

# THE PALEO-INDIAN AND MESO-INDIAN STAGES OF ALBERTA, CANADA<sup>1</sup>

by

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It is generally agreed that, until watercraft and navigational skills had developed sufficiently to permit oceanic travel or the traversing of very difficult waterways, entry into North America must have been from Siberia by way of Bering Strait. During glaciations ice sheets would have impeded movements out of Alaska, but during interglacials and interstadials men could have moved along the low northern coastline of Alaska and reached the Mackenzie Valley, thus gaining access to the Northern Plains. One of the most likely migration routes for those who reached the Mackenzie lies to the east of the Rocky Mountains, going directly through the Province of Alberta. Due to the strategic location of the Province there has been a strong hope that it might provide valuable data relating to migrations. Unfortunately, nothing yet found has served to justify this hope, and, with increased knowledge of prehistoric developments in Siberia and in the New World, the great complexity of the problems involved becomes increasingly apparent.

For many years there has been incontrovertible evidence that man was present in the Western Hemisphere during the terminal part of the Wisconsin. At present, dates in excess of 15,000 to 20,000 years ago for the coming of man to the New World are not universally accepted. Recent discoveries have, however, convinced an increasing number of archaeologists that it is necessary to think in terms of considerably greater antiquity than this.

Of primary importance are two sites that have been dated by the radio-carbon method. A discoidal scraper was found at Tule Springs, Nevada with bones of Pleistocene animals and with charcoal that produced a date in excess of 28,000 years ago (26,000 B.C.) (Harrington and Simpson, 1961). At a site near Lewisville, Texas, artifacts were found

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Basic data concerning Alberta were obtained in the course of reconnaissance and studies of Alberta collections during the summers of 1955 and 1956 under the auspices of the Glenbow Foundation of Calgary. Some information relating to Siberian materials was obtained in the course of a two month visit to the Soviet Union in 1958, which was made possible through the assistance of the Academy of Science of the U.S.S.R. and the Wenner-Gren Foundation for Anthropological Research. Further data were gathered during a trip in 1961 sponsored by the Milwaukee Public Museum.

in a deposit that contained twenty-one hearths, which provided an age determination in excess of 37,000 years ago (35,000 B.C.) (Crook and Harris, 1957). A Clovis point found there cannot be of this age, and it is probably intrusive, but the appearance of a chopper and scraper which were recovered would be compatible with such an age. Finds in scattered localities in the western United States, in Mexico, and in South America, have provided tantalizing clues that suggest greater antiquity for man than is now commonly accepted, but fully satisfactory evidence is lacking. The writer thinks it probable that, with further work, acceptable evidence will be found.

In order to evaluate finds in the Americas some knowledge of what was available for export from Siberia at various times is essential. Only if we have this knowledge can we hope to determine how much of our American material shows close ties with Asia and how much represents the results of indigenous development in this Hemisphere. The Siberian data have been well summarized in the paper by Chester Chard. The writer is in basic accord with the hypotheses which he has offered, although there are some minor differences of opinion. He is absolutely right in his belief that the chopper-chopping tool tradition must have influenced the New World cultures; and there seems to be good reason to believe in two early movements into the Western Hemisphere. There appear to have been no further population movements from Asia until the introduction of the small tool tradition about 5000 or 6000 years ago.

Chard's suggestion that in Würm I times there was a movement along the Pacific shore that brought from the Far East a tradition characterized by choppers, bifaces, and amorphous flakes, is a new and exciting idea that deserves very serious consideration. It is the writer's belief that in Würm II, or early in Würm III, a second movement from the interior of Siberia brought in not only the Levallois-Mousterian tradition and elements of the chopper-chopping tool tradition, but a crude blade technique, and bifacially flaked leaf-shaped points. Such points were found at the Irkutsk Military Hospital site, which is believed to predate Mal'ta. The latter contains East Gravettian elements that are lacking in the New World. Bifacial flaking was unimportant in the Siberian Palaeolithic, but it increased in importance in the New World, and, in the course of a long period of indigenous development, sophisticated weapon tips such as Clovis, Folsom, and the parallel flaked types developed here.

Even in America, however, bifacial flaking was not the dominant element that we have been led to believe on the basis of evidence from kill sites where only projectile points are represented. Evidence from habitation sites, some still unpublished, indicates that an overwhelming percentage of Paleo-Indian tools was unifacial. Also of interest is the fact that more recent studies have shown that such early types as Sandia, Clovis,

and Hell Gap, were produced by controlled percussion, not by pressure flaking. The latter technique apparently developed independently in the New World.

It seems reasonable to assume that some of the early migrants passed through Alberta as they moved southward. Will we, however, ever find traces of their passage? It is possible, but by no means certain. Since they were hunters or gatherers they cannot have traveled in very large groups, they cannot have stayed long in one place, and they had few possessions to leave behind. Furthermore, evidence left before the ice retreated for the last time would in many cases have been lost as the result of glacial action.

There are also problems posed by present conditions in Alberta. The nature of the terrain and the vegetation makes it extraordinarily difficult to find the buried sites that alone can provide us with much of the knowledge that we need. Even in the southern part of the Province where, during the disastrous drought of the 1930's, there was erosion that revealed and destroyed many ancient sites, vegetation now conceals the evidence of prehistoric occupation that may remain, and the plant growth found farther north provides even greater difficulties. Nowhere is there the deep erosion and arroyo cutting that has revealed the presence of so many ancient sites in more arid regions. Neither are there caves where good stratigraphic records might be preserved.

No early sites that would lend themselves to excavation have been found and there are, of course, almost insuperable difficulties in dating surface finds. If we are correct in attributing a very great antiquity to man in America, the artifacts left by the first migrants were probably rather crude, but the finding of isolated specimens that resemble Old World Palaeolithic types means nothing, since similar artifacts were being made in the Plains in the eighth millennium B.C. and probably later. Only if assemblages of such specimens are found under conditions that will enable us to obtain reliable dates will we be on firm ground.

Burins and micro-blades present special problems. It is only recently that burins have been recognized in North America outside of the Arctic. Some have been found in Oregon in an occupation zone dated at about 9000 B.C. (Cressman, 1960) and some have been found in Texas associated with Paleo-Indian and Archaic points (Epstein, 1960). A few of these are present in the Russell A. Johnston collection from southern Alberta, and it is probable that more will come to light in this area as they are sought for, but nothing is known of the distribution or chronological position of these tools in the Province. A very few true micro-blades have been recognized in Alberta collections, but this provides no help in determining how or when this trait could have spread from Siberia,

where it was present from Upper Palaeolithic times and reached areas to the south. Perhaps as early as 7000 or 8000 B.C. micro-blades were being produced as far south as the highlands of Ecuador (Bell, 1960). This could be the result of independent invention.

With certain traits we may consider the possibility of movement from south to north through Alberta, although proof is lacking. It has long been the fashion to attempt to derive all common traits from Asia, but in some instances we could be dealing with a two way traffic. By about 8000 B.C. certain American Indians were producing unfluted lanceolate points, shaped through the removal, by pressure, of flakes parallel to each other. The same technique is found in Siberia, but it does not appear to have been in use on the Asiatic side of the Strait until some thousands of years later. In view of this difference in age the Asiatic forms can scarcely be ancestral to the American, and we must consider the possibility of independent invention in the two areas, or, perhaps, diffusion from North America to Siberia, as Tolstoy (1958) has suggested.

Despite the many problems that still remain regarding the pre-history of Alberta, it is at least possible to provide a rough outline of probable developments. In other western Canadian Provinces and in the United States quite a number of prehistoric complexes have been defined and dated and there are certain diagnostic artifacts which are known to have been made during certain periods. Similar types are found in Alberta. We are not in a position to say that they are of the same age or older or younger than the dated specimens, but at least we have some idea of the approximate age, and it becomes possible to develop a tentative relative chronology.

There are three broad cultural stages that pre-date the Historic, which are recognized here and in the United States. There are, unfortunately, serious problems regarding terminology, for many different names have been applied to these stages. Here the terms Paleo-Indian, Meso-Indian, and Neo-Indian will be used (Smith, 1957). The Paleo-Indian is the earliest stage and is characterized by well made lanceolate points which were used in the hunting of big game, largely of species now extinct. The name Meso-Indian is given to the stage, frequently called the Middle Prehistoric or the Plains Archaic, during which large notched and stemmed points were commonly used and, in the Northern Plains of the United States, there was greater emphasis on the taking of small game and the gathering of plant foods. Neo-Indian is used to refer to the final prehistoric stage when most projectile points were small, light arrowpoints, bison, of modern species, were commonly hunted, and pottery came into use among some groups. Only the first two stages will be considered here.

Some of the best evidence for occupation during the Paleo-Indian

stage comes from the southern half of the Province, particularly from sites in the general vicinity of Cereal, Red Deer, and Edmonton. Of special importance is the meticulously documented collection of Russell A. Johnston, gathered in the Little Gem area during the 1930's when intense droughts led to erosion which uncovered many ancient sites. In the Johnston collection are a few specimens that may legitimately be classified as Sandia points. Whether these represent later manifestations of the Sandia Complex found in the United States, which has an estimated age of the general magnitude of 12,000 to 15,000 years, or whether they may be earlier we do not know. The removal of a few flakes from the side of one of the leaf-shaped points, which presumably provided the base from which American forms developed, would produce a single shouldered Sandia. No one knows where this type, which is distinctively American, developed. It could have been in the north, perhaps in Alberta, or it might have been much farther to the south, and these specimens may represent a later northward movement from the place of origin.

Fluted points are also quite rare. A Clovis point has been found near Edmonton, and a few Folsom points have been found in southern Alberta and adjoining portions of Saskatchewan. Most evidence suggests that this tradition began in the Plains or the Southwest. Fluted points found in western Canada probably mark the arrival of makers of fluted points, moving from south to north, and may be more recent than those found in the Plains. There appears to have been no intensive occupation of Alberta by people of the Llano or Folsom complexes.

Makers of parallel flaked points, produced by pressure, however, were very well represented here and in western Saskatchewan. Again, it is impossible to give exact dates for the complexes characterized by this technique in Canada, but in the United States most of them fall in the general period of 9000 to 7000 years ago (7000-5000 B.C.), although some are still older. Makers of Plainview and Meserve points were present in Canada, but apparently not in large numbers. From the numerous examples of Eden and Scottsbluff points and Cody knives found in collections it may be deduced that there was intensive occupation of the southern part of the Province by the people of the Cody Complex. In a number of collections are also found broad points with well marked shoulders and long stems, probably variants of the Scottsbluff type, which are now called Alberta points.

There were also some hunters who utilized points of the Agate Basin and Hell Gap types. The latter is a type recently found in a stratified site in Wyoming (Agogino, 1961). The occupation zone that produced Hell Gap points has a radiocarbon date of  $10,850 \pm 550$  years ago (8890 B.C.). This is a percussion flaked lanceolate form with so marked a basal constriction that it may be considered stemmed though unshouldered.

Bases are straight or slightly convex. Some Hell Gap points have been found near Cereal.

Scottsbluff and Alberta points also occur farther to the north, notably in the Grande Prairie area, but not in such large quantities. One fragmentary Eden was found near Peace River. It is not known whether the paucity of specimens reflects less intensive occupation or is the result of lesser erosion and less collecting. Probably all factors were operative.

Certain other specimens found in the Peace River drainage may belong to the Paleo-Indian stage, but their age cannot be determined on the basis of present evidence. Among these are doubly pointed specimens which resemble early Siberian types. Similar forms have a wide distribution in the Americas, having been found in early contexts not only in the United States, where they are most common in the Northwest, but in Mexico, in Venezuela, and as far south as Argentina. In the Peace River area are also found large lanceolate points reminiscent of the Browns Valley type but which lack parallel flaking.

Turning next to the Meso-Indian stage we find certain interesting differences. It may be noted that there is a marked change in the choice of lithic materials used. Most Paleo-Indian points were made of fine grained siliceous materials, many of which came from quite distant sources. This, perhaps, reflects the fact that materials that were locally available were largely pebbles, rarely over two inches long. The use of this material would have necessitated a considerable reduction in size of projectile point. Also, it does not flake very well. It seems probable that not only size but quality of material was an important consideration for the early people who were master craftsmen. The later people, on the other hand, used smaller points and were content to produce weapon tips that were perfectly serviceable but which reflected no particular aesthetic drive. They made extensive use of the small black pebbles that were readily available.

During Meso-Indian times developments in Alberta closely paralleled those in the Northern Plains of the United States during the period that began some 5000 or 6000 years ago (3000-4000 B.C.). There are, however, some extremely interesting differences. Perhaps the most significant is the extreme scarcity of implements used in the preparation of plant foods. Sites in the Plains area of the United States have provided evidence of so great a dependence on plant foods and small game that the term "Foragers" has been applied to the people of this stage. In Alberta, however, the dependence continued to be on hunting. It seems quite possible that climatic conditions may have varied in the two areas and that the Altithermal, which farther to the south was characterized by aridity and desiccation, was in Alberta truly a climatic optimum, and



big game continued to be available and provided the chief basis of the economy.

Projectile points were somewhat smaller than those found in Wyoming and Montana, but this is probably due to the nature of the raw material that was most easily obtainable. Basal grinding, found occasionally on Montana specimens but not on those from Wyoming, was very common on Alberta specimens. They also exhibited a somewhat greater tendency toward deliberate thinning through the removal of longitudinal flakes. McKean Lanceolate and Hanna points are well represented in collections from the southern half of the Province, but there is a surprising scarcity of Duncan points (types as defined in Wheeler, 1954). There is also a much greater percentage of large points with concave bases and conspicuous, rounded, ear-like projections. These occur only in small numbers in the United States sites, but are very common in southern Alberta, and many have been found in Saskatchewan. Some extremely large specimens with similar shapes found in the Edmonton area may have served as knives. In Alberta there are large numbers of hafted spoke-shaves, a type which is present but not common in Wyoming and Montana sites. Farther to the north in the Grand Prairie and Peace River sections there are some of the eared points, but the most common type is a longer and more slender straight based point with side notches.

All collections contain many snub-nosed scrapers, which were used in all stages. Vast quantities of bifacially flaked objects, ovoid to piriform in outline, which probably served as cutting implements, are found in all parts of the Province. Some of these may be of Paleo-Indian age, but many undoubtedly belong to the Meso-Indian stage, and some may be still younger. There are a few polished animal effigies, thought to have been used as atlatl weights, which are probably of Meso-Indian age.

There are some artifacts that are of interest although, on the basis of present knowledge, they cannot be attributed to any particular period or developmental stage. Among these is a unique type of axe, produced by flaking, and with a notch on each side. There are also crude objects that resemble coup-de-poings that occur in collections and which were found in some quantity by Dr. Douglas Leechman (personal communication) in the Lake La Biche area. Some are almost certainly of Meso-Indian age, but some could be older.

In the Peace River area a number of farmers, in the course of plowing, have found curious caches of large, bifacially flaked, ovoid specimens. Some pieces are as much as ten inches long. They cannot be regarded simply as blanks since many of them show definite marks of usage along the edges, but their function and the reason for their concentration in caches is unknown. There is no way of estimating their chronological position.

In view of the location of the Province one might expect the prehistoric cultures of Alberta to show some Arctic affiliations. Some of the earliest migrants into the New World who moved through the Arctic must have traversed this area, but we have found no evidence of their passage. Paleo-Indian traits, such as fluting, which are occasionally found in the far north probably had a western Canadian source. In general, however, the basic orientation of prehistoric Alberta cultures was toward the Plains rather than toward the Arctic.

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