Chapter 20

Projectile Points and Prehistory in Northwestern North America

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Northwestern North America is of more than passing interest to all New World prehistorians because all three feasible routes by which early migrants could have come south from Beringia traverse parts of this area. The ice free corridor east of the Rocky Mountains was open by at least 10,500 BP since DNA analysis of bison remains from the earliest component at Charlie Lake Cave indicates that bison from both north and south of the glaciated regions were present at that time (Shapiro 2004). An alternative route, the Rocky Mountain Trench west of the Rockies, has so far only yielded artifacts belonging to the same time periods as Charlie Lake Cave, and nothing earlier (Ch. 17). On the Coast the earliest optimal time for movement south from Beringia would have been when the tundra-covered coastal plain was still above sea level during the interval between the melting of glacial ice on the outer coast and its later submergence, caused by the melting of glacial ice and isostatic rebound of the coastal mountains of the inner coast. DNA studies of the On-your-knees Cave skeleton (Kemp 2007) do suggest some coastal movement of early peoples. The earliest firmly dated coastal evidence is at K1 Cave in Haida Gwaii dated 10,800 to 10,500 BP (Ch. 3) and at On Your Knees Cave dated 10,300 BP (Ch. 2). None of these assemblages are early enough to be ancestral to Clovis or potential proto-Clovis assemblages found south of the glaciated regions. The debate on the most probable route of entry into sub-glacial North America will continue until such time as fully accepted archaeological evidence firmly dated to somewhat before 11,000 BP is discovered in the proposed corridors. Since the coastal route is now underwater, and people crossing glaciers, such as is known from accounts of eighteenth century Athapaskan movements (Cruikshank 2005:33–40), may leave no remains, archaeological evidence will be difficult to come by.

Period 1: >11,000–8000 BP (12,900–9000 cal BP)

Projectile points are few in number at the beginning of this period, but do indicate the presence between 11,000 and 10,000 BP of two regionally clustered traditions of making bifacial chipped stone projectile points: a Fluted Point tradition, and a Foliate Biface tradition. Points within these two traditions did not remain uniform throughout this period, but continued to evolve into different forms. In addition to these two early traditions and their derivatives, two additional projectile point traditions, the Microblade tradition and the tear-drop Chindadn point tradition, made their appearance between 10,000 and 9000 BP.

The Foliate Biface Tradition

North of the Strait of Juan de Fuca on the coasts of British Columbia and southeast Alaska the bases of the earliest known points are not fluted, but are either rounded, flattened, or pointed. Some are asymmetric, and while they have been treated as projectile points in this volume, many may have

served primarily as knives, so naming this a biface tradition seems appropriate. These bifaces are mostly willow-leaf (narrow) with some laurel-leaf (broad) foliates with tapering lower margins forming a stem and many exhibit lateral grinding on the basal margins. The earliest points are present by 10,600 BP and are soon accompanied by weakly shouldered stemmed forms by at least 10,200 BP (Ch. 3). Shouldering, produced by off-sets on both edges of the lower margins of the point, logically developed from a foliate form with a lower margin tapering to a pointed or slightly rounded base. These early foliate points are found at On Your Knees Cave (Ch. 2), at several sites in Haida Gwaii (Chs. 3, 4), at Namu (Ch. 5) and in the earliest component at Ground Hog Bay (Ackerman 1968). They are also present at the Milliken site (Ch. 1) in the Fraser Canyon between 9000 and 8000 BP, and as part of Cluster 1 from the Stave River on the lower Fraser drainage with an estimated beginning date in excess of 8150 BP (Ch. 10).

Foliate bifaces are present on the Columbia Plateau at Sentinel Gap by 10,680–10,010 BP (Ch. 12) the same time as on the Coast, and somewhat later on the Fraser Plateau at the Prince George site (FlRq–013) (Ch. 16) by 8770 BP. Galm and Gough (Ch. 12) compare the Sentinel Gap points with Haskett points from Southeastern Idaho that have some of the same attributes, and date 10 ± 300 to 9860 ± 300 BP (Butler 1978:65), and are found in a number of other sites in eastern Oregon dating mostly between 10,500 and 9540 BP (Minor and Toepel 1984:33). It remains to be determined whether the Sentinel Gap points are closer in form to those from the northern Northwest Coast or to the Haskett points, or whether their similarities justify lumping them all together.

The Foliate Biface tradition, that is part of what is called the Old Cordilleran Culture by some researchers and the Pebble Tool Tradition by others, presumably has its immediate precursers to the north that are now underwater, and more distant origins in southeast Siberia or Kamchatka where foliate bifaces are common. Fedje et al. (Ch. 3) suggest relationships between the early Haida Gwaii assemblages and those from the Uptar and Kheta sites. More detailed comparisons of all these widely scattered early assemblages of similar, though not identical, bifacial points are necessary including comparisons with Northern Cordilleran (Clark 1983).

The Fluted Point Tradition

There are two types of fluted points in our area: Clovis fluted (Figure 1) and Peace River fluted (Figure 2). Clovis fluted points are found on both the Coast and Columbia Plateau in Washington (Chs. 8, 11), south into Oregon (Willig 1988) and California (Jones and Klar 2007), east through the prairies of Alberta and Saskatchewan, and south through the continental United States into Mexico and Central America (Bonnischen and Turnmire 1991). The East Wenatchee cache (Gramly 1996; Mehringer and Foit 1990), is the only excavated Clovis site on the

Figure 1. Clovis fluted point from the East Wenatchee cache.

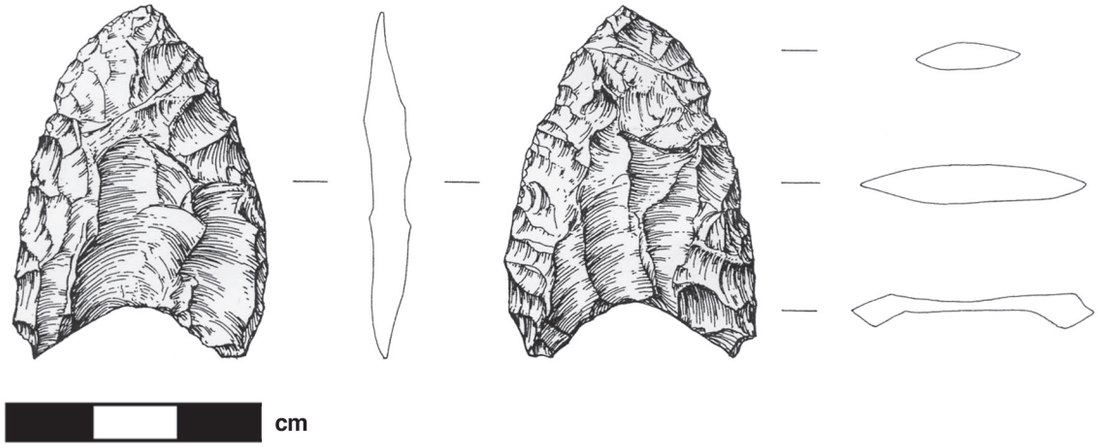

Figure 2. Peace River fluted point from Charlie Lake Cave dated 10,500 BP. Drawing by Brian Seymour courtesy of Jon Driver.

Columbia Plateau, but there are also isolated finds. The continuous distribution of Clovis fluted points, their rapid dissemination and chronological position at the bottom of the archaeological sequence in most of sub-glacial North America, and the specialized technical proficiency required to make such points indicate that Clovis points were products of a highly nomadic founding population in most of their area of distribution (see Bonnischen and Turnmire 1991:309 for other opinions). All of these factors suggest that Clovis points originated in the New World, probably in the eastern United States, and that their occurrence on the Northwest Coast at the outer margin of their distribution is slightly later than elsewhere. A time transgressive model of the spread of Clovis points cannot be validly demonstrated because of fluctuations in the levels of atmospheric carbon during the Younger Dryas that make precise radiocarbon dates during the Clovis period highly questionable (Bjork et al. 1996; Fiedel 1999) even though there have been valiant attempts (Buchanon and Collard 2007).

The overall distribution of Clovis fluted points indicates that their makers spread into the Northwest from the south and the east, and reached as far west and north as Puget Sound on the Coast and almost as far north as the Canada/U.S. border on the Plateau. As far as can be determined the makers of Clovis fluted points were the initial migrants to this area. Was there any reason for them or their descendants to leave? In the face of the changing environments of the late Pleistocene the choices were either to adapt to new conditions or to follow the retreating glacial environment. The projectile point data suggest that different Clovis bands followed different options. Clovis fluted points may be seen as evolving in two directions—one toward the Peace River fluted type (Figure 2) that probably originated on the southern Canadian prairies, spilled over onto the Fraser Plateau, and continued to spread north into Alaska, and the second evolving in the Great Basin toward the concave-based stemmed type (Figure 3) and related Windust phase types that constitute the Intermontane Stemmed Point tradition (Carlson 1996). The same process was at work to the east on the Plains as Clovis evolved into Folsom and even further east and south where there are numerous descendant types (Justice 1987).

The Peace River fluted type (Figure 2) on typological grounds appears to be a Clovis derivative made as fluting was going out of style, and is best represented in collections from east of the Rocky Mountains in Alberta and Saskatchewan (Carlson 1991; Ives 2006). This type is smaller, thinner, and has multiple thinning scars originating from a concave base. The type may be present on the Fraser Plateau (Ch. 13) as well as in the Peace River region (Ch. 17). The type should be viewed as intermediate in time and distribution between Clovis fluted and Arctic fluted points that have many of the same attributes (see Clark 1991). The only radiocarbon dated example is the one from Charlie Lake (Fladmark 2003).

The best current evidences for proto-Clovis, meaning the ancestral culture in which the custom

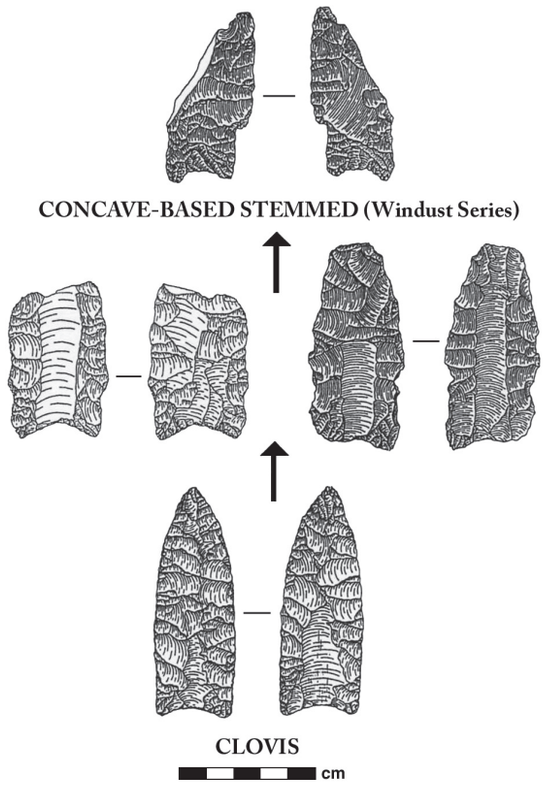

Figure 3. Points suggestive of development of the stemmed concave-based Windust point from the earlier Clovis fluted type. Adapted from Willig (1988).

of hafting points by fluting the base took place, are the early assemblages at Meadowcroft Rockshelter and related sites in Pennsylvania (Adavosio et al. 1983; Adavosio and Pedler 2004), and the Cactus Hill site in Virginia (McAvoy and McAvoy 1997). Both sites have genuine artifacts rather than geofacts, but the debate continues as to their pre-Clovis temporal position. However, both sites do have blade and biface technology that is the logical precurser of fluting (Carlson 1991), and both have radiocarbon dates that pre-date Clovis. Clovis fluted points did originate somewhere, and assemblages at these sites are at present the best candidates as progenitors. Proto-Clovis technology should include both bifaces and blades and when the two were combined to produce fluted points Clovis emerged as a recognizable cultural entity. Ultimate origins, before fluting was invented, are probably in northern Siberia from a culture like that of the much earlier Yana RHS Site (Pitulko et al. 2004) with its bifacial technology and Arctic hunting and survival skills dated about 25,000 BP. The questions as to how proto-Clovis peoples reached eastern North America and exactly when, remain unanswered.

The Intermontane Stemmed Point Tradition

There has been a tendency to treat Clovis as if it were separate from later North American cultures. In our opinion it is unreasonable to think that peoples bearing a culture as vigorous as Clovis simply disappeared and were totally replaced by later peoples. There should be transitional forms between Clovis fluted and later points. Makers of Clovis fluted points, sometimes referred to as western Clovis, occupied the Columbia Plateau and Great Basin, and it is probable that the tradition of concave-based stemmed and shouldered points in that area evolved from Clovis (Figure 3).

These stemmed and shouldered points of the Columbia-Fraser Plateau mark the northern extension of a post-Clovis tradition centered between the Rocky Mountains on the east and the Coast-Cascades-Cordilleran range on the west (Carlson 1983a, 1990:61). There are sites such as Smith Creek Cave in Nevada (Bryan 1979) and Fort Rock Cave in eastern Oregon (Bedwell 1970) that have yielded stemmed points in contexts with radiocarbon dates as early as or earlier than Clovis, but in the former case these dates are accompanied in the same stratum by younger dates within the range of the Stemmed Point Tradition at other sites, and in the latter the large standard deviation of the date makes it useless for precise chronological placement. Musil (1988) has pointed out the advantages of stemmed over fluted forms. It has been hypothesized that the stemmed, concave-based type found in Marmes I, Fort Rock Cave, and at the Dietz site in eastern Oregon (Willig 1988) is a transitional form (Carlson 1988:321) between Clovis fluted and the later stemmed points. Marmes I has two radiocarbon dates on charcoal, 9840 ± 300 BP and 10,130 ± 300 BP, and earlier dates on shell (CAA Radiocarbon Database). This provisional transitional type is also found in Component 1 dating 9920 ± 470 BP at the Paulina Lake site in eastern Oregon (Connolly 1999), and what appears to be the stem of a point of this type was found in the basal cultural deposit in the Connley Caves with radiocarbon dates of 9540–7530 BP and an obsidian date even earlier (Beck et al. 2004). Broken stems of this type appear to be common in eastern Oregon

and have sometimes been classified as fluted points (Musil 2004), another indication of their transitional nature. There is one point base of this type from the South Thompson River on the Fraser Plateau (Figure 4) collected by Knut Fladmark. This tradition persisted to about 8000 BP on the Columbia Plateau when it was replaced by small foliates called Cascade points (Rice 1972), but continued later on the Fraser Plateau where the typical points of the Early Nesikep period (Ch. 13) look like derivative forms.

The Chindadn Tradition

Chindadn points are small, thin teardrop shaped bifaces usually made on flakes with marginal retouch (Cook 1996:325). They are known best from the Nenana Complex in central Alaska with an average date of 11,300 BP (Pearson 1999), but are also known from Siberia at the site of Berelekh (Mochanov and Fedoseeva 1996, Fig. 4–2l) and at later sites in Alaska dating 9500–8500 BP (Dixon 1993:86). In the Yukon (Ch. 19) these points are also present by 9500 BP. On the Coast they are found in Haida Gwaii (Fedje 2003, Fig. 3:6), at two sites in the Bella Coola Valley, and at Namu on the central B.C. coast (Ch. 5). Carlson (2008) suggests they were introduced to the northern Northwest Coast, when the coastal plain was still covered with tundra, by caribou hunters from the Yukon.

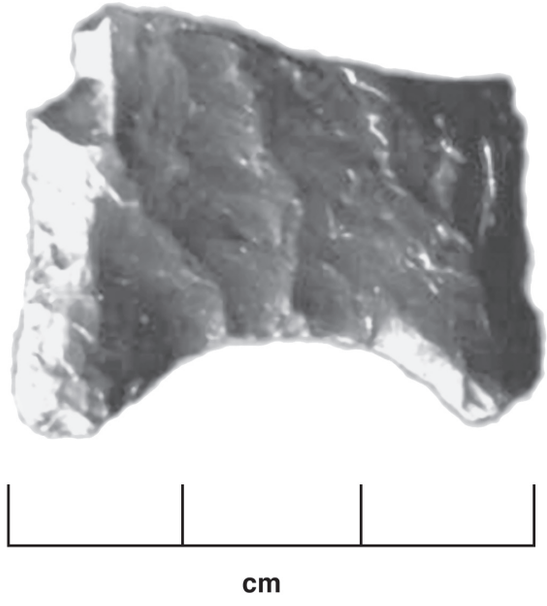

Figure 4. Base of the type of projectile point that can be confused with the Clovis fluted type. From the South Thompson River region in British Columbia. Courtesy Knut Fladmark.

The Microblade Tradition

Microblade technology in the Northwest includes the use of microblade segments as insets in organic hafts to make projectile points (Carlson 1983a, b). This technology is earliest in northeast Asia, later in Alaska, and still later in the Pacific Northwest. The earliest known microblades in Alaska are at the Swan Point site where they both precede and follow a component of the Nenana complex (Holmes 2007). Microblades are present by 9000 BP on the northern Northwest Coast and are found later further south into western Oregon. This technology is generally considered to have been introduced by ancestral NaDene (Tlingit, Haida, Athapaskan) speakers moving throughout this area (Magne and Fedje 2007; Matson and Magne 2007). Microblade types and distributions are covered in detail in Kuzmin, Keates, and Shen (2007). A serious issue yet to resolve is the temporal span of the Microblade Tradition since it does appear to occur well into late prehistoric times, particularly in the Interior.

Period 2: 8000–5000 BP (9000–5700 cal BP)

Both continuity and change are evident in the projectile points of this period. Foliate forms continue but new types of stemmed and notched forms make their appearance. Overall, this period is not well documented.

The Coast

Projectile point data are limited. In Haida Gwaii bone points with inset microblades replaced chipped stone points (Chs. 3, 4). At Namu (Ch. 5) this replacement was also the case, although a single contracting stem point and two foliate points date to this period. To the south on the Fraser River foliate and weakly stemmed forms continue from the earlier period. The best excavated example there is the earliest component from the Glenrose Cannery site near the mouth of the Fraser River (Matson 1976), but there are also a few points from the Milliken site in the Fraser Canyon (Ch. 1). Foliate points continue to dominate coastal asssemblages during this period but tend to be smaller

in size than earlier and are accompanied by a few points with a contracting stem that become the dominant type in the next period. These points indicate continuity from the earlier period. Side notching is unknown on the Coast at this time. The only intrusive points from the Plateau are points with the corner removed to form a rectanguloid parallel-sided stem that are found in small numbers in the Stave River watershed off the lower Fraser River (Ch. 10, Fig. 12), and bear a striking resemblance to Scottsbluff points and to some Windust points (Ch. 13; Figure 3).

Columbia-Fraser Plateau and the North

On the Columbia Plateau this time period is marked by several changes in projectile points. The first was the shift about 8000 BP from the stemmed points of the earlier Windust phase to the small foliate bifaces of the Cascade phase (Rice 1972). This change in point form accompanied a shift in subsistence from land mammal hunting to anadromous salmon fishing, and it is possible that these small foliate points of which many have serrated edges served as end-blades on salmon spears. Small foliate Cascade points are found in earlier assemblages on the Columbia Plateau, but are scarce relative to stemmed forms. Various forms of notching appeared during this period. The Cold Springs side-notched type on the Columbia Plateau began about 6000 BP (Ch. 11).

On the middle Fraser River in the Early Nesikep phase (7500–6000 BP), notched forms made by either corner removal of the basal margins, which is probably a continuation of earlier Windust forms, side notching, diagonal corner notching, and rarely diagonal notching of the base near the corners are the common forms (Ch. 13). The northern part of the Fraser Plateau is essentially unknown at this time period except for points from private collections that resemble Plains types (Ch. 15). In the North (Chs. 17, 18) points with the corner removed and side-notched points are also found, and there are some simple foliate forms. Side-notched types are well known on the western Plains at this time period (Walker 1992) and this innovation may have spread to the Plateau and the North from there.

Period 3: 5000–2000 BP (5700–1900 cal BP)

This period is the best known period on both the Coast and Plateau. It is marked by seasonal sedentism with permanent villages in both areas, and by heavy reliance on preserved salmon.

The Coast

Foliate and contracting stem forms and large lanceolate points continue to be found on the central B.C. coast in small numbers. One corner-removed point, made of exotic material and probably traded from the Interior, was found at Namu (Ch. 5). The lanceolate points with faint shoulders and long stems from Prince Rupert Harbour and the Skeena River (Ch. 5) are of similar form to the earlier foliate bifaces found in Haida Gwaii, and could be derivatives although there is a considerable time gap between them. Suprisingly, microblade technology disappears from both the northern Coast and the central B.C. coast about 5000 BP, but continues later in southern coastal British Columbia.

The Coast Salish region (Chs. 6–10), centered on the Fraser River and off-shore islands, is the best know coastal region of this period, and becomes identifiable as a cultural entity recognizable by possession of a common set of projectile points. Simple foliate forms continue from earlier periods, but contracting stem types became dominant early, barbed and expanding stem forms appear as minor types, and triangular types become dominant toward the end of this period. The contracting stem form looks to be the same as the type called Mahkin shouldered (Chs. 11, 14) on the Columbia Plateau. It is also during this period, beginning by 3500 BP, that many of the sociocultural complexes of the ethnographic period are first known (Carlson 1996:Ch. 20).

The Columbia-Fraser Plateau and the North

Various forms of notching are common on points of this period. Corner-notched points producing barbs dominate the Plateau Horizon on the central Fraser Plateau (Ch. 13). On the Columbia Plateau corner-removed points became the norm, and were followed by corner-notched and basally-notched forms about 2000 BP (Ch. 11). On the central Fraser Plateau diagonally side-notched forms of the Lehman phase are common early and are followed by simple leaf-shaped forms that are then side-notched (Ch. 13). This change is suggestive of an up-river movement of people from the Coast related to salmon exploitation. In the Yukon lanceolate Agate Basin points

are found as are concave-based, lanceolate corner-notched, and stemmed forms (Chs. 17, 18).

Period 4: 2000 BP to Contact (1900 cal BP to Contact)

This period is the period of the bow and arrow, and is marked first by a change in the size of chipped stone points and then by a change in form from corner notched to side notched. The atlatl is still found early in this period. Two prehistoric atlatls are known: one from the mouth of the Skagit River dated at 1700 ± 100 BP (Fladmark et al. 1987) and a second from Quiltanton Lake on the central Fraser Plateau dated 1950 ± 100 BP (The Midden 1988:8). This new weapons system impacted on not only projectile point size and hunting practices, but on warfare and settlement types (Maschner and Maschner 1998).

The Coast

Chipped stone points, usually triangular, continued in use in the Coast Salish region until 1500 BP or slightly later. We suspect that this type of triangular point is a harpoon end-blade, and was eventually replaced by triangular ground slate points. By the middle of this period the few chipped points found are either small diagonally corner-notched or side-notched forms with the latter seeming to be the later type as on the Plateau. The period between 2000 and 1600 BP in the lower Fraser-Gulf of Georgia region marked the end of the climactic Marpole phase. This event coincided with both the introduction of the bow and arrow and a climate change affecting the abundance of salmon on the Fraser River (Carlson 2008). It is possible that the bow and arrow was actually present in the earlier Marpole phase as there are barbed points made of antler that could have tipped arrows (Ch. 6), although we know the atlatl was still known as late as 1700 BP.

The Columbia-Fraser Plateau and the North

Small side-notched points dominate this period after about 1600 BP although barbed bone arrow points are common in the Yukon (Ch. 18). Also found in the northern Fraser Plateau are the small contracting stemmed Kavik points (Ch. 15) indicative of Athapaskan affiliation. Magne and Matson (Ch. 15) present a quantitative technique for differentiating small arrow points made by Athapaskans from those made by Salishan speakers. Barbed forms persist in the southern Columbia Plateau (Ch. 11) whereas side-notched points are typical further north.

Summary

Our simplified model of Northwest prehistory using projectile points as our main referent is that during the Younger Dryas between 11,000 and 10,000 BP two different peoples moved into the Northwest. At the present time the evidence is essentially equivocal as to who arrived first into what we now know as British Columbia—people making foliate bifaces arriving in the coastal northwest, or people making fluted points arriving in the intermontane northeast. Both date to about 10,500 BP. Between 10,000 and 9000 BP two additional projectile point technologies arrived from the north: tear drop Chindadn points, and microblades used as insets in bone points. Peoples bearing these technologies adapted to the changing environmental conditions of the late Pleistocene and Holocene, and projectile point forms evolved as a result of both adaptational and historical factors.

In the Interior Clovis fluted points evolved in two directions, one toward the Peace River/Charlie Lake type of point and the other toward the concave-based corner-removed stemmed point found in Windust and sites south into the Great Basin. Bifacial chipped stone projectile points became rare in coastal regions, first on the northern Northwest Coast, then on the central B.C. coast, and finally in both the Gulf of Georgia/Puget Sound/Fraser River region and in the Yukon, but continued to evolve in the Columbia-Fraser Plateau. On the Coast foliate forms of chipped stone points initially flourished and evolved first into contracting stem types, and then in those regions where bone points or microblade inserts didn't dominate until later, into expanding stem and notched forms. Influences from the Plains brought in side-notching and corner-notching first to the Plateau and then to the Coast. The arrival of the bow and arrow about 2000 BP saw a reduction in size of corner-notched types followed by development or introduction of small side-notched points.

After the population movements of the early period projectile point types and styles are generally indicative of cultural and ethnic continuity in the

Northwest, although there is a need for both more data from some time periods and more detailed comparative studies in order to better understand, for example, the nature of the time-space transgressive patterns that are apparent in the Early Period with respect to bifaces and microblades, and in the Middle Period with respect to points of the McKean-Duncan-Hanna forms. Many quantitative comparisons remain to be done. Additional detailed attribute and spatial analyses of the small arrow points of the late period could well lead to correlations of types with different ethnic groups.

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