

ARCHAEOLOGICAL RESEARCH IN THE NORTH AMERICAN ARCTIC

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IF anthropological research in the Arctic is to achieve its broadest aims it must be concerned with such basic problems as when, where, and under what circumstances man first penetrated the far north; the ecological conditions encountered during his occupancy of the region; the mechanical, economic, and social adaptations that enabled the Eskimo, the most typical of the arctic peoples, to devise a pattern of life uniquely suited to arctic conditions; the physical and cultural relationships between the Eskimo and other peoples, and how and why their culture changed in the course of time. The practical approach to these underlying problems is through archaeology – the discovery and excavation of early Eskimo or pre-Eskimo sites which will show us how these people lived in the past. In the following summary I will discuss briefly the current status of arctic archaeology, pointing to present accomplishments and further problems toward which research should be directed.

The first systematic archaeological work in the Arctic was that of Mathiassen (1927) who excavated at old Eskimo village sites north and west of Hudson Bay in 1922–3. The result was the discovery of the prehistoric Thule culture, which was closer to that of Alaska and Greenland than it was to the culture of the present-day Central Eskimo. Mathiassen therefore concluded that the Thule people had come originally from the west, either from Siberia or Alaska, and moved into the Central Arctic around 1,000 years ago. In 1925 Jenness (1925) described another prehistoric Eskimo culture, the Dorset, which was older than and very different from the Thule. Centering around Hudson Strait, the Dorset culture extended south to Newfoundland and north to northwestern Greenland.

The first excavations in the Western Arctic were made in 1912 by Stefansson, who worked at Birnirk, an old site near Point Barrow (Stefansson, 1914). Later evidence indicates that the Birnirk was the Alaskan stage of culture ancestral to Thule (Collins, 1940). Jenness' excavations in 1926 at Cape Prince of Wales and Little Diomedé Island in Bering Strait brought to light the first traces of the Old Bering Sea culture, and marked a turning point in Eskimo archaeology (Jenness, 1928 a,b, 1933). With an estimated age of around 2,000 years, the Old Bering Sea was the earliest Eskimo culture known from the Western Arctic. However, it was already a highly developed and specialized Eskimo culture, richer in many ways than that of the modern

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Eskimo, especially in its elaborate and sophisticated art style. Later investigations on St. Lawrence Island brought full information on the Old Bering Sea culture, and on an intermediate phase, the Punuk, which was contemporaneous with the Canadian Thule culture (Collins, 1929, 1935, 1937; Geist and Rainey, 1936; Rainey, 1941). The results of the St. Lawrence investigations, like those of Mathiassen in the Central Arctic, pointed strongly to the conclusion that Eskimo culture was a product of the Old World, for the basic features of the Old Bering Sea culture were much more Asiatic, or Eurasiatic, than American (Jenness, 1933, 1941; Collins, 1937, 1940).

De Laguna's excavations at Cook Inlet (1934), those of Hrdlicka (1944) on Kodiak Island, of Weyer (1930) on the Alaska Peninsula, and of Jochelson (1925), Hrdlicka (1945), Laughlin (1951, 1952 a,b), Spaulding (1953), and Bank (1953) in the Aleutians, have brought valuable information on prehistoric culture development in the southernmost part of the Eskimo territory. The earliest stages of culture in south Alaska were more Eskimoid than the later, when Indian influences began to be felt. Comparisons with northern Alaska indicated that the south Alaskan culture was basically Eskimo and that its carriers had left the Bering Strait region before the time of the Old Bering Sea culture, a deduction that is borne out by radiocarbon dates of $3,018 \pm 230$ years for early Aleutian and $2,258 \pm 230$ years for early Old Bering Sea (Okvik).

The Ipiutak culture discovered at Point Hope on the arctic coast of Alaska by Rainey, Larsen, and Giddings in 1939 is of particular importance because of its spectacular character and the far-reaching theories that have been built around it (Larsen and Rainey, 1948). In art style and many of its implement types Ipiutak closely resembled Old Bering Sea, especially the earliest phase of that culture, the Okvik. In other respects it was very different from Old Bering Sea or any other Eskimo culture. It lacked such typical Eskimo features as lamps, pottery, sleds, the bow drill, and rubbed slate blades, and possessed many curious ivory carvings, which were placed with the dead as burial offerings. Blades for tools and weapons were all of chipped stone, and some of the forms closely resembled those found at early Neolithic sites in Siberia. The Ipiutak people knew the use of iron, and this, together with the fact that some of their animal carvings and religious and ceremonial practices were strongly reminiscent of the Siberian bronze and iron ages, led Larsen and Rainey to suggest that the Ipiutak people had lived originally along the lower Ob' and Yenisey rivers and that they had migrated to Alaska around the first or second centuries A.D. On the other hand, the Ipiutak culture was also thought to have been basically related to that of inland Eskimo peoples such as the Caribou Eskimo west of Hudson Bay and the Nunatagmiut of interior Alaska, as well as to the prehistoric Dorset, Kachemak Bay, and Aleutian cultures. Ipiutak was thought to represent the type culture of a Palae-Eskimo complex from which all other Eskimo cultures had been derived. Some of the basic assumptions of this new theory of the origin of Eskimo culture have been questioned by Collins (1951, 1954 a,b) who, in the meanwhile (1943) had advanced the

theory that Eskimo culture was of Mesolithic origin, because of resemblances between the earliest Eskimo cultures in Alaska, the early Siberian Neolithic, and the Mesolithic of northern Europe.

Giddings (1949, 1951) at Cape Denbigh and Larsen (1950) at Kuskokwim Bay have excavated sites with Ipiutak-like culture (but containing lamps, pottery, the bow drill, and rubbed slate implements), indicating that the culture of the Alaskan Eskimo of the Bering Sea coast region rested at least in part on an Ipiutak foundation, as postulated by Larsen and Rainey (1948). Or more properly it might be said, on an "Ipiutak-like" foundation, for it seems likely that the more widespread Ipiutak-like culture was the base from which the more localized Ipiutak culture proper developed.

The oldest cultural remains thus far found in the Eskimo territory are those of the Denbigh Flint Complex, discovered by Giddings in 1948 at Cape Denbigh on Norton Sound. It was found at the base of a stratified site beneath accumulations of Ipiutak-like (Iyatayet A, A¹ in Table 1) and later Eskimo material. The Denbigh Flint Complex is characterized by thin lamellar flakes and the flint cores from which they were struck, small finely chipped blades made from such flakes, a few Yuma- and Folsom-like blades, and several types of burins—specialized bone-grooving tools characteristic of the Upper Paleolithic and Mesolithic of the Old World, but not previously known from America (Giddings 1949, 1951). Material similar to that from Cape Denbigh has also been found at several sites near Anaktuvuk Pass in the Brooks Range in the interior of northern Alaska (Solecki, 1951; Solecki and Hackman 1951; Irving 1951, 1953), and some of the Denbigh implement types have been found at other inland locations: Fairbanks (Nelson, 1937; Rainey, 1939), the lower Tanana River (Rainey, 1939), Kluane Lake (Johnson, 1946), and the MacKenzie River drainage (MacNeish, 1954).

The presence of a few fluted points and Yuma-like blades at Cape Denbigh and geological indications that the site might be of considerable antiquity (Hopkins and Giddings, 1953) have sometimes been interpreted as indicating a relationship between the Denbigh Complex and the Paleo-Indian or Early Man complexes of western North America. However, the Yuma- and Folsom-like blades at Denbigh may be relics of an earlier period, and not evidence of a direct relationship with Paleo-Indian (Wormington, 1953; Collins, 1953 a,b). Consistent with this view is the discovery by MacNeish (1954) of Paleo-Indian type material (Sandy Lake) underlying microlithic Denbigh-like material (Pointed Mountain) near Fort Liard, N.W.T.

On the other hand, there are indications of a cultural connection, despite a great time gap, between the Denbigh Flint Complex, pre-Dorset and Dorset-like cultures in Canada and Greenland, and the typical Dorset cultures of these regions (Collins, 1951, 1953 a,b, 1954a; Knuth, 1952; Meldgaard, 1952; Harp, 1953). There are also significant resemblances between some of the Denbigh implements and those of the much later Ipiutak culture (Giddings, 1951; Collins, 1951, 1953b, 1954a; Harp, 1953). It appears, therefore, that the Denbigh Flint Complex was one of the sources, perhaps the principal source, from which Eskimo culture developed. Though the Denbigh Complex and

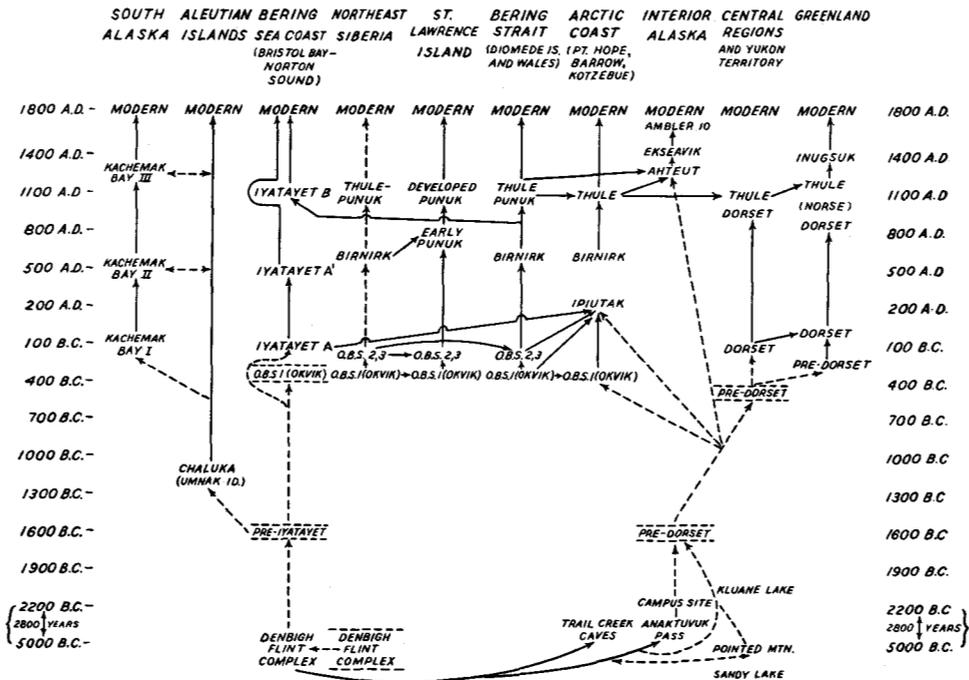
later culture stages related to it seem to have extended from Bering Sea to Greenland, it was not entirely, or perhaps even primarily an American phenomenon. Recent reports by Russian archaeologists have described Mesolithic sites in Siberia containing burins, lamellar flakes, and other stone implements like those found at Denbigh. These Siberian sites do not stand in isolation; rather, they are part of the Eurasiatic Upper Paleolithic-Mesolithic continuum. This suggests that the pre-Eskimo Denbigh Flint Complex as known in Alaska may eventually be revealed as an easterly extension, on American soil, of a widespread Eurasiatic culture of Mesolithic age from which the earliest forms of Eskimo culture were derived.

Problems and research needs in Archaeology

In Alaska the principal tasks for archaeology may be summarized as follows: (1) Discovery and investigation of early pre-Eskimo sites on the coasts and in the interior to determine the relationship between the Denbigh Flint Complex and related culture phases on the one hand and the formative stages of Eskimo culture and early Indian manifestations on the other; (2) the delineation of inland patterns of prehistoric Eskimo culture, only one of which, that on the Kobuk River, is thus far known (Giddings, 1952); (3) additional excavations to determine the interrelationship that existed between the three principal early Eskimo culture patterns in Alaska, (a) the Aleutian and south Alaskan culture, extending in a variety of local forms from Prince William Sound to Bristol Bay, (b) the Old Bering Sea culture, known in its most fully developed form on the Siberian coast of Bering Strait and on St. Lawrence Island and the Diomedede Islands, and in its Okvik phase also on the north coast of Alaska and possibly at Kuskokwim Bay, and (c) the Ipiutak culture, known from Point Hope, Kotzebue, and Seward Peninsula, and in related form on the Bering Sea coast from Norton Sound to the Kuskokwim.

The nature of the archaeological problems is illustrated to some extent by Table 1, which attempts to place known and postulated culture stages in chronological order and to trace lines of continuity and development. Solid lines and directional arrows indicate cultural relationships and sequences for which there is archaeological evidence, broken lines hypothetical movements and sequences which appear probable but for which direct evidence is lacking. Broken lines are also used to indicate hypothetical culture stages. The chronological positions of Chaluka on Umnak Island, Old Bering Sea 1 (Okvik), and Iyatayet A, A¹, and B are based on radiocarbon dating, and Ahteut, Ekseavik, and Ambler Island on dendrochronology. The names Iyatayet A and A¹ are used here, for convenience, to designate Giddings' "middle levels" of Ipiutak-like or Palae-Eskimo culture at the Cape Denbigh site; Iyatayet B is the "Neo-Eskimo" layer containing Punuk type material at the same site. O.B.S. stands for Old Bering Sea, and the numerals 1, 2, and 3 for its stages, based mainly on art styles. Ipiutak, because of its close resemblance to Old Bering Sea, is placed around A.D. 300 rather than A.D. 1,000, its radiocarbon date.

Table I. Known and postulated culture stages



In approaching these problems, in Alaska or other arctic areas, close attention should be given to the environmental background, past and present, with a view to tracing possible changes in culture and ecology correlated with climatic fluctuations which have occurred during the period of human occupation. This calls for the preservation and study of all faunal remains: the number and relative abundance of different species of mammals, birds, fish, and molluscs at neighbouring sites or at different levels of the same site; the state of preservation and patination of such animal remains and the associated bone and ivory artifacts, and whether or not this is correlated with the presence or absence of permafrost; indications of former absence of permafrost (organic materials absent or poorly preserved) at sites now frozen; comparison of earlier faunal assemblages and those of today; the location of old sites in relation to present and older shore lines and terraces; presence of old sod lines and the nature of the soil, sod, and the plant cover at sites of different age; state of preservation of house ruins, their external appearance, degree of fill, depth of sod, and nature of surface vegetation; collection of soil, sod, bone, wood, charcoal, and other organic materials for pollen, chemical, and radiocarbon analyses.

Excavations almost anywhere in Alaska where old sites exist may be expected to contribute to solution of the problems. In the Aleutian Islands, for example, where there seems to have been considerable cultural variation

from island to island, there is need for additional local chronologies to illustrate growth sequences in different parts of the archipelago, and for comparison between these and culture sequences elsewhere, particularly Prince William Sound, Cook Inlet, Kodiak, the Alaska Peninsula, and the Bristol Bay-Kuskokwim area. The Aleut practice of burying their dead in village refuse heaps presents an unusual opportunity to correlate physical type with culture change. The early Aleuts were longer headed than the modern, though the early type has persisted in the more westerly islands (Laughlin, 1952b; Laughlin and Marsh, 1951). It would be interesting to know whether cultural changes in the eastern part of the Aleutians coincided with the appearance of a different physical type, the very broad and low-headed modern Aleut. We should not assume, however, that cultural impulses moved only *into* the Aleutians. The fact that Aleutian culture, on the basis of radiocarbon dating, is older than any other known form of Eskimo culture and that these islands supported a denser population than any other part of the Eskimo territory, would suggest that cultural influences had emanated from there to the mainland. To cite one possibility: the art of the modern Eskimo in the Yukon-Bristol Bay area is very much like the prehistoric Punuk art of St. Lawrence Island, and Punuk elements such as nucleated circles also occur in the Aleutians and Cook Inlet. The writer has interpreted this as indicating a southward diffusion of Punuk art from Bering Strait. However, these design elements might prove to be older in the Aleutians and on the Bering Sea coast than around Bering Strait, in which case the opposite explanation would be in order, an explanation which, by the way, would harmonize with the sudden appearance of the southwestern Eskimo type of house on St. Lawrence Island during the Punuk stage.

The Bering Sea coastal region, lying as it does between Bering Strait and the Aleutians—two centres of high but dissimilar cultural development—has long been recognized as archaeologically important, but until recently, except for Weyer's (1930) excavations at Port Moller on the Alaska Peninsula, it had remained a complete blank. Giddings' (1949, 1951) and Larsen's (1950) excavations at Norton Sound and Kuskokwim Bay, respectively, have revealed culture sequences in these localities, and information on the latter phases of prehistoric culture at Hooper Bay and Nunivak Island has been presented by Oswalt (1952) and VanStone (1954). The culture of the modern Bering Sea Eskimo seems to have developed from a foundation of Ipiutak-like culture (Iyatayet A, A¹ in Table 1) to which Punuk elements may have been added.

There is need for more precise information on the nature of the relationship between Old Bering Sea 1 (Okvik) and Ipiutak and related culture stages. Ipiutak proper (Point Hope) is closely connected with Okvik, and Okvik art is present at other sites of Ipiutak-like culture at Kotzebue Sound and Seward Peninsula (Larsen, 1951). A single example of typical Okvik art from an old site on Kuskokwim Bay, collected by E. W. Nelson in 1879 (Collins, 1940, p. 575), suggests the possibility that Okvik art may have formed part of the Ipiutak-like culture discovered by Larsen (1950) in the same region. If so, it might mean that Okvik, related to the widely distributed Ipiutak-like

culture, had originated in Alaska rather than Siberia, where it is known thus far only at old sites on the western side of Bering Strait. Excavations at additional sites in southwest Alaska, if possible at stratified sites, should elucidate this problem and provide the needed cultural chronology for the region.

Equally important would be excavations at old sites on the Yukon, Kuskokwim, Togiak, and Nushagak rivers, and on Wood River and the chain of lakes to the north, to observe the pattern of culture change produced by the transition from a coast to inland environment. The only intensive excavations of inland Alaskan sites are those made by Giddings (1952) on the Kobuk. These sites—Ahteut, Ekseavik, Old and Intermediate Kotzebue, and Ambler Island—are dated by dendrochronology and are all relatively recent, from A.D. 1250 to 1760. In Giddings' opinion the Kobuk sites are representative of an "Arctic Woodland Culture", an inland-coastal manifestation distinct from Eskimo. It should be noted, however, that the harpoon heads from the oldest Kobuk site—Ahteut, 100 miles inland from the sea—are identical in every respect with Punuk heads from St. Lawrence Island. Moreover there is close similarity, or identity, between most of the other Kobuk implements and those from coastal Eskimo sites of comparable age. This would suggest that the Kobuk culture was an inland extension of coastal Eskimo.

Giddings' Kobuk chronology should be extended by the excavation of older inland sites in an attempt to bridge the enormous time gap between Ahteut and Anaktuvuk and other pre-Eskimo inland manifestations related to the Denbigh Flint Complex. Such excavations might provide an answer to the much discussed question of inland versus coastal Eskimo origins. How many, if any, of the hundreds of old sites in the interior of Alaska—now known mainly from small surface collections of artifacts—are those of true inlanders, people who had no connection whatever with the sea? The dialect of the one remaining group of inland Eskimo, the Nunamiut of the Anaktuvuk Pass region, differs very little from that spoken on the arctic coast, and we know that the inland people in general maintained close trade relations with the coastal people, on whom they depended for seal oil, hides, and other necessities. The linguistic and other evidence would seem to indicate that the Eskimo who lived along the Colville and other rivers in the interior of Alaska in historic times were the descendants of coastal Eskimo who had moved inland to establish an economy based on caribou hunting and fishing rather than the pursuit of sea mammals. There may have been earlier inland peoples whose culture did not conform to this pattern, but this needs to be proved before assuming the existence of an inland form of Eskimo culture unrelated to that of the coasts. In this connection it should be recalled that the earliest cultural manifestation known from the Eskimo area, that of the Denbigh Flint Complex on the Bering Sea coast, had inland parallels at such sites as Anaktuvuk, Howard Pass, and Pointed Mountain.

Larsen and Rainey (1948) have assumed a dual origin for Ipiutak—an original inland base on which coastal features were superimposed. Though other facets of the Ipiutak theory seem dubious at best, the Ipiutak stone industry from all indications was related to that of the Denbigh Flint Complex,

and the intermediate stages from which this lithic component was derived may well have been inland. This is indicated in Table 1 by a broken line leading from a postulated Denbigh-derived inland culture to Ipiutak. A similar line leads to Ahteut, the oldest of the Kobuk sites, and the assumption here is the same, namely that its flint industry, and perhaps that of the arctic coast Eskimo in general, was derived mainly from inland sources.

In arctic Canada and Greenland the principal problems are those of the Thule, Dorset, and pre-Dorset cultures. In the Canadian Arctic Archipelago Thule sites have been found containing material identical with that from Alaska and the earliest Thule sites in northwest Greenland (Holtved, 1944; Collins, 1950, 1952). This would indicate that the first Thule migrants from Alaska took the far northern route, through the tier of islands north of Melville and Lancaster sounds, rather than through territory adjacent to Hudson Bay. Return movements of Thule peoples to Alaska within the past few centuries may also have followed this northern route. Additional excavations are needed to show the relationship between this northern phase of the Canadian Thule culture and that to the south which has been more strongly influenced by Central Eskimo culture.

The basic problem in the archaeology of the Central and Eastern Arctic is that of the Dorset culture and its antecedent stages. The widespread occurrence of the Thule culture in arctic Canada and Greenland, the impressive appearance of its stone and whalebone house ruins and the prevalent Tunit legends attached thereto, have emphasized the role of the Thule culture in the prehistory of the region. Dorset sites, though numerous, are much less conspicuous than those of the Thule culture. Lacking surface indications, such as the visible pits and fallen superstructures of old house ruins and the lush vegetation surrounding them, the older Dorset sites have often escaped the attention of the casual observer. The fact that they are so inconspicuous in appearance, with a plant cover differing little from that of the surrounding terrain, is in itself an indication of age, as is the further fact that Dorset material is frequently found underlying Thule house ruins or middens. Dorset sites are now known throughout the Eastern Canadian Arctic—from Newfoundland north through Baffin Island, along both sides of Hudson Bay, and on the eastern islands of the Arctic Archipelago—and in all parts of Greenland. The question is in what way and to what extent the Dorset culture may have contributed to the formation of present-day Eskimo culture of the Central regions and Greenland. We know that one important element—the dominant form of sealing harpoon head used by the Central and Greenland Eskimo—was derived from a Dorset prototype, and it is difficult to believe that this was an isolated phenomenon. Future research may be expected to reveal Dorset as the basic substratum of Eskimo culture in arctic Canada and Greenland.

Though the Dorset culture persisted into the Thule period in some parts of Canada, its roots extend much deeper. Indicative of its age is its marked variability, in contrast to the uniformity of the Thule culture remains found in the same areas. In the total range of implement types most Dorset sites differ considerably one from another, though a sufficient number of diagnostic

elements are present to distinguish all of them as belonging to a pattern which we can call Dorset. The picture that emerges is that of the rapid spread of a uniform Thule culture, which within the past 1,000 years or less was superimposed on the remnants of an ancient culture that had existed for many centuries in a variety of local forms in the same regions. Very few Dorset sites have been thoroughly explored, and because of our lack of knowledge the Dorset culture in many respects is still an enigma. There seems to be little doubt, however, as to its origin. Specialized types of implements such as burins, lamellar flakes, cores, and blades link the microlithic Dorset culture with the much more ancient microlithic Denbigh Flint Complex of Alaska. Intermediate in time between Denbigh and Dorset are several culture stages in Greenland (Knuth, 1954; Meldgaard, 1952) which in Table 1 I have listed provisionally under the general term "Pre-Dorset". The "Pre-Dorset" and earliest Dorset stages have been placed as late as 400 B.C. to A.D. 200 because of geological indications that the shores of Hudson Bay were subjected to marine submergence following the final ice withdrawal from around 1,000 to 500 B.C. The Hudson Bay littoral, where some of the Dorset and pre-Dorset sites are located, according to this theory could not have been occupied by man prior to 500 B.C. If this theory could be disproved and the time of the marine submergence pushed back a thousand years or more, the situation would be more in conformity with archaeological indications of a greater age for the Dorset and preceding culture stages in this region.

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