MEN OUT OF ASIA; AS SEEN FROM THE NORTHWEST YUKON

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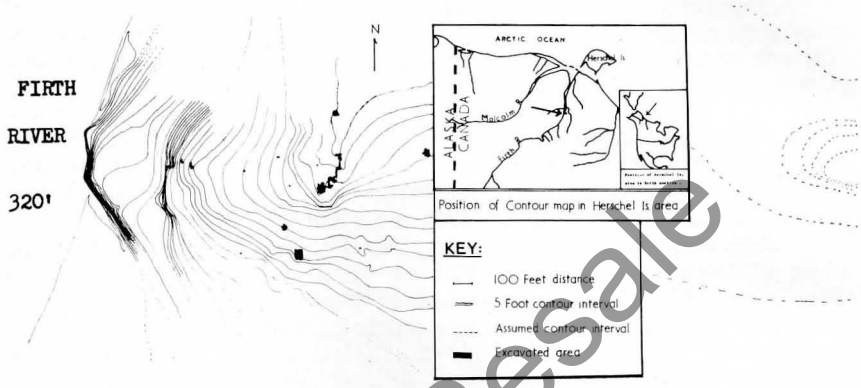
During the last ten years the National Museum of Canada has been undertaking archaeological survey and excavations in northwestern Canada in an attempt to elucidate some of the problems concerning the prehistoric peopling of the New World. This present paper is but an interim report of our activities and will be specifically concerned with one are (that seems to be particularly relevant to the problem we are investigating) that is, the Yukon Arctic coast.

During this time we have done considerable survey. In 1949 we worked in the Barren Lands, roughly from Great Bear Lake to Lake Athabaska (MacNeish, 1951). In 1950 work was done in the Upper Mackenzie and Liard; while in 1951 we visited the west end of Great Bear Lake and surveyed the Lower Mackenzie and part of the Peel River (MacNeish, 1953). In 1952 we again returned to Fort Liard (MacNeish, 1954) and the east end of Great Bear Lake (MacNeish, 1955). In 1954 reconnaissance was made of the Arctic coast adjacent to the mouth of the Mackenzie (MacNeish, 1956). In 1956 a little work was done around Cape Parry. In 1957 we confined our activties to the southern Yukon (MacNeish, in press), somewhat duplicating and extending the previous work done by Rainey (F. Rainey, personal communication), Johnson (F. Johnson, 1946), and Leechman (D. Leechman, personal communication). During the past season, 1958, we surveyed the entire length of the Firth River.

During this period it became apparent that one type of area which was unique to Canada and which had some relevance to the peopling of the New World were the relatively narrow passes that led from the Yukon Drainage across and through the Rockies. Starting from the west, we have the Rocky Mountain Trench; the Liard River; the Ross River—North Nahanni—Keele River Pass; the Canol Road; the Peel River; Rat Pass, and last, but not least, the Firth River.

The area we are going to talk about is the last-named one and includes the Yukon Arctic coast. Here we have found 122 archaeological components, about 60 of which are at one archaeological site on the Firth River. In surveying this region we first worked on the coast by whale-boat making occasional forays inland. The coast itself produced mainly what I would call Eskimo sites. During the last season we reconnoitered the complete pass from Old Crow Flats down the Firth River to the Arctic Ocean. This is an interesting area from the standpoint that one passes through a series of radically different ecological zones: from the forested Old Crow Flats, full of lakes and muskegs, through the eastern section of the rocky Brooks Range. Then through the western part of the higher British Mountain Range, which is heavily forested; then through the gorge cut through the Buckland Hills, which is part forested; and then out on the coastal plain itself, which is

treeless and relatively flat. In this latter terrain we were literally north of the Rockies (see map 1).



This was the area of our concentrated archaeological work and where is located our largest archaeological site, called by the almost unpronounceable name of Engigstciak (Eng-ig-she-yak) or in our site survey system, NiVk-1.

This site with its multiple components, was a very logical place to have been occupied. First of all, it had a small erosional remnant which can be used as a lookout for game (caribou). Secondly, it is, and was, at a permanent caribou (or herd) crossing, which provided excellent cover for hunters. Thirdly, it is only 15 miles from the tree-line and the widening of the river caused abundant driftwood to pile up in front of the site. Fourthly, it is just before the Firth River canyon where the numerous divisions of the Firth Delta coalesce and therefore was an excellent fishing spot. Also it is the western edge of the area of Laurentian glaciation, and, finally, it is a convenient distance from the present sea.

Looking at the map of the region which shows some of these inviting features (which are inviting in spite of the awful weather and climate) we also can see some of the geological features of the area. Dr. W. H. Mathews and Dr. J. Ross Mackay of the University of British Columbia have intensively studied the Pleistocene and recent geology of our mapped area. The last glacial advance just barely covered the site and cut two glacial spillways, one east and one west of the site, as well as laid down an esker just east of the site over

sea clays. The southern edge of this finger of the Laurentian glaciation covered the northern slopes of the Buckland Hills, while the Firth River flowed through its present channel and probably around the end of the glaciation. It appears that the weight of the ice depressed this coastal area and that as the ice retreated this land rose and became first a bay in the sea and then land. There are a number of beaches at different elevations evidencing this. Eventually the ice retreated totally away from the area and the land rose to above its present height. Then, during more recent times, a compensatory isostatic movement took place and, at the present, the coast is sinking.

The site itself is on a small eminence overlooking the Firth River, a sort of mesa, which in part is an erosional remnant, in part a beach terrace, in part a river terrace, and in part a dune. Most of the occupations seem to have taken place on the higher part of the eminence. Here we first put in a series of test excavations to determine areas of maximum artifactual and occupational deposits, then later, these preliminary tests were extended to become trenches. Still later, the geologists placed a series of test holes in the site to determine soil profiles and supplement our excavation profiles.

Their and our studies revealed a relatively complex stratigraphic situation. At the bottom we have clays covering the basic rock. Within these clays are remnants of what we call a muck layer that, along the peripheries of the hill connect with gravels and sand of an ancient beach. Overlying these mucks and beaches is further gray clay. This gray clay is definitely sea-deposited and the micro fossils in it reveal that the sea was at least 180 feet above its present level. On the southern slopes of the hill there were lensed sands. These sands seem to be basically windblown, perhaps from ocean beaches, that were occasionally tied down by the building of small humas layers that were in turn covered by sand again. Above these layers was a reddish sand, which is called humic sand, which is either a mature humus and/or windblown sands with considerable humic material in them. These in turn were capped with a humus layer, the bottom of which is quite clayish and the top of which contains considerable vegetable material.

These various layers contained different occupations. The earliest occupation was in the muck layers underneath the gray clay and is called British Mountain. This occurred mainly on top of the hill and though occasionally it was under grey and lensed sand, it was usually under clay, humic sand, and humas. Down the south slope the gray clays were extremely deep and were overlaid by a deposit of lensed sand. In the lensed sand were found the Flint Creek materials (in fact in three different superimposed zones of the lensed sand). Directly over these materials in the humic sand were New Mountain (Cape Denbigh-like) materials, while in the upper part of the humic sands at the junction of the humus in the clayish part of that humus were Firth

River materials with Cordmarked and Fabric-impressed pottery and Denbigh-like artifacts.

Farther up, on top of the site, the Buckland Hills Phase with Dentate-stamped pottery was found in the humic sands over the previously-mentioned phases, while Joe Creek with Norton Linear (Oswalt, 1955) pottery occurred in the clayish part of the humic sands. In the actual humus itself or just at its bottom were three Eskimo phases, one with Norton Check-stamped pottery (Ibid.), called the Cliff Phase; one with Barrow Curvilinear-stamped pottery (Ibid.), called the Whitefish Station Phase; and, finally, the Herschel Island Phase with typically Thule Eskimo artifacts and St. Lawrence Plain pottery (Ibid.). (See Table 1.)

Now we shall briefly consider in more detail these nine archaeological complexes. The earliest, and the first in our series, is called the British Mountain Phase (see Plate I). It is represented by artifacts from thirteen patches of muck at Engigstciak and one deeply-buried site found in the survey. Stratigraphically at one place or another it underlies all of the following eight archaeological phases and always occurs in the mucks underneath the gray clays. Its stratigraphic position may be interpreted in two ways. One, that this is an old humus which was later covered by the sea when the sea was about 600 feet above its present level or the land about 600 feet deeper than it is at present or a little of both. The other possibility is that these sets of muck were formed by peculiar Arctic soil phenomena whereby there has been polygon cracking of the clays, filling of the cracks, and then solifluction flattening out these vertical cracks to where they become horizontal muck layers covered by solifluxed clay. As yet the geologists and I have reached no definite conclusion on which of these is correct but I think all of us have a slight tendency to favour the solifluxed theory.

Pollen analysis has revealed that the Arctic coast at British Mountain times was covered pine, spruce, and white (paper) birch forest. Though the dominant bone material was of caribou, there were also some bones of extinct buffalo and one possible jaw of a horse. All in all, these faunal and floral data reveal that the British Mountain people were living on the coast when it was a good deal warmer and possibly wetter than it is at present.

The artifacts number about 200 and belong to fur general classes. Class 1, which represents about 75% of the artifacts, are flakes with a small portion of their striking platform still adhering that have been struck from discoidal cores. There are a number of types of these tools which include side-scrapers, re-touched along one edge, both edges, one end, or notched to form spokeshaves, and ones that have been made pointed to form knives. Others are burins of the central or convex type. A few are hooked crescentic-like graving tools, while the rest are unifacial projectile points, either laurel-leaf in outline or lanceolate

CULTURAL PHASE	Number of components	Stratigraphy at Engigstciak NiVk-1: area of pits 7, 7a and 11	pit 17	east trench	north pit 38	pit 9	pit 29	pit 3	pit 1	pit 30	pit 25	pit 12	pit 33	pit 4	Buffalo pit pit 24	pit 22	pit 14	Unstratified excavated pits from NiVk - 1	Soil Zones	Excavated Components on the Yukon Arctic Coast or adjacent areas	Surface Components
HERSCHEL ISLAND	45			pit 39 surface				level 1							surface				humus	NiVk 3, NhVk 1, NiTp 1, NjVi 1	NeVo 2, NfVe 1, NiVk 9, NeVn 1, NgVn 1, NiVk 8, NgVm 2, NgVm 1, NiVk 4, NiVk 5, NeVn 1, NdVp 1, NfVn 2, NiVi 2, NiVi 3, NjVj 1, NhVh 1, NhVl 1, NgTu 1, NgTt 1, NiTr 1, NiTr 2, NfVd 1, NjTo 1, NiTs 1, NiTo 1, NhTs 1, NiVi 1, NhTr 1, NhTs 2, NiTk 1, Nh Vm 1, NiVj 1, NgVm 3, NjTr 1, NgTt 2, Nf Ve 1, NiVj 2
WHITEFISH STATION	3											level 1							humus	NeVc 1	NiTr 3
CLIFF	3																levels 1-2	41	humus		NfVn 1
JOE CREEK	13		levels 1-2				levels 1-3 & pit 35		level 1	level 1				levels 1-4		level 1		13, 16, 27, 26, 28	dark humic sand		NiVk 2
BUCKLAND HILLS	5			pit 34 level 1								levels 2-4	levels 2-3					40, 31	humic sand		
FIRTH RIVER	9	pits 7 & 11 Levels 1-4		pits 34 & 36			level 4				levels 2-3				levels 1-2			6, 19	humic sand		
NEW MOUNTAIN	21				levels 1-2	levels 2-4	level 5	levels 2-3	levels 2-4	levels 2-4					level 3	level 2	levels 3-4	5, 8, 15, 32, 21, 20, 18	pink humic sand	NeVo 1	NiVk 7, NgVn 4, NdVo 1
FLINT CREEK	9	pit 7a levels 1-4	levels 3-4	pit 39 all levels											levels 4-6				lensed sand	NdVo 3	NbVo 1, NiVk 6, NdVo 2, NdVo4
BRITISH MOUNTAIN	14	level 6	level 6	pit 37 level 6	level 4	level 6	level 6	level 6	level 6	level 6	level 6	level 6	level 6	level 6					muck		NhVl 2

with slightly concave bases. The second class, which might possibly be blades, is represented by only three specimens, two prismatic blades, and one end-of-the-blade scraper. Whether these were struck from specific polyhedral cores or are accidental flakes from discoidal cores is difficult to say at this juncture of our study. The third group are thick or thin random flakes which have re-touching along one or both of their edges. The final group of tools are bifaces and consist of rude pebble choppers, multi-burins, and ovoid blades or projectile points, some of which have basal fluting or thinning on them.

Now let us turn to the relationship of these materials. It is immediately apparent that New World connections are difficult to find. However, when we look at the Siberian materials we do find some very specific resemblances. The earliest occurrences of these resemblances occur in the Buryet-Malta complex of the Trans-Baikal and perhaps it also accurs at the Chastino site of the Middle Lena. Here are also found tools struck from discoidal cores that includes unifacial points both lenticular (Bonch-Osmolovsky and Gromov, 1936, Plate 17, No. 3), and lanceolate (Ibid., Plate 17, No. 1), hooked gravers (Ibid., Plate 17, No. 7 and 8), scrapers (Ibid., Plate 17, No. 15, 4), and knives (Ibid., Plate 17, No. 5) and central convex-type burins (Ibid., Plate 17, No. 9). Besides these so-called Mousterian-type tools, there are end-of-the-blade scrapers (Ibid., Plate 17, No. 12) and blades (Ibid., Plate 17, No. 18) and pebble choppers. These are very specific resemblances and it is interesting to note that they occur in both the areas under discussion in the earliest horizons.

There is probably some gap in our sequence between this first British Mountain Phase and our second phase, called Flint Creek (see Plate II). Flint Creek is represented by nine components, only four of which were at Engigstciak and one of these seems to have three stages or sub-components in it. Stratigraphically three of these overlie our British Mountain materials and three of them underlie four of our later phases. No Flint Creek materials were found under either the Buckland or Whitefish Station phases. All the materials from Engigstciak occur in yellow or lensed sands overlying the gray sand and clay. The lensed sands seem to have been windblown deposits with small amounts of humus in them, which were later solifluxed. It has been suggested by the geologists, and somewhat confirmed by snails in the sand, that perhaps these people occupied Engigstciak when some of the lower ocean beaches were still active. Somewhat confirming this is the fact that three of our surveyed sites also appeared to be on high beaches.

A pollen examination revealed that the dominant plants were grasses, sedges, and a few willows. The animal bones show that they killed mainly (extinct?) buffalo, caribou, hare, and a few Arctic birds. This has been interpreted as indicating that the Flint Creek people occupied the area when it was colder and wetter than at present.

Artifacts number about 250 and bear little resemblance to those of the earlier phase and only a very slight resemblance to later phases on the Yukon Arctic coast. They include a series of bone or antler tools such as leisters, needles, awls, gorges, and spatula-like tools. There are also pebble pendants, bifacial knives, and slab pebble choppers. There are flake side-scrapers, large snub-nosed end-scrapers, and huge scraping planes, as well as end-of-the-blade scrapers and scale scrapers, often made from a large flat blade. One of the most numerous tools of this horizon is the rather large crude blades which are often retouched, which probably came from conical polyhedral cores. In later stages of the phase there are some microblades, some of which may have come from tongue-shaped polyhedral cores. Perforators or gravers appear as well as a number of specialized flake burin types, the latter being slightly more numerous in the later phases than in the earlier. In one area in which was a buffalo kill there are a large number of projectile points or fragments thereof. In the earlier part of the phase the predominant form is lenticular though a few collaterally-flaked Milnesand-like points are present. In the later stage, Plainview-like and Angostura-like ones occur.

Now as to relationships. Though there are some obvious ones with the New World, which I will speak about in a moment, there are some resemblances with the late Paleolithic of Siberia, namely, Afontova and Verkholenskaya Gora in the Trans-Baikal and the Shishkino and Harma sites of the Middle Lena. These resemblances are very striking and include: tongue and conical cores (Okladnikov, 1953, Plate 8,9; Field & Prostov, 1937, Fig. 1, 6-7), blades (Ibid., Plate 11), often retouched, and a few microblades (Ibid.), end-of-the-blade scrapers (Field & Prostov, 1937, Fig. 1, 5; Bonch-Osmolovsky and Gromov, 1932, Plate 26, No. 12) and scale scrapers (Field & Prostov, 1937, Plate 26, No. 9) made from blades, snub-nosed end-scrapers (Field & Prostov, 1937, Plate 26, No. 4; Bonch-Osmolovsky and Gromov, 1953, 8d and 10a; Field & Prostov, 1937, Fig. 2), flake burins (Okladnikov, 1953, Plate II, No. e), gravers (Bonch-Osmolovsky and Gromov, 1936, No. 8), scraping planes (Okladnikov, 1953, 8d and 10a; Field & Prostov, 1937, Fig. 2), flake burins (Okladnikov, 1953, Plate II, No. e), gravers (Bonch-Osmolovsky and Gromov, 1936, Plate 26, No. 10), choppers (Field and Prostov, 1937, Fig. 2), pebble pendants (Bonch-Osmolovsky and Gromov, 1936, Plate 26, No. 2, 3), leisters (Ibid., Plate 26, No. 9), and awls (Okladnikov, 1953). Furthermore, at Verkholenskaya Gore there are lenticular bifaces and/or projectile points (Field & Prostov, 1937, No. 1-3). The Yuma chipping of the Flint Creek complex which appears late also, of course, has resemblances to Siberia but seemingly in much later horizons. It has also, of course, a resemblance to cultural manifestations farther south in North America as well as to J. Campbell's material from the Brooks Range. Rather recently I have seen materials from early Five Mile Rapids in Oregon that are very similar to Flint Creek.

If you will bear with me a moment, I would also like to point out that this Arctic coast culture has its most definite relationships to one in the northwest interior. It or something like it is very likely to have been ancestral to the Little Arm Complex of the southwest Yukon, which in turn is ancestral to the materials found at the Campus site and at Pointed Mountain. These sites, which probably existed in the temporal gap between Flint Creek and the Yukon Arctic coast and the new Cape Denbigh horizon, also have Asiatic resemblances in that they have Chi-Thos (Okladnikov, 1955b, Fig. 33), tongue-shaped polyhedral cores (Okladnikov, 1950, Plate 15, 16, 17), burins made on blades (Ibid., Fig. 17), notched (Ibid.), retouched (Ibid.), pointed (Ibid.), rounded (Ibid.), and square-end microblades (Ibid.) and asymmetrical triangular points (Ibid., Plate 15 and 17). These resemblances seem to be with pre-ceramic Neolithic materials of northeastern Siberia and have been pointed out by a number of authors since Nelson first referred to them when studying the Campus site remains.

The next cultural remains, called New Mountain (see Plate III) are perhaps the most numerous except for the Eskimo remains in this area. There were 16 components of this phase at Engigstciak represented by adequate samples of artifacts as well as five smaller sites in the interior. At one place or another New Mountain remains are over both Flint Creek and British Mountain and are underneath all the later remains except Whitefish Station. As far as Engigstciak is concerned they are usually in the pinkish humic sands.

A number of pollen samples associated with these cultural remains have been analysed and while the most abundant pollen is of grasses there are some of tamarack, fir, spruce, alder and willow. Dr. Terasmae of the Geological Survey, who analysed these remains, thought that perhaps at this time the area around Engigstciak was a grassy plain with trees in the valley flanks, that is, perhaps warmer than at present but very definitely drier. Faunal remains confirm this interpretation for besides the ever-present caribou bones there were a number of bones of modern plains buffalo, elk, and Rocky Mountain goat. Of perhaps great interest in the bone remains were four seal flippers, which would seem to indicate that while these people were basically tundra-adapted, they had at least begun to use some of the nearby abundant sea mammal food resources.

Now as to the artifacts, which numbered well over 1000. This is the heyday of the burins and there are at least three kinds of these neatly-chipped implements as well as a number of sub-types. Burins at this time not only seem to be used for splitting bone and cutting slots but also as the cores from which burin spalls were struck, and there are six kinds of burin spalls. It also is the heyday of the maximum kinds of side-blades. Fine microblades and blades were struck from cuboid, conical and, on rare occasions, tongue-shaped, cores. Some of these microblades were re-chipped unifacially to become side-blades while other side-blades were made from bifacially chipped flakes. They

are lenticular, half-moon, and rectangular in outline. Snub-nosed end-scrapers and side-scrapers occur as do a few bifacially chipped engraving tools. Arrow points are fairly numerous and usually bear ripple flaking and are lanceolate, lenticular, incipient stemmed, and triangular in outline. I say these are arrow points for we found a number of antler arrowshafts either round or triangular in cross-section. A few Agate Basin-like spear points occur and there are a number of other antler or bone tools including antler hammers, pointed antler flakers, fish gorges, and beamers. There are also a few fragments of large bifacial knives, Chi-Thos implements, chipped adzes, sinew stones and net sinkers.

Relationships of these remains to New World Arctic tundra cultures from Sarqaq of Greenland (Larsen and Meldgaard, 1958) to Cape Denbigh of Alaska (Giddings, 1951) are obvious but there are also as many similarities, though not quite so good, to materials in northeastern Siberia. The most obvious ones are with the limited Yakitikiveem materials (Krader, 1952) of the Chuchee Peninsula but most of the resemblances are with the earliest ceramic periods of the Neolithic and the Kolyma and Lena. A number of the burin types have been illustrated as being associated with Serovo-like early cultures of the Kolyma (Okladnikov, 1955, Plate 27,30). According to Okladnikov, the Denbigh-like burins are particularly numerous in Neolithic sites east of the Kolyma (Cemehob, 1953, Plate 1). Cuboid cores (Okladnikov, 1953, Fig. 11) and microblades (Okladnikov, 1955, Plate 20,21) start in this early Neolithic in northeastern Siberia, while rectangular side-blades (Ibid., Plate 21) occur at the same time. Lenticular (Okladnikov, 1955b, Plate 22) and half-moon side-blades (Ibid.) seem to appear somewhat later, namely in the Bronze Age in northeastern Siberia. Small lenticular (Okladnikov, 1955b, Plate 17, No. 24, 25), lanceolate points (Ibid., No. 6), triangular points (Ibid., No. 1-5), and contracting stem points (Okladnikov, 1950, Plate 29) also begin at this time in Siberia as do the chipped adzes (Ibid. Plate 27), pointed antler flakers (Ibid., Plate 37, No. 3), antler hammers (Ibid., Plate 37, No. 6, 7), and fish gorges (Ibid., Plate 33, No. 3).: In fact, the main difference between the early Neolithic of Siberia and these New Mountain-like remains are that those in Siberia have pottery, usually net-impressed, which as yet has not been found in the New World Arctic.

These Denbigh-like remains seem to develop directly into ones that have fabric-impressed and cordmarked pottery, which I have called the Firth River Phase (see Plate IV). All nine of its components have been found at Engigstciak and, try as we might, we have been unable to find isolated components of this phase. These remains are usually in the humic sands and have been found over all of the three previous phases and underlie check-stamped, linear-stamped, and Eskimo remains in Engigstciak. Our floral and faunal material is less numerous but seems to be about the same as New Mountain times though a few more bones of muskox and a somewhat lesser number of buffalo, and no wapiti bones may mean that the climate was just a little bit cooler.

About 400 stone or bone artifacts occur along with 3,000 potsherds. Burins and burin spalls are much like Cape Denbigh though slightly less numerous and there is one new burin type, which is a somewhat cruder imitation of the earlier ones. Arrow and spear points are still similar but side or corner-notched ones occur for the first time. Side-blades and microblades and cores are the same except that rectangular side-blades seem to be absent. There are, also for the first time, a few flat or tabular polyhedral cores that last into later horizons. Disk scrapers, adzes, bifaces, plano-convex end-scrapers, net sinkers, prismatic arrows, fish gorges, and antler pointed flakers are the same as in the previous horizon. New tools consist of bifurcated-base atlatl points with or without side-blade slots, fish-hooks, and antler mattocks, shaman sucking tubes, delicate antler leisters, and some stemmed bone arrow-points. However, the greatest difference and most distinguishing feature of this culture is its pottery. The pottery is grit-tempered and thin, and fairly hard. It seems to have been made by the coiling method and later thinned by the paddle and anvil. Cordmarked and fabric-impressed sherds dominate though there are a few linear-stamped sherds in this horizon. Decoration is usually absent but a few of the cordmarked sherds show that there was a single row of exterior evenly-spaced punctates around the rim parallel to the lip. Rim sherds would seem to indicate that the vessels were cocoanut-shaped.

Relationships are with the early Neolithic of Siberia. The single photograph I was given by Okladnikov of the sherds from the Pomazkino site from the mouth of the Kolyma show an identical set of artifacts and sherds to those of the Firth River Phase. Somewhat less similar but still obviously related are the Early Uolaba (Okladnikov, 1946; Chard, 1956), Early Kullaty (Okladnikov, 1955) and Serovo (Okladnikov, 1950) remains from the Lena. The greatest resemblances are in the grit-tempered ceramics which have cordmarked (Tolstoy, 1958a, pp. 400, 406, 410), fabric (Tolstoy, 1958a, p. 406) and linear stamp (Tolstoy, 1958a, pp. 400, 406, 410) surface finish. Decorations are exterior punctates around the rim on cocoanut-like vessels with flattened thickened lips are also similar. Besides these similarities and some of the older ones, new ones appear. These are antler mattocks (Okladnikov, 1950, Fig. 28), net sinkers (Tolstoy, 1958b, p. 67, Table 1), adzes (Okladnikov, 1955, Fig. 18), small neatly-chipped flake burins (Ibid., Fig. 27, 30), and triangular and lenticular chipped arrowpoints (Okladnikov, 1955, Fig. 17), as well as a large number of contracting-stem ones (Okladnikov, 1950, Fig. 68).

These Firth River remains appear to develop into the rather poorly-defined Buckland Hills Phase (see Plate V). These have been found only at four rather small components at Engigstciak and are usually in humic sand. They are under Herschel Island and Whitefish Station remains and over British Mountain and Firth River remains. Faunal materials, which are relatively sparse, include the muskox, the grizzly bear, and caribou. The warmer climate animals seem to

be gone. Artifacts number about 150 though over 1000 sherds were found. Projectile points though sparse were similar except that straight-stemmed ones occur for the first time as do larger contracting-stemmed ones. Microblades from polyhedral cores are on the wane and seem to be being replaced by half-moon side-blades. Antler mattocks and antler hammers still occur along with such new traits as antler pendants and marrow gouges. A ground drill bit, chipped saws, and chipped flint drills are also new traits and the cruder flake burins are somewhat more important. The distinguishing feature, however, is the dentate-stamp pottery though we did find a few sherds of cordmark and linear stamp with these remains.

Resemblances to Asia seem to be in the late Neolithic and early Bronze Age and are not too numerous because of our somewhat limited sample. New resemblances would be the cruder chipped drills (Okladnikov, 1955b, Fig. 9), the flint saw (Okladnikov, 1950, Fig. 114), the straight-stemmed points (Ibid., Fig. 68), and the dentate-stamp pottery (Okladnikov, 1955, Fig. 46).

These remains are followed by a horizon which we know somewhat better, which we shall call Joe Creek (see Plate VI). It is represented by 12 components at Engigstciak and one isolated site found in our survey. It is over all the previous horizons and under later Eskimo remains. Pollen materials indicate the climate was somewhat cooler than at present with lots of caribou, a few muskox, grizzly bear, moose, and a few seal bones. Burins are on the wane and somewhat different from the previous horizons in that they are often ground on their surfaces or made from larger flat retouched flakes. There are also two like the Bec-de-flute type Giddings reported for Choris. Crescentic and half-moon side-blades are very definitely replacing microblades and blades, which do not occur in all components. Projectile points see a continuation of some of the earlier forms but in the main are stemmed. Arrowforeshafts of antler usually have bifurcated bases and there is a single male uni-barbed harpoon. There are also a couple of pieces of ground slate and scrapers, knives and adzes continue along with the natler mattocks. A few other distinguishing features include serrated arrowpoints and the predominance of linear stamped pottery though one or two pieces of check-stamped and dentate-stamp occur. The final traits are an antler spoon and a fragment of what appears to be a comb, as well as a sucking tube.

In terms of relationships, these materials are most similar to the Choris horizon (Giddings, 1957) of the Seward Peninsula of Alaska. However, some of the new traits that occur at this time period also appear for the first time in the Bronze Age of Siberia. These would include antler spoons (Okladnikov, 1955b, Fig. 53) and combs (Tolstoy, 1958b, Table 1), linear-stamp (Okladnikov, 1955b, Fig. 52) and check-stamp pottery (Ibid., Fig. 89), split-base arrows (Okladnikov, 1955, Fig. 45), bone sucking tubes (Tolstoy, 1958b, Table 1), ground slate knives (Okladnikov, 1955b, Plate II), uni-barbed bilateral male antler

harpoons (Okladnikov, 1055b, Fig. 24), and half-moon chipped side-blades (Okladnikov, 1955b, Fig. 22).

This somewhat completes our pre-Eskimo—and I use this word somewhat guardedly—archaeological remains. The final three horizons can be connected with the Eskimo horizons of Alaska, the earliest, which I call the Cliff Phase (see Plate VII) is represented by one component at Engigstciak and one surface site, and is extremely similar to the Norton (Griffin, 1953) and the Near Ipiutak complexes (Larsen and Rainey, 1948) of Alaska. Our sample is not large and consists of about 2000 check-stamp sherds and a few linear ones, as well as 50 chipped stone artifacts. Ground slate occurs as well as half-moon side-blades but no burins or microblades. Projectile points are the same as in the previous horizons as are the flat end-scrapers, beaked gravers, disk scrapers, saws, and large bifaces.

Whitefish Station is represented by three components, only one of which was at Engigstciak, and is relatively late Eskimo with open-socketed barbed harpoons, Barrow Curvilinear pottery, and the usual Eskimo remains (see Plate VII). The final culture is all over the Arctic coast as well as in the humus at Engigstciak and is called Herschel Island (45 components), and has typical Thule artifacts including crude St. Lawrence Plain pottery, close-socket harpoons, and so forth. It is represented by over 200 artifacts as well as about 500 very crumbly Eskimo potsherds (see Plate VIII, IX, X, XI).

Though we have a lot of material and nine sequential cultures from the Firth River, there is still more missing in the sequence than has been found. There is obviously a break in the continuity between British Mountain and Flint Creek and probably quite a big temporal gap. There also is a break in continuity between Flint Creek and New Mountain, with only a hint as to what fills this gap. New Mountain seems to be ancestral to Firth River. However our limited samples and poor stratigraphic provenience do not allow us to say whether there is a gap before and after Buckland Hills even though there are hints of continuity. Joe Creek does seem to be separated from Buckland Hills which precedes it and Cliff that follows it. There is a complete break and considerable gap between Cliff and Whitefish Station while Whitefish Station very obviously is ancestral to Herschel Island. Thus we have the broad outline or skeletal framework of the sequence of the area. However, most of the flesh is missing and many of the bones don't articulate too well.

In conclusion, starting at the simple level, it is readlly apparent that what is needed is a great deal more field work in northwestern North America and Northeast Asia. From my meagre experience it appears that many sites are there and fairly easy to find. All that is needed is to go up there and look in this vast area. In other words, I say to you archaeologists looking for an area of specialization which has important problems waiting to be solved, "Come on in—the water's fine (albeit a wee bit cool)."

Secondly, I hope I have shown that there are a large number (over 60) specialized early traits in common between northeast Siberia and northwest America. Furthermore, these traits appear in the two areas in roughly the same chronological order. I am sure that with more work even more traits will be found. I also hope that I have convinced you that these traits from the two areas are genetically connected and that there was a steady exchange from Siberia to America and vice versa. This exchange seems to have begun (to use the outmoded Russian temporal classification) in the Paleolithic and last up until the Iron Age or (to use an equally vague New World classification) from Paleo-Indian times to Eskimo times. On the basis of these conclusions, one cannot help but wonder if future work will not show that the area from east of the mountains of the Middle Lena to the mountains on the eastern and southern borders of the Yukon will not turn out to be a single culture area having these time periods.

Since we have pushed our data this far, let us go even farther with our interpretations. First is the problem of the peopling of the New World. The present picture from the Firth River and, I might add Alaska, seems to confirm the hypothesis stated so ably by Louis Giddings (Giddings, 1952), that is, there was a steady flow of traits and people back and forth across Bering Strait over a long time period that moved into the New World in a relatively haphazard manner, which in small part was determined by ecological and cultural limitations. To put it negatively, there were not Kulturkreis-like movements across Bering Strait of specific traditions, physical types, or linguistic stocks from Asia that then spread out along specific routes in the New World.

And finally, I would like to point out that the amount of specialization, differentiation, and development that took place in the New World—outside this hypothetical northeast Siberia—northwest America culture area—was probably complex and must not be underestimated. Thus the problem of Asiatic influences in the New World is not so much one of finding a series of traits or trait complexes from the more southerly American regions back to Siberia or vice versa but of discerning how this steady flow of traits (many of which have already been found in the Yukon and Alaska) and people, after the initial migration, were diffused and how, when, and where they combined with, influenced, stimulated, and sometimes disappeared in the existing New World culture complexes.

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PLATE I
(½ natural size)

British Mountain Artifacts — 1-15

1- 3. British uniface ponts struck from prepared discoidal cores.
4- 5. Irish fluted types — biface with basal fluting.
6. British Mountain Central burin on a prepared flake.
7. End-of-blade scraper.
8. Spoke-shave like implement on a prepared flake.
9-10. Prepared flakes with end retouched.
11. Prepared flakes with two sides retouched from opposite surfaces.
12. Large rough flake retouched on edge.
13. Prepared flake retouched along all edges on dorsal surface.
14. Prepared flake retouched on lateral edge on ventral surface.
15. Pebble chopper.

PLATE II
(½ natural size)

Flint Creek Artifacts — 1-25.

1. Flint Creek bifacial point, small variety.
2- 3. Milnesand-like points.
4. Angostura-like point.
5. Plainview-like point.
6. Retouched notched blade.
7. Tongue-shaped core.
8. Fine thick truncated microblade.
9-10. Yukon multi-burin.
11. Fort Liard rectangular burin.
12-13. Scale-like end-scrapers (11 from a blade and 12 on a flake).
14. End-of-the blade scraper.
15. Snub-nosed end-scraper.
16. Thin flake with retouching along one edge.
17. Thick flake with retouching along two edges.
18-19. Flat pebble pendants.
20. Needle.
21. Spatula-like antler object.
22. Antler awl.
23. Barbed antler fish spear.
24. Scraping plane.
25. Flat pebble chopper.

PLATE III
(½ natural size)

New Mountain Artifacts — 1-29.

1. Agate Basin-like point.
2. Denbigh lenticular arrow point with serrated edges.
3. Arctic lanceolate arrow point.
4. New Mountain stemmed arrow point.
5. Southampton triangular arrow (or harpoon?) point.
6. Whitefish contracting-stem arrow or drill tip.
7. Cuboid polyhedral core.
8. Conical polyhedral core.
9. Fine thin truncated microblade.
10. Notched half-moon side blade (Jette).
11. Rectangular bifacial side-blade.
12. Half-moon side-blade.
13. Anaktuvik blade burin.
14. Denbigh burins — bevelled variety.
15. Denbigh burins — bevelled variety.
16. Snub-nosed secondary burin spall.
17. Denbigh burin — central variety.
18. Denbigh burin — convex variety.
19. Denbigh burin — multi-burin variety.
20. Oblique-ended secondary burin spall.
21. Stemmed end-scraper or possible asymmetrical drill bit.
22. Small plano-convex end-scraper.
23. Flat-topped end-scraper.
24. Antler prismatic arrow.
25. bone beamer.
26. Fish gorge.
27. Pointed antler flaker.
28. Large bifacial knife.
29. Chi-Thos.

PLATE IV
(½ natural size)

Firth River Artifacts — 1-31.

1- 2. Corner-notch (spear) points.
3. Denbigh lenticular arrow points.
4. Arctic lanceolate arrow points.
5. Southampton triangular arrow points.
6. Firth side-removed arrow points.
7. Half-moon side-blade.
8. Lenticular side-blade.
9. Fine prismatic microblade.
10. Tabular polyhedral core.
11. Buckland type burin.
12. Denbigh burin — bevelled variant.
13. Denbigh burin — convex variant.
14. Oblique burin spall.
15. Antler fish gorge.
16. Notched antler object.
17. Stemmed bone point.
18. Bifurcated-base (atlatl) point with flat tip and side-blade slot.
19. Bifurcated-base (atlatl) point with end-blade slot.
20. Long antler pointed flaker.
21. Bone marrow gouge.
22. Angled antler object.
23. Antler pendant.
24. Flat end-scraper.
25. Bifacial chipped disk.
26. Antler mattock.

28-29. Cord (or thong) wrapped paddle-impressed pottery.
30. Fabric (twined thongs) impressed pottery.
31. Bifacially chipped knife.
27. Chipped adze blade.

PLATE V
(½ natural size)

Buckland Hills Artifacts — 1-22.
1. Agate Basin-like point.
2. New Mountain stemmed arrow point.
3. Whitefish pointed stem arrow point.
4. Arctic lanceolate arrow point.
5. Herschel straight stem arrow point.
6. Half-moon side-blade.
7. Crude truncated microblade.
8. Retouched blade.
9. Buckland burin.
10. Denbigh burin — bevelled.
11. Denbigh burin — convex.
12. Denbigh burin — convex.
13. Chipped drill bit.
14. Flake side-scraper.
15. Flat top end-scraper.
16. Plano-convex end-scraper.
17. Antler mattock.
18. Dentate malleated surface sherd.
19. Dentate stamp sherd.
20. Dentate stamp rim sherds.
21. Ground drill bit.
22. Small bifacially chipped knife.

PLATE VI
(½ natural size)

Joe Creek Artifacts — 1-29.
1. Large stemmed spear point.
2. Arctic lanceolate arrow point.
3. Herschel straight stem arrow point.
4. Whitefish pointed stem arrow point.
5. Serrated edge point.
6. Ground slate (point?)
7. Crude prismatic microblade.
8. Crude truncated blade.
9. Large side-blade.
10. Small side-blade.
11. Buckland burin.
12. Ground Sarqaq burin.
13. Denbigh burin — bevelled.
14. Buckland burin — Bec de Flute variety.
15. Antler mattock.
16. Fish gorge.
17. Antler hammer.
18. Flat end-scraper.
19. Bifacially chipped disk.
20. Sucking tube.
21. Comb (?)
22. Bifurcated-base arrow with slot for end-blade.
23. Antler spoon.
24. Antler harpoon.
25-27. Norton linear sherds.
28. Chipped adze.
29. Serrated edge saw or scraper.

PLATE VII

(½ natural size)

Cliff (top half) **and Whitefish Station** (bottom half) **Artifacts** — 1-14.
Cliff.

1. Leaf point.
2. Herschel stemmed arrow point.
3. Whitefish pointed stem arrow point.
4. Serrated point.
5. Half-moon side-blade.
6. Flat-topped end-scraper.
7- 8. Norton Check-stamp sherds.

Whitefish.

9. Ground slate harpoon and blade.
10. Barrow curvilinear paddled sherd.
11. Whitefish pointed stem arrow.
12. Barrow curvilinear paddled rim sherd.
13. Unbarbed antler arrow.
14. Open-socket harpoon.

PLATE VIII

(⅓ natural size)

Herschel Island Articaft —

Whole pot of Thule Fibre-tempered Ware, excavated in a trash heap south of House 1 at NiTp 1.

PLATE IX

(½ natural size)

Hershel Island Artifacts — 1-27.

1. Large flint bifacial blade.
2. Small flint bifacial blade.
3. Small flint bifacial blade.
4. Chipped slate bifacial blade.
5. Chipped arrow point.
6. Chipped lance point.
7. Chipped lance point.
8. Chipped drill.
9. Chipped tear-drop shaped object.
10. Chipped arrow point.
11. Flat adze head.
12. Ground stone arrow-straightener.
13. Bolo stone.
14. Chisel-like abrader.
15. Grooved pebble line sinker.
16. Grooved pebble line sinker.
17. Grooved pebble line sinker.
18. Ground slate harpoon blade with concave base.
19. Ground slate harpoon blade with convex base.
20. Ground slate lance head.
21. Ground slate lance head.
22. Ground slate chisel or end-scraper.
23. Long adze blade.
24. Ground slate man's knife.
25. Ground slate man's knife.
26. Ground slate pie-shaped ulu.
27. A ground slate stemmed ulu.

PLATE X

(½ natural size)

Herschel Island Artifacts — 1-38.

1. Unibarbed bilateral bone arrow point.
2. Quadri-barbed bilateral bone arrow point.
3. Tri-barbed unilateral bone arrow point.
4. Bi-barbed unilateral bone arrow point.
5. Unibarbed unilateral bone arrow point.
6. Unibarbed unilateral bone arrow point with insert slot.
7. Barbless bone arrow point.
8. Pointed base bone arrow bunt.
9. Decorated pointed base bone arrow bunt.
10. Bifurcated base decorated bone arrow bunt.
11. Bifurcated base bone arrow bunt.
12. Hollow-base bone arrow bunt.
13. Tri-barbed unilateral bone leister prong.
14. Tri-barbed unilateral bone leister prong.
15. Quadri-barbed unilateral bone leister prong.
16. Five-barbed unilateral bone leister prong.
17. Unibarbed bilateral bone leister prong.
18. Bone man's knife handle.
19. Thule type IV-A bone harpoon head.
20. Thule Type III bone harpoon head.
21. Thule type I bone harpoon head.
22. Thule type II bone harpoon head.
23. Thule type IV bone harpoon head.
24. Stone lip plug.
25. Bone lip plug
26. Stone lip plug.
27. Bone box top.
28. Bone wedge.
29. T-shaped knife or scraper handle.
30. Scraper handle with a gouged hole.
31. Bone sucking tube.
32. Bone bead.
33. Bone spoon.
34. Bone wound plug.
35. Bone wound plug or needle.
36. Bone comb.
37. Bone fish-hook.
38. Bone snow goggle visor.

PLATE XI

(½ natural size)

Herschel Island Artifacts — 1-11.

1. Bone snow shovel blade.
2. Bone net spacer.
3. Bone arrow straightener.
4. Bone arrow straightener or thong stretcher.
5. Bone adze socket.
6. Bone snow-knife handle.
7. Bone ice pick.
8. Bone beamer.
9. Bone whip handle.
10. Bone mattock head.
11. Bone adze handle

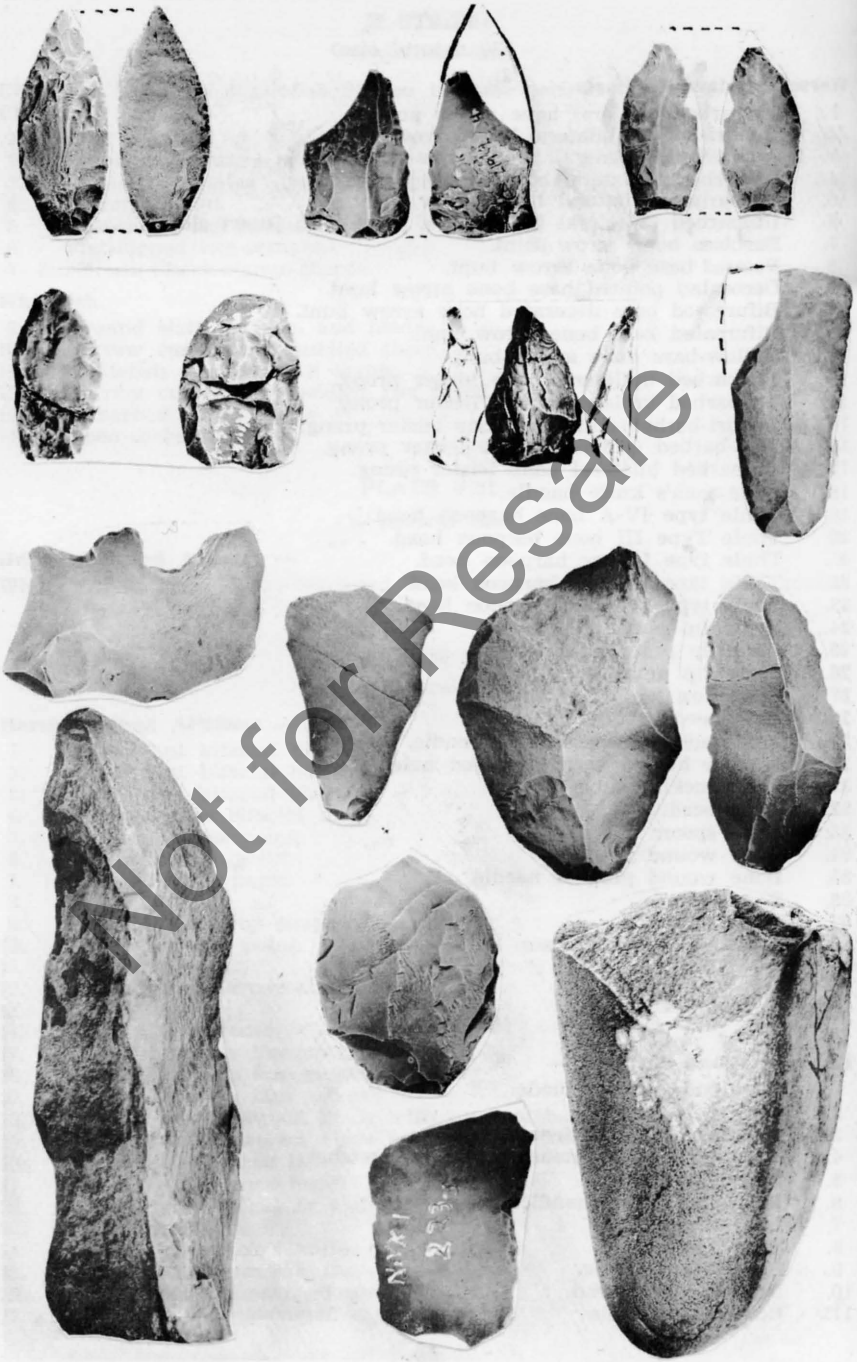
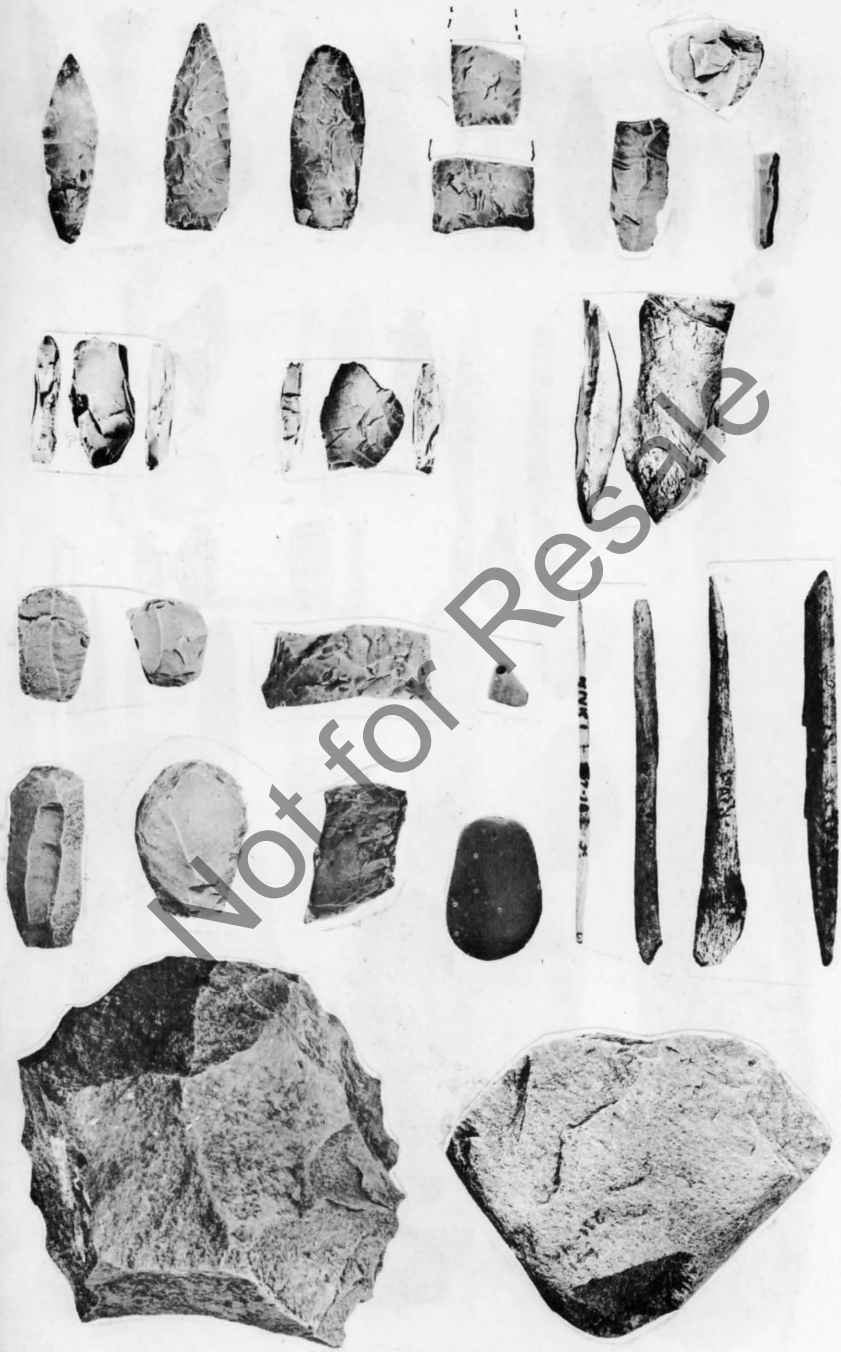


PLATE I



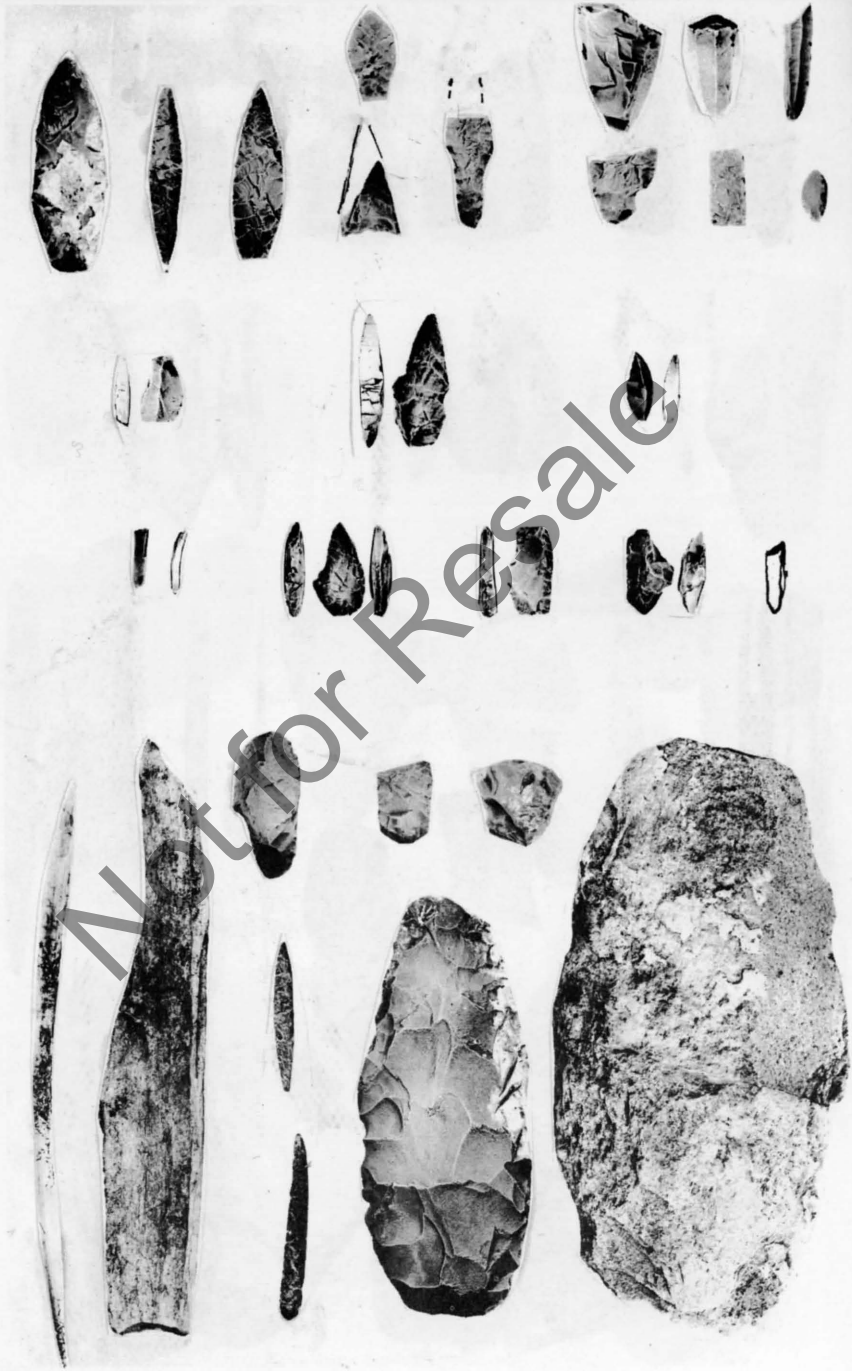


PLATE III

PLATE V

PLATE VII

PLATE VIII

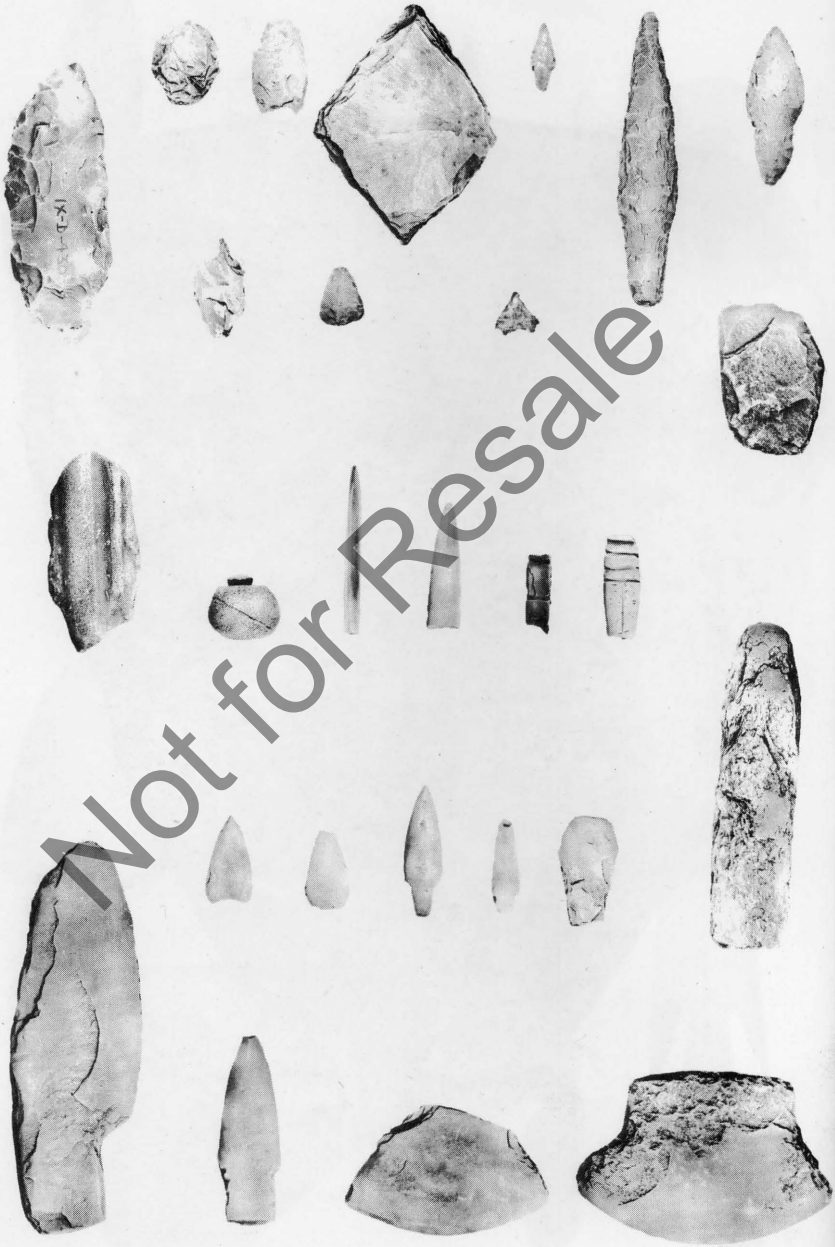


PLATE IX

PLATE X

PLATE XI