while the north-south wall of N4E3 was some 55 cm deep, the deepest site profile. South from N4 the site again became shallow. In the vicinity of datum, and in the area west of datum to the trees, the ground was wet, and after a rainfall it became saturated with run-off draining into the above mentioned gully.

The excavated area extended 15 meters north, 10 meters east, two meters south, and one meter west from datum. The grid was subsequently enlarged to include a two meter test pit at N9E13. During a month-long dig, 81 square meters were excavated.

Stratigraphy

Physical stratigraphy at L'Anse à Flamme was not apparent owing to site disturbance caused by use and re-use by prehistoric populations, and later by Europeans. Its

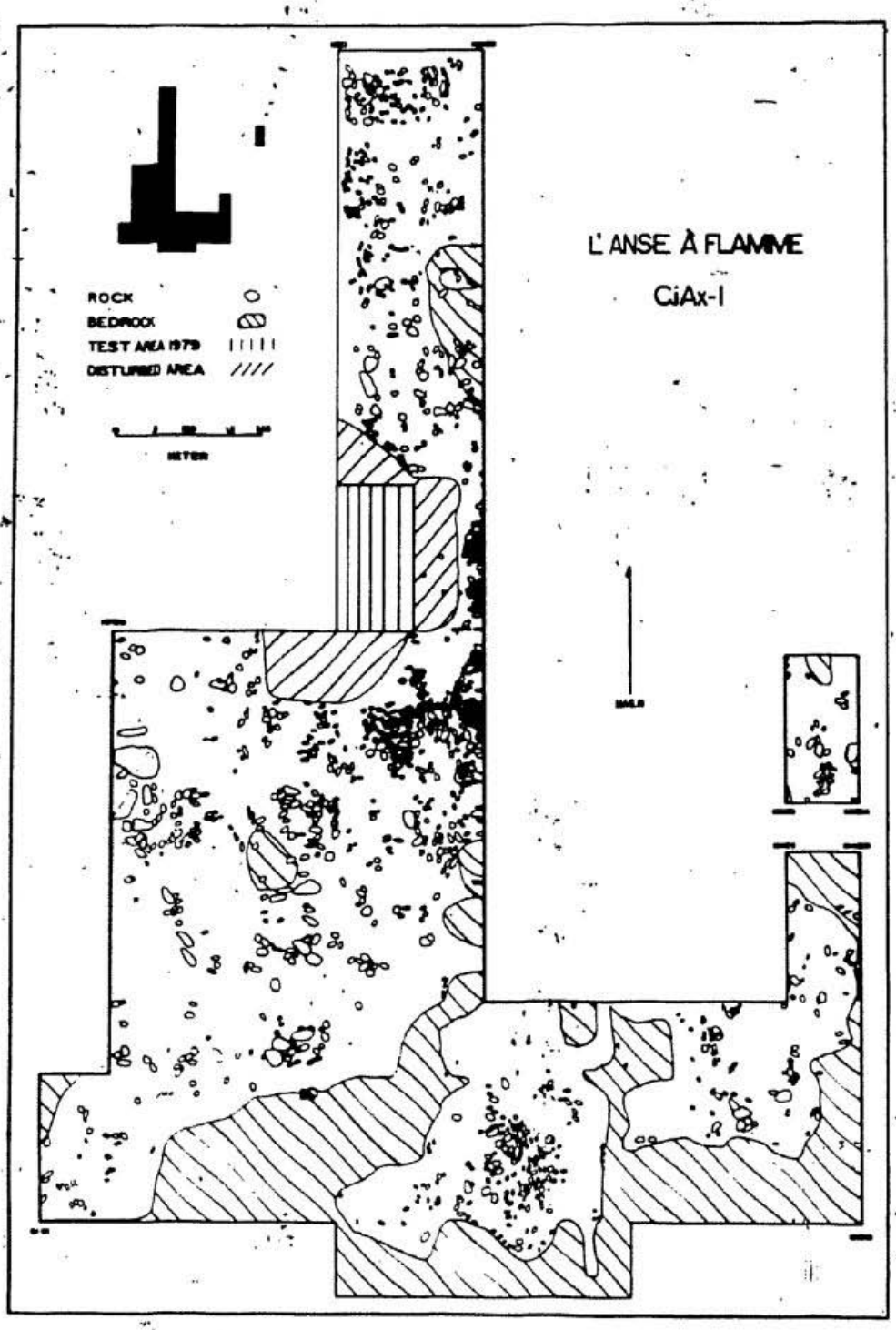

L'ANSE À FLAMME
CiAx-1
ROCK
BEDROCK
TEST AREA 1979
DISTURBED AREA
METER

Figure 1

inconsistency was compounded by the shallowness of the soil, and the sloping nature of the underlying bedrock.

FEATURE

Noticeably absent was any evidence of structures as indicated by post moulds, depressions, rock walls, or tent rings. The shallowness of the soil and site re-use which, when combined with a limited living area, mitigated against the preservation of distinct features.

Feature 1

An amorphous granite rock concentration (Plate 2), occupying some ten square meters of the excavated site, was designated Feature 1. It was situated in the deepest part of the site following its north to south slope. Feature depth was approximately five cm below sod at the north wall N4E4, and increased to 50 cm near the center of N3E4 (Figure 2). Feature concentration and depth decreased in the west, a result of the natural slope of the underlying bedrock, and increased wetness.

Feature 1 was constructed by the random placement of granite rocks, some of which were quite large, and is believed to be the remains of a series of hearths. Its top-most stones were sufficiently re-organized by succeeding occupants to prevent designation of separate hearths within the feature. Wood charcoal, burnt bone,

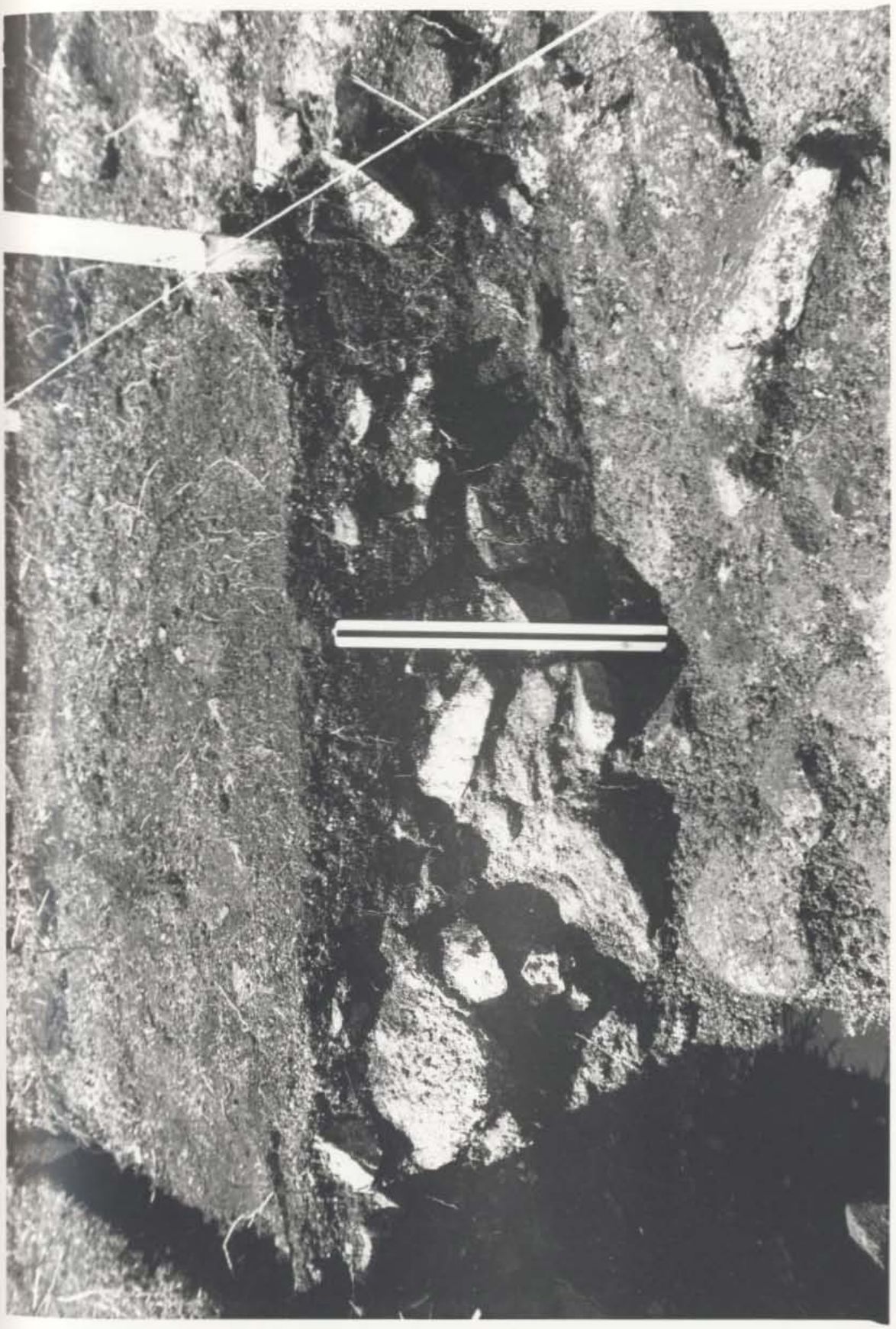


Plate 2 : Feature I

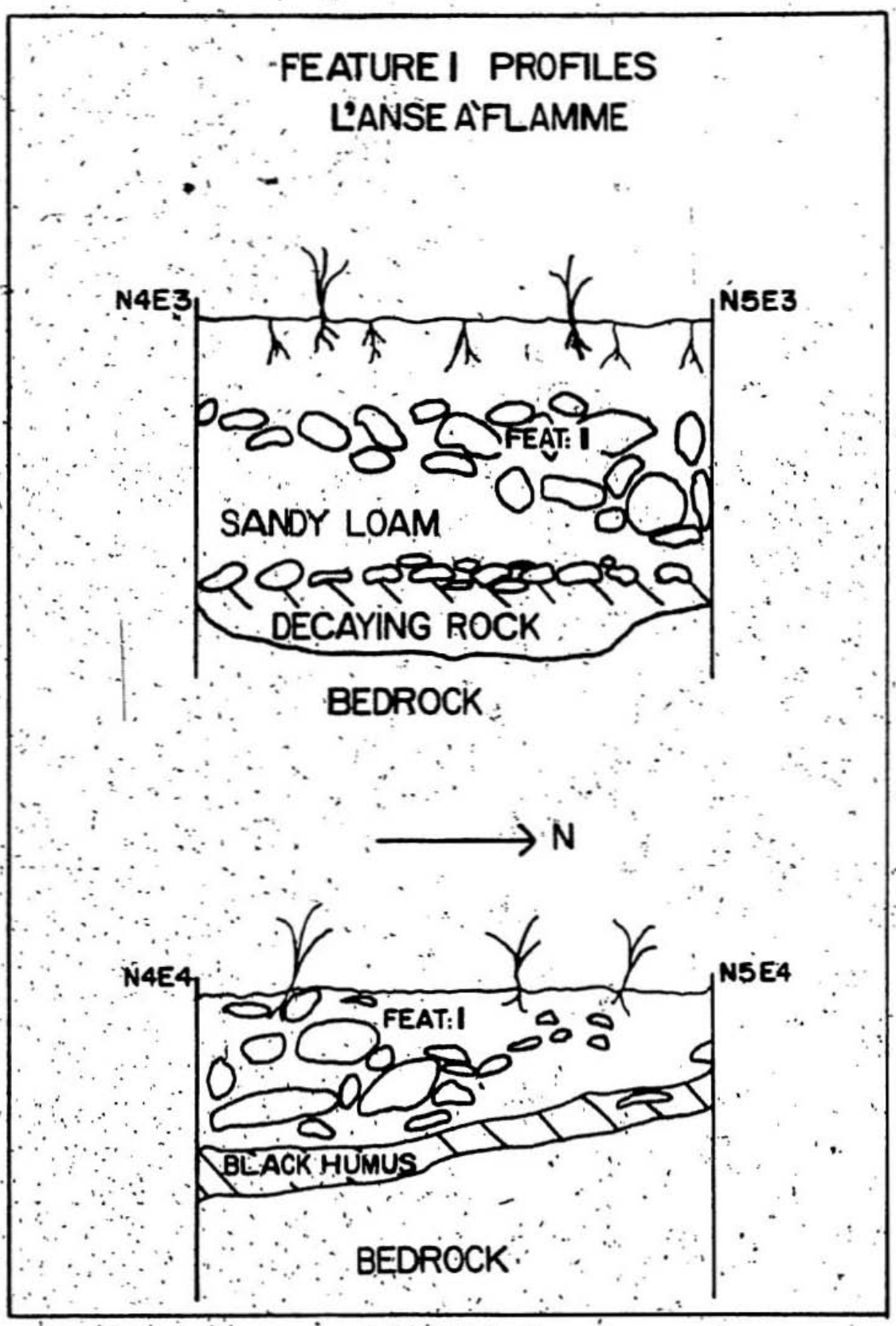

FEATURE I PROFILES
L'ANSE A'FLAMME
N4E3
N5E3
FEAT: I
SANDY LOAM
DECAYING ROCK
BEDROCK
N
N4E4
N5E4
FEAT: I
BLACK HUMUS
BEDROCK

Figure 2

fire-cracked rock, a smattering of red ochre, and 19th century historic objects (nails, glass, ceramics and kaolin pipe fragments) were randomly distributed within its upper levels.

Near the base of Feature 1 in square N4E3, underneath the sandy loam zone at a depth of approximately 35 cm below sod, there was some indication of vertical separation. A Dorset culture layer containing ground slate endblades and chipped, tip-fluted endblades was stratigraphically positioned on top of a lense of black organic matter. Underneath this zone was a layer of decaying bedrock from which two Maritime Archaic tools, a celt and a uniface were recovered. Wood charcoal from this bottom-most zone produced an acceptable Maritime Archaic radiocarbon age determination. Unfortunately vertical stratigraphic separation was only observed in this area, the deepest profile at the site.

Artifact Distribution

No pattern of areal artifact distribution pertaining to the three prehistoric cultures at L'Anse à Flamme was observed either in the field or later, when artifact provenances were plotted in the lab. Artifacts and flakes were, however, concentrated at Feature 1. Provenance plotting of three Palaeo-Eskimo tool classes--triangular endblades, microblades and scrapers, and three

Recent Indian tool classes--projectile points, triangular bifaces, and scrapers (Figures 3 and 4) demonstrate Feature 1 as a locus of activity for both cultures. Preference for this spot may be attributable to the scarcity of suitable rock for hearth construction, and the relative ease of constructing hearths from rocks left by previous occupants.

FAUNAL REMAINS

A faunal sample consisting of 181 calcined bone fragments was recovered from Feature I. The sample, identified by Dr. S.L. Cumbaa, Zooarchaeological Identification Center, National Museum of Natural Sciences, Ottawa, permits some extrapolation of site seasonality and function. The sample is summarized as:

Common Name	Scientific Name	No. of Fragments
Beaver	Castor canadensis	2
Dolphin or porpoise	cf. Delphinidae	1
Seal	Phocidae	27
Large seal	Phocidae	1
Caribou	Rangifer tarandus	1
Large mammal	-	2
medium-large mammal	-	143
Bird	-	3
Class uncertain	-	1
	TOTAL	181

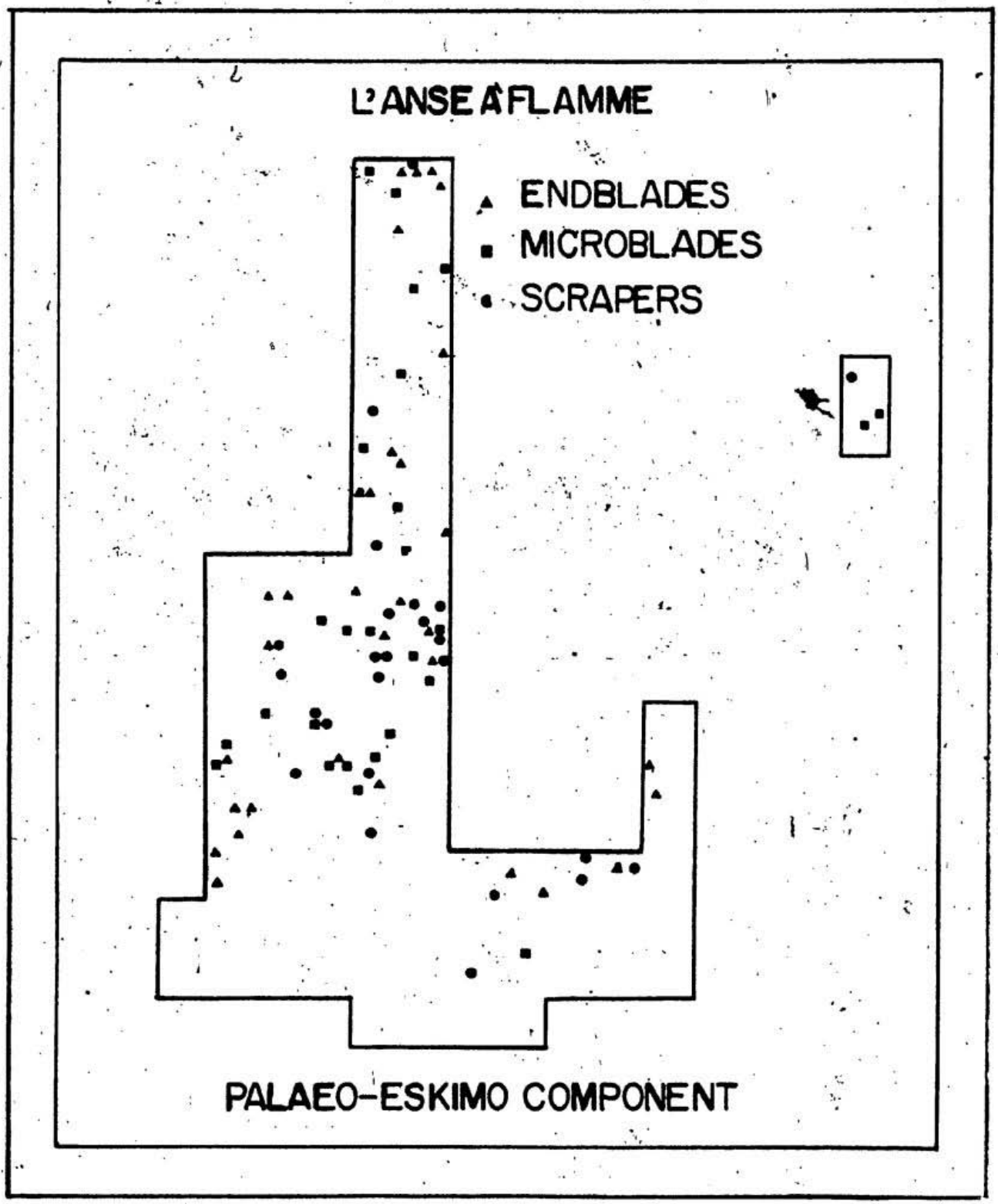

L'ANSE A FLAMME
ENDBLADES
MICROBLADES
SCRAPERS
PALAEO-ESKIMO COMPONENT

Figure 3

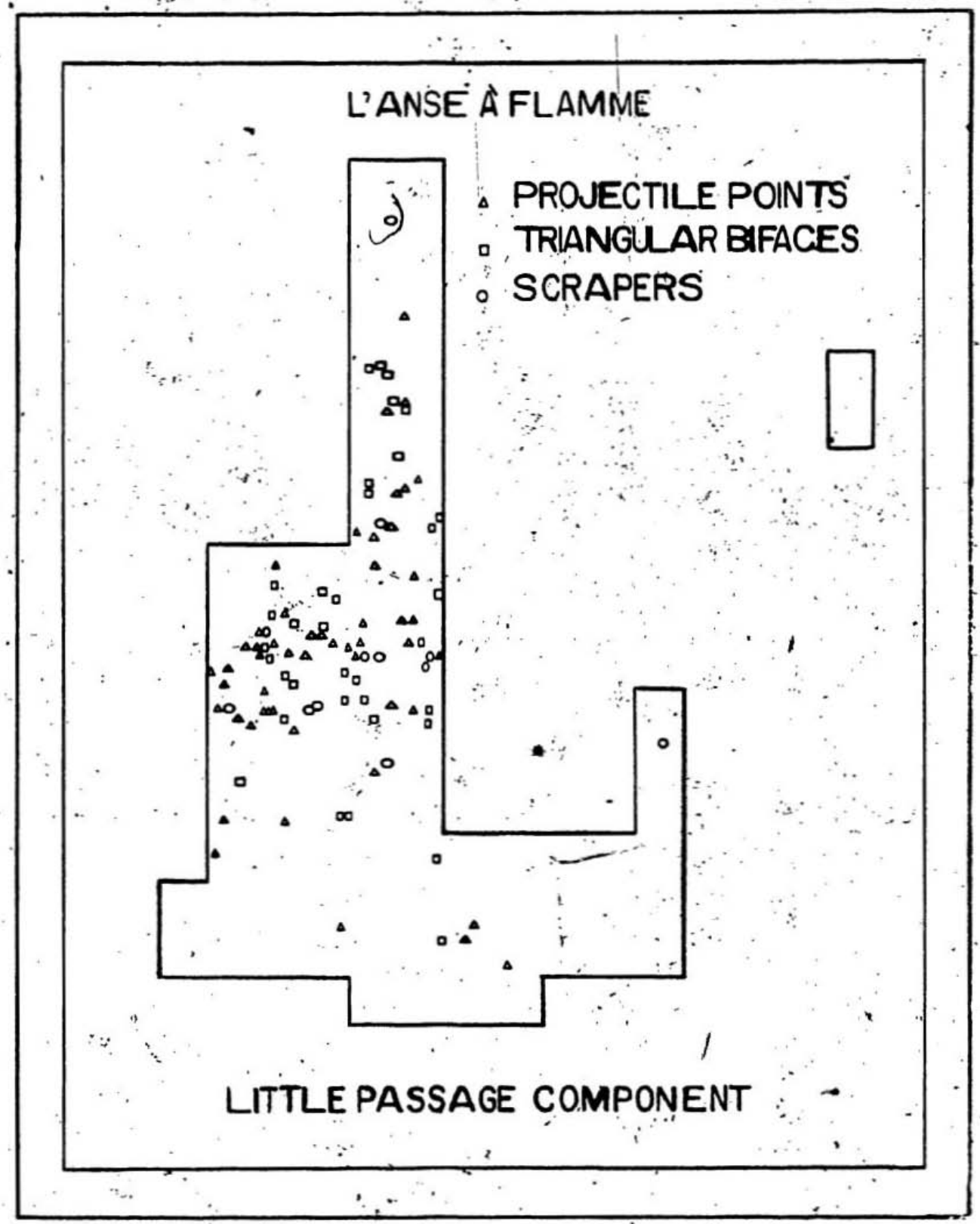

L'ANSE À FLAMME
PROJECTILE POINTS
TRIANGULAR BIFACES
SCRAPERS
LITTLE PASSAGE COMPONENT

Figure 4

Approximately 15% of the sample identified to family is seal. Overall, mammals account for 98 percent of the total sample, birds for two percent Although it may be argued that because of their density, seal bones are disproportionately represented in the hearth sample, this is not assumed to be the case. No fish bones were observed at L'Anse à Flamme, not even from the European occupation, but it is inconceivable that fishing, given site location and resource availability, was not engaged in by all site inhabitants.

Dating

Four radiocarbon age determinations were obtained on wood charcoal from L'Anse à Flamme. A sample from the base of Feature 1 dated to 3590±110 B.P. (S-1976) and is an acceptable determination for Maritime Archaic presence. Associated artifacts include a celt fragment, a projectile point, a uniface, and numerous patinated chert flakes.

A sample from N9E13, in good association with triangular endblades and quartz crystal microblades gave an age determination of 1335±115 B.P. (S-1977). This date is acceptable for the Middle Dorset material with which it was associated.

A sample taken 38 cm below sod in N4E4 of Feature 1 in association with projectile points and burnt bone was expected to date Recent Indian occupation of the site. A

determination of 2000±105 B.P. (S-1975) is thought to date a Palaeo-Eskimo occupation. An age determination of 1130±80 B.P. (I-11077) obtained on charcoal found in association with projectile points and triangular bifaces is the only Recent Indian date for L'Anse à Flamme.

OTHER HERMITAGE BAY SITES

Eagle Head (CjAx-2)

This site is situated approximately five kilometers in the bay (east) from the community of Gaultois, and about the same distance from L'Anse à Flamme. It occupies a low rise adjoining a small headland and is approximately four meters above sea level.

Surface collecting and test-pitting recovered 52 stone tools including burin-like tools, endblades, primary and secondary tip flute flakes, bifaces and scrapers. Two celts appear out of context, and hint of a brief Maritime Archaic occupation.

Acid soils mitigated against faunal preservation and contributed to artifact patination. No features or structural outlines were observed. The site, known to cover some 40 square meters, appears not to have been occupied by Europeans, although they did use it as a vegetable garden.

Furbey's Cove (CjAx-3)

This site is situated on a headland promontory at the entrance to Furbey's Cove, on the south side of Hermitage Bay. Four artifacts and a few flakes were recovered. Artifacts include a chipped and ground biface mid-section, a chipped and ground endblade tip, an endblade base, and a preform. This small undiagnostic sample makes cultural designation of the site difficult but it appears to be Dorset, possibly functioning as a temporary hunting or look-out station.

Furbey's Cove II (CjAx-4)

Further investigation within this resettled community located evidence of Recent Indian activity. Five lithic tools--a corner notched projectile point, a fragmented triangular biface, a scraper and two linear flakes--were recovered from a previously sod-stripped area. The site appears to have been seriously damaged by European settlement and subsequent road construction.

Piccaire (CjAx-5)

Artifacts and chert flakes were found on the slope of a bank at the entrance to Piccaire Harbour, located some two kilometers west of Gaultois. European settlement during the 19th century has destroyed any structural remains or features. Again, a limited sample

(two tip flute flakes) makes cultural designation risky, but it seems to indicate a Dorset presence.

BAY D'ESPOIR SITES

Isle Galet (CkAx-1)

Isle Galet, referred to by local residents as Fox Island, is situated between Raymond Point and Isle Bois in the centre of Bay d'Espoir.

A site was found in a small sheltered cove on the north side of the island. Sea action has effectively destroyed most of the site, and our efforts were confined to chopping and trowelling through large overhanging sods which had been undercut by the sea.

Fifty-six lithic tools represent a basic Dorset tool assemblage: tip-fluted and ground endblades, quartz crystal and chert microblades, scrapers, tip-fluted flakes, bifaces, and a hammerstone. All tools, except those of quartz crystal, are heavily patinated.

Eight artifacts, typologically but not stratigraphically differentiated from Dorset tools described above, were also recovered. All are made from high quality green chert and show no trace of patination. Artifacts include: two corner-notched projectile points, a fragmented side-notched biface, a biface medial fragment, two scrapers, and two retouched flakes.

Branis Point (ClAw-1)

Branis Point is within the Bay d'Espoir community of Conne River. One artifact, a tip-fluted endblade made from red chert, was surface collected from this sandy point. Intensive testing failed to locate a site or other prehistoric cultural material. Older residents of Conne River recall picking up "arrowheads" in their youth but none of these has survived.

Dorset hunters and gatherers may have once occupied this point because of its proximity to the salmon and eel resources of the Conne River and its suitability as a camping area.

Copper Head (CkBa-1)

The final Bay d'Espoir site is located in a small cove near Copper Head on Bois Island. Flakes and artifacts were found eroding from a bank just above the high tide mark. Only five artifacts were salvaged and erosion appears to have destroyed the site. The artifacts--a side-notched biface, a piece of ground slate, a quartz crystal microblade, a quartz crystal blank, and a retouched flake seem to indicate a Dorset occupation. It must again be emphasized that distinguishing the cultural affiliation of sites on the basis of small lithic samples is tenuous.

CAPE LA HUNE TO GRANDY'S BROOK SITES

Cape La Hune (CjBf-1)

Farley Mowat reported this site to the writer. Inhabitants of the now abandoned community had picked up arrowheads and presented some to him. He suspected the site as being a major campground used by natives venturing to the Penguin Islands in search of birds and eggs. Nothing could be found of the site except for scattered chert flakes and artifacts bordering a salt water pond behind a derelict breakwater. The distal portion of a chert microblade, a waterworn biface base, and a preform base were recovered.

Bay de Vieux (CjBg-1)

This small site is situated at the eastern entrance to Bay de Vieux, one of the fiord-like bays of this coast. Shelter from the sea and winds is secured after rounding its headlands. A highly weathered celt and a chert flake were located in a small open cove at the mouth of a fresh water brook. European occupation appears to have destroyed this site.

Bay de Vieux II (CjBh-1)

This site, found in a sheltered cove on the western arm of Bay de Vieux, was the scene of intense

Palaeo-Eskimo occupations. Testing, just above the high water mark, located a lense of charcoal, overlain by 20-30 cm of peat, paralleling the shoreline for some three to four meters. Charcoal was concentrated and contained flakes and artifacts. Thirty-five artifacts were recovered and all appear to be Palaeo-Eskimo. Two distinct components, a small Early Dorset (Groswater) component, and a larger Middle Dorset component are represented in the artifact assemblage. Bay de Vieux II is the only site found to contain soapstone, two pieces of a rectangular vessel.

Brimball Storehouse Cove (CjVh-3)

This small shoal inlet is situated on the headland separating Bay de Vieux from White Bear Bay. A dozen chert flakes including two biface thinning flakes were recovered from the thin soils which cover the granite bedrock. The site was probably a hunting or look-out station, not inhabited for a lengthy period.

Island Cove (CjBh-2)

This tiny cove, on the east side of White Bear Bay, offers the first shelter after rounding a precarious headland. Examination of a bank bordering the beach resulted in the recovery of chert flakes and two artifacts, the distal end of a microblade and a complete microblade. The cove is now occupied by summer cabin dwellers from

Ramea whose presence precluded further testing. It appears from limited testing that European presence and erosion have seriously destroyed a possible Dorset campsite.

Sot's Hole (CjBj-1)

This site was reported to the Newfoundland Museum by William Melbourne of Burgeo. Sot's Hole, a sheltered steep-sided cove, is located just west of the entrance to Bay du Loup. Three separate attempts to locate in situ deposits failed, and it is suspected that the site has eroded into the sea. Lithic tools, recovered from the beach compare favourably with specimens from other Recent Indian sites further east in Bay d'Espoir and Hermitage Bay. Nine artifacts--five projectile points, and four bifaces, were recovered.

Vatcher's Island (CjBj-8)

A Palaeo-Eskimo site, on the eastern side of this low-lying island in Burgeo Harbour, was brought to our attention by Burgeo resident, Augustus Melbourne. Eight water-worn artifacts, including a spalled burin which may indicate occupation before 2500 B.P., were found in the tidal area. Other Palaeo-Eskimo artifacts include a burin-like tool, two bifaces, three biface tips, and one biface medial fragment. The site appears to be completely eroded by changing sea levels.

Cuttail Island (CjBj-6)

Cuttail Island is situated one and a half kilometers southeast of the community of Burgeo. A site was found on its northeastern extremity, above a storm beach. The surface finding of a considerable number of primary flakes of rhyolite was the first indication of prehistoric occupation. Despite the large number of rhyolite flakes, we were unable to find any tools made from this material. An expended brown chert microblade core was recovered approximately 10 cm below sod in a test pit. Two scrapers, two microblades, a ridge flake, a biface tip, a biface base and a biface thinning flake were also found on surface.

Morgan Island (CjBj-5)

This is one of the larger islands in the Burgeo group and was inhabited by European fishermen until late into this century. A site is situated approximately 300 m northeast of the cemetery, above a storm beach. A lens of chert flakes, covered by 25-30 cm of peat, parallels the shoreline. Testing failed to determine a site dimension back from the shoreline, and it appears that this lens is all that remains. A fragmented microblade core and two microblades, a ridge flake, a biface, and a biface medial fragment were recovered. About a dozen spalls of black

chert, reminiscent of Cow Head quarry material, were also found. This is the only southwest coast site where this material was observed.

Sandbanks Island (CjBj-4)

This island was joined to the mainland until the turn of the present century, as older Burgeo residents recall traversing a sand bar to pick berries. Today coastal steamers and draggers ply between the island and the mainland on their westward trips instead of circling the Burgeo Islands. A small Dorset site was found at the northern entrance to the cove on the eastern side of the island. The site is eight meters above sea level and may have functioned as a look-out. Two scrapers, four microblades, a biface medial fragment, and a tip-flute flake were recovered.

Upper Burgeo (CjBj-7)

A Recent Indian site was found in a cove on the eastern side of Cornelius Island, the locale of the original town of Burgeo until late into the 19th century.

Thirty Recent Indian artifacts were recovered. Five projectile points duplicate in style and raw material projectile points from L'Anse à Flamme, while two triangular bifaces are slightly larger. Two bifaces, three biface tips, ten linear flakes, six retouched flakes and

two core fragments were also found. The recovery of a ground slate tip fragment seems to indicate a Dorset presence. The site appears to be completely disturbed by European occupation.

Summary

L'Anse à Flamme, Eagle Head, Furbey's Cove I and II and Piccaire portray prehistoric activity in Hermitage Bay. Isle Galet, Branis Point and Copper Head represent prehistoric Bay d'Espoir cultures. Eleven prehistoric sites were found between Cape La Hune and Upper Burgeo. The coast between McCallum and Cape La Hune and between Grandy's Brook and Port aux Basques awaits investigation but it is assumed that its settlement pattern will not vary greatly from what will later be proposed as a typical southwest coast pattern.

Only three--L'Anse à Flamme, Eagle Head and Bay de Vieux II--could be classified as relatively large sites and only one--Eagle Head--is not disturbed by later European occupation. The remaining 16 sites are small in size and most suffer from the effects of rising sea levels. It is hard to determine the extent of erosion and to judge how large the sites once were.

Palaeo-Eskimo lithics--both Early (Groswater) and Middle Dorset--were found at 16 sites, and 52 percent of the southwest coast artifacts associated with this culture

group. Little Passage complex artifacts were found at five sites; two--Sot's Hole and Furbey's Cove II--appear to contain only Little Passage material. Three sites contain small Maritime Archaic components.

No organic material was recovered from any of the 19 sites, only L'Anse à Flamme provided faunal data. Thus, we are left to interpret the whole culture of the prehistoric inhabitants of this coast through their lithic technology. Nearly 1000 stone tools (Table 2) were recovered and are described by cultural tradition in the following chapter.

CHAPTER V

RAW MATERIALS AND ARTIFACT DESCRIPTIONS

Six hundred and ninety-five lithic artifacts, and one rim sherd of native pottery, were recovered at L'Anse à Flamme. Two hundred and forty-eight lithic artifacts were recovered from 18 other southwest coast sites (Table 2). The frequency of raw material types observed in both the artifact and debitage sample at L'Anse à Flamme is shown Table 3.

Blue/Green and Green Chert

This distinctive raw material was used exclusively by Recent Indians at L'Anse à Flamme and at five other Recent Indian sites. At L'Anse à Flamme it accounted for 52 percent of the debitage sample and 46 percent of the total artifact sample. Palaeo-Eskimos at L'Anse à Flamme, and at other southwest coast sites, used small amounts of green chert for tool production, but it is generally coarser and easily distinguished from the Recent Indian material. Research conducted on the Port au Port Peninsula by David Simpson (1984) may have located a source for this material, it is hoped that the results of current laboratory analysis will support this hypothesis.

Table 2.

Total Artifacts - Southwest Coast of Newfoundland

Maritime Archaic Artifacts			
L'Anse à Flamme		3	
Eagle Head		2	
Bay de Vieux I		1	
	Sub-total	6	
Palaeo-Eskimo Artifacts			
L'Anse à Flamme		307	
Eagle Head		52	
Furbey's Cove I		4	
Piccaire		2	
Isle Galet		56	
Copper Head		5	
Branis Point		1	
Cape La Hune		3	
Bay de Vieux II		35	
Brimball Storehouse Cove		2	
Island Cove		2	
Vatcher's Island		8	
Cuttail Island		9	
Morgan Island		5	
Sandbanks Island		8	
Upper Burgeo		1	
	Sub-total	500	
Little Passage Artifacts			
L'Anse à Flamme		321	
Furbey's Cove II		5	
Isle Galet		8	
Sot's Hole		9	
Upper Burgeo		30	
	Sub-total	373	
Undetermined Cultural Affiliation			
L'Anse à Flamme		65	
	Sub-total	65	
	GRAND TOTAL		944

Table 3

Raw Material Frequency - L'Anse à Flamme

Material	Number of Flakes	Weight (Grams)	Mean Flake Weight	Number of Artifacts
Patinated Pink Chert	183	272	1.5	29
Mottled Brown Chert	310	769.8	2.5	57
Red/Brown Chert	21	96.9	4.6	6
Rhyolite	784	2354.9	3.0	37
Blue/Green and Green Chert	2,495	2513.9	1.0	358
Glossy Grey Chert	119	258.3	2.2	38
Speckled Blue Chert	9	34.7	3.9	4
Quartz Crystal	87	120.4	1.4	65
Ramah Chert	24	9.3	0.4	2
Patinated White Chert	429	980.7	2.3	52
Clay	-	25.8	-	1
Iron Pyrite Nodules	-	24.1	-	2
Other	321	935.6	2.9	45
TOTAL	4,782			696

Rhyolite

Light grey, purple, and banded rhyolite account for 16 percent of the debitage sample and five percent of the artifact sample at L'Anse à Flamme. The size and weight of rhyolite flakes are anomalous at L'Anse à Flamme where 784 flakes weighed 2,354.9 g compared with 2,495 flakes of blue/green and green chert which have a similar total flake weight of 2513.9 g. Most artifacts made from rhyolite--large side scrapers, bifaces and retouched flakes--are assigned an undetermined cultural affiliation. At Cuttail Island, near Burgeo, the site surface was littered with large rhyolite flakes but no artifact made from this material was recovered.

Patinated White Chert

A coarse patinated chert, varying in colour from white to dark grey, occurring locally in association with the granite bedrock, was found at L'Anse à Flamme and other southwest coast sites. At L'Anse à Flamme it is present in all three cultural assemblages as well as in the undetermined cultural affiliation category, and accounts for nine percent of the debitage sample and seven percent of the artifacts.

Patinated Pink Chert

This is basically the same raw material as described above, however, instead of turning white, it turned a pink/red. This colour change may be the result of either intentional or accidental heat treatment. Only Palaeo-Eskimo artifacts at L'Anse à Flamme are made from this material which accounts for four percent of both the debitage and artifact samples. It was not observed elsewhere along this coast.

Mottled Brown Chert

This fine grained, glossy chert is very distinctive having veins which range in colour from grey to red. It accounts for seven percent of the debitage sample and eight percent of the artifacts, and was used exclusively by Palaeo-Eskimos at L'Anse à Flamme and at other stations along this coast. This material is found in both the Cow Head and Broom Point collections from the Northern Peninsula.

Glossy Grey Chert

This raw material was utilized by both Palaeo-Eskimos and Recent Indians at L'Anse à Flamme. It accounts for three percent of the debitage sample and five percent of the artifacts.

Quartz Crystal

This unmistakable raw material was used exclusively by Palaeo-Eskimos at L'Anse à Flamme and at other southwest coast sites where it was modified into prepared microblade cores and scrapers. It accounts for three percent of the debitage sample and five percent of the artifacts from L'Anse à Flamme.

These are the major raw material types used by the prehistoric inhabitants of L'Anse à Flamme. Ramah chert, discussed in detail by Fitzhugh (1972:39-44), was found in only trace amounts, 24 flakes and two artifacts, and was not observed at any other site. A distinctive speckled blue chert, nine flakes and four artifacts, and a red/brown chert, 21 flakes and six artifacts, were also observed at L'Anse à Flamme. The speckled blue, and the red/brown chert associate with Palaeo-Eskimo occupations at L'Anse à Flamme and at other southwest coast sites where they are found in only trace amounts. An aggregate category consisting mostly of coarse cherts accounts for seven percent of the debitage sample and six percent of the artifacts at L'Anse à Flamme.

Artifact Descriptions

Six hundred ninety-six artifacts from L'Anse à Flamme, and 248 from 18 other southwest coast sites, are presented by cultural association on the basis of

functional and formal attributes. No distinction is made on the basis of either a bifacial or a unifacial chipping technique. This approach was employed by McGhee (1979:22) when he grouped Port Refuge Dorset artifacts into "pseudo-functional classes" reflecting the standard recognition functions and terms employed by archaeologists working with Dorset material culture. Functional classes are introduced temporally by cultural tradition--Maritime Archaic, Palaeo-Eskimo, and Recent Indian.

MARITIME ARCHAIC TRADITION ARTIFACT DESCRIPTIONS

Three southwest coast sites (Table 4) contain Maritime Archaic components: L'Anse à Flamme, Eagle Head and Bay de Vieux I.

L'Anse à Flamme

Projectile Point

A patinated chert specimen [46.4 x 22.1 x 87][1] (Plate 3-c) has primary conchoidal chipping and re-sharpening scars along both its lateral edges. Its tapg is slightly constricted and its convex base is bifacially thinned. It is biconvex in transverse cross-section.

Biface

A banded rhyolite lanceolate specimen [- x 39.0

[1] All tool measurements are in mm

Table 4

Maritime Archaic Tradition Artifacts By Site -
Southwest Coast of Newfoundland

L'Anse a Flamme	
Projectile Points	1
Bifaces	1
Celts	1
TOTAL	3
Eagle Head	
Celts	2
TOTAL	2
Bay de Vieux I	
Celts	1
TOTAL	1
GRAND TOTAL	6

x 13.5] (Plate 3-d) has convex lateral edges, its tip is missing. It is biconvex in transverse cross-section and has a concave, bifacially thinned base.

Celt

A highly weathered celt fragment (Plate 3-a) is tapered on one end, possibly its poll.

Eagle Head

Celts

Two fragmented celts were recovered. Specimen a [- x 51.3 x 36.9] (Plate 3-e) made from green argillite, has its bit ground to a symmetrical bevel, its sides expand from a round poll.

Specimen b [106.6 x 55.6 x 28.2] (not illustrated) appears to be made from the same green argillite as the above specimen. Both its bit and poll are fragmented. Grinding scars are visible on both surfaces.

Bay de Vieux I

Celt

This specimen [201.2 x 48.0 x 23.5] (Plate 3-b) is so weathered that even classification as a tool is doubtful. Raw material appears to be green argillite. No evidence of pecking or grinding remains.

PALAEO-ESKIMO ARTIFACT DESCRIPTIONS

Three hundred and seven Palaeo-Eskimo artifacts from L'Anse à Flamme (Table 5) and 193 Palaeo-Eskimo artifacts from other southwest coast sites (Table 6) are described.

L'Anse à Flamme

Endblades:

Twenty complete, seven tip-fluted tips, one concave base, and one serrated medial fragment were recovered. Three types of basal design: concave (13), straight (3), and notched (5) were observed.

Triangular, concave base endblades (Plate 4-a, c, f, g, h) range in length from 13.6 mm to 31.9 mm ($\bar{x}$ = 23.2), in width from 10.6 mm to 17.0 mm ($\bar{x}$ = 12.7), and in thickness from 3.0 mm to 61.0 mm ($\bar{x}$ = 4.0). Seven are plano-convex, six are biconvex in transverse cross-section. The plano-convexity of the specimens, i.e., flatness of the ventral surface, seems to result from a combination of tip-fluting and basal thinning. Lateral edges exhibit considerable secondary retouch, often appearing serrated. Basal cavities range from shallow to pronounced. All specimens have bifacially thinned bases, and are made from chert.

Table 5

Artifact Distribution - L'Anse à Flamme
Palaeo-Eskimo Components

Endblades		20
Endblade Bases		1
Endblade Medial Fragments		1
Endblade Tips		7
	Sub-total	29
Scrapers		34
Concave Side Scrapers		1
Double End Scrapers		1
	Sub-total	36
Microblades (chert)		6
Proximal Sections		11
Medial Sections		7
Distal Sections		13
Blades		1
Prepared Cores		2
	Sub-total	40
Microblades (quartz crystal)		12
Proximal Sections		19
Medial Sections		5
Distal Sections		9
Prepared Cores		7
Blanks		4
	Sub-total	56
Bifaces		4
Biface Bases		5
Biface Medial Fragments		7
Biface Tips		17
Biface Thinning Flakes		7
Tip Flute Flakes		30
	Sub-total	70
Burin-like-tools		4
Side Blades		1
Ground Slate		22
Retouched Flakes		20
Preforms		9
Core Fragments		14
Unidentified Objects		6
	Sub-total	76
TOTAL		307

Table 6

Palaeo-Eskimo Artifacts by Site, Southwest Coast of Newfoundland

	End-blades	Scrapers	Micro-Blades	Prepared Cores	Core Blanks	Ridge Flakes	Bifaces	Biface Tips	Bifate Medial Fragments	Biface Bases
Eagle Head	10	3	8		2	1	2	6	2	4
Furbey's Cove I								1	1	1
Piccaire										
Isle Galet	15	2	8	1		2		5	1	3
Copper Head			1		1		1			
Branis Point	1									
Cape La Hune			1							1
Bay de Vieux II	4	2	14		5	1		2	1	
Brimball Storehouse Cove										
Island Cove			2							
Vatcher's Island							2	3	1	
Cuttail Island		2	2	1		1		1		1
Morgan Island			2	1		1			1	
Sandbanks Island		2	4						1	
Upper Burgeo										

Table 6 (Continued)

	Biface Thinning Flakes	Tip Flute Flakes	Bit's/ Burins	Ground Slate	Retouched Flakes	Preforms	Whet-Stones	Hammer-stones	Soap-Stone	Total
Eagle Head		8	2			2	1	1		52
Furbey's Cove I						1				4
Piccaire		2								2
Isle Galet		18						1		56
Copper Head				1	1					5
Branis Point										1
Cape La Hune						1				3
Bay de Vieux II	2	2							2	35
Brimball Storehouse Cove	2									2
Island Cove										2
Vatcher's Island			2							8
Cuttail Island	1									9
Morgan Island										5
Sandbanks Island		1								8
Upper Burgeo				1						1
TOTAL										193

Straight base triangular endblades (Plate 4b) range in length from 23.2 mm to 33.1 mm ($\bar{x}$ = 27.0), in width from 11.9 mm to 14.9 mm ($\bar{x}$ = 15.4), and in thickness from 3.1 mm to 6.6 mm ($\bar{x}$ = 4.8). Two are tip-fluted, a unifacial specimen may be the result of a tip flute flake planing its entire ventral surface. All are plano-convex in transverse cross-section and have bifacially thinned bases.

Five notched endblades (Plate 5-a, b, d, e, h), none of which are tip-fluted, form a type set. Lengths range from 22.0 mm to 33.6 mm ($\bar{x}$ = 26.9), widths from 10.6 mm to 15.4 mm ($\bar{x}$ = 13.1), and thicknesses from 2.4 mm to 3.5 mm ($\bar{x}$ = 3.2). Specimens a and b; made from high quality brown chert, have shallow concave bases and straight lateral edges. They are bifacially flaked and basally thinned. Endblades d and e are concave-convex in longitudinal cross-section. Specimen e is bifacially retouched along its lateral edges and bifacially thinned at its base. Specimen d, although patinated, still exhibits smooth bifacial lamellar scars along its lateral edges. Its base is unifacially thinned. Specimen h has a straight base and a triangular blade which is slightly serrated near its sharp tip.

Endblade Base:

A patinated concave base fragment (not illustrated) has most of its blade and one lateral edge

missing. It has a bifacially thinned base, and is plano-convex in transverse cross-section.

Endblade Medial Fragment:

A speckled clue chert medial fragment (not illustrated) is finely flaked along its lateral edges. The specimen, not tip-fluted, is biconvex in transverse cross-section.

Endblade Tips:

Seven endblade tip fragments (Plate 4-i) show evidence of at least two tip flute flakes, one on either side, having been removed. Specimens are often broken at the median point of the blade, possibly the intersection of tip flute and basal thinning flakes.

Eagle Head

Endblades:

Ten endblades were surface collected. Two chipped and ground specimens (Plate 6-a, c) are 25.3 mm and 33.9 mm long, 10.5 mm and 15.1 mm wide, and are 2.9 mm and 3.8 mm thick. Specimen a, partially patinated, has a slightly concave base with grinding rather than chipping employed as a thinning technique, its lateral edges are bifacially retouched. Specimen c, although partially patinated, appears to be made from banded chert. It is

ground on both surfaces and has a blunt tip. Both lateral edges are serrated and its base is slightly concave. It is biconvex both in transverse and longitudinal cross-section.

Three patinated concave base specimens (Plate 6-b) are chipped but not ground, plano-convex in transverse cross-section, and basally thinned. One is tip-fluted and edge retouched on its ventral surface, two are bifacially retouched.

One specimen (Plate 6-h), made from banded brown chert, is side-notched. Although its tip is missing this endblade is distinctive in the site assemblage. It has a basal width of 11.2 mm, a thickness of 3.4 mm, and a notch height of 4.6 mm. It is biconvex in transverse cross-section and has a unifacially thinned base.

Four fragmented specimens (Plate 6-d) have one or more ground surfaces.

Isle Galet

Endblades:

Ten patinated base endblades (Plate 7-a, d to l) were recovered. They range in length from 17.6 mm to 39.3 mm ($\bar{x}$ = 29.3), in width from 8.5 mm to 19.6 mm ($\bar{x}$ = 13.4), and in thickness from 2.0 mm to 4.1 mm ($\bar{x}$ = 3.4). Five, including d, g, l, are ground on at least one surface and two, including h, are bifacially ground. Two are tip-

fluted. All are bifacially thinned either by grinding (1), flake removal (5), or a combination (4) of grinding on one surface and flaking on the other. Three are biconvex and seven are plano-convex in transverse cross-section.

Five patinated straight base endblades were also recovered. Two (Plate 7-b, c) are bifacially ground, two are unifacially ground. One has bifacially retouched lateral edges and a unifacially thinned base. The two bifacially ground specimens are biconvex in transverse cross-section, others are plano-convex.

Branis Point

Endblade:

A fragmented, tip-fluted triangular endblade [23.3 x - x 3.8] (Plate 11-a), made from red chert, has one shoulder of its bifacially thinned, concave base missing.

Bay de Vieux II

Endblades:

Four endblades were recovered. Specimen a [23.4 x 17.3 x 5.0] (Plate 8-d), made from brown chert, is triangular with a straight base. Its ventral surface has deep longitudinal scars running from base to tip, a small section of which is missing. Its dorsal surface is marked by transversal flaking scars.

Specimen b [17.7 x 10.1 x 2.7] (Plate 8-e), a triangular green chert endblade, is plano-convex in transverse cross-section, and has a concave base. Its flat ventral surface may have resulted from the removal of a final longitudinal flute flake. Its dorsal surface is finely flaked, and its base is bifacially thinned.

Specimen c [47.3 x 14.8 x 4.8] (Plate 8-g), now patinated, has an elongated triangular blade and a slightly concave base. It is totally ground on both surfaces, and is bi-triangular in both transverse and longitudinal cross-section.

A final tip-fluted triangular specimen (not illustrated) made from brown chert has most of its base missing.

L'Anse à Flamme

Scrapers:

Thirty-four complete Palaeo-Eskimo endscrapers (Plate 9) were recovered. Five are made from quartz crystal and 29 from diversely colored, high quality chert.

Eskimo scrapers, unlike Indian scrapers appear to have definite forms. Nineteen (56%) are rectangular, 13 (38%) are triangular, one is oval, and a quartz crystal specimen is classed as irregular. Twenty-nine (85%) have a convex working edge, five a straight working edge.

Nineteen (56%) have the working edge bevelled right, one is bevelled left, 14 have a symmetric edge. Thirty-one (91%) have lateral edge retouch: 15 have partial unifacial retouch, 12 have unifacial retouch along both edges, three have partial bifacial retouch, one is bifacially retouched along both lateral edges. The ventral surface is partially retouched on ten. Thirteen have complete dorsal surface retouch, 16 have partial dorsal retouch. Four have their bulb of percussion thinned.

Eight specimens have one expanded working edge, four have both edges expanded. Mean working edge angle, measured to the nearest 10°, is 70°.

Hafting is confined to a thinning of the proximal end and no specimen is either notched or stemmed. Fifteen have flake scars on their proximal dorsal surface, ten have both surfaces thinned, while seven have only their ventral surface thinned for hafting. No hafting modification was observed on two.

Dimensions	Length	Width	Thickness
Number	34	34	34
Range	11.6 - 36.4	12.1 - 34.9	1.7 - 9.8
Mean	18.2	17.4	5.0

Miscellaneous

Scrapers:

A concave side scraper, made on a single arris chert microblade (Plate 13-a), is fragmented and weathered.

A double-ended scraper [22.5 x 14.5 x 3.4] (Plate 13.b), made from mottled brown chert, has two notches in the middle, presumably for hafting, and a working edge at each end.

Eagle Head

Scrapers:

Specimen a [20.3 x 16.8 x 3.9] (Plate 6-g), made from grey chert, is symmetric with a convex working edge. Its lateral edges have partial bifacial retouch, while neither its dorsal nor its ventral surface is retouched. It has a maximum edge angle of 50° with neither spurs nor expanded corners. Hafting consists of a slight thinning of the bulb of percussion.

Specimen b [19.2 x 14.6 x 5.7] (Plate 6-i), a triangular endscraper made from quartz crystal, has its convex working edge slightly bevelled left. Lateral edges are unifacially retouched, and its dorsal surface is completely retouched. It has a maximum working edge angle

of 80°. Hafting modification is confined to the proximal ventral surface where at least two flakes were removed.

Specimen c [22.1 x 18.7 x 4.5] (not illustrated), a triangular endscraper made from quartz crystal, is considerably waterworn. It is symmetric with a convex working edge. Lateral edge retouch is present although obscured by immersion. It has a maximum edge working angle of 70°.

Isle Galet

Endscrapers:

Two quartz crystal specimens (not illustrated) were recovered.

A complete triangular endscraper [13.5 x 9.5 x 4.1] is symmetric with a convex working edge. Lateral edges and both surfaces are partially retouched. It has a maximum working edge angle of 50° and no hafting modification.

A distal fragment has both lateral edges unifacially retouched, and its ventral surface is completely retouched. No hafting modification was observed.

Bay de Vieux II

Scrapers:

Two specimens were recovered. Specimen a [13.2 x

11.7 x 3.7] (Plate 8-f), a triangular endscraper made from brown mottled chert, is symmetric with a convex working edge. Its lateral edges are bifacially retouched and both its surfaces are partially retouched. It has a maximum working edge angle of 70° with a possible remnant spur on one edge. No hafting modification was observed.

Specimen b [21.6 x 15.7 x 4.4] (not illustrated), a weathered rectangular endscraper, is made from poor quality brown chert. It is symmetric with a straight working edge. One lateral edge is unifacially retouched, the other is bifacial. It has a maximum working edge of 80°. Hafting consists of bifacial thinning at its proximal end.

Cuttail Island

Scrapers:

Two specimens (not illustrated) were collected. Specimen a [26.6 x 19.9 x 5.3], an irregular endscraper made from green chert, has a convex working edge. It is unifacially retouched along one lateral edge, and has a working edge angle of 60°. Hafting consists of a slight thinning of the bulb of percussion.

Specimen b [19.2 x 19.5 x 4.7], a triangular endscraper made from green chert, has a convex working edge although only 8.5 mm of its maximum width of 19.5 mm is formed into a scraper edge. Hafting consists of the

removal of a few flakes from the bulb of percussion and a thinning of its proximal dorsal surface. It has a working edge angle of 30°.

Sandbanks Island

Scrapers:

Two triangular endscrapers made from green chert were recovered. Specimen a [25.0 x 20.7 x 6.1] (Plate 11-g) has a convex working edge bevelled right. Its lateral edges are unifacially retouched, and it has a maximum working edge angle of 80°. Hafting consists of a bifacial thinning of the proximal end.

Specimen b [23.8 x 21.7 x 4.1] (Plate 11-i) is symmetrical with a convex working edge. No retouch was observed along its lateral edges. It has a maximum edge working angle of 50°. No formal hafting modification was observed although striations are present on its proximal ventral surface.

L'Anse à Flamme

Microblades, Quartz Crystal Blanks and Ridge Flakes:

Both chert (Plate 10-e, f, g, h, l) and quartz crystal (Plate 10-i, j, k) microblades were found.

Chert

Six complete, 11 proximal, 13 distal, and seven

medial fragments were recovered. Four complete, seven proximal, five distal, and two medial sections have two arrises. None has more than two arrises, remaining specimens are triangular in transverse cross-section.

One complete specimen (Plate 10-e) is retouched over a 12 mm area on the dorsal surface of side A. Side A is the left hand side of the specimen when the proximal end is facing the observer. One proximal section is retouched along its dorsal lateral edge. Two distal sections are bifacially retouched on side A. Two other distal sections are so retouched that they possibly functioned as graving or incising tools. Three medial sections are dorsally retouched, two on side B, one on side A.

Dimensions	Length	Width	Thickness
Number	6	37	37
Range	22.3 - 40.0	5.5 - 11.0	1.1 - 3.9
Mean	29.1	8.0	2.3

Quartz Crystal

Twelve complete specimens, eight having two arrises; 19 proximal sections, nine having two arrises; five medial sections, three having two arrises; nine distal sections; three having two arrises were found. No specimen has more than two arrises, remaining specimens are triangular in transverse cross-section.

Quartz crystal microblades, unlike chert microblades, show a distinct pattern of hafting usually occurring slightly distal to the bulb of percussion. Six specimens (Plate 10-j) having small bifacial flakes removed from each side, appear stemmed. One specimen has a single transverse flake removed along its ventral surface, just distal to the bulb. Two complete specimens have notches on side A. Six proximal sections have a notch on each lateral edge. One specimen has an alternating system of flake removal, side A is flaked on its dorsal surface and side B is flaked on its ventral. Three are bifacially notched on side A. One is blunted along the entire length of side A, one has a bifacial notch on side B.

Dimensions	Length	Width	Thickness
Number	12	45	45
Range	17.7 – 33.8	4.6 - 8.7	1.4 - 3.2
Mean	25.6	6.6	2.3

Four unmodified quartz crystal (possible blanks) were also recovered.

Eagle Head

Microblades, Quartz Crystal Blanks and Ridge Flakes:

Three complete, one proximal, two medial and two distal fragments (not illustrated) were found. Three are made from quartz crystal, two from green chert, two are

patinated, and one is made from a smokey, banded chert. Complete specimens and distal fragments are triangular in transverse cross-section. Proximal and medial fragments have two arrises.

One complete chert specimen is notched as a result of the ventral thinning of side A. A quartz crystal specimen appears notched but this may be the result of a fortituous spall. A distal section has a small amount of dorsal retouch on side B. No retouch was observed on the medial fragments.

Dimensions	Length	Width	Thickness
Number	3	8	8
Range	19.0 - 34.2	6.1 - 8.6	1.6 - 3.6
Mean	26.8	7.1	2.3

Two unmodified quartz crystal cores and a patinated ridge flake [28.7 x 9.8 x 2.9] (not illustrated) were also located.

Isle Galet

Microblades, Quartz Crystal and Ridge Flakes:

One complete, three proximal and four distal fragments (not illustrated) are made from patinated (2), green (2) and smokey colored chert (1), and quartz crystal (3). The complete specimen is triangular in transverse cross-section. Two proximal sections and one distal

section have two arrises. Remaining specimens are triangular in transverse cross-section.

No retouch or hafting modification was observed on the complete specimen. Proximal sections have partial bifacial retouch along their lateral edges, while a quartz crystal proximal section is bifacially retouched along the length of side A. No retouch or hafting modification was observed on the distal fragments.

Dimensions	Length	Width	Thickness
Number	1	8	8
Range	21.0	4.7 - 10.9	1.1 - 4.3
Mean	-	7.7	2.0

Two patinated ridge flakes (not illustrated) were also recovered.

Dimensions	Length	Width	Thickness
	60.1	14.4	4.9
	31.6	7.3	2.9

Copper Head -

Microblades, Quartz Crystal Blanks and Ridge Flakes:

A quartz crystal proximal section of a triangular microblade (not illustrated) has a thickness of 2.8 mm and a width of 6.8 mm. It is neither hafted nor retouched.

An unmodified quartz crystal core (not illustrated) was also recovered.

Cape La Hune

Microblades, Quartz Crystal Blanks and Ridge Flakes:

The distal end of a two arris microblade (Plate 1-e), made from green speckled chert, has alternating dorsal and ventral retouch along side A, side B is dorsally retouched.

Bay de Vieux II

Microblades, Quartz Crystal Blanks and Ridge Flakes:

Four complete, five proximal, two medial and three distal sections (not illustrated) were recovered. Six are manufactured from quartz crystal, three from brown chert, and five from a variety of green cherts. Three complete and two distal sections have two arrises, proximal sections have two arrises, medial sections are triangular, remaining specimens are triangular in transverse cross-section.

One complete quartz crystal specimen is notched on both lateral edges, another is dorsally retouched on side B. Two green chert proximal sections are retouched dorsally on side A and ventrally on side B. Three proximal sections have the bulb of percussion thinned. One medial section is dorsally retouched on both lateral edges and

another is bifacially retouched on side B. No hafting or edge retouch was observed on distal sections.

Dimensions	Length	Width	Thickness
Number	4	14	14
Range	17.7 - 43.8	6.4 - 9.9	1.1 - 3.4
Mean	29.4	7.8	2.2

A ridge flake [40.1 x 11.0 x 4.5] (not illustrated) made from fawn colored chert; three unmodified quartz crystal cores (not illustrated), and two battered chunks of quartz crystal (not illustrated) were also collected.

Island Cove

Microblades, Quartz Crystal and Ridge Flakes:

One complete [49.2 zx 8.4 x 2.1] (Plate 12-c) and one distal section (not illustrated) are triangular in transverse cross-section. The complete specimen is made from black chert, the other from green chert. No edge retouch or hafting modification was observed on either.

Cuttail Island

Microblades, Quartz Crystal and Ridge Flakes:

A distal green chert section (not illustrated), triangular in cross-section, is neither retouched nor hafted.

A mottled brown chert ridge flake [43.2 x 18.7 x 4.7] (not illustrated) has side A utilized, possibly as a scraper.

Morgan Island

Microblades, Quartz Crystal Blanks and Ridge Flakes:

One complete [16.1 x 4.6 x 1.4], and one distal section (not illustrated) made from green chert were collected. Both are triangular in cross-section and are neither retouched nor hafted.

An unretouched green chert ridge flake [31.7 x 4.6 x 1.4] (not illustrated) was also recovered.

Sandbanks Island

Microblades, Quartz Crystal Blanks and Ridge Flakes:

One complete (Plate 11-h), two proximal, and one medial fragment were collected. Three are made from green chert and one from banded brown chert. The complete specimen, the medial, and one proximal have two arrises, the remaining specimen is triangular. Retouch is present on one proximal section, bifacially along side B.

Dimensions	Length	Width	Thickness
Number	1	4	4
Range	24.1	6.7 - 9.8	2.1 - 2.8
Mean	-	8.4	2.4

L'Anse à Flamme

Prepared Microblade Cores:

Seven prepared quartz crystal microblade cores (Plate 10-a, b, c) were found. Blade scar widths range from 3.0 mm to 8.2 mm and the number of blade scars ranges from one to four. No evidence of striking platform grinding was observed.

Two chert microblades are expended. A complete green chert specimen [26.4 x 22.5 x 9.6] (Plate 10-d) has a platform angle of 75°, and a distinct blade scar 8.1 mm wide on its fluted surface. Evidence for the removal of at least three microblades remains. Considerable battering on both its keel and striking platform suggests further utilization subsequent to or after discard.

Dimensions	Length	Width	Thickness	Platform Angle
Number	9	9	9	9
Range	17.8 x 54.9	7.8 – 13.7	7.3 – 14.0	70 - 80°
Mean	29.1	10.5	9.1	75°

Isle Galet

Prepared Microblade Cores:

A quartz crystal microblade core [15.1 x 10.0 x 5.4] (not illustrated) has a platform angle of 60° and blade scar widths ranging from 2.7 mm to 4.3 mm; at least three blades were removed.

Cuttail Island

Prepared Microblade Cores:

An expended, partially fragmented microblade core [42.3 x 22.9 x 13.4] (Plate 12-i) is made from brown banded chert. Its striking platform, although considerably battered, has an angle of 80°. Evidence exists for the removal of at least five blades, one blade scar measuring 5.2 mm in width.

Morgan Island

Prepared Microblade Cores:

A fragmented, expended microblade core [- x - x 4.1] (Plate 12-f), made from green chert, having neither a keel nor a striking platform, has a 5.4 mm blade scar remaining.

L'Anse à Flamme

Bifaces:

Specimen a [33.6 x 10.8 x 3.7] (Plate 5-c), now patinated, has an elongated blade with a convex and a concave edge, its extreme tip is missing. Lateral edges are bifacially flaked, some scars run transversally along the entire width of the blade. Hafting modification consists of a pair of notches located 2.1 mm above the

base, it has a notch width of 8.3 mm. It is biconvex in transverse cross- section and has a straight, bifacially thinned base.

Specimen b [21.5 x 9.7 x 1.8] (Plate 5-f), made from pale blue chert, has a triangular blade with two straight bifacially flaked lateral edges. Its extreme tip is missing. No evidence of tip-fluting is present on this specimen or on the one described above. It is biconvex in transverse cross-section and concavo-convex in longitudinal cross-section. It has a straight, bifacially thinned base.

A smokey quartz specimen [38.4 x 15.1 x 4.8] (Plate 13-c) has a pair of notches located 2.1 mm above its base, it has a notch width of 11.4 mm. Its blade is formed by a straight and a convex edge which meet at a round tip. Lateral edges are bifacially flaked. Its ventral surface is slightly keeled and a long scar on this surface is the possible result of tip-fluting. It is plano-convex in transverse cross-section and has a concave, bifacially thinned base.

A speckled blue chert specimen [- x 20.3 x 5.1] (Plate 13-d) has a pair of notches and a notch width of 10.6 mm. The blade is formed by a straight and a convex side. Its extreme tip and most of its base are missing.

Eagle Head

Bifaces:

Two specimens, both missing their distal blade sections, were recovered. Specimen a [- x 23.5 x 5.7] (Plate 6-e), made from banded red chert, has convex bifacially retouched lateral edges. Hafting modification consists of a pair of deep notches located 3.3 mm above its straight base. It has a notch width of 12.8 mm, and is biconvex in transverse cross-section.

Specimen b [- x 14.7 x 3.1] (Plate 6-f) is made from from the same speckled blue chert as specimen d above from L'Anse à Flamme. Hafting modification consists of a pair of notches located 2.9 mm above a convex base, it has a notch width of 9.4 mm. It is bi-plano in transverse cross- section and has a bifacially thinned base.

Copper Head

Biface:

A grey rhyolite specimen [- x 26.4 x 6.6] (Plate 11-b) has the distal section of its blade fragmented, its lateral edges are bifacially flaked. Hafting modification consists of a pair of notches located 4.8 mm above its base, it has a notch width of 21.3 mm. It is biconvex in transverse cross section and has a concave, bifacially thinned base.

Vatcher Island

Bifaces:

Two specimens were recovered. Specimen a [47.5 x 19.1 x 6.6] (not illustrated) is patinated and water-worn. It has a triangular blade with a convex, and a straight edge which are bifacially flaked although immersion has obscured some flake scars. Hafting modification consists of a pair of notches located 4.6 mm above its base, it has a notch width of 12.8 mm. It is biconvex in transverse cross-section and has a straight, bifacially thinned base.

Specimen b [- x 14.7 x 3.1] (Plate 8-a) is patinated and waterworn. Although the haft element is missing, this specimen appears very similar to a side-notched serrated knife found at Frenchman's Island (ClAl-1) in Trinity Bay (Evans 1981:214). It is biconvex in transverse cross-section and its lateral edges are bifacially flaked.

L'Anse à Flamme

Biface Bases:

Five specimens (Plate 13-j, k, l, m), two patinated, two of brown banded chert, and one of speckled blue chert, have mean widths of 22.9 mm and mean thicknesses of 22.9 mm. One specimen is notched, two have straight, and two have concave bases. All have bifacially thinned bases.

Eagle Head

Biface Bases:

Four patinated biface bases (not illustrated) have mean widths of 21.5 mm and mean thicknesses of 5.9 mm. Two have straight and two have convex bases, all are bifacially thinned. One straight base specimen has two long (17.4 mm) longitudinal flakes removed from its ventral surface.

Furbey's Cove I

Biface Base:

A patinated specimen [- x 25.3 x 5.8] (not illustrated) is bifacially retouched along its straight base and along its remaining edge. No evidence of any hafting modification remains.

Isle Galet

Biface Bases:

Three patinated specimens (not illustrated), having mean widths of 21.8 mm and mean thicknesses of 6.6 mm, are biconvex in transverse cross-section and have convex, bifacially thinned bases.

Cape La Hune

Biface Base:

A waterworn specimen [- x 17.7 x 6.1] (Plate 11-f)

has straight lateral edges and a bifacially thinned, convex base.

Cuttail Island

Biface Base:

A fragmented biface base (not illustrated) is biconvex in transverse cross-section.

L'Anse à Flamme

Biface Medial Fragments:

Seven biface medial sections all have fragmented haft elements and tips. Two lanceolate, mottled brown chert specimens (Plate 13-i) have tip flute scars. Another (not illustrated), made from banded green chert, is finely flaked, asymmetric in outline, and biconvex in transverse cross-section. Four patinated specimens (not illustrated) are biconvex in transverse cross-section.

Eagle Head

Biface Medial Fragments:

Two patinated blade edge fragments (not illustrated) were recovered. One is bifacially ground along its lateral edges, the other is bifacially flaked.

Furbey's Cove I

Biface Medial Fragment:

A patinated, chipped and ground specimen (Plate

12-a) is biconvex in transverse cross-section and has bifacial chipping scars along its lateral edges.

Isle Galet

Biface Medial Fragment:

A plano-convex, patinated specimen (not illustrated) was recovered.

Bay de Vieux I-I

Biface Medial Fragment:

A biface edge fragment (not illustrated), made from green chert, was found.

Vatcher Island

Biface Medial Fragment:

An asymmetric specimen, patinated and waterworn (not illustrated) is biconvex in transverse cross-section.

Morgan Island

Biface Medial Fragment:

A biconvex specimen, made from grey chert (not illustrated), was recovered.

Sandbanks Island

Biface Medial Fragment:

A biface edge fragment, made from green chert (not illustrated), was recovered.

L'Anse à Flamme

Biface Tips:

Seventeen biface tips (Plate 13-e to h), two of which are tip-fluted, were recovered. Raw material ranges from speckled blue, mottled brown, to brown colored cherts. Four are patinated.

Eagle Head

Biface Tips:

Six patinated biface tips (not illustrated) were recovered. Three are tip-fluted and one is chipped and ground on its ventral surface. Three have round, and three have blunt tips.

Furbey's Cove I

Biface Tips:

A patinated chipped and ground specimen (Plate 12-b) is biconvex in transverse cross-section and has a round tip.

Isle Galet

Biface Tips:

Five patinated biface tips (not illustrated) were recovered. One is tip-fluted and one is ground on its ventral surface. Two are plano-convex and three are biconvex in transverse cross-section.

Bay de Vieux II

Biface Tips:

Two patinated specimens (not illustrated) were recovered. A tip-fluted specimen has a round tip, the unfluted specimen has a sharp tip.

Vatcher Island

Biface Tips:

Three weathered green chert specimens (not illustrated) were recovered. Two are bifacially retouched along their lateral edges, the third is completely bifacial. All have round tips with no evidence of tip fluting.

Cuttail Island

Biface Tip:

A patinated, waterworn specimen (not illustrated) having a round tip is biconvex in transverse cross-section.

L'Anse à Flamme

Biface Thinning Flakes:

Seven biface thinning flakes (not illustrated), six of mottled brown and one of black chert, were recovered.

Dimensions	Length	Width	Thickness
Number	7	7	7
Range	14.3 - 40.8	8.9 - 27.3	1.8 - 9.6
Mean	27.1	16.0	5.4

Furbey's Cove I

Biface Thinning Flake:

A patinated biface thinning flake [32.8 x 36.6 x 7.3] (not illustrated) was recovered.

Bay de Vieux II

Biface Thinning Flakes:

Two large patinated biface thinning flakes having mean dimensions [33.0 x 32.2 x 8.0] (not illustrated) were recovered.

Brimball Storehouse Cove

Biface Thinning Flakes:

Two green chert biface thinning flakes (not illustrated) have lengths of 24.3 mm and 19.8 mm, widths of 22.9 mm, and 22.8 mm and thicknesses of 3.8 mm and 4.3 mm.

Cuttail Island

Biface Thinning Flake:

One specimen [12.5 x 12.7 x 3.7] (not illustrated) made of grey chert, was recoverd.

L'Anse à Flamme

Tip Flute Flakes:

Thirty tip flute flakes (not illustrated) were excavated. Sixteen (53%) are from the left side, 14 from the right. Twenty-six (87%) have observable breakage fractures on their distal end--12 have hinge fractures, 12 have angle breaks, two have feather edge type fractures. Nineteen are rectangular, nine are triangular, and two are irregular in outline. The lateral edge is convex on fourteen, concave on five, and straight on eleven. Eleven are made from mottled brown chert, three from green chert, five are patinated, the remainder vary in the color of chert used.

Dimensions	Length	Width	Thickness
Number	30	30	30
Range	12.2 - 36.6	6.3 - 19.4	1.6 - 3.8
Mean	22.1	10.8	2.5

Eagle Head

Tip Flute Flakes:

Eight tip flute flakes (not illustrated), four from the right side and four from the left, were collected. Five are secondary, three are primary. Three have hinge fractures, three have angle breaks, and two have feather breaks. Seven are rectangular in outline, one is triangular. Three have a convex lateral edge. Two are made from grey chert, six are patinated.

Dimensions	Length	Width	Thickness
Number	8	8	8
Range	15.4 - 29.0	9.2 - 13.9	2.1 - 2.9
Mean	21.5	9.8	2.4

Piccaire

Tip Flute Flakes:

Two tip flute flakes (Plate 12-g, h), made from green chert, were recovered.

Isle Galet

Tip Flute Flakes:

Eighteen tip flute flakes, twelve (67%) from the left side and six from the right, were recovered. Fourteen (78%) are secondary, four are primary. Eight have hinge fractures, seven are angle broken, three have feather breaks. Eleven are rectangular in outline, seven are triangular. Ten have a convex lateral edge, four have a straight edge, and four have a concave lateral edge. All are patinated.

Dimensions	Length	Width	Thickness
Number	18	18	18
Range	17.3 - 32.8	8.0 - 18.0	1.7 - 3.3
Mean	22	10.7	2.2

Bay de Vieux II

Tip Flute Flakes:

Two specimens (not illustrated), a secondary flake from the right side and a primary flake from the left, were recovered. One has an angle break and the other has a feather break. Both are triangular, have a straight l lateral edge, and are made from reddish brown chert.

Dimensions	Length	Width	Thickness
Number	2	2	2
Range	20.6 - 23.6	10.0 - 11.9	2.7 - 3.9
Mean	-	-	-

Sandbanks Island

Tip Flute Flakes:

A secondary, left side specimen [23.4 x 10.2 x 2.6] (not illustrated), made from green chert, is triangular with a convex lateral edge, and has a feather break at its distal end.

L'Anse à Flamme

Burin-like-tools and Burin-like-tool Preforms:

Two fragmented burin-like-tools and two burin-like-tool preforms were excavated. A small chipped and ground chert specimen (Plate 5-g), triangular in outline, has its working edge missing. It has a pair of side

notches located 3.5 mm above its base, and has a notch width of 8.8 mm. Both surfaces are ground flat and it has a straight, bifacially thinned base.

A distal end specimen (Plate 13-n) has one lateral edge bifacially chipped and one ground to a straight line bevel. Its working edge is bifacially ground and slightly convex. It has a maximum thickness of 4.5 mm.

Two patinated chert specimens (Plate 13-o, p), appear to be burin-like-tool preforms. Both are bifacially chipped and side-notched but not ground. They have maximum lengths of 18.8 mm and 18.5 mm, maximum widths of 16.9 and 14.8, and maximum thickness of 4.3 mm and 5.1 mm. Specimen o has a notch height of 4.8 mm and a notch width of 4.8 mm. Both have bifacially thinned bases.

Eagle Head

Burin-like-tools:

Two burin-like-tools found at this site are presently included in a travelling Dorset exhibit sponsored by the Newfoundland Museum. One [14.0 x 14.6 x 3.9] (not illustrated) is chipped and ground and has a pair of side notches. The other [26.5 x 15.9 x 2.2] (not illustrated) completely ground and tablet-shaped. Both are currently out-of-Province, the above dimensions are taken from catalogue sheets.

Vatcher's Island:

Burin and Burin-like-tools:

A green chert burin-like-tool [- x 16.7 x 3.8] (Plate 8-b) is chipped and ground and has its extreme distal edge missing. Hafting consists of a pair of side notches located 4.5 mm above its base, it has a notch width of 12.0 mm. Both surfaces are partially ground, one lateral edge is ground to a bevel. Its bifacially thinned base is slightly convex.

The only true burin [18.1 x 18.1 x 3.6] (Plate 8-c) located on the southwest coast is made from a reddish chert. One lateral edge is constricted, burin spall removal has obliterated the other. It is bifacially chipped but not ground. At least two burin spalls were removed. Its base is bifacially thinned. No determination of right or left "handedness" could be made.

L'Anse à Flamme

Side Blade:

A banded green chert oval-shaped specimen [23.6 x 11.5 x 3.1] (not illustrated) is the only side blade located on the southwest coast. It is bifacially retouched along its edges and its ventral surface is partially chipped.

Blade:

One proximal section of Ramah chert (not illustrated), having a width of 17.0 mm and a thickness of 3.6 mm, is classified as a blade following Taylor's (1962:425-426) suggestion that a maximum width of 11 mm should be the cut-off measurement for distinguishing microblades from blades. Side A is dorsally retouched and side B is vertically retouched.

Ground Slate:

Twenty-two pieces of ground slate (Plate 14) are in a fragmentary and weathered condition, however, several tool classes are discernible.

Triangular Endblades:

Three specimens (not illustrated) appear to be endblades, and a fourth, a much larger specimen (not illustrated) may be a spear point. All are diamond-shaped with straight lateral edges which possibly converged at sharp tips. One still retains a portion of a triangular basal facet. The spear point has a maximum width of 30.0 mm and has a triangular facet just distal to its base on both surfaces. Its sides are straight.

Notched or Incised Endblades:

Three specimens have incised holes through the body, possibly for hafting. A reconstructed specimen [72.7 x 21.0 x 4.3] (Plate 14-a) has two narrow, slit-like holes located 15 mm above its straight base. Its lateral edges are bevelled 40° from a flat central surface. Its tip is now round but this may be the result of weathering.

A fragmented specimen (Plate 14-c) was possibly incised and notched. It has a notch just above the base on each lateral edge and two incised holes through the blade. Its lateral edges are ground to a bevel.

Two ground slate spalls are incised.

Chisels:

Three flat tapered specimens (Plate 14-d) are possibly the fragmentary remains of tools which Harp (1964: 64) refers to as "chisels.". Two have one lateral edge ground from both surfaces to form a straight edge, the opposite edge has a groove running along its length. The third, an edge fragment, is ground on both surfaces.

Adze:

The bit end (Plate 14-b) is all that remains of this wood-working tool. Its ventral surface has three ground planes, lateral edges rise at a 40° angle to meet a flat central plane. The dorsal ridge is wider than the ventral ridge (17 vs. 22 mm). Its bit is slightly convex.

Ground Slate Fragments:

Ten pieces of ground slate are so fragmentary they obscure tool typology. One appears to be a lateral edge from a sharp edge tool, another was modified after breakage by grinding near its tip. Two convex fragments may have spalled from the surface of a round object. Two are possible blanks from which pieces may have been "snapped off" as required. Four are spalls exhibiting grinding scars.

Copper Head

Ground Slate:

A fragmented piece of ground slate (Plate 11-c), apparently a chisel tip, has a flat longitudinal ridge on both surfaces and lateral edges which are bifacially ground to a bevel.

Upper Bargeo

Ground Slate:

A fragmented ground slate tip [25.1 x 10.4 x 4.6] (not illustrated) appears out of context at this Recent Indian site.

L'Anse à Flamme

Retouched Flakes:

Twenty specimens (not illustrated), 19 made from

various colours of chert and one made from quartz crystal, were recovered. These irregular flakes have partial and discontinuous retouch along one or more margins and were possibly utilized in a variety of cutting and scraping activities.

Dimensions	Length	Width	Thickness
Number	20	20	20
Range	14.2 - 55.5	13.1 - 26.8	2.6 - 14.3
Mean	28.1	19.0	5.5

Copper Head

Retouched Flakes:

A large grey chert flake [43.0 x 46.4 x 5.6] (not illustrated) has partial and discontinuous unifacial retouch along two margins.

L'Anse à Flamme

Preforms:

Nine specimens are still in the preform stage of tool production. Five tip-fluted specimens (Plate 4-d, e) are considered endblade preforms, three of which have convex bulges on their ventral surface. Four specimens, larger in length and width, have their tips fragmented

possibly resulting from the tip-flute thinning process.

Seven specimens are made from mottled brown chert and two from a slightly patinated grey chert.

Dimensions	Length	Width	Thickness
Number	5	9	9
Range	21.9 - 47.8	1.4 - 27.0	6.8 - 19.7
Mean	35.9	22.3	10.4

Eagle Head

Preforms:

Two patinated specimens (not illustrated) were recovered. Specimen a [- x 23.7 x 7.0] is lanceolate with a convex base. Specimen b [47.6 x 21.8 x 5.5] is asymmetric having a straight and a convex edge. Its ventral surface is ground and its convex base is bifacially thinned.

Furbey's Cove I

Preform:

A patinated, fragmented, preform base [- x 25.3 x 5.9] (not illustrated) has no hafting modification remaining.

Cape La Hune

Preform:

A fragmented preform base (Plate 11-d), of grey

banded chert, has only one lateral edge remaining.

L'Anse à Flamme

Core Fragments:

Fourteen pieces of chert (not illustrated), ranging in weight from 12.4 g to 58.8 g, are thought to be blanks for tool manufacture. These fragments, having a total weight of 1.4 kg, are the largest pieces of chert found at the site. Colours vary from mottled brown (4), red/brown (2), banded green (2), patinated pink (2), patinated white (2) to dark grey (2).

Unidentified Objects:

Six small artifacts (Plate 15-a to f) do not fit into any of the above tool categories. Specimen a [16.0 x 10.2 x 3.9], made from grey chert, is bifacially worked along its lateral edges, and notched on one edge near its base. Its blade is thick and it may be at the preform stage of production. Specimens b and c are small [15.9 x 8.6 x 2.4], [13.4 x 7.4 x 2.2] "endblade-type" objects made from grey chert. Specimen b, asymmetric in outline, has unworked facets on both blade surfaces, but is bifacially worked near the top and its concave base. Specimen c, has unworked facets on both blade surfaces, and is unifacially flaked along both lateral edges. It has a bifacially thinned concave base.

Specimens d and e may have functioned as some type of graving tool. Specimen d [16.7 x 9.7 x 4.0], now patinated, has a spur at each end. Specimen e [25.3 x 9.8 x 2.0], made from grey chert, has unworked facets on both surfaces.

Specimen f [19.8 x 9.5 x 2.5] a small patinated chert flake is bifacially worked near its tip.

Eagle Head

Whetstone:

One fragmented specimen of pink quartzite [16.1 x 323.1 x 12.7] (not illustrated), weighing 43 g, has one longitudinal polishing facet. More than likely this whetstone, if present size is indicative of its original size, was rubbed on the artifact, no hafting modification remains.

Hammerstone:

One long, narrow specimen [69.2 x 21.3 x 19.2] (not illustrated), weighing 764 g, has both ends battered.

Isle Galet

Hammerstone:

A cylinderical specimen [135.7 x 50.4 x 50.4] (Plate 13.b), weighing 531 g, has both ends considerably battered.

Bay de Vieux II

Soapstone:

This is the only southwest coast site to produce a soapstone artifact. One large fragment (not illustrated) is part of the base and wall of a flat bottom vessel. The slope angle of side to base is 20° from perpendicular. It has a basal thickness of 13.5 mm and a side thickness of 11 mm. Another fragment, having a thickness of 10.5 mm, has charcoal or burnt fat stains on both sides. Both fragments have shallow grooves or soring lines on both surfaces.

RECENT INDIAN ARTIFACT DESCRIPTIONS

Three hundred and twenty-one Recent Indian artifacts (Table 7) were recovered from L'Anse à Flamme. Fifty-two Recent Indian artifacts were recovered from five other southwest coast sites (Table 8).

L'Anse à Flamme

Projectile Points:

Sixty-one projectile points, 31 complete, were recovered. Chert was the exclusive raw material used for projectile point manufacture. Green was the dominant colour with shading varying from blue/green to olive green. Three are made from red chert, four from grey, and two are patinated.

Table 7

Artifact Distribution - L'Anse a Flamme
Little Passage Component

Projectile Points		61
Projectile Point Bases		9
Projectile Point Medial Fragments		3
Projectile Point Tips		10
Projectile Point Preforms		6
	Sub-total	89
Triangular Bifaces		16
Triangular Biface Bases		17
Triangular Biface Tips		7
Triangular Biface Preforms		10
	Sub-total	50
Scrapers		31
Scraper Fragments		6
	Sub-total	37
Bifaces		5
Biface Bases		6
Biface Medial Fragments		1
Biface Tips		9
Biface Thinning Flakes		9
	Sub-total	30
Retouched Flakes		49
Linear Flakes		54
Iron Pyrite Nodules		2
Bipolar Cores		3
Core Fragments		7
	Sub-total	115
TOTAL		321

Table 8

Little Passage Artifacts by Site - Southwest Coast of Newfoundland

	Projectile Points	Triangular Bifaces	Scrapers	Bifaces	Biface Medial Fragments	Biface Tips
Furbey's Cove II	1	1	1			
Isle Galet	2		2	1	1	
Sot's Hole	5	3		1		
Upper Burgeo	5	2		2		3

	Biface Tips	Linear Flakes	Retouched Flakes	Core Fragments	TOTAL
Furbey's Cove II		2			5
Isle Galet			2		8
Sot's Hole					9
Upper Burgeo	3	10	6	2	30
TOTAL					52

Forty-four specimens (Plate 16-a, c, d, e, j) were used to formulate a major site type. All specimens used in Table 9 are from this category. Specimens are generally small, mean length 25.5 mm, have triangular blades and are corner notched. Lateral edges vary between convex and concave with few having straight edges. Tips are sharp, retouch near the tip often contributing to the convexity/concavity of the lateral edges. Maximum width occurs at the proximal end of the blade. Basal width has the appearance of being approximately one-half the maximum blade width. Measurement of complete specimens found this ratio to be 1:54. Bases are generally convex although 14 (32%) have straight bases. The mean notch angle for edge A, the greater blade length, is 80° and 85° for edge B.

A distinction within the type category concerns the extent of primary chipping. Twenty-six (59%) have primary chipping scars on both blade surfaces, whereas 18 (41%) have unworked facets just distal to the tang on the ventral surface, only their lateral edges are bifacially worked. Blade-like flakes appear to have been used to produce these projectile points which are distinctly concave-convex in longitudinal cross-section (Plate 16-b, k, l).

A second type of unifacial flake point (Plate 16-g, h) consists of seven green chert specimens, all of which have their half element missing. They have triangular

Table 9

L'Anse a Flamme (CjAx-1) Projectile Point Analysis

Maximum length:		range 16.0 - 33.7		
		mean 25.5 N=32		
Edge lengths: (Edge A has greater blade length)	A	range 13.1 - 31.1		
		mean 22.0 N=32		
	B	range 11.2 - 29.2		
		mean 20.7 N=29		
Stem length:		range 2.9 - 7.9		
		mean 5.6 N=31		
Maximum width:		range 10.2 - 21.0		
		mean 15.0 N=31		
Minimum width at mid-stem:		range 5.5 - 9.6		
		mean 6.1 N=31		
Basal stem width:		range 5.3 - 16.9		
		mean 8.3 N=27		
Maximum thickness:		range 1.2 - 5.4		
		mean 3.4 N=32		
Notch angle: (Measured to nearest 5°)	A	range 25.0 - 125.0		
		mean 80° N=27		
	B	range 35.0 - 120.0		
		mean 86° N=24		
Edge shape:	A	concave	15	46.8
		convex	13	40.6
		straight	04	12.5
			32	99.9%
	B	concave	13	40.6
		convex	14	43.8
		straight	05	15.6
			32	100.0%
Combined edge shape:		concave-concave	04	12.5
		concave-convex	13	40.6
		concave-straight	07	21.9
		convex-convex	06	18.8
		convex-straight	02	6.2
		straight-straight	00	00.0
			32	100.0%
Longitudinal cross-section		bi-convex	14	43.8
		bi-concave	0	
		bi-plano	0	
		plano-convex	09	28.1
		concave-convex	09	28.1
			32	100.0%
Transverse-cross-section:		bi-convex	18	56.3
		plano-convex	14	43.7
			32	100.0%
Hafting modification (basal thinning):		complete	20	66.6
		partial	10	33.3
			30	99.9%
Surface retouch:		complete	09	28.0
		partial	23	71.9
			32	99.9%
Weight:		range 0.7 - 3.3 grams		
		mean 1.3g N=32		

blades with straight lateral edges and sharp tips. Lateral edges are bifacially retouched although unworked facets are present on both blade surfaces. The haft element may have been a technological weakness.

Dimensions	Length	Width	Thickness
Number	-	7	7
Range	-	10.3 - 13.7	1.5 - 2.8
Mean	-	11.9	2.1

A third site type of projectile point is demonstrated by eight green chert specimens (Plate 16-f, 1-). Although haft elements are missing tang remnants on four specimens seem to suggest that these were stemmed as opposed to corner notched. Specimens have triangular blades outlined with convex and straight bifacially worked lateral edges. Unworked facets, distal to the tang, are found on either the dorsal or the central surfaces. A distinguishing feature is the pronounced blade shoulders.

Dimensions	Length	Width	Thickness
Number	-	8	8
Range	-	9.7 - 20.8	2.2 - 4.4
Mean	-	14.8	3.1

The final site type of projectile point is represented by two side-notched specimens.

Specimen a [30.1 x 21.7 x 4.1] (Plate 17-a), made from dark green chert, is reconstructed. Its blade is triangular having convex edges which are so bifacially retouched they appear serrated. Its base is convex and bifacially thinned.

Specimen b [- x 18.7 x 4.1] (Plate 17-b), made from grey rhyolite, was found in a test pit to the north of the site. It has a triangular blade with tip and part of the base missing. Its ventral surface shows evidence of primary flake removal with secondary chipping along the edges. Its dorsal surface is flat and shows little evidence of flaking.

Projectile Point Bases:

Nine projectile point bases (Plate 17-i to l), five made from grey chert and four made from green chert, were recovered. Two specimens (Plate 17-i, j) appear to be side-notched. Remaining specimens including k and l (Plate 17) are corner-notched.

Projectile Point Medial Fragments:

Three blade fragments (not illustrated), two made from grey chert, and one from green chert, lack both tangs and tips. All are biconvex in transverse cross-section and are bifacially retouched along their lateral edges.

Projectile Point Tips:

Ten projectile points tips (Plate 17-e to h), nine made from green and one from red chert, range in thickness from 1.77 mm to 3.8 mm (x = 2.9). All are biconvex in transverse cross-section and have well defined lateral edges which meet to form a sharp tip.

Projectile Point Preforms:

Six specimens (Plate 17-c, d), five made from green and one from red chert, appear unfinished. Four have a single corner-notch, and two may be unfinished flake points. The red chert specimen is completely bifacial, others are bifacially worked along their lateral edges.

Dimensions	Length	Width	Thickness
Number	4	6	6
Range	19.0 - 24.8	12.6 - 16.9	2.9 - 4.8
Mean	21.8	14.7	3.8

Furbey's Cove II

Projectile Point:

One specimen [20.9 x 13.1 x 2.9] (Plate 12-e), made from green chert, has a triangular blade with a straight and a convex edge. Its lateral edges are bifacial although unworked facets occur on both blade surfaces. Its

tang is bifacially chipped and it has a straight bifacially thinned base.

Isle Galet

Projectile Points:

Two specimens, the first Little Passage projectile points found on the southwest coast, were recovered at this site. Specimen a [34.1 x 23.2 x 3.7] (Plate 18-d), made from green chert, has a triangular blade. Both blade edges are bifacially chipped, and it has a sharp tip. Unworked facets, just distal to the tang, occur on both surfaces.

Specimen b [19.4 x 12.6 x 2.5] (Plate 18-e), made from green chert, has a triangular blade formed by two straight sides which meet at a blunt tip. Edge A is bifacially retouched whereas edge B is partially chipped on its ventral surface. Two large unworked facets are present on both blade surfaces. It is corner-notched and has a straight base.

Sot's Hole

Projectile Points:

Five specimens, all fashioned from green chert, were collected. Specimen a [- x 13.2 x 3.5] (Plate 19-a), having most of its haft element missing, has a triangular blade with convex edges which meet at a sharp tip. Its

lateral edges are bifacially chipped. It has a corner-notch on edge A and the vestige of a notch on edge B.

Specimen b [- x 14.6 x 3.8] (Plate 19-b) has the distal part of its blade missing. It is bifacially chipped along both lateral edges. It is corner-notched, and has an expanding, unifacially thinned base.

Specimen c [30.7 x 11.7 x 3.2] (Plate 19-c) is waterworn. It has an elongated triangular blade having a straight edge A and a concave edge B, both are bifacially chipped. It has one well-formed corner-notch whereas the opposite notch was formed by the removal of a single flake. It is concavo-convex in longitudinal cross-section.

Specimen d [38.9 x 21.1 x 4.9] (Plate 19-h) although partially patinated, still exhibits traces of green colored chert. Its blade is triangular having convex sides which meet at a sharp tip. Both blade surfaces are completely chipped. It is corner-notched and has a concave, unifacially thinned base.

Upper Burgeo

Projectile Points:

Five projectile points, all made from green chert, are recovered. Specimen a [- x 10.2 x 2.2] (Plate 20-a), a flake point, has its tang missing. The edges of its triangular blade are bifacially chipped with

considerable attention being paid to producing a sharp tip. The vestige of a pair of side-notches remains.

Specimen b [22.0 x - x 2.5] (Plate 20-b) is a flake point with part of the haft element missing. Its lateral edges are bifacially flaked. Its dorsal blade surface is unworked and it has a straight, bifacially thinned base.

Specimen c [- x 9.1 x 2.8] (Plate 20-c), having its tip missing, has a triangular bifacially flaked blade formed by a straight and a concave edge. It is corner- notched and has an expanding, bifacially thinned base.

Specimen d [24.3 x 15.0 x 4.1] (Plate 20-h), having its extreme tip missing, has a triangular blade formed by convex bifacially chipped lateral edges. It is sharply corner-notched and has a convex, bifacially thinned base.

Specimen e [23.5 x 13.1 x 2.9] (Plate 20-i) has a triangular blade with two straight sides which converge to form a sharp tip. Its blade and lateral edges are bifacially flaked. It is corner-notched and has a straight, bifacially thinned base.

L'Anse à Flamme

Triangular Bifaces:

Sixteen specimens (Plate 21) were recovered. Green chert, often exhibiting part of a pale cortex, is the dominant

raw material. One specimen is made of grey chert and five are patinated. Triangular bifaces, like projectile points, are small and carefully made.

Specimens are usually asymmetric, have sharp tips, and convex bifacially thinned bases. Three (Plate 21-d, f, h) are bifacially flaked on both surfaces and along their lateral edges. Most specimens are bifacially retouched only along their lateral edges and have unworked facets on one or both blade surfaces.

Dimensions	Length	Width	Thickness
Number	14	16	16
Range	18.8 - 30.1	10.7 - 22.0	2.4 - 5.1
Mean	25.2	16.1	4.1

Triangular Biface Bases:

Seventeen specimens (not illustrated), 14 of green and three of grey chert, were recovered. Fifteen have bifacially thinned bases, while two have unifacially thinned bases. Three have straight, and 14 have convex bases.

Dimensions	Length	Width	Thickness
Number	-	17	17
Range	-	12.4 - 21.3	3.0 - 5.5
Mean	-	17.1	4.1

Triangular Biface Tips:

Seven triangular biface tips (not illustrated), ranging in length from 7.2 mm to 15.9 mm, were recovered. Two are made from grey chert and five from green chert.

Triangular Biface Preforms:

Ten specimens (not illustrated), nine made from green chert and one from grey, are thought to be triangular biface preforms. Three are straight based, seven are convex. These exhibit little secondary flaking and are larger than the triangular bifaces described above.

Dimensions	Length	Width	Thickness
Number	3	10	10
Range	21.6 - 31.3	14.6 - 28.6	4.5 - 6.6
Mean	24.9	22.7	5.3

Furbey's Cove II

Triangular Biface:

One fragmented green chert, triangular biface [- x 17.3 x 3.7] (Plate 12-d) has blade surfaces and lateral edges bifacially retouched. It has a convex, bifacially thinned base.

Sot's Hole

Triangular Bifaces:

Three triangular bifaces were collected.

Specimen a [- x 24.0 x 7.1] (Plate 19-d), made from a dark red chert, is fragmented and has its distal blade section missing. It is bifacially chipped on both surfaces and along its lateral edges and has a convex, bifacially thinning base.

Specimen b [55.6 x 29.8 x 4.4] (Plate 19-e) is an unusual specimen made from dark green chert. It is extremely well flaked and has sharp lateral edges. Its ventral surface exhibits longitudinal scars extending distally some 10 to 12 mm from its slightly concave, bifacially thinning base.

Specimen c [- x 14.6 x 3.8] (Plate 19-f) is fragmented and water-worn. It may be either a preform for a triangular biface or a flake point. It is concavo-convex in longitudinal cross-section.

Upper Burgeo

Triangular Bifaces:

Two triangular bifaces, made from blue/green chert, were recovered. Specimen a [46.7 x 26.9 x 5.4] (Plate 20-d) is a finely flaked specimen whose convex lateral edges meet at a sharp tip. Its blade surfaces are bifacially thinned, and its lateral edges are unifacially sharpened. Its base is slightly convex and bifacially thinned.

Specimen b [45.9 x 22.9 x 5.3] (Plate 20-f) has both its blade surfaces bifacially worked. Again lateral edges are unifacially sharpened and meet at a sharp tip. It has a convex, unifacially thinned base.

L'Anse à Flamme

Scrapers:

Thirty-one endscrapers (Plate 22) were excavated. Twenty-seven (87%) are made from green or blue/green chert, nine exhibit part of a pale white cortex. Four are patinated, one is made from glossy grey chert.

All are made on random chert flakes. Eight are rectangular in form, three are triangular, four are oval, and 14 are irregular. Twenty-nine (94%) have a convex working edge located at the distal end. Two specimens have a straight working edge.

Nine are bevelled left, seven right, and thirteen are symmetric. Lateral edge and surface retouch is minimal--18 have partial, unifacial retouch along their lateral edges, ten have complete unifacial retouch, one is bifacially retouched, and two are unretouched.

One is partially retouched and one is completely retouched on their ventral surface, ten are partially retouched on their dorsal surface. Retouch is usually limited to flake removal in an effort to blunt sharp edges. Expanded corners or spurs are absent. The working edge

angle ranges from 40° to 100°, the average is 70°. No specimen has any formal hafting modification such as a stem, a notch or a constriction. Four are dorsally thinned at their proximal end, six are ventrally thinned, and four are thinned on both surfaces. Eight have flakes removed from the bulb of percussion seemingly in an effort to flatten the ventral surface.

Dimension	Length	Width	Thickness
Number	31	31	31
Range	17.3 - 37.8	13.5 - 30.3	2.7 - 8.1
Mean	25.8	20.5	5.0

Six scrapers (not illustrated) have their proximal end fragmented. Three are made from green chert, one from brown, one from grey, and one is patinated. Widths across the working edge range from 15.9 mm to 23.1 mm. The working edge angle ranges from 50° to 90°, the average is 70°.

Furbey's Cove II

Scraper:

An irregular green chert endscraper [27.4 x 20.8 x 5.7] (not illustrated) has a concave working edge. It has partial unifacial retouch along its lateral edges but no surface retouch. It has neither a spur nor an expanded corner and has a working edge angle of 90°. Hafting

consists of a slight thinning of the bulb of percussion and the removal of longitudinal flakes from its dorsal surface.

Isle Galet

Scrapers:

Two specimens were recovered. Specimen a [20.0 x 18.0 x 4.4] (Plate 18-a), an endscraper made from blue/green chert, is rectangular with a convex working edge. It has partial unifacial retouch along its lateral edges. Neither its dorsal nor its ventral surface is retouched, it has a working edge angle of 80°. Hafting consists of the removal of a few flakes from the proximal dorsal surface.

Specimen b [35.3 x 19.0 x 6.4] (Plate 18-b), an oval endscraper made from blue/green chert, has a convex working edge. It has partial unifacial retouch along both lateral edges but neither surface is retouched. It has a working edge angle of 40°. Hafting consists of a considerable thinning of the bulb, and a blunting of a ridge on its dorsal surface.

L'Anse à Flamme

Bifaces:

Five bifaces, four made from green and one from brown chert, were excavated.

Specimen a [47.3 x 26.2 x 5.5] (Plate 17-o) is finely flaked and has a triangular blade formed by a straight and a convex edge. Its lateral edges are bifacially flaked and meet at a round tip. It has a single pair of notches located 5.2 mm above its base, and a notch width of 18.8 mm. Its base is unifacially thinned and it is plano-convex in transverse cross-section.

Specimen b [45.9 x 21.0 x 8.0] (not illustrated), made of brown chert, has an inherent flaw in the raw material which seems to have prevented tool completion. Its lateral edges are convex, partially retouched, and meet at a blunt tip. It is plano-convex in transverse cross-section and has a constricted, bifacially thinned base.

Specimen c [60.5 x 33.6 x 13.8] (Plate 17-m), made on a large green chert flake, has its triangular blade retouched along one lateral edge. Its ventral blade surface is unworked except along this edge. Its dorsal surface is the more retouched but again retouch is confined to one lateral edge. Hafting modification consists of a large notch below the worked edge and a constriction of the opposite edge. It is wedge-shape in transverse cross-section.

Specimen d [57.4 x 24.9 x 7.0] (Plate 17-n) is very similar to a specimen recovered from Upper Burgeo (Plate 20-g). It is made from green chert and has part of its base missing. Its blade is asymmetric, formed by a

convex and a straight edge which meet at a blunt tip. Edge A is unifacially retouched, edge B is bifacial. Its dorsal surface is the more worked. It is biconvex in transverse cross-section.

Specimen e [38.5 x - x 5.1] (not illustrated) is made from green chert exhibiting part of a pale white cortex. Although fragmented longitudinally, its remaining lateral edge is bifacially flaked. Hafting consists of a single, shallow notch. Its base is convex and bifacially thinned.

Isle Galet

Biface:-

A fragmented green chert specimen (Plate 18-c), having the distal part of its blade and part of its base missing, is sharply side-notched. It has a maximum width of 32.2 mm and a notch width of 16.9 mm. Its lateral edges appear straight and are bifacially retouched. It is biconvex in transverse cross-section.

Sot's Hole

Biface:

A blue/green chert specimen [45.9 x 20.3 x 6.0] (Plate 19-g) has a triangular blade with convex edges which meet at a sharp tip. Its lateral edges are bifacially flaked and exhibit re-sharpening scars. It is biconvex in

transverse cross-section and has a convex, bifacially thinned base.

Upper Burgeo

Bifaces:

One complete specimen [50.8 x 23.7 x 5.5] (Plate 20-g) and a tang section (Plate 20-e), both made from green chert, were found. The complete specimen is asymmetric having a straight and a convex edge whch are bifacially retouched and meet at a blunt tip. Hafting consists of a pair of side notches located 4.3 mm above its base. It is biconvex in transverse cross-section and has a convex, bifacially thinned base.

The tang element, fragmented at the point of juncture, has a pair of wide side notches located 5.5 mm above its dorsally thinned base. It has a maximum width of 26.1 mm and a notch width of 18.9 mm.

L'Anse à Flamme

Biface Bases:

Six biface bases (Plate 23-a to d), four made from green and two from grey chert, were found. Five have a single pair of notches located above their expanding bases, the sixth has an unretouched straight base. All are bifacially thinned.

Biface Blade Medial Fragment:

A single biface medial fragment (not illustrated), made from grey chert, is biconvex in transverse cross-section.

Isle Galet

Biface Blade Medial Fragment:

A finely flaked patinated biface edge fragment (not illustrated) is biconvex in transverse cross-section.

L'Anse à Flamme

Biface Tips:

Nine biface tips (Plate 23-e to j), made from green and blue/green chert, are biconvex in transverse cross-section and have round tips.

Upper Burgeo

Biface Tips:

Three biface tips, two sharp and one blunt, were recovered. Two (Plate 23-k, l) are made from green chert, one exhibiting a pale white cortex. The third (not illustrated) is made from grey chert. All are convex in transverse cross-section.

L'Anse à Flamme

Biface Thinning Flakes:

Nine biface thinning flakes (not illustrated),

made from green chert, were recovered. One end of the thinning flake has part of the edge of the biface edge adhering, the other end has a hinge.

Dimensions	Length	Width	Thickness
Number	9	9	9
Range	16.3 - 32.7	8.5 - 24.1	3.0 - 6.5
Mean	22.6	16.2	4.4

L'Anse à Flamme

Retouched Flakes:

Forty-nine irregular chert flakes (not illustrated), have partial and discontinuous retouch along one or more margins. All are made from blue/green and green chert. Retouched flakes possibly functioned in a variety of cutting, scraping and graving activities.

Dimensions	Length	Width	Thickness
Number	49	49	49
Range	15.3 - 35.6	3.1 - 35.2	2.2 - 12.3
Mean	22.8	17.0	5.3

Isle Galet

Retouched Flakes:

Two retouched flakes, one of blue/green chert [31.2 x 19.3 x 5.4] (Plate 18-f), and one made from brown chert [31.5 x 14.2 x 5.2] (not illustrated), were recovered.

Upper Burgeo

Retouched Flakes:

Six retouched flakes (not illustrated) were recovered. Two are made from grey chert, three from blue/green, and one from green chert.

Dimensions	Length	Width	Thickness
Number	6	6	6
Range	14.1 - 31.4	13.0 - 28.1	3.0 - 8.4
Mean	21.8	17.1	4.7

L'Anse-à Flamme

Linear Flakes:

Fifty-seven specimens (Plate 24-a to h), 45 complete and 12 fragments, were recovered. Blue/green and green cherts, often exhibiting part of a pale cortex, were the exclusive raw materials. Thirty-one complete and five fragments have one or both lateral edges retouched. Specimens are elongate in form, roughly 2.5 times their width, and are triangular in transverse cross-section. Large specimens (Plate 24-a, b, c) have continuous retouch along one lateral edge, and may have functioned as side scrapers.

Dimensions	Length	Width	Thickness
Number	45	45	45
Range	18.8 - 72.4	7.4 - 20.4	1.7 - 9.0
Mean	32.5	13.9	4.7

Furbey's Cove II

Linear Flakes:

One complete [27.3 x 18.4 x 4.8] (Plate 24-i, j), and one fragment (not illustrated), both made from green chert, are triangular in transverse and cross-section and have one lateral edge retouched.

Upper Burgeo

Linear Flakes:

Ten linear flakes (Plate 24-k to p), nine made from green chert and one from grey, were recovered. Four have one lateral edge retouched and four have both edges retouched, two are unretouched. All are triangular in transverse cross-section.

Dimensions	Length	Width	Thickness
Number	10	10	10
Range	19.5 - 41.0	11.6 - 25.3	3.4 - 8.0
Mean	32.6	18.2	5.6

L'Anse à Flamme

Iron Pyrite Nodules:

Two nodules of encrusted iron pyrites, weighing 24.1 g, are thought to be part of a fire-making kit. Both

(Plate 25-c, 3) are highly weathered.

L'Anse à Flamme

Bi-polar Cores:

One complete [15.6 x 15.1 x 6.1] and two fragmented specimens were recovered. The complete specimen (Plate 25-d) is made from grey chert and the two fragments from green chert. The complete specimen is battered on both ends. Scars remain from the removal of at least two linear flakes. Both fragmented specimens (Plate 24-a, b) also exhibit linear flake scars, one fragment is possibly the remains of a linear flake core.

L'Anse à Flamme

Core Fragments:

Seven pieces of chert (Plate 25-b, g), ranging in weight from 10.3 g to 97.4 g, are thought to be blanks for tool manufacture. These, although weighing in total only 253.8 g, are the largest pieces of chert found at the site. Colours range from blue/green (3), green (2), red (1), to shiny grey (1). All retain part of their original outer cortex.

Upper Burgeo

Core Fragments:

Two battered green chert chunks (Plate 25-h, i),

having a combined weight of 23.6 g, retain part of an outer cortex and are possibly blanks for tool manufacture.

UNDETERMINED CULTURAL AFFILIATION

Sixty-five artifacts (Table 10) having an undetermined cultural affiliation were excavated at L'Anse à Flamme.

L'Anse à Flamme

Large Side Scrapers:

Sixteen specimens, 15 rhyolite and one weathered chert, are from a size and a raw material perspective, anomalies at the site. The rhyolite specimens range in colour from grey (3) to red (3) to banded (9).

Four straight working edge specimens (Plate 26-c) have continuous retouch along one or more margins. Two have continuous dorsal retouch along the edge parallel to the striking platform. Their working edge angle ranges between 30° to 40°. The other two are continuously retouched on the dorsal surface along the edge distal to the striking platform.

Seven specimens (Plate 26-b), including the weathered chert specimen, have a concave working edge. This edge is distal to the striking platform on the ryolite flakes and parallel to it on the chert specimen. Working edge lengths range from 38.4 mm to 109.8 mm and is

Table 10

Artifact Distribution - L'Anse a Flamme
Undetermined Cultural Affiliation

Side Scrapers		16
	Sub-total	16
Bifaces		1
Biface Bases		4
Biface Medial Fragments		1
Biface Tips		4
Biface Thinning Flakes		4
	Sub-total	14
Ground Slate		1
Whetstones		4
Hammerstones		2
Abraders		2
Preforms		6
Retouched Flakes		19
Pottery		1
	Sub-total	35
TOTAL		65

continuous on the dorsal surface of all specimens.

Five specimens, three complete and two fragmented, are thought to represent a formal category of large, unifacial side scrapers. These (Plate 26-s, b, c) have convex working edges distal to the striking platform, and retouch is continuous along this edge. The height of dorsal retouch varies from 2.1 mm to 10.4 mm above the surface, with a mean of 8.2 mm. The working edge angle ranges from 40° to 70°, with a mean of 55°.

Biface:

One lanceolate specimen [- x 39.0 x 13.5] (Plate 26-g), made from grey rhyolite, has convex lateral edges. Hafting consists of a pair of wide notches located 9.5 mm above its straight, bifacially thinned base. It has a basal width of 31.7 mm and a notch width of 23.3 mm. It is biconvex in transverse cross-section and has its extreme tip missing.

Biface Bases:

Four specimens (two stemmed, one side-notched and one triangular) (Plate 26-d, e, f, h) were recovered. Two, e [- x 22.4 x 7.0] and g [- x 26.0 x 5.9], made from grey and banded rhyolites, have straight, bifacially thinned bases. A side-notched specimen f is made from weathered green chert. It has a pair of deep side notches located 8.4 mm above its convex base. It has a width of 30.9 mm

across its bifacially thinned base and has a notch width of 15.5 mm. A triangular specimen h [- x 36.2 x 7.2], made from weathered chert, is the largest triangular biface found at the site. It is finely flaked along its lateral edge and has a slightly convex base. Its dorsal surface is finely flaked; the ventral surface has three large flakes removed giving the specimen a plano-convex shape in transverse cross-section.

Biface Medial Fragment:

One specimen (Plate 26-i), made from a weathered dark grey rhyolite, has a maximum thickness of 6.2 mm. It is biconvex in transverse cross-section, and has sharp, straight lateral edges.

Biface Tips:

Four biface tips (Plate 15-g to i, k), three made from weathered grey rholite and one made from dark grey rhyolite, were recovered. All are biconvex in transverse cross-section, are bifacially flaked on both surfaces and along their lateral edges, all have blunt tips.

Biface Thinning Flakes:

Four rhyolite biface thinning flakes (not illustrated), having mean dimensions [25.0 x 18.0 x 3.7] were located.

Ground Slate:

A large piece of highly fragmented, grey slate [85.8 x 44.5 x 14.4] (not illustrated) is unlike any associated with the Palaeo-Eskimo occupations of the site from either a size or color perspective.

Whetstones:

One complete [99.2 x 72.6 x 23.6] (not illustrated) and three fragmented whetstones were recovered. The complete specimen is rectangular with smooth surfaces and rounded corners.

Hammerstones:

Two granite cobble hammerstones (not illustrated) were recovered. Specimen a [114.2 x 49.8 x 39.2], weighing 369 g, is cylinder-shaped. Its ends are slightly battered. Specimen b [128.9 x 54.6 x 42.1] (not illustrated), weighing 406 g, is peanut-shaped. Both ends, especially the smaller pointed end, are battered.

Abraders:

Two slightly abrasive sandstone cobbles (not illustrated) have striations on both surfaces. One [116.5 x 74.5 x 27.2] is wedge-shaped, the other [116.7 x 38.4 x 24.4], although highly weathered, exhibits narrow grooves on both surfaces.

Preforms:

Six weathered chert specimens are in the preform stage of production. One specimen [34.4 x 27.9 x 7.2] (not illustrated), bifacially flaked on both its surfaces and lateral edges, has a bifacially thinned base. Remaining specimens are crudely flaked, two have convex bulges on their dorsal surface, and are poorly defined.

Retouched Flakes:

Nineteen large rhyolite flakes (not illustrated), ranging in length from 21.6 to 81.2 mm ($\bar{x}$ = 44.8), have partial and discontinuous retouch along at least one margin.

Pottery:

A single rimsherd of Point Peninsula type pottery [61.1 x 38.4 x 11.6] (Plate 15-j) is decorated with a dentate stamp. Its collar has a chevron motif. It is unique in the L'Anse à Flamme assemblage and is typologically dated (James Wright, personal communication 1980) to the Middle Dorset occupation of the site. This is the first piece of native pottery found on the Island and is discussed in Penney 1981.

CHAPTER VI

ARTIFACT COMPARISONS

Three prehistoric cultural groups are evidenced in southwest coast lithic assemblages. Two, Maritime Archaic and Palaeo-Eskimo, are familiar to researchers working in the Northeast and in the Arctic. Recent Indian culture and technology is the least known of this coast's prehistoric inhabitants.

Maritime Archaic Tradition

The Maritime Archaic Tradition (Tuck 1969a; Fitzhugh 1972) is the cultural outcome of settlement and adaptation by migrating Archaic hunters and gatherers to a maritime environment. Their successful northward expansion, after ca. 10,000 B.P., is demonstrated by numerous coastal sites in the Gulf of St. Lawrence, the Strait of Belle Isle, the Labrador Peninsula, and on the Island.

Three southwest coast sites: L'Anse à Flamme, Eagle Head and Bay de Vieux I, contain small Maritime Archaic components. This region's sinking coastline is believed responsible for the loss of an undetermined number of Maritime Archaic sites. The absence of migratory harp seals may have made it appear unattractive to Maritime Archaic hunters and gatherers.

The Maritime Archaic occupation of L'Anse à Flamme, radiocarbon dated to 3590±110 B.P. (S-1976), occurs some 1400 radiocarbon years after their arrival on the Island. The earliest Maritime Archaic determination for Newfoundland, (4990±250 B.P., S1-1384), was obtained on wood charcoal from culture layer 2 at the Beaches site. Cape Cove-1, another Bonavista Bay site, has a determination of 4540±135 B.P. (S-1859). A ground stone industry is represented at both sites by celts, gouges, and ground slate projectile points. Stemmed lanceolate bifaces and chipped bipointed bifaces occur at both and appear to denote early Maritime Archaic presence on the Island.

The Maritime Archaic component at L'Anse à Flamme consists of three patinated lithic artifacts: a stemmed projectile point, a lanceolate biface, and a celt fragment. At Eagle Head a ground stone industry, a diagnostic Maritime Archaic lithic trait, is evidenced by two celts, and at Bay de Vieux I by a weathered celt. The lithic assemblages from these sites are so small that inter-site analysis is of little value, likewise no intra-site settlement or subsistence pattern is proposed.

Maritime Archaic presence at L'Anse à Flamme was brief and coastal survey results indicate a marginal occupation. Their L'Anse à Flamme occupation dates to a time when Archaic peoples are known to have lived at the Curtis site in Notre Dame Bay (3560±140 B.P., GSC-758), and

at the Beaches site (3690±100 B.P., I-6761) in Bonavista Bay.

PALAEO-ESKIMO TRADITIONS

Palaeo-Eskimo artifacts account for 44.1 percent of the total lithic assemblage from L'Anse à Flamme and 78.8 percent of the assemblages from other southwest coast sites. Two lithic traditions--early Palaeo-Eskimo (Groswater) and Middle Dorset (Newfoundland Dorset), representing two distinct migrations onto the Island, occur.

Early Palaeo-Eskimo (Groswater)

Described by Fitzhugh (1972:126) as the Groswater Dorset Phase of the Arctic Small Tool tradition, it endured during the period ca 2900-2100 B.P. Groswater lithics include small side-notched plano-convex endblades, circular and lunate sideblades, side-notched ground and spalled burins, large side-notched endblades (box based) and flared endscrapers. Microblades, many of which are stemmed or notched, sometimes account for 50 percent of the artifact assemblage. Groswater, a sequential temporal unit within the early Palaeo-Eskimo period ca 3800-2100 B.P., is "part of a single technological tradition, sharing [with other temporal sub divisions], sequences of house forms, subsistence and settlement patterns" (Fitzhugh 1980:23).

Researchers working on the Labrador Peninsula during the past decade (Fitzhugh 1980; Cox 1978) have greatly added to our understanding of subarctic Palaeo-Eskimo migrations. Groswater sites and components at culturally mixed sites were not recognized on the Island until Tuck (1978) and Bishop (n.d.) found evidence of Groswater presence at Cow Head and Bonne Bay respectively. At Factory Cove, near Cow Head, a distinctive lithic assemblage and a series of radiocarbon dates confirmed it as a Groswater site (Auger 1982). The diagnostic box-based endblades of the central Labrador coast have their counterparts at Factory Cove in low side-notched plano-convex specimens. Other Groswater traits at Factory Cove include chipped and ground burin-like tools, side blades, notched asymmetric knives, and an absence of soapstone.

The Broom Point site, just south of Cow Head, and the Zodiac and Moose Pasture sites in Bonavista Bay (Sawicki n.d.) radiocarbon date (Table II) to the Groswater period. The Cape Ray Light site (Linnamae 1975), at the western limit of the southwest coast, whose major occupants were Middle Dorset peoples, also contained a small Groswater component. A Cape Ray radiocarbon age determination of 2370±95 B.P. (GX-1199) is much too early for a Middle Dorset occupation and possibly dates a

Table 11

Early Palaeo-Eskimo (Groswater)
Radiocarbon Determinations - Newfoundland

Site	Determination B.P.	Lab. No.
Factory Cove (D1Bk-3)	2700±140	BETA 4707
	2530±280	UQ 413
	2270±100	UQ 409
	2100±60	BETA 4706
Cow Head (D1Bk-1)	2700±115	DAL 341
	2480±110	DAL 276
	2145±90	DAL 325
	1995±90	DAL 275
Cape Ray Light (CdBt-1)	2370±85	GX 1199
Long Island Neck (CcAm-2)	2240±210	GAK 3274
Stock Cove (CkA1-1)	2140±60	BETA 4063
Zodiac (DdAk-3)	2490±80	BETA 2262
Moose Pasture (DcAk-3)	2490±80	BETA 2265
	2160±90	BETA 2263
	2140±90	BETA 2405

Groswater component of side-notched and multiple notched endblades and sideblades.

Three southwest coast sites: L'Anse à Flamme, Eagle Head and Vatchers Island have undated Groswater components. A Groswater component at L'Anse à Flamme consists of five endblades, two bifaces, one sideblade, one complete and one fragmented burin-like-tool. Four of five side-notched endblades (Plate 5-a, b, d, e, l) are plano-convex in transverse cross section while specimen l is biconvex. No specimen is tip fluted, a trait of later Middle Dorset endblades. The five notched specimens are not the high side-notched (box base) specimens found on Early Paleo-Eskimo sites in Groswater Bay. They are similar to a low side notched variety, which although observed on the Labrador coasts (Fitzhugh 1972: Plate 82; Tuck 1975: Plate 3), are not so ubiquituous as the box base variety. Auger (1981:141 and Plate 4) found both types at Factory Cove.

Linnamae (1975:79), who did not isolate a Groswater component at Cape Ray, thought that endblades "with narrow, deep side-notches and serrated lateral edges" were a distinctive "Newfoundland Dorset trait" confined to the Island. Harp (1964:80) found side-notched endblades to represent 40 percent of the artifacts from Norris Point-1, subsequently investigated by Bishop (n.d.); only 6 percent of endblades from the later and larger Port au Choix-2 site

are side-notched. A side-notched plano-convex endblade (Plate 6-1) from Eagle Head is similar to a specimen from the Pittman site in White Bay (Linnamae (1975:182, Figure 28, 1), which has a Groswater date of 2780±85 B.P. (GAK-1903).

Two Groswater bifaces (Plate 5-c, f) were recovered from L'Anse à Flamme, one from Eagle Head (Plate 6-e) and one (not illustrated) from Vatcher Island. Both L'Anse à Flamme specimens are symmetric and each has a single pair of side-notches. The Eagle Head specimen is larger, biconvex in cross section, and transversally flaked on both blade surfaces. The Vatcher Island specimen has a deep side-notch on one edge and a constriction on the other. Although water-worn, parallel transversal flake scars are still present on both surfaces of its asymmetric blade.

Sideblades, both lunate and circular, a Groswater trait possibly associated with breathing hole hunting, occur on Island Groswater sites. They were found at both Cape Ray (4) and Pittman (6) where they are described as "leaf-shaped with convex edges and sharply pointed ends," Linnamae (1975:115). Harp (1964:47-48) found nine sideblades at Port au Choix-2 while Auger (1981:139) recovered ten from Factory Cove. On the southwest coast one specimen (not illustrated) was found at L'Anse à Flamme.

Based on initial fieldwork, Fitzhugh (1972) thought that only two types of burin-like-tools, "chipped and ground with asymmetrically notched bases and tabular blades" occurred in Groswater assemblages. Groswater's lithic boundaries have since widened (Fitzhugh 1980) to include side-notched, ground, and spalled burins (true burins). At Factory Cove side-notched and extensively polished burin-like tools (35) were recovered. At Cape Ray one side-notched, and one fragmented, burin-like-tool were excavated, while at Pittman four burin-like-tools were found. No spalled burins were excavated at these sites.

Four complete burin-like-tools, one distal end fragment, and one true burin were recovered from the southwest coast. At L'Anse à Flamme a nearly complete specimen (Plate 5-g) is side-notched and has both surfaces ground flat. The distal end fragment (not illustrated) is chipped along one edge while its other edge and surfaces are ground. One Eagle Head specimen (not illustrated) is side-notched and similar to the nearly complete specimen from L'Anse à Flamme. The other (not illustrated) is completely ground. The Vatcher Island specimen (Plate 8-b) is asymmetrically side-notched, chipped along its lateral edges, and ground on both surfaces. The only true southwest coast burin, located at Vatcher Island (Plate 8-c), is unground, spalled (at least two) and has a slight constriction, possibly a notch, on one lateral edge.

A lack of stratigraphic or horizontal separation at multi-component southwest coast sites compounded the problem of separating artifacts, such as scrapers and microblades, which occur in both Groswater and Dorset. Groswater scraper traits, pronounced graving spurs on each end of the working edge, and partial edge retouch on their ventral surface, were not enough to separate specimens. Six unidentified artifacts (Plate 15-a to f), which possibly functioned as gravers, may associate with a Groswater occupation of L'Anse à Flamme.

Until recently Early Palaeo-Eskimo (Groswater) artifacts went unrecognized at culturally mixed sites on the Island. For instance, when Carignan (1975:131-132) found a side-notched burin, a "box-based," and a multiple side-notched end-blade at the Beaches. He realized that they were time-sensitive artifacts, but after trying to interpret a handful of widely varying dates they could not be directly associated with Groswater presence. Archaeological evidence from Factory Cove, Norris Point and the stratified Cow Head site clearly demonstrates Early Palaeo-Eskimo (Groswater) presence on the Island.

Groswater presence on the southwest coast, while not appearing intense, is nonetheless significant for it hints of an Island wide occupation.

Middle Dorset

A second Palaeo-Eskimo cultural tradition occurs on the Island after 2000 B.P. These migrants, who first appear in northern Labrador around 2400 B.P., have a distinctive technology with many elements differing from Early Palaeo-Eskimo (Groswater). In Labrador this cultural tradition is divided into three sequential temporal units--Early, Middle and Late Dorset. Early Dorset sites are not found south of Nain, although during the Middle Dorset period (2000 - 1400 B.P.) a rapid southern migration occurred. As previously indicated it was once thought that Middle Dorset was the only Palaeo-Eskimo culture to reach the Island, where its development in an area geographically isolated from the core area of the eastern Arctic contributed to its distinctive nature.

Linnamae's (1975) synthesis of the Newfoundland aspect of Dorset culture incorporated archaeological data from excavations at Cape Ray and Pittman and surveys in Placentia Bay. Harp's (1964) data from the excavation of Port au Choix-2 and his surveys on the northern peninsula were utilized in Linnamae's synthesis. Middle Dorset data from L'Anse à Flamme and 15 other southwest coast sites are compared with Port au Choix-2, Cape Ray and Pittman. Three Dorset artifacts--endblades, scrapers and microblades (Table 13) and a distinctive raw material soapstone--are used in lithic comparisons.

Endblades:

The tip-fluted triangular stone endblade having straight to moderately concave lateral edges and a slight to deeply concave base is the diagnostic Middle Dorset tool in Newfoundland. At Port au Choix-2 it was the second most common artifact and was found by Harp at seven of eight sites. At Cape Ray it accounted for 10.9 percent of the assemblage and 12.7 percent at Pittman. At L'Anse à Flamme triangular endblades comprise 9.4 percent of the Palaeo-Eskimo assemblage and 15.5 percent of the total Dorset assemblage from the southwest coast.

At L'Anse à Flamme both concave (13) and straight base (3) triangular endblades occur. Nine Eagle Head specimens are chipped and ground (6), three are triangular with concave bases (3). Isle Galet triangular endblades are divided into concave base (10) of which seven are ground, and straight base (5) of which four are ground. The single specimen from Branis Point has a concave base. At Bay de Vieux II the three complete triangular endblades have straight, concave and ground bases.

Although most specimens are triangular and do have concave bases some distinctions appear within the southwest coast endblade collection. Straight base specimens which Linnamae (1975:109) thought to be "an early Dorset trait" are well represented. Lateral edge serration occurs on

endblades from L'Anse à Flamme and Eagle Head. Some L'Anse à Flamme specimens are so retouched they appear serrated while Eagle Head chipped and ground endblades are serrated. Serration was rare at Cape Ray and absent at Pittman.

No totally ground triangular endblades were found at either Cape Ray, Pittman or Port au Choix-2. Basal grinding, which usually occurred bifacially, was found on 30 Cape Ray endblades, but was absent at Pittman and in Harp's collections. Only two basally ground specimens were recovered from L'Anse à Flamme. Linnamae (1975:111) suspected that endblade surface grinding was a trait confined to Newfoundland but she could not establish a time frame for its occurrence.

Six endblades from Eagle Head are totally ground, five from Isle Galet are ground on at least one surface, and one totally ground specimen was recovered from Bay de Vieux II. Endblade surface grinding which appears to be dominant on Island sites dating to the end of the Dorset period poses an interesting question: does the apparent increase in grinding correspond to consequent decrease in endblade tip fluting?

Scrapers:

The "snub-nosed endscraper" is the most common Dorset artifact from Port au Choix-2 and occurs at seven of eight sites investigated by Harp. At Cape Ray it was the

fourth most common and the fifth at Pittman. Scrapers are one of the largest tool categories at L'Anse à Flamme (11.7%) and were found at six southwest coast sites.

Triangular endscrapers having sharp symmetrical corners were the most common type (41%) at Cape Ray and Linnamae (1975:125) suspected it to be the most "common type in Dorset" as well. At Pittman it was again the most popular (23%) but not so overwhelmingly popular as at Cape Ray. Thirty-four endscrapers, 85 percent of which have a straight to moderately convex working edge, were recovered from L'Anse à Flamme. These specimens, like those of Cape Ray, have their lateral edges retouched (91%) and 12 percent have the bulb of percussion thinned. Dorsal surface retouch occurs more often on L'Anse à Flamme specimens where 91 percent have either partial or complete dorsal retouch.

Thirteen concave side scrapers, made on narrow microblades, were excavated at Cape Ray. Four were recovered from Pittman and five of these distinctive specimens which may have functioned as spokeshaves were found at Port au Choix-2. The only southwest coast specimen, (Plate 13-a) was found at L'Anse à Flamme. A double-ended scraper from this site (Plate 13-b), which may be a spokeshave, has no counterpart at the above sites.

Quartz crystal as a raw material for scraper manufacture, possibly derived from its initial use in

microblade production, appears to increase throughout the Dorset period on the Island. Chert dominated as a raw material for scrapers at Cape Ray where only 12 of 237 scrapers are made from quartz crystal. Two quartz crystal specimens were recovered from Pittman and none from Port au Choix-2. Five quartz crystal scrapers were excavated from L'Anse à Flamme, two from Eagle Head, and two from Isle Galet.

Its frequency on this coast does not approach the level preferred by the Middle Dorset occupants of Stock Cove (ca. 1280 B.P.) in Trinity Bay. Robbins (personal communication March 1984) reports that a ratio of 5:1 exists for quartz crystal over chert in both scraper and microblade production. Quartz crystal usage became so popular that at least two quartz crystal triangular e[illegible]lades were manufactured.

Microblades:

Harp (1965) found simple, unretouched prismatic microblades the third most common artifact at Port au Choix-2. They were the second most common tool type at both Cape Ray and Pittman. Microblades were found at ten southwest coast sites, at L'Anse à Flamme 18 complete and 64 fragmented microblades account for 26.7 percent of the Palaeo-Eskimo assemblage.

L'Anse à Flamme microblades are separated into chert and quartz crystal specimens because of an observed pattern of retouch. Harp (1965:48), while not dividing his microblade collection, realized that "all the smaller blades" were made from quartz crystal. Limited use of this raw material at Port au Choix-2, five gravers and two endscrapers, was regarded as "an interesting separate grouping." Sixteen percent of Cape Ray microblades and 20 percent of Pittman's are made from quartz crystal. At L'Anse à Flamme 37 chert and 45 quartz crystal microblades and fragments were recovered. Quartz crystal microblades accounted for 37.5 percent of the microblades from both Eagle Head and Isle Galet, and 42.9 percent of the microblades from the other major Paleo-Eskimo site--Bay de Vieux II.

Quartz crystal microblades are modified for hafting in a variety of ways. Some are notched on one lateral edge, some are blunted all along one side, and some have an alternating system of flake removal--side A being flaked on its dorsal surface and side B flaked on its ventral. Nine chert microblades at L'Anse à Flamme exhibit unifacial retouch but no specimen is bifacially retouched or has any hafting modification such as a stem, notch or constriction. What must be remembered about retouch on both chert and quartz crystal microblades is that any retouch was probably not intended to sharpen or re-sharpen

the tool which could not be made as sharp as when it was first produced. Retouch was a hafting technique meant to change their shape or size or some combination thereof.

Soapstone:

The third largest artifact category (14.0%) at Cape Ray was soapstone: 672 artifacts and fragments. Only 55 pieces of soapstone were excavated at Pittman, in spite of the fact that it is very close to a soapstone quarry at Fleur de Lys. A total of 57 sherds of soapstone (steatite) were collected by Harp at five of eight Northern Peninsula sites, 35 came from Port au Choix-2. This distinctive raw material was absent at L'Anse à Flamme and only two fragments were found on the southwest coast at Bay de Vieux II.

Another Dorset lithic trait is ground slate which was found at Port au Choix-2 (7.1%); Cape Ray (3.1%); and Pittman (0.7%). Twenty-two pieces (7.2%) of ground slate were recovered from L'Anse à Flamme and one fragment from both Copper Head and Upper Burgeo. The L'Anse à Flamme assemblage-- ground triangular endblades, basal or side-notched knives, and flat, bevelled edged knives (chisels)--is similar to the Cape Ray and Port au Choix-2 assemblages with the exception that no ground gravers occur.

The Middle Dorset occupation of L'Anse à Flamme and their presence at 15 other southwest coast sites while not signifying an intense occupation denotes a total geographic presence. No large scale site such as the Cape Ray Light site was located; the most intensely occupied Dorset sites on this coast are L'Anse à Flamme, Eagle Head and Bay de Vieux II. A radiocarbon determination on wood charcoal from Eagle Head of 1660±85 B.P. (I-11,075) possibly announces initial Middle Dorset movement into Hermitage Bay. A determination of 1335±115 B.P. (S-1977) from L'Anse à Flamme and one of 1345±115 B.P. (I-11,076) for Isle Galet suggests that both sites were simultaneously occupied (Table 12). Although no late Middle Dorset site was located, there was some site assemblages suggestive of lithic trends which were to become pronounced towards the end of the Middle Dorset era on the Island.

Little Passage Technology

Four tool types: projectile points, triangular bifaces, endscrapers, and linear flakes are found in varying frequencies (Table 14) at most Little Passage sites. When the distinctive lithic asemblages, herein described, were first found on the southwest coast they could only be compared to "Beothuck" materials from Bonavista Bay (Carignan 1975; 1977) and interior sites on the major rivers (Devereaux 1969; 1970). Since then a

number of Little Passage sites have been investigated--Frenchman's Island and Stock Cove in Trinity Bay (Evans 1980, 1981; Robbins 1981); Boyd's Cove in Notre Dame Bay (Pastore 1982, 1983) and sites on the Port au Port Peninsula (Simpson 1983).

Projectile Points:

Projectile points, which account for 18.8 percent of the Little Passage component at L'Anse à Flamme, increase to 27.5 percent if fragments and preforms are included. The majority of projectile points (72%) are corner-notched, 13.1 percent are stemmed, 3.3 percent are side-notched, seven specimens (11.5%) have the haft element missing. Both corner-notched and stemmed specimens, but no side-notched, were found at other southwest coast sites: Furbey's Cove II(1), Isle Galet(2), Sot's Hole(5) and Upper Burgeo(5).

Two side-notched specimens from L'Anse à Flamme (Plate 17-a, b), made from dark green chert and grey rhyolite respectively, are thought to represent an early style of projectile point manufacture. These seem similar to older Recent Indian artifacts as demonstrated by the Cape Freel's-2 assemblage in Bonavista Bay, this assemblage has side-notched projectile points outnumbering corner-notched and stemmed specimens in a 4:1 ratio. It is

Table 12

Middle Dorset Radiocarbon Determinations - Newfoundland

Site	Determination B.P.	Lab. No.
Englee (EeBa-1)	1585±95	?
Pittman (DkBe-1)	1780±90	GAK-1482
	1340±100	GAK-1904
Beaches (DeAk-1)	1650±95	SI-1383
Frenchman's Island (ClAl-1)	1870±180	BETA-2142
Stock Cove (CkAl-1)	1560±60	BETA-4064
	1280±60	BETA-4065
	1280±60	BETA-4062
New Grove (CkAm-1)	1730±80	GAK-3276
Bordeaux-2 (CkAm-5)	1090±90	GAK-3275
Eagle Head (CjAx-2)	1660±85	I-11075
L'Anse à Flamme (CjAx-1)	1335±115	S-1977
Isle Galet (CkAx-1)	1345±115	I-11076
Cape Ray Light (CdBt-1)	1810±100	GAK-1906
	1365±95	GX-1198
	1360±90	GAK-1907

notable that one side-notched projectile point is made from rhyolite, a preferred raw material.

Flake points, exhibiting unifacial or no surface retouch and having broad and shallow basal notches, account for 40.9 percent of the projectile points from L'Anse à Flamme. Eighteen (Plate 16-b, k, l) specimens, made on blade-like-flakes, have unworked facets distal to the tang on their ventral surface, and bifacially flaked lateral edges. Seven unifacial flake points (Plate 16-b, h), missing their haft elements, have bifacially retouched lateral edges. Similar specimens were recovered from Isle Galet and Upper Burgeo. Flake points were not found at any Cape Freels site or elsewhere in Bonavista Bay. They are, however, well represented at Point Revenge sites on the central and northern Labrador coasts. Fitzhugh (1978:164) describes Ramah chert flake points as "small notched flake and unifacial points, often merely modified pieces of debitage." These are variable and are often "produced by simple edge modification of their flakes."

Flake points originate during the late Maritime Archaic/Intermediate Indian period. Two types, expanding stemmed/notched and ovate, were found at Iceberg in southern Labrador. Madden (n.d.:98-100) found this type of projectile point to be distributed throughout much of the coastal northeast where it continued to be used well into

Table 13

Middle Dorset Artifact Frequencies

Site - Endblades	Percentage of Site Assemblage
Port au Choix - 2	18.9
Cape Ray	14.1
Pittman	18.7
L'Anse à Flamme	9.4
Site - Scrapers	
Port au Choix - 2	28.1
Cape Ray	12.9
Pittman	12.5
L'Anse à Flamme	11.7
Site - Microblades	
Port au Choix - 2	15.1
Cape Ray	18.4
Pittman	18.5
L'Anse à Flamme	2[illegible].7
Site - Soapstone	
Port au Choix-2	8.3
Cape Ray	14.0
Pittman	3.9
L'Anse à Flamme	0.0

the Woodland period. Flake points occur on all the Island's Little Passage sites; at Frenchman's Island they account for 36 percent of the projectile point assemblage (Evans, personal communication, March 1984).

Schwarz (n.d.:49-63) undertook an attribute analysis of Little Passage projectile points from Stock Cove, Frenchman's Island, Boyd's Cove and Cape Cove Beach (Locke's collection) to test chronological variation. His preliminary findings suggest that Little Passage points vary through time. Flake points represent the latest stage when "an apparent reduction in stylistic control" may represent the onset of the historic period, the introduction of iron technologies and a "decrease in the need for lithic technology" (Schwarz n.d.:62). His seriation model (p. 64) equating hafting modification tendencies and chronology, includes most projectile point types found on the southwest coast, and, if accurate, suggests the whole range of types.

Endscrapers:

The author's inability to distinguish Recent Indian (Beothuck) and Palaeo-Eskimo endscrapers on shallow, multi-component Bonavista Bay sites possibly caused Indian endscrapers to be under-represented. The Beaches Beothuck component did not contain endscrapers, only Cape Freels-2 produced formal endscrapers. These, based on expanding (3) and parallel sided (2) flakes, have distal working edges (Carignan 1977:177). Four are manufactured from chert and one from quartz. No formal endscrapers occurred at Cape

Freels-1, Cape Freels-3 or Brown's Beach although retouched or utilized flakes having straight or convex working edges are present.

Devereaux's (1970:46) investigations at the multi-component Indian Point revealed "the roughly triangular sub-nosed scraper made on a flake," as the best represented artifact of the prehistoric component. These, from a preliminary report having no frequency table, are described as

> modified on the dorsal face of the flake only. They retain a short striking platform at the apex of the triangular, opposite a long working edge formed by a chipped bevel. These scrapers range in size from small thumbnail to 3 cm across the working edge. Materials used are quite the best and range through green-grey, grey and red brown chert.

Thirty-one complete and six fragmented end scrapers, 11.4 percent of the Little Passage component, were excavated at L'Anse à Flamme. One was recovered from Furbey's Cove II and two from Isle Galet. Formed on blue/green and green random chert flakes they are generally irregular in form and have a convex working edge at their distal end. Lateral edge retouch is minimal, spurs or expanded corners are absent, as is any hafting modification.

Endscrapers on other Little Passage sites range from a low of 3.2 percent at Frenchman's Island to a high of 23.0 percent at Port au Port. The small assemblage from the latter site may be responsible for this high percentage.

Their low representation at Frenchman's Island suggests a site function not associated with hide processing.

Endscrapers are common on Point Revenge sites in Labrador where they are made on thin Ramah chert flakes. Two varieties (Fitzhugh 1978:164)--a triangular, straight-sided specimen with convex distal working edges and a smaller circular type occur. Retouched and utilized flakes which possibly served for a variety of cutting and scraping functions are found in fairly high frequencies on Little Passage sites (L'Anse à Flamme 15.1% and Port au Port 17.0%). Fitzhugh (1978:153) determined that utilized Ramah chert flakes from 12 Point Revenge sites comprised 55 percent of the aggregate artifact assemblage.

Large rhyolite flake scrapers at L'Anse à Flamme are, from a raw material and size perspective, much different from other Little Passage material and were not found elsewhere along the southwest coast. Although classed as large retouched flakes there are six which could represent a formal class of side scraper (Plate 26-a, b, c).

At Cape Freels-1 similar straight and convex working edge rhyolite specimens were located (Carignan 1977:153). These and specimens from Cape Freels-3 and Brown's Beach were presented as part of the Beothuck tool kit. Six large chert side scrapers, one of Ramah chert, were recovered from Feature 44 at Cow Head on the Northern

Peninsula. Feature 44 dated to 995±85 B.P. (DAL-324) contained such Indian artifacts as bipointed and lanceolate bifaces and linear flake cores. The presence of large scrapers within this assemblage suggests continuity with older, but as yet poorly defined Indian cultures. They are not a common tool type on southwest coast Little Passage sites where they appear anomalous in the collections.

Linear Flakes:

This tool may have its roots in an older Archaic Tradition. The Archaic inhabitants of the Beaches (ca. 4000 B.P.) had a well developed core and blade industry used to produce macroblades, some of which have multiple arrises. Linear flakes occur at both Black Rock Brook and Iceberg in southern Labrador. A decline in their frequency at the later dated areas of Iceberg is interpreted as "a trend that was to lead to their eventual disappearance early in the Christian era," Madden (n.d.:101). The presence of blade-like-flakes at two Bonavista Bay Beothuck sites--Brown's Beach and Cape Freels-2 suggested to Carignan (1977:219) that they were a late prehistoric expression of the blade technology at the Beaches.

At L'Anse à Flamme 57 linear flakes (Plate 24) were recovered. Two were found at Furbey's Cove II while at Upper Burgeo ten specimens account for 33 percent of the artifact assemblage. Their presence at L'Anse à Flamme was

initially overlooked as they were regarded as a by product of Palaeo-Eskimo microblade production. However, they are well-represented at Boyd's Cove where there is no Palaeo-Eskimo component. This led to a re-examination of flake bags in an attempt to locate linear flakes. Researchers digging mixed Palaeo-Eskimo and Recent Indian sites must be wary of this situation or else this artifact could be under-represented in their artifact assemblages.

Southwest coast specimens are made from green and blue/green chert. Most have a single arris although nine have two or more arrises. One or both lateral edges are retouched or utilized on 36 specimens. A bipolar core (Plate 25-d) and two possible core fragments (Plate 25-a, b), from which linear flakes were pressure removed, were recovered from L'Anse à Flamme.

The high proportion of linear flakes at Boyd's Cove (Table 14) suggests their use in a variety of activities which did not require more formal tools such as knives, which may account for the low percentage of triangular bifaces. Linear flakes seem under-represented at both Stock Cove and Frenchman's Island, both of which have large Palaeo-Eskimo components.

Triangular Bifaces:

Sixteen complete, 17 bases, seven tips and ten triangular biface preforms account for 15.4 percent of the

Little Passage component at L'Anse à Flamme. Triangular bifaces, of similar size and raw material, were recovered from Furbey's Cove II(1), Sot's Hole(3), and Upper Burgeo(2).

In Bonavista Bay straight based specimens having straight to slightly convex lateral margins and sharp tips were found at the Cape Freels-2 Beaches Complex site. These are not the same as the large lanceolate bifaces recovered from Cape Freels-1 and -3 and Brown's Beach which undoubtedly relate to older Archaic occupations.

The exact function of triangular bifaces is not presently known. They may have been used as harpoon endblades, projectile point preforms, or knives. At L'Anse à Flamme triangular bifaces are divided into finished and preform categories. Six projectile point preforms (Plate 17-c, d) are basically triangular bifaces having a single corner notch. Carignan (1977:171) thought that two distinct types, based on size, existed in his Cape Freels-2 collection.

Summary

Four tool categories: projectile points, triangular bifaces, endscrapers, and linear flakes, account for 60.5 percent of the Little Passage component at L'Anse à Flamme. If retouched and/or utilized flakes are included the percentage rises to 75.6 percent. These five artifact

classes account for 100 percent of the Furbey's Cove II assemblage, 75 percent of Isle Galet, 89 percent of Sot's Hole, and 76 percent of the Upper Burgeo assemblage.

Tools made from wood, antler, shell, or bone were not preserved at any southwest coast site and we are left to speculate on their importance, usage and distribution. The frequency of projectile points, endscrapers, triangular bifaces and linear flakes at five Little Passage sites (Table 14) suggests that its technology is internally consistent having evolved and adapted to a specific environment.

Table 14

Little Passage Artifact Frequencies

Artifact Class	L'Anse à Flamme	Frenchman's Island	Stock Cove	Boyd's Cove	Port au Port
Projectile Points	18.8%	18.0%	44.7%	20.8%	11.0%
Triangular Bifaces	15.4	17.0	18.8	2.5	7.0
End Scrapers	9.6	3.2	10.4	7.4	23.0
Linear Flakes	16.7	9.2	11.1	40.2	28.0
	60.5%	47.4%	73.9%	70.9%	69.0%
	N = 324	N = 183	N = 143	N = 201	N = 55

CHAPTER VII

SUMMARY AND CONCLUSIONS

Settlement and Economy

Survey results signify that Newfoundland's southwest coast was thinly populated throughout most of the prehistoric period. Its number of sites is much lower than surveyed areas elsewhere in the Province: McGhee and Tuck (1975) for the Strait of Belle Isle, Pastore (1981) for Notre Dame Bay, and Penney (1978) for Trinity Bay. This region's sinking coastline has, no doubt, contributed to the loss of older sites, and resulted in the erosion of more recent ones. The 19 southwest coast sites are to be interpreted as an aspect of the coastal segment of prehistoric seasonal rounds.

The typically elevated, exposed, and barren topography of most of the southwest coast means that suitable settlement areas are at a premium. Good agricultural and forest lands, but not good fishing, are found only at the bottom of Bay d'Espoir. Its present population, whose numbers remain low, obtain a living from a near-shore fishery. The scarcity of level land for settlement is responsible for serious site damage and disturbance. Good areas were used and re-used as campsites by both Eskimos and Indians. Site re-use can be very

informative if there is spatial or stratigraphic separation between successive occupations. Unfortunately, this did not seem to occur at any site located during these surveys.

European settlement added to the difficulty of site location and interpretation. It is felt that many existing European villages, and ones abandoned during the resettlement programme, are located on prehistoric sites. An example community is Hermitage which is favourably situated in a valley trough facilitating transportation and communication between Hermitage and Connaigre Bays. Similarly, an unknown number of prehistoric sites on the Burgeo Islands, are suspected as having been destroyed by European settlement.

Its changing European settlement pattern is discussed in Weatherburn's (n.d.: 172-185) ethnography of the southwest community of Grant Bruit (Map 1). Her analysis of census data for the period (1839-1945) concerning 48 fishing communities which once existed 40 km either side of Grand Bruit indicates considerable resident migration. Thirty-one (65%) of the communities lasted for less than 70 years, 20 (42%) lasted for less than 30 years. Thirty-four (71%) never had a population exceeding 200 individuals, 19 (50%) community populations never exceeded 20 individuals. Only six communities, all of which are extant, lasted for longer than 100 years. Weatherburn

found the roughly two generation period between 1874 and 1921 as a peak period for experimentation with new localities.

Prehistoric sites appear absent from the inner parts of the fiord-like bays, as considerable survey in the bottoms of Hermitage Bay, Bay d'Espoir, and Grandy's Brook resulted in the location of only one site--Branis Point, a site represented by a single artifact. The area from the center of the bays to their headlands appears more favoured for settlement. Sheltered islands, and the runs between them, and headland coves lying in the lee of prevailing southerly winds, appear most favoured. The Burgeo archipelago, containing approximately two dozen habitable islands and many more uninhabitable ones, appears as the most heavily populated area during the prehistoric period. These islands are good seabird rookeries, and the runs between them channel marine mammals and fish. In addition they provide a buffer to the open sea, not found elsewhere on this exposed coast.

A description of L'Anse à Flamme within the micro-environment of the Little Passage may help in distinguishing its function and seasonality. The site occupies the first good campground after entering the Passage from Hermitage Bay. L'Anse à Flamme refers not only to the point on which the site is located, but also to the small basin or harbour which is formed in this part of

the Passage (Plate 27). On its western side the Passage branches into several sheltered, steep-sided coves, used by Europeans as mooring coves to winter schooners. Opposite the site (east) are two small islands, the shallow runs between these being good cod-jigging grounds.

No fish bones were found at L'Anse à Flamme to specify a fishing technology or the importance of fish in the foodways of its occupants. It is inconceivable, however, that fishing, given site location, orientation, and resource availability, was not engaged in by its prehistoric inhabitants.

A faunal sample from L'Anse à Flamme's Feature 1 specifies marine mammal hunting, with seal bones accounting for 84 percent of the sample identified to the species level. As previously mentioned migratory harp seals, which were so important elsewhere in the Province to maritime hunters and gatherers, are absent from the southwest coast as northern pack ice, their travel medium, seldom reaches this coast. The seal remains at L'Anse à Flamme are thought to be those of the harbour seal (Phoca vitulina). The fiord-like bays of the southwest coast are still home to large numbers of harbour seals. The writer has observed individuals and families of harbour seals in such sheltered areas as Little Passage, Little River, and Conne River when placid surface waters highlighted their presence.

Their summer habitats are sheltered inlets, reefs, and harbours; during winter they migrate to offshore waters. In spring they again appear in the bays and inlets, where as daily surface temperatures increase they spend proportionally more time hauled-out, sunning and sleeping in small herds. Mature harbour seals (6 years +), having asymtotic weights of 90 and 70 kg (male and female) (Boulva and McLaren 1979:11-13) offer considerable protein, and L'Anse à Flamme appears ideally suited for their harvest.

L'Anse à Flamme functioned as a specific, temporary, and small site for three prehistoric cultural groups. The absence of structural features, the repeated re-arrangement of a single hearth feature, and a lack of woodworking tools indicate temporary site activities. A debitage sample, principally of small thinning flakes with few hammerstones and cores, suggests secondary tool re-working and sharpening as opposed to primary tool production as the main lithic activity. Faunal evidence indicates the harvesting of marine mammals, mostly seals, during the warmer months.

Feature 1, because of its large size and the absence of any remains to suggest a covering structure, is thought to have functioned as an open air hearth. It is really a series of smaller indistinguishable hearths which possibly acted as food preparation and activity centers as

well as providing heat and light. An often over-looked function of hearths, especially smaller ones, is the protection they afford from biting flies. L'Anse à Flamme's sheltered location does not often afford a breeze to disperse misquitoes, blackflies and deerflies which are prevalent throughout boreal forests. Smudges are probably as old as man himself, and are often his last resort.

L'Anse à Flamme was repeatedly occupied, with short intervals between occupations, by small groups of Palaeo-Eskimos and Indians who choose the site because of its proximity to the ocean and its resources. Number of occupants at any one time probably did not exceed a single extended family. Little Passage, as a short cut and a sheltered waterway between Bay d'Espoir and Hermitage Bay, possibly affected the nature and length of occupation.

Excavation at L'Anse à Flamme and a survey of a major portion of the southwest coast suggests a maritime settlement and subsistence pattern in agreement with those proposed by researchers for most cultural traditions and complexes throughout this Province's 9,000 year prehistoric period. Sites are generally small, oriented to, and in close proximity to the sea. Permanent structures are not in evidence and it is suspected that winters were spent in the interior. The resources of the sea are thought to have sustained these coastal dwellers even though a fishing

technology is seldom represented in their extant material cultures. This pattern of seasonal rounds agrees with the recorded observations of such historic culture groups as the Beothuck and Micmac, who occupied Atlantic Canada at the time of European re-discovery.

Conclusions/The Little Passage Complex

Lithic assemblages from five southwest coast sites exhibit such close cultural relationships that they are proposed as a complex of traits, the Little Passage Complex. A complex represents a provisional assignment of similar assemblages into a unit awaiting the acquisition of more data. It is proposed as a discrete culture-historical unit within the time frame proposed for Recent Indian on the Island, post-dating Maritime Archaic and pre-dating Beothuck. It is now agreed that "Beothuck" can only be used to describe archaeological materials dating no earlier than the beginning of the historic period.

The diagnostic lithic traits of the Little Passage complex include stemmed and corner-notched projectile points, which appear to become smaller through time. A decrease in surface retouch and the eventual disappearance of notches produced a true flake point, retouched only along its lateral edges. Triangular bifaces, which possibly functioned as knives or harpoon endblades, appear in two sizes, the smaller of which may be preforms for

projectile points. Endscrapers, made on random chert flakes, and retouched and linear flakes were utilized for a variety of cutting and scraping functions. A preference for fine-grained blue-green and green cherts was observed at southwest coast sites.

Radiocarbon age determinations from Little Passage sites (Table 15) suggest that the complex flourished beginning ca A.D. 1000. The earliest Little Passage determination is from Frenchmen's Island in Trinity Bay suspiciously older than any other Little Passage date on the Island. It, and the L'Anse à Flamme date was obtained from features which have undergone considerable disturbance over time. Radiocarbon determinations from Notre Dame Bay are more recent, and approach the time frame of the historically known Beothuck. In a broad temporal framework this complex flourishes following Dorset disappearance (ca A.D. 600) and may represent the last stone technological tradition before the introduction of European iron.

Little Passage sites are found on the west coast (Port au Port Peninsula), the southwest coast, Trinity and Bonavista Bays, and in Notre Dame Bay. No Little Passage sites have been yet located on the Northern Peninsula which is unexplainable given the amount of archaeological investigation which has occurred there during the past decade. Although speculative, it appears that the Little Passage complex represents a re-emergence of Indian peoples on the coasts of Newfoundland following Dorset demise.

Table 15

Little Passage Complex Radiocarbon Determinations

SITE	A.D. DETERMINATION	LAB. NO.
Frenchman's Island	630±100	Beta 2141
L'Anse à Flamme	820±80	I - 11,077
Frenchman's Island	850±110	Beta 3767
Frenchman's Island	990±80	Beta 3766
Port au Port	1160±70	Beta 7779
Frenchman's Island	1260±60	Beta 3765
Inspector Island	1260±40	Beta 3938
Inspector Island	1340±60	Beta 6730

Whether or not this coastal re-occupation represents natural population increase or immigration of people awaits further archaeological data.

The ancestors of the people who used Little Passage lithic materials remain unknown. No southwest coast site contains the Indian cultural time depth to suggest the cultural evolution of this complex. Little stylistic similarity exists between Little Passage and Beaches Complex lithics. Only the two side-notched projectile points and possibly the large rhyolite side-scrapers of the undetermined cultural component at L'Anse à Flamme hint of any cultural relationship.

In Labrador it is during the late Archaic/ Intermediate Indian period that lithic assemblages of side and corner-notched projectile points, flake points, convex base bifaces, thumbnail scrapers and linear flakes first appear in Labrador (Madden n.d.:113). It is also during this period that Ramah chert appears in southern Labrador and at Saunders Complex sites on the central Labrador coast. Its distinctive lithic properties cause a minor technological revolution and a marked improvement in the quality of tools after ca 3000 B.P. Its use endures throughout the following period of Labrador prehistory with Point Revenge peoples, who, despite seemingly being cut off from its source, continued to make 95 percent or more of their stone tools from Ramah chert (Fitzhugh 1978:164). Recent Indian cultures on the Island found a high quality

green chert which appears to have the flaking qualities of Ramah. It is possible that the near exclusive use of Ramah chert in Point Revenge, and blue/green and green cherts in Little Passage has superficially obscured similarities between the two.

Five southwest coast Little Passage sites and the subsequent finding of similar sites elsewhere around the Island permits some very preliminary statements concerning settlement pattern. Two southwest coast sites--L'Anse à Flamme and Upper Burgeo are situated on inner island passages; two-- Furbey's Cove II and Sot's Hole are sheltered harbours; and Isle Galet is on the lee side of an inner bay island. Frenchman's Island is on the sheltered side of an inner bay island, while Stock Cove is at the bottom of Trinity Bay. Boyd's Cove is located in Dildo Run, a protected inner island run in Notre Dame Bay. A site on the Port au Port Peninsula is located on an isthmus allowing access to two bodies of water.

The "inner" locations of many Little Passage sites seems to indicate a subsistence/settlement pattern divided between marine and interior resources. Base camps were established in the inner regions of the bays where a mix of coastal and interior resources could be procured without sustained travel.

Point Revenge sites in central and northern Labrador occur in a variety of habitats but "flat sand

terraces or beaches on protected cove or behind island barriers" (Fitzhugh 1978:167) were preferred locations. Point Revenge peoples, described as having a "modified interior" adaptation type (Fitzhugh 1972:158-159), did not choose the exposed headland locations favoured by Palaeo-Eskimos or the dunefield locations of Intermediate Indians. They were primarily oriented to the interior but made seasonal use of coastal resources.

In Labrador the same degree of site use and re-use by different cultural groups did not occur and we are left with a clearer archaeological context. It would be extremely interesting if Little Passage and Palaeo-Eskimo groups settled in different locations on the Island, however, this is not the case. The only Island site having no Palaeo-Eskimo component is Boyd's Cove, although a Late Archaic component exists on its perimeter.

The extent of Palaeo-Eskimo and Indian interaction on the Island has not been addressed in this thesis. Southwest coast survey results suggest that both culture groups did occupy this coast, usually at the same sites. Whether or not occupation was coeval is important although survey results do not clarify the question. One component site or stratigraphic separation is needed to resolve this question. There does not seem to be any similarity in the tool typology of each culture and on this coast there is little similarity in raw material selection. Only in the

areas of coastal site location and subsistence, much of which is inferred, does there appear any analogy. The utilization of the interior and its resources by both cultural groups remains an enigma.

The late prehistoric-early historic Indian occupation of the southwest coast remains obscure, the only archaeological data coming from the post-contact burial on Rencontre Island. The period following contact and the extinction of the Beothuck at the turn of the 19th century remains relatively unknown both from an historical and an archaeological perspective, although gaps are starting to be filled in with data from Boyds Cove (Pastore 1984). The whole question of Micmac, Montagnais and Inuit presence on the Island remains intriguing and unanswered. An equally important topic for investigation is the relationship of the Little Passage Complex to the Beaches Complex.

Plate 3

Maritime Archaic artifacts

a, c, d L'Anse à Flamme

b Bay de Vieux I

e Eagle Head

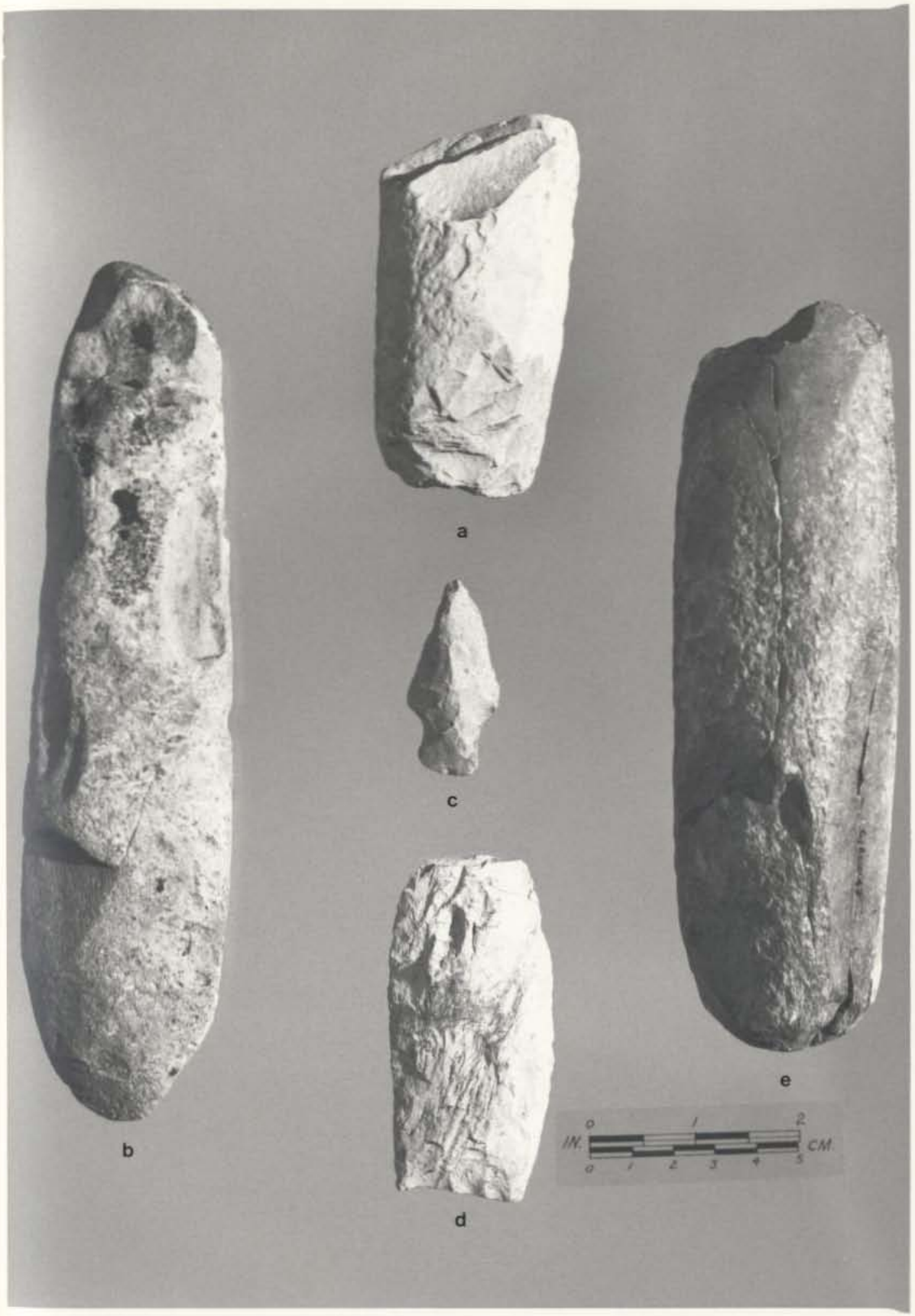

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Plate 4

Palaeo Eskimo (Dorset) endblades - L'Anse à Flamme

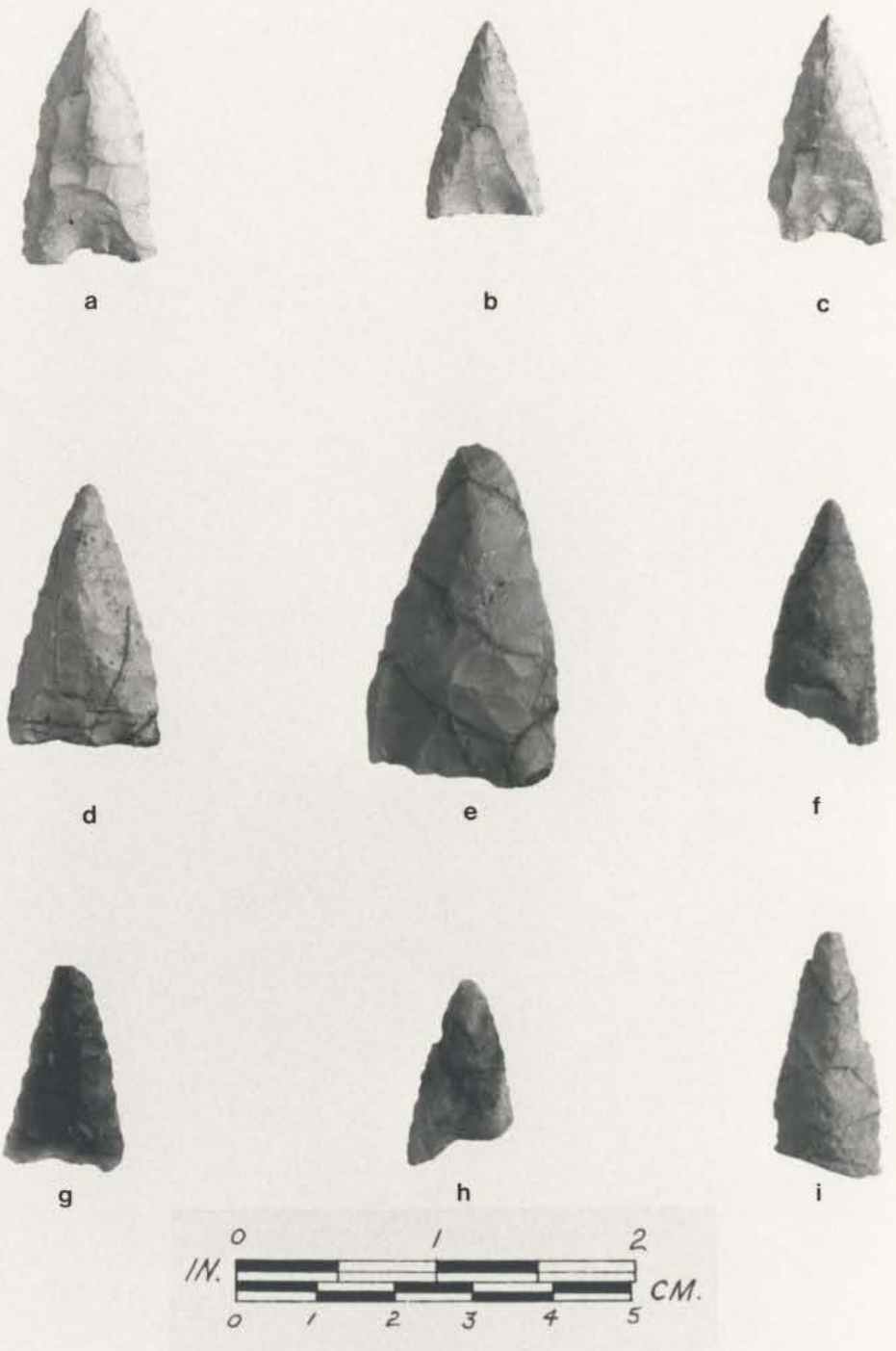
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Plate 5

Early Palaeo-Eskimo (Groswater) artifacts - L'Anse à Flamme


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Plate 6

Palaeo-Eskimo artifacts - Eagle Head

a - d Dorset endblades

e - f Groswater bifaces

g & i Dorset endscraper

h Groswater endblades

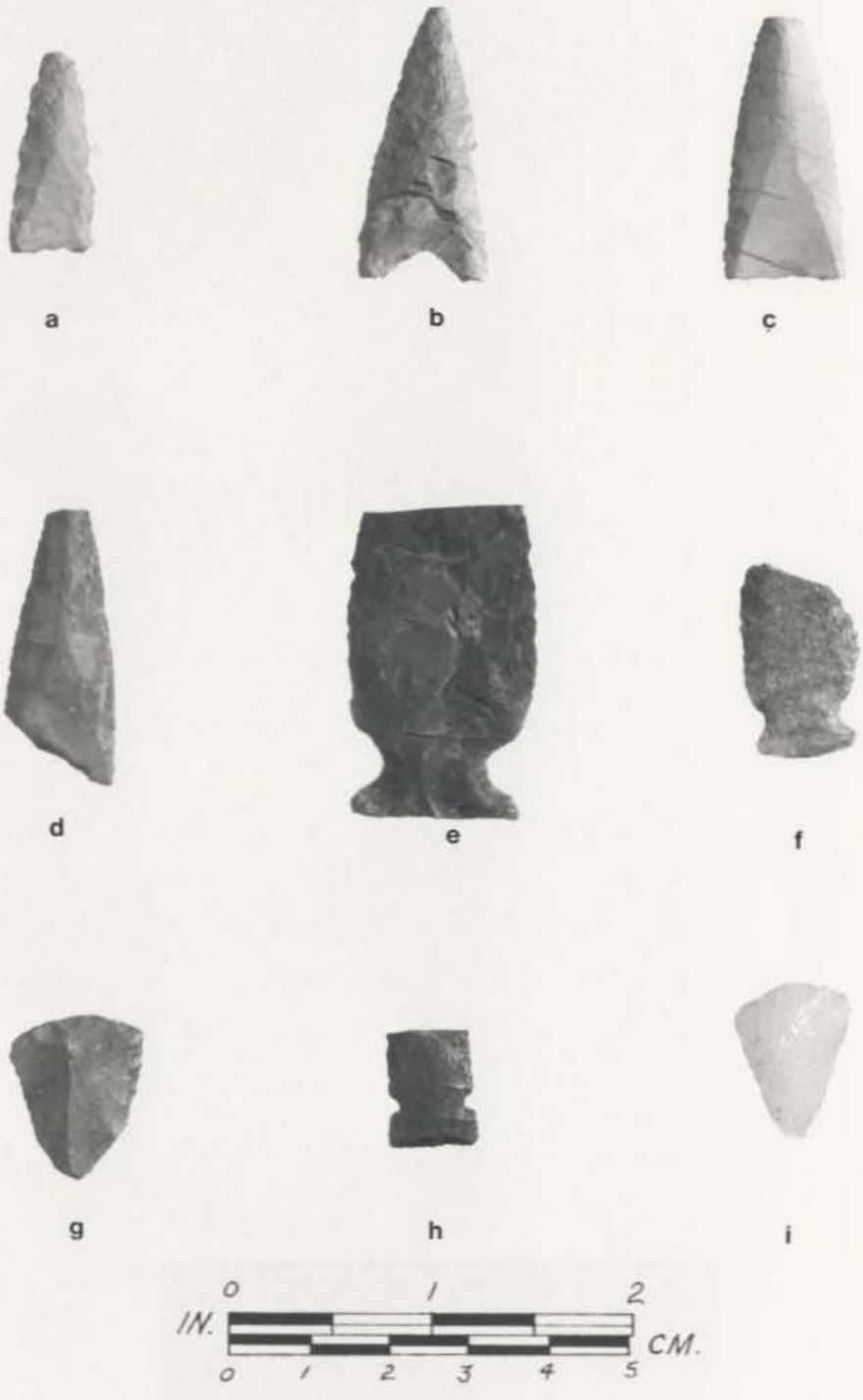
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Plate 7

Palaeo-Eskimo (Dorset) endblades - Isle Galet


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Plate 8

Palaeo-Eskimo artifacts - southwest coast

a - c Vatcher's Island (Groswater)

d - i Bay de Vieux II (Dorset)

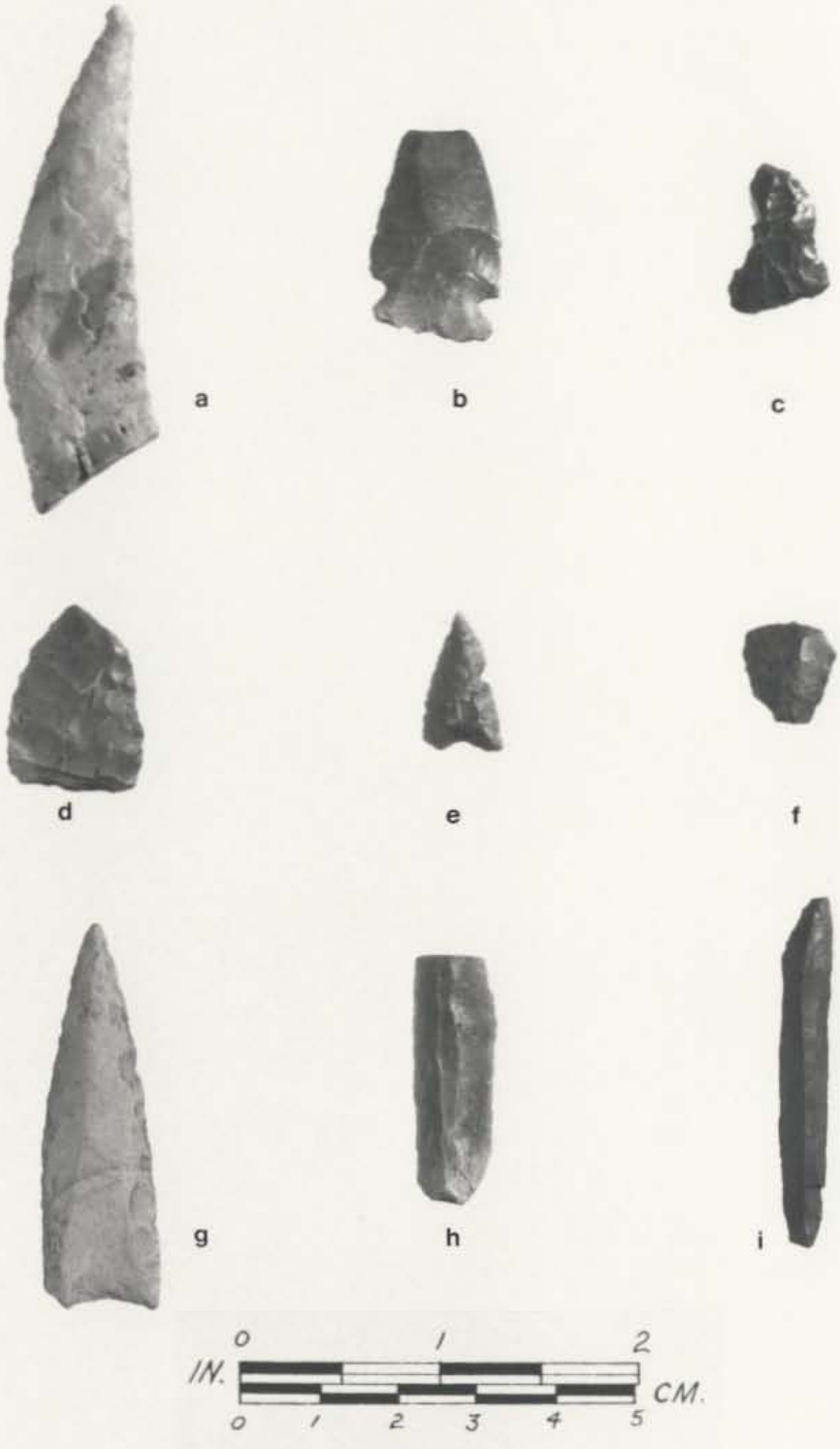
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Plate 9

Palaeo-Eskimo scrapers - L'Anse à Flamme

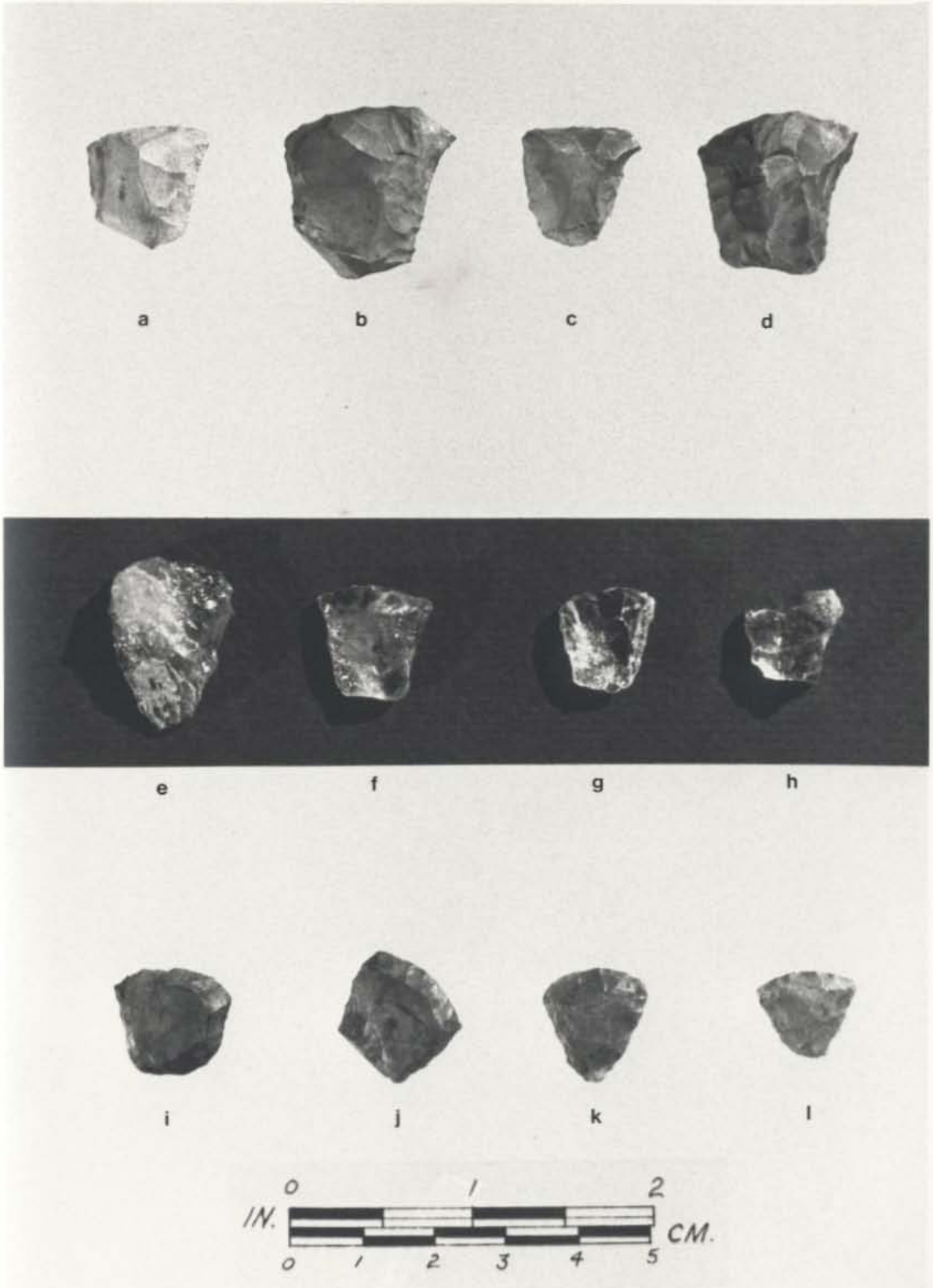
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Plate 10

Palaeo-Eskimo prepared cores and microblades, L'Anse à Flamme

a - d	prepared microblade cores
e - h	chert microblades
i - k	quartz crystal microblades
l	chert microblades

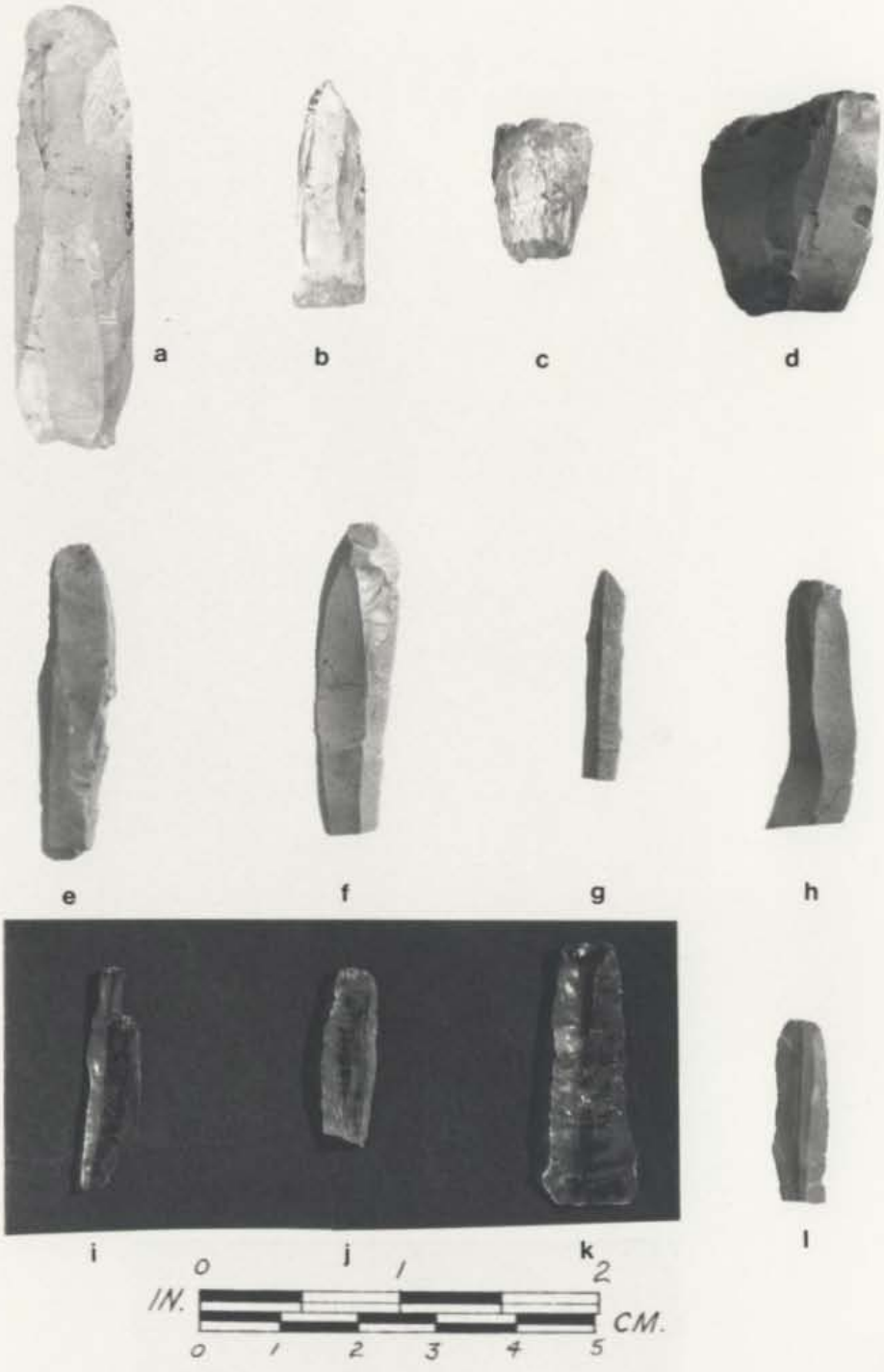
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Plate 11

Palaeo-Eskimo (Dorset) artifacts

a	Branis Point
b - c	Copper Head
d - f	Cape La Hune
g - i	Sandbanks Island

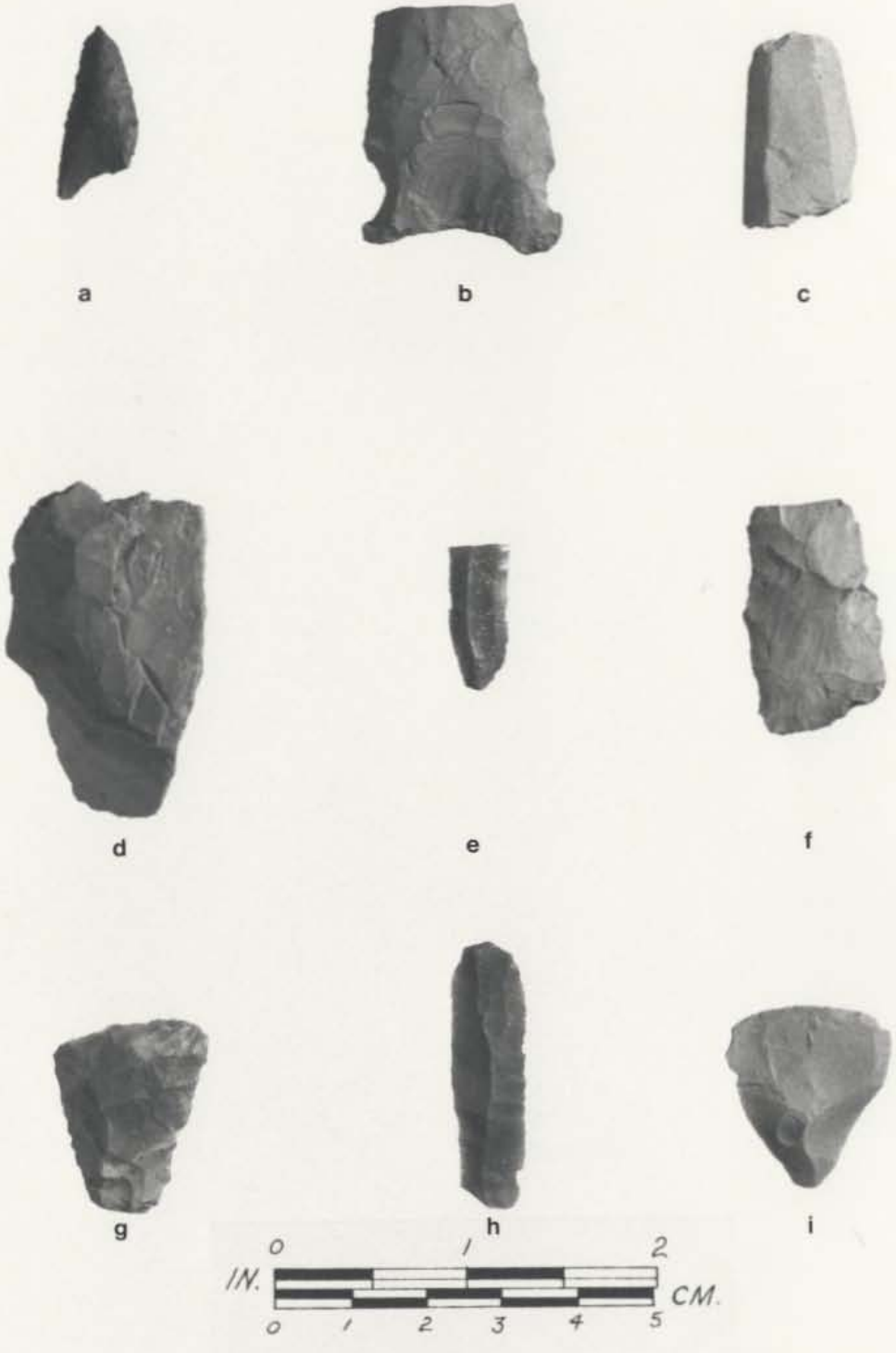
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Plate 12

Palaeo-Eskimo and Little Passage Artifacts

a – b	Furbey's Cove I
c	Island Cove
d – e	Furbey's Cove II (Little Passage)
f	Cuttail Island
g – h	Piccaire
i	Cuttail Island

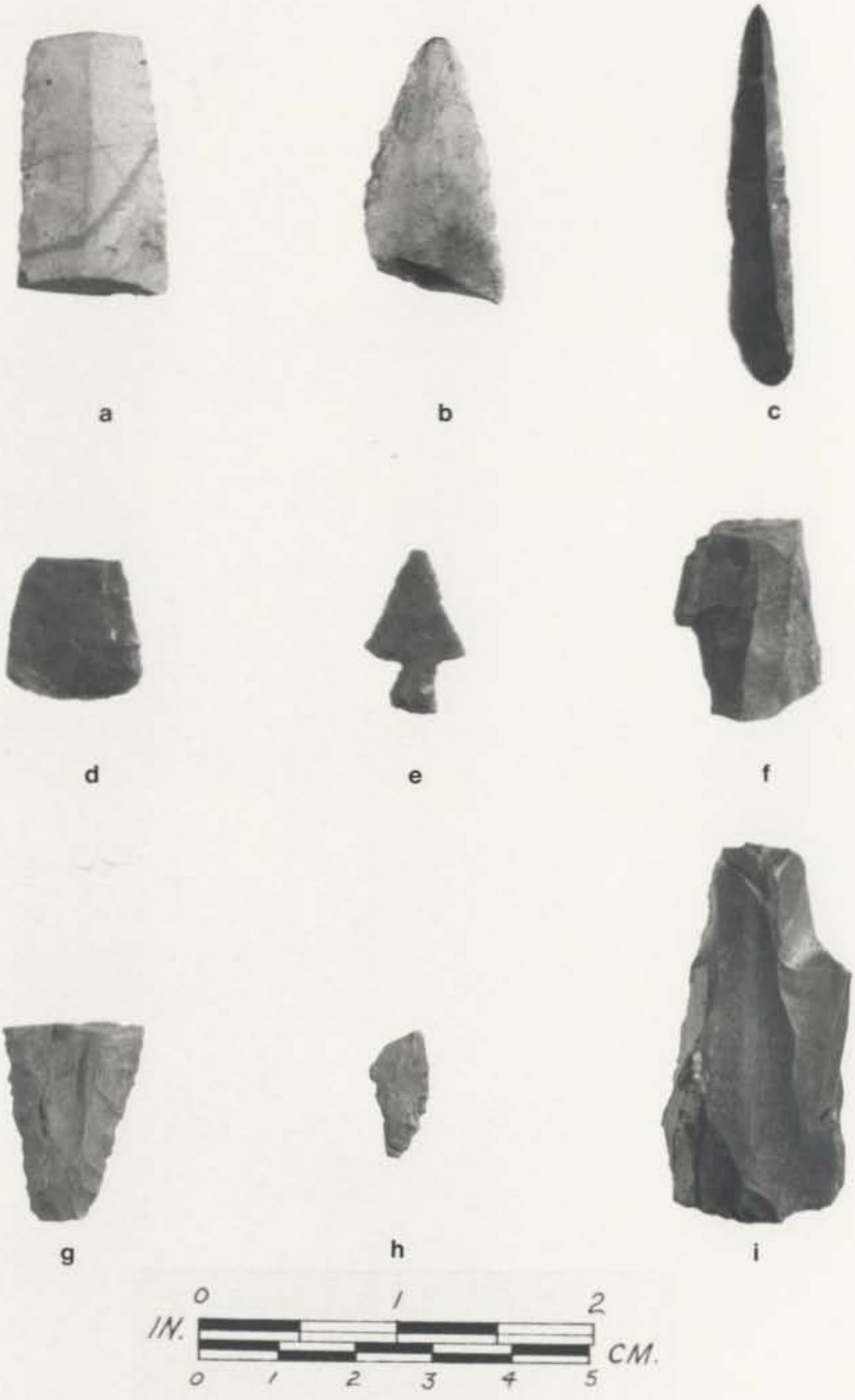
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Plate 13

Palaeo-Eskimo (Dorset) artifacts - L'Anse à Flamme

a - b scrapers

c - d bifaces

e - h biface tips

i biface mid-section

j - m biface bases

n burin-like-tool tip

o - p burin-like-took preforms

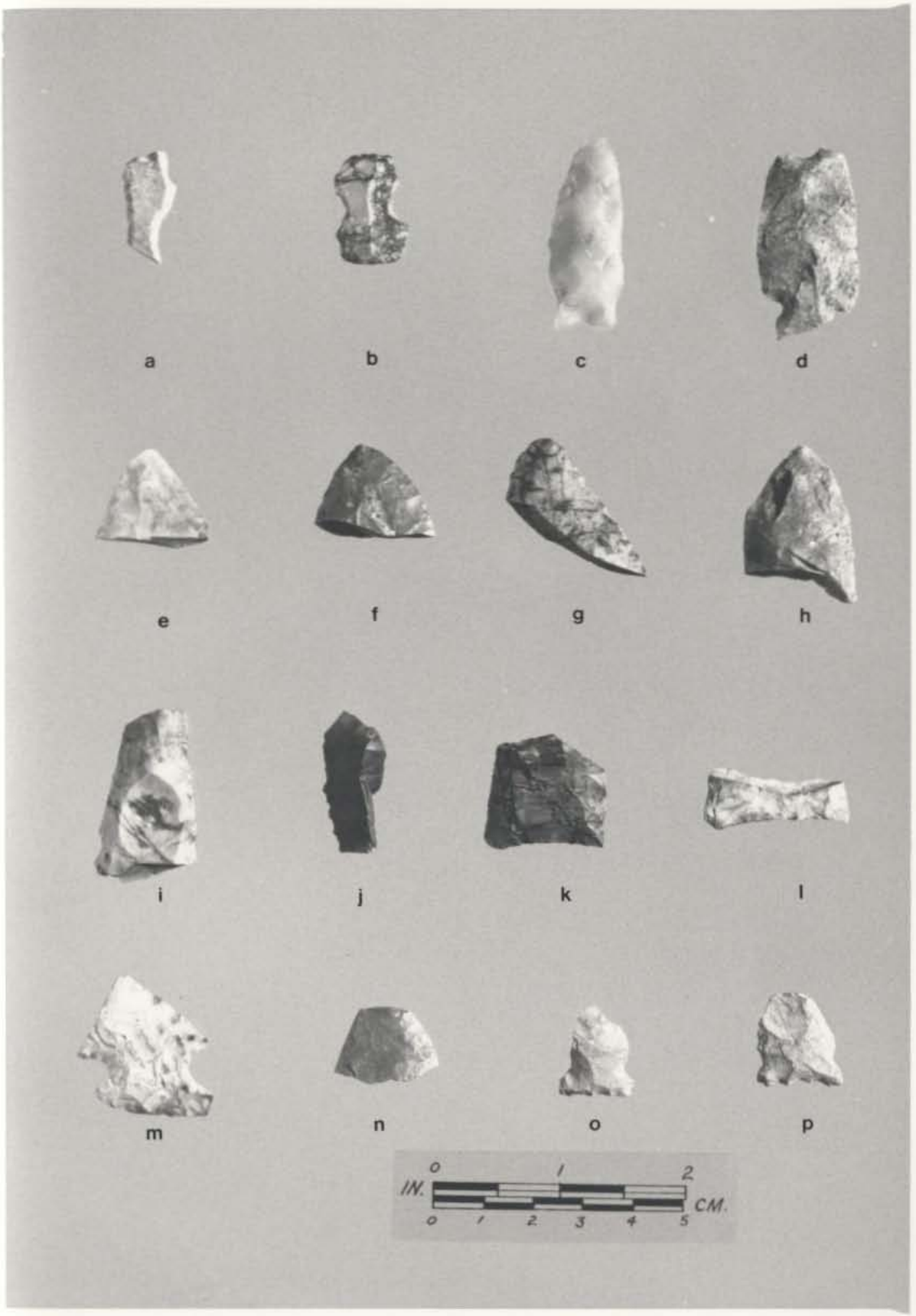
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Plate 14

Palaeo-Eskimo (Dorset) ground slate - L'Anse à Flamme


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Plate 15

Unidentified Palaeo-Eskimo tools - L'Anse à Flamme

a preform

b - c "endblade-type" tools

d - f gravers(?)

Undetermined cultural affiliation - L'Anse à Flamme

g - i biface tips

j Point Peninsula rimsherd

k biface tip

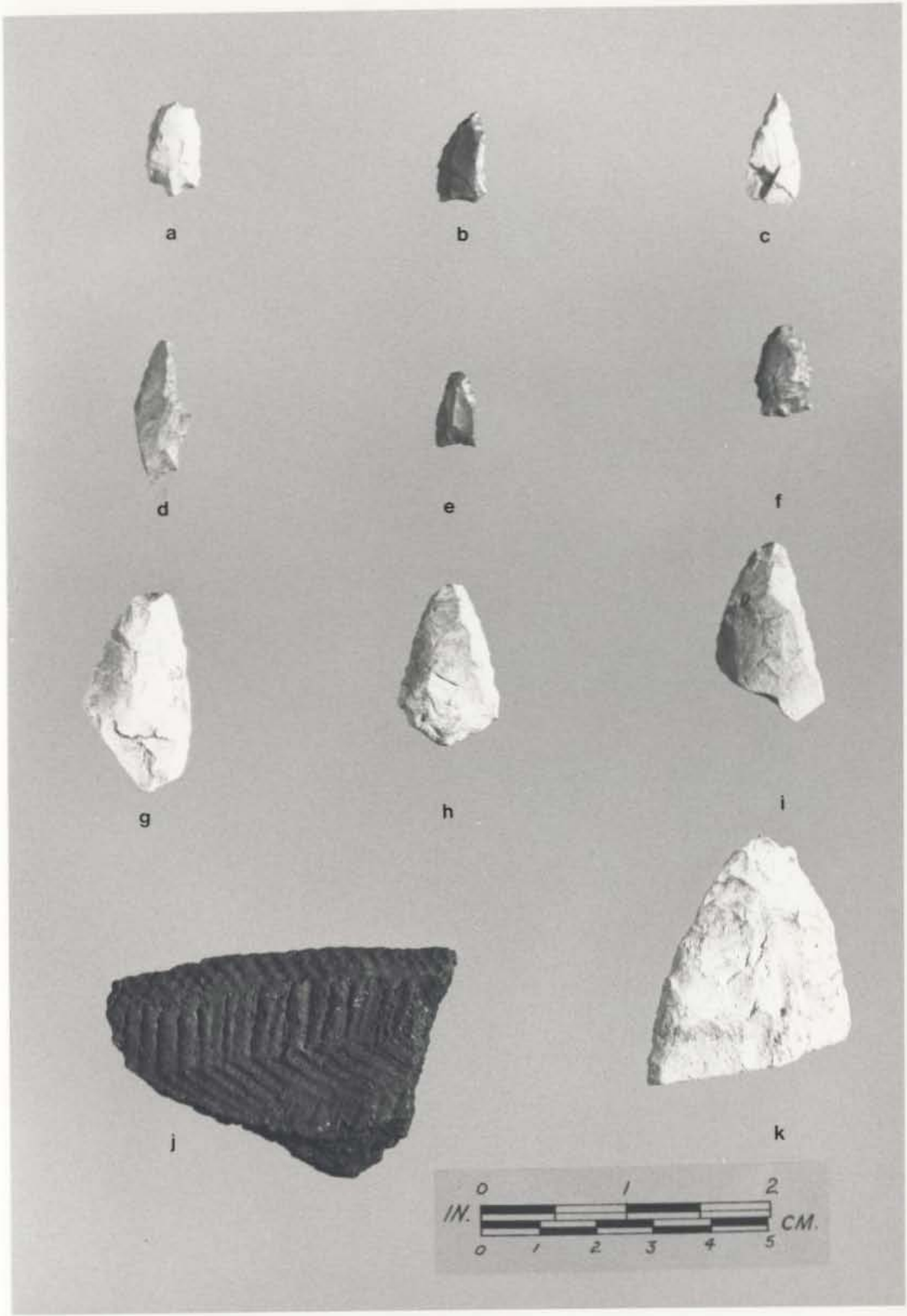
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Plate 16

Little Passage projectile points - L'Anse à Flamme

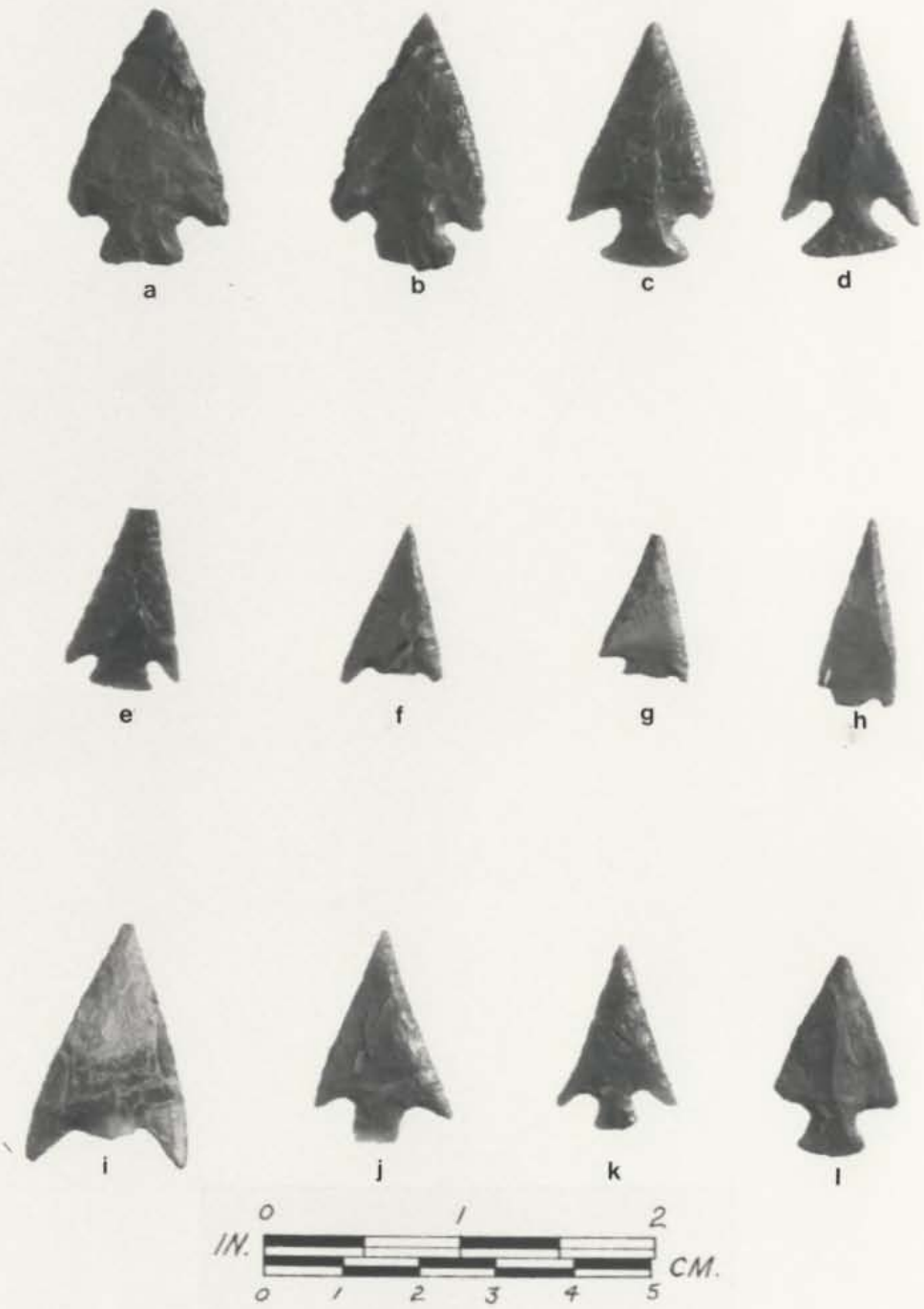
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Plate 17

Little Passage artifacts - L'Anse à Flamme

a – b side-notched projectile points

c – d projectile point preforms

e – h projectile point tips

i – l projectile point bases

m – o bifaces

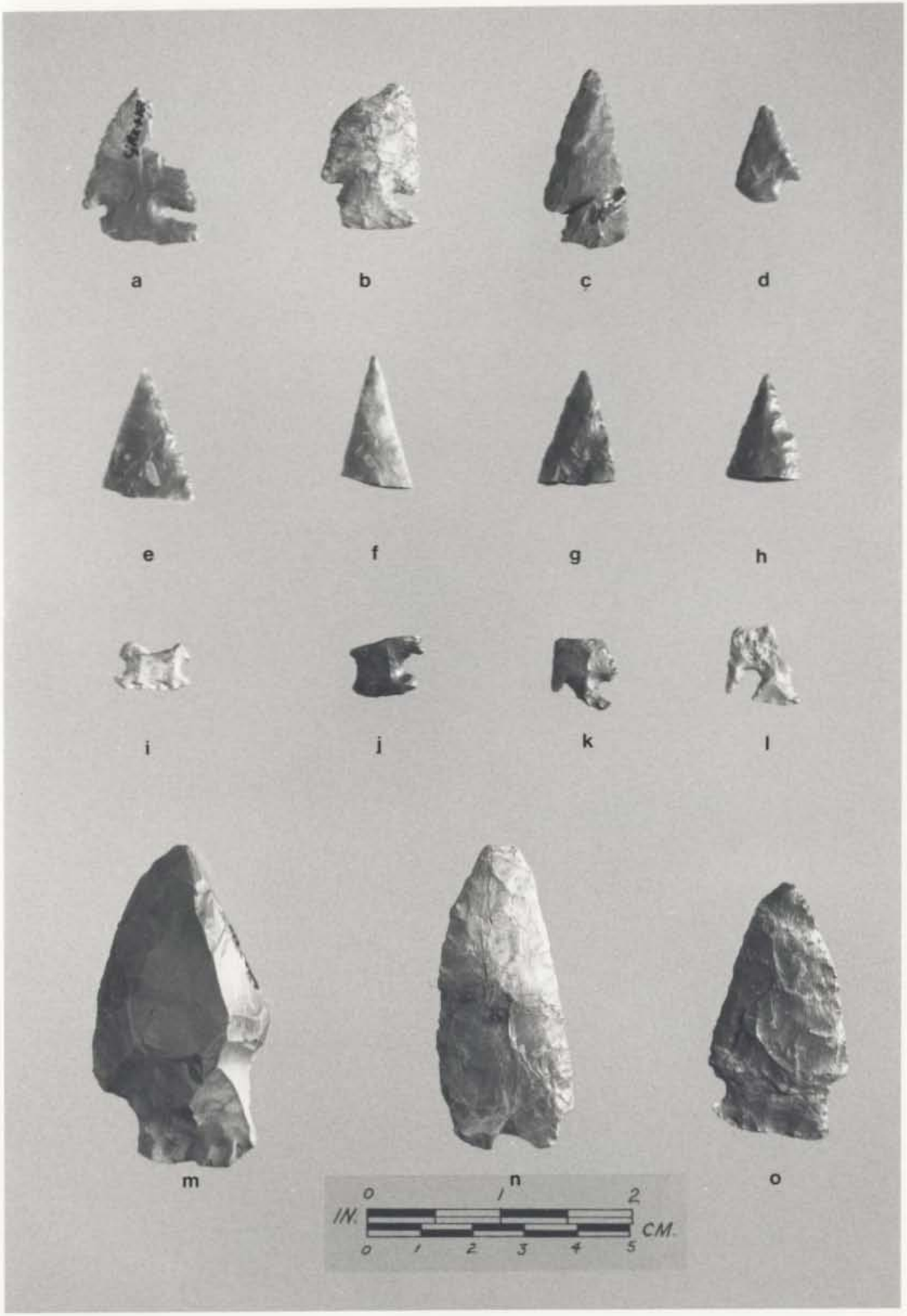
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Plate 18

Little Passage artifacts - Isle Galet

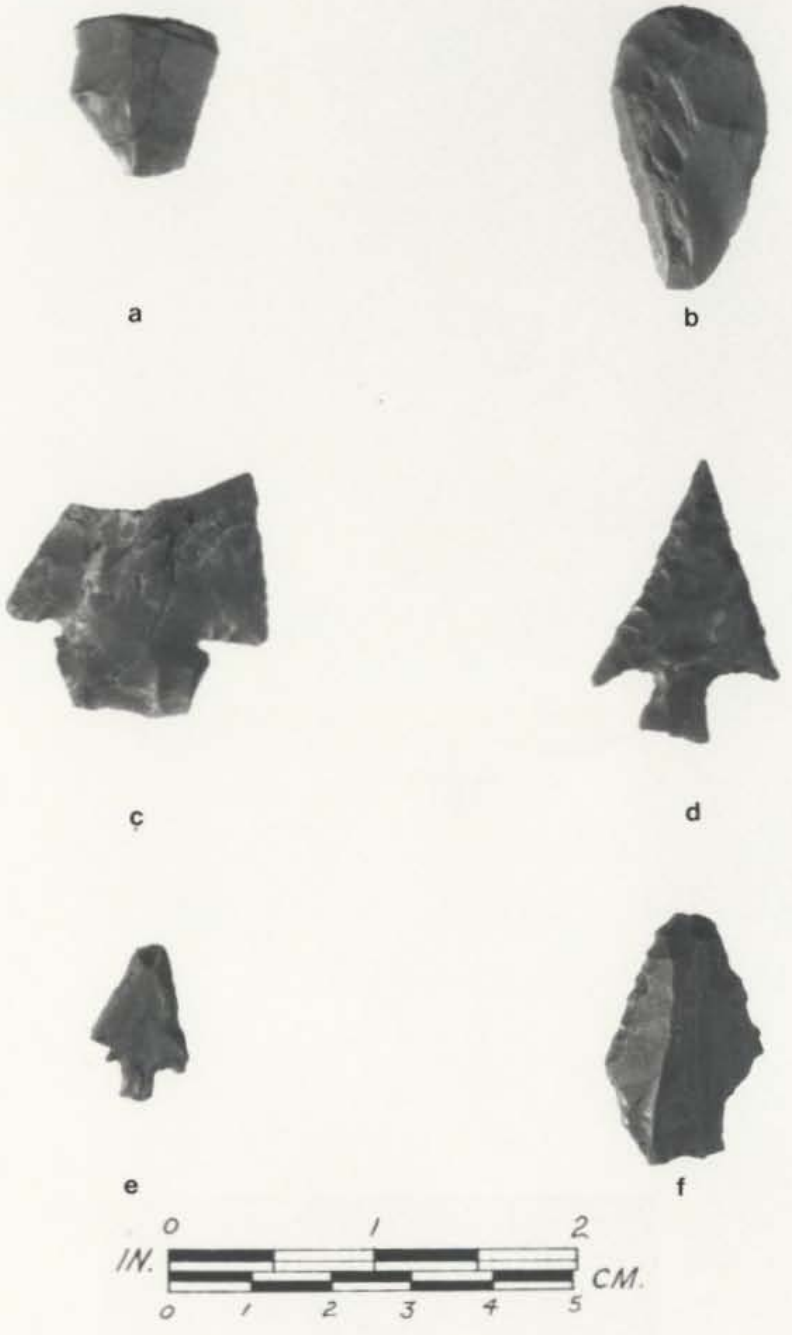
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Plate 19

Little Passage artifacts - Sot's Hole


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Plate 20

Little Passage artifacts - Upper Burgeo

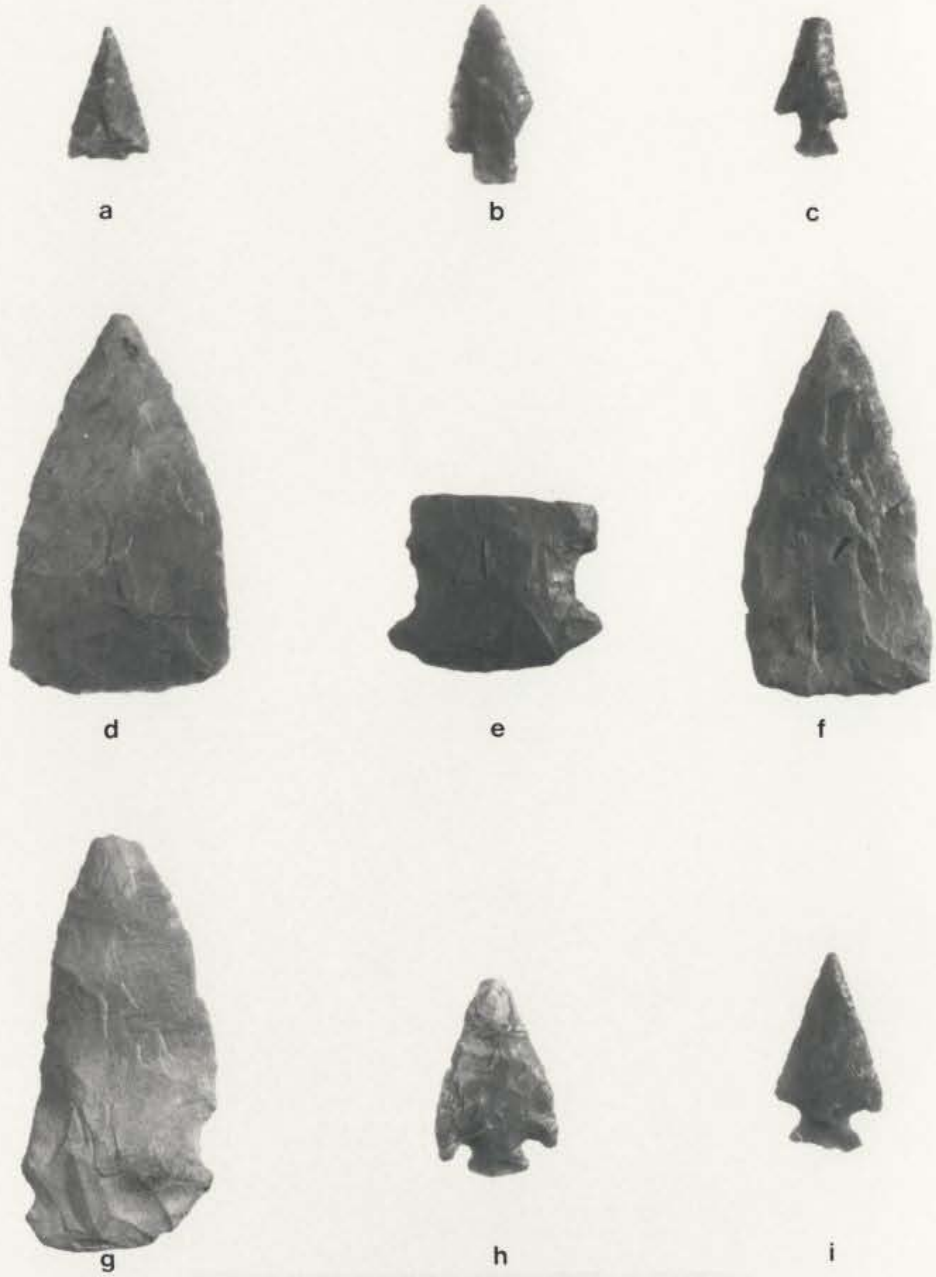
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Plate 21

Little Passage triangular bifaces - L'Anse à Flamme

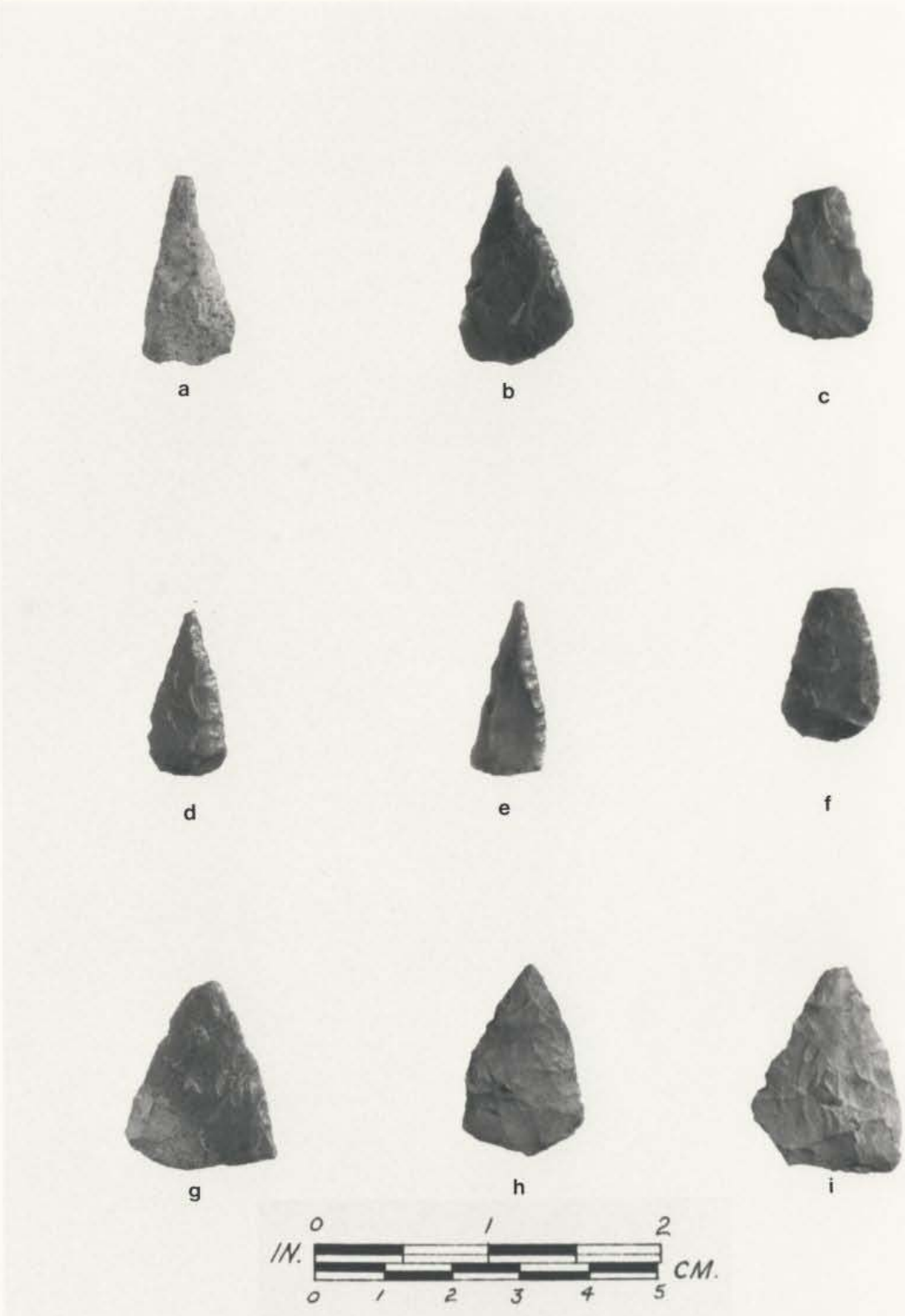
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Plate 22

Little Passage endscrapers - L'Anse à Flamme


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Plate 23

Little Passage biface fragments - L'Anse à Flamme and Upper Burgeo

a - d biface bases - L'Anse à Flamme

e - j biface tips - L'Anse à Flamme

k - l biface tips - Upper Burgeo

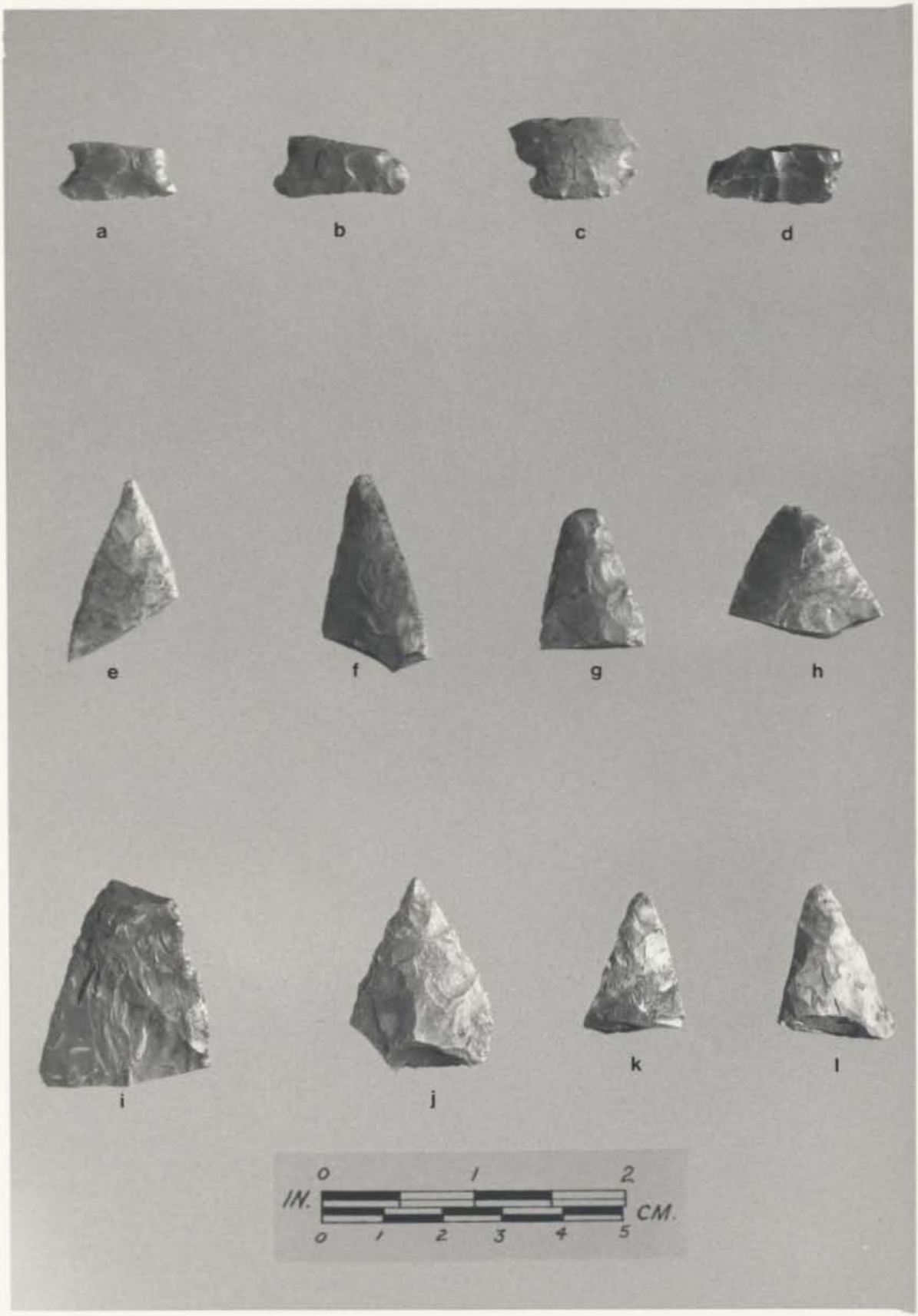
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Plate 24

Little Passage linear flakes - southwest coast

a - h L'Anse à Flamme

i - j Furbey's Cove II

k - p Upper Burgeo

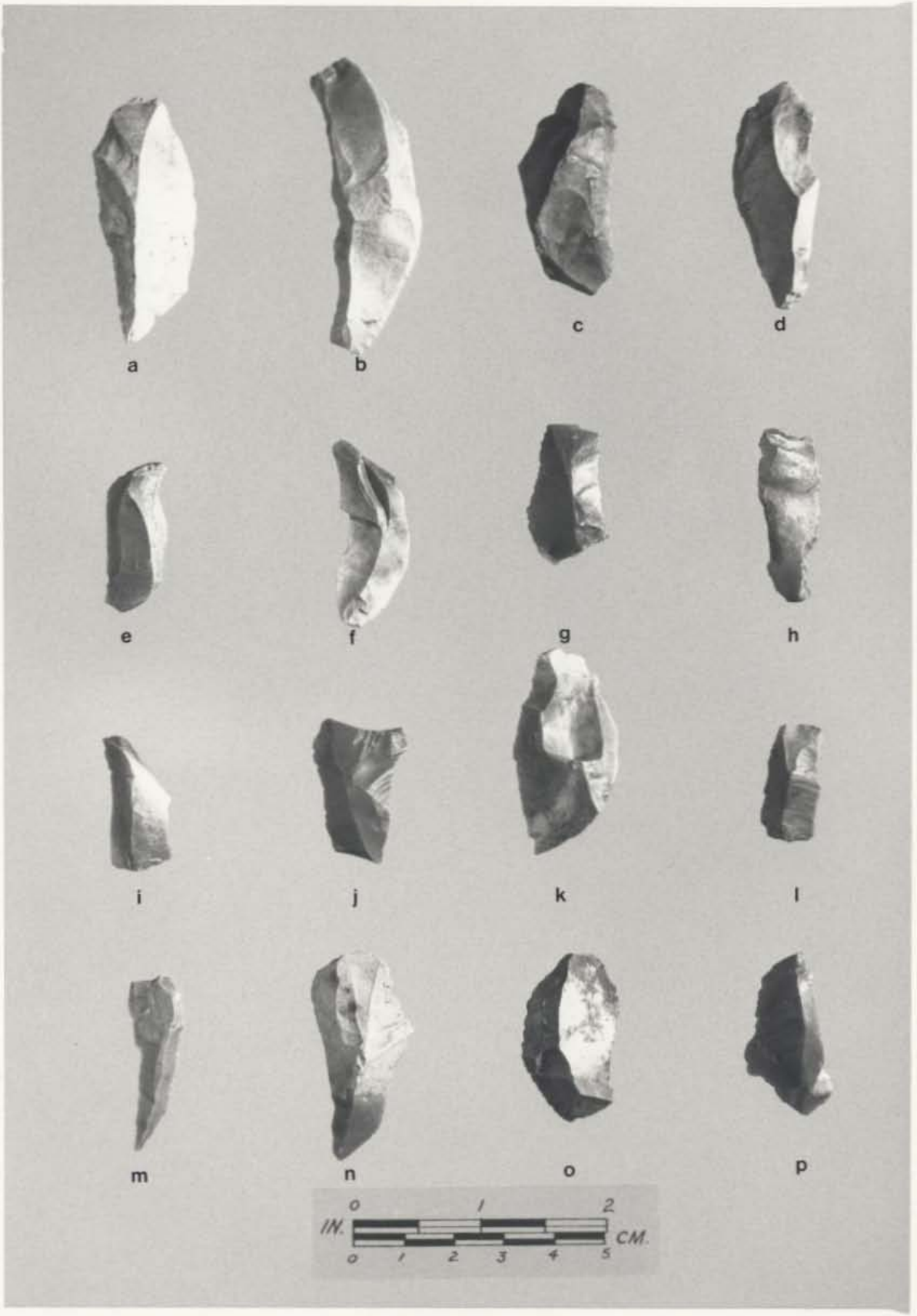
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Plate 25

Little Passage artifacts

a - b linear flake cores - L'Anse à Flamme

c - e iron pyrites - L'Anse à Flamme

d bipolar core - L'Anse à Flamme

f - g cores - L'Anse à Flamme

h - i cores - Upper Burgeo

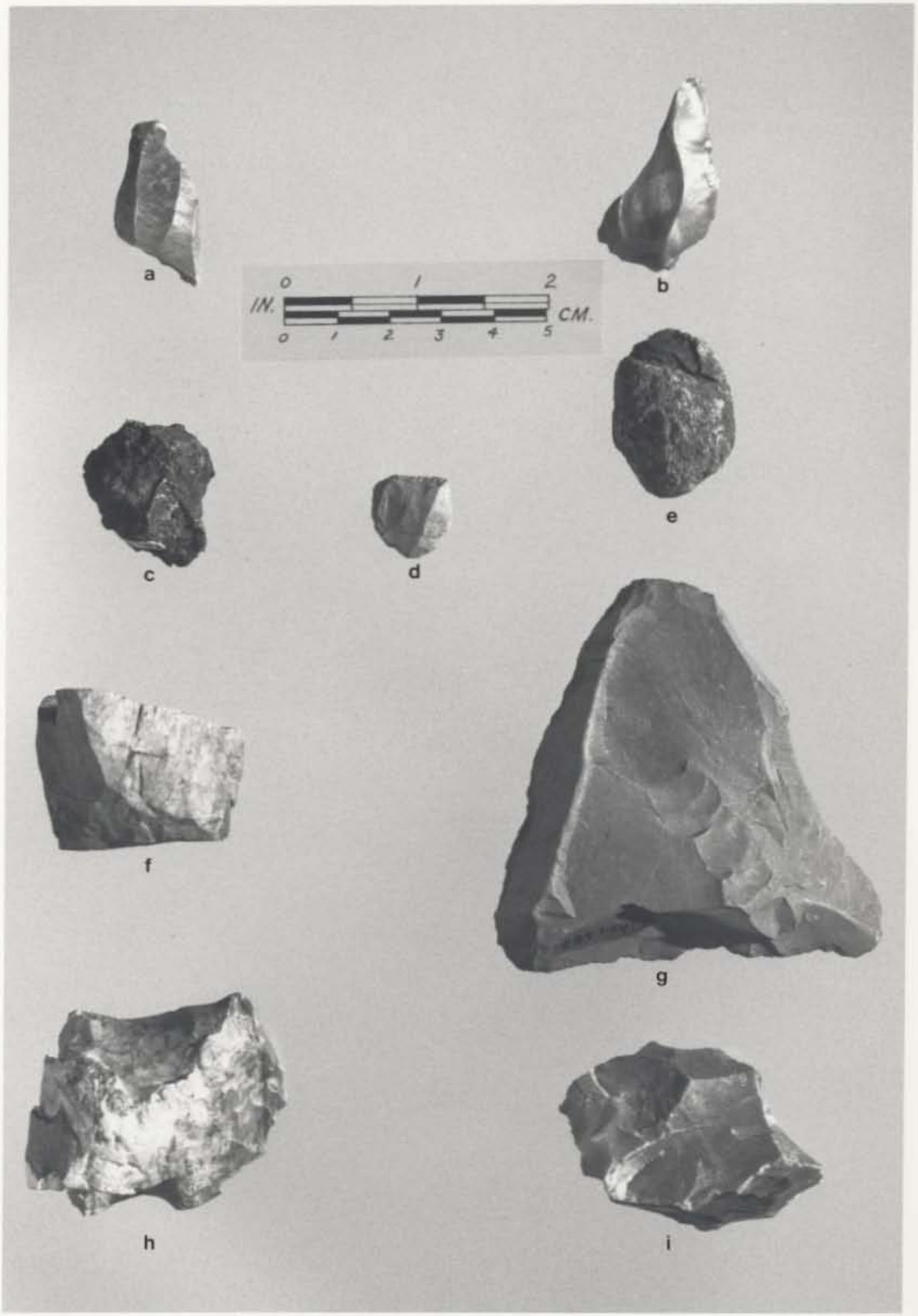
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Plate 26

Unidentified cultural affiliation - L'Anse à Flamme

a - c large side scrapers

d - f biface bases

g biface

h triangular biface base

i biface mid-section

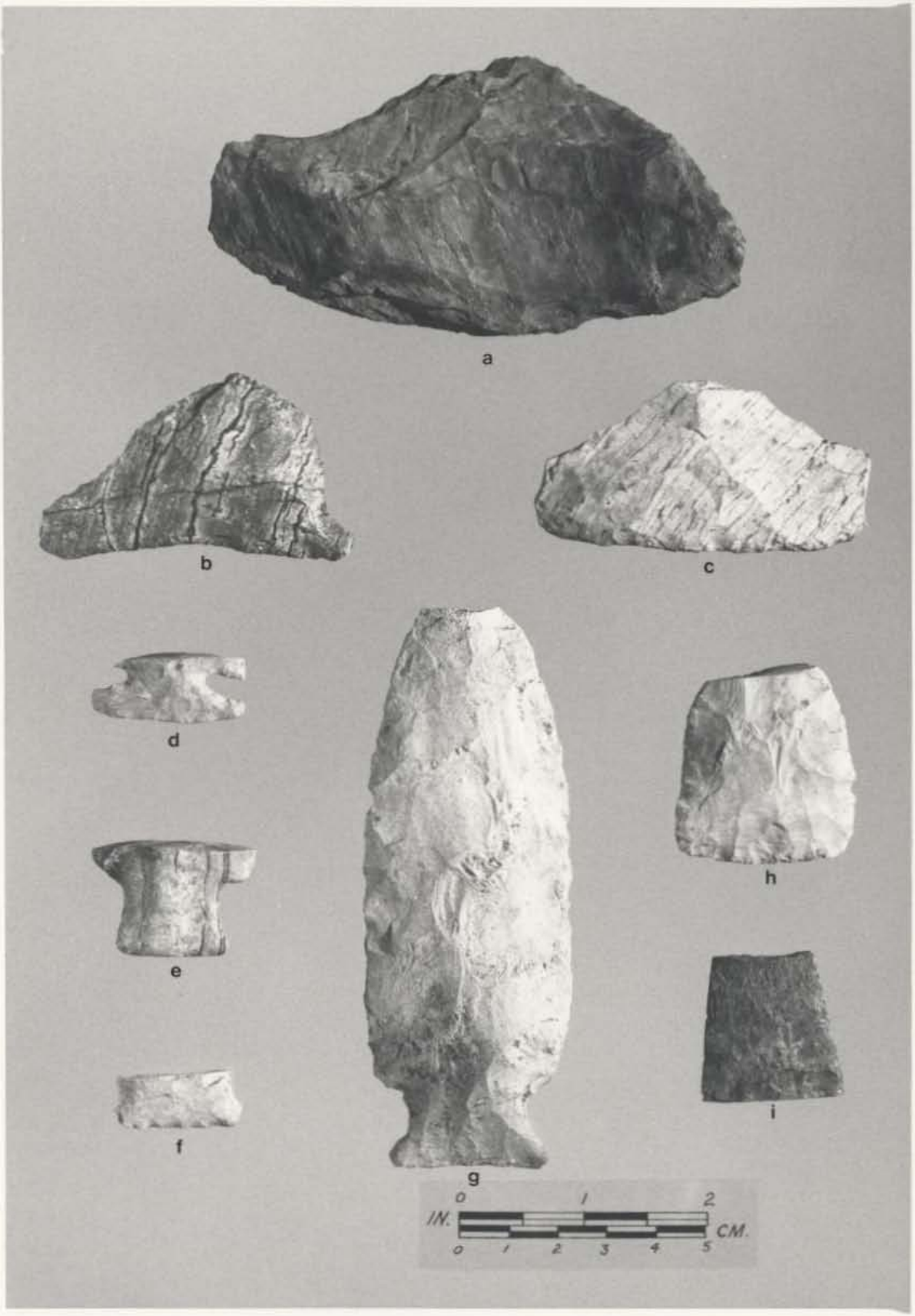
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Plate 27

L'Anse à Flamme basin





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