

# THE TAIGA PERIOD: HOLOCENE ARCHAEOLOGY OF THE NORTHERN BOREAL FOREST, ALASKA

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## ABSTRACT

It is difficult to place archaeological material from mid-to-late Holocene sites in interior Alaska and adjacent Yukon into coherent chronological classification schemes that have broad acceptance and utility. Workman's (1978) synthesis of Southwest Yukon archaeology is an exception, and is still a touchstone after thirty years. A "vague and variable" Northern Archaic tradition is often evoked for Alaskan notched point assemblages with and without microblades. "Northern Archaic" has become a catchall term for numerous artifact collections found between Anderson's Northwest Alaska and Workman's Southwest Yukon sequences. An overarching framework, neutral to current terminology, is proposed to accommodate local and regional classifications. Data from Lake Minchumina, Swan Point, and other interior sites form the basis for the Taiga period that is divided into early, middle, and late cultural periods.

**KEYWORDS:** Northern Archaic tradition, microblade, notched point

## INTRODUCTION

Holocene archaeology of the northern boreal forest is not well studied, documented, or understood. A clear and detailed chronological framework has eluded researchers because of the lack of stratified sites with cultural components that represent a continuous record from late Pleistocene through Holocene times. Many interior archaeological collections are quite small and often lack adequate radiocarbon dates. As a result, archaeologists have tended to rely on specific artifact traits to help with dating and cultural classification. The term "Taiga period" was proposed more than a decade ago (see Holmes 1995) to refer to the Holocene archaeological materials of the northern boreal forest region. This terminology was an outgrowth of earlier work where it was suggested that the Northern Archaic in the greater Tanana Valley could be viewed in

terms of early and late developments (Holmes 1979). The Taiga period is divided into early, middle, and late cultural periods that begin about 7500 bc.<sup>1</sup> The time prior to the Taiga period is a "Transitional Period" that is in turn preceded by the "Beringian Period" (Holmes 2001). The central Alaska prehistoric divisions are a device to divide time into neutral units as background to the diverse cultural units found in Alaskan archaeology (Fig. 1).

## BERINGIAN PERIOD

Briefly, the Beringian period includes the earliest discovered archaeological remains in Alaska. The landscape was open, treeless shrub tundra dominated by dwarf birch and willow, but with significant amounts of grasses,

1 All dates contained in this paper are given in calendar years based on calibrated radiocarbon dates (Bronk Ramsey 1995, 2001; Reimer et al. 2004).

sedges, and forbs that supported now extinct fauna, e.g., horse and mammoth. During this time, Alaska was still connected to Siberia via the Bering Land Bridge, thus it is not surprising to find in Alaska archaeological evidence of microblade technology that resembles that of the Dyuktai culture found in Siberia (Mochanov and Fedoseeva 1996). Early microblade technology, based primarily on the Yubetsu/Dyuktai technique (Chen 2007; Kobayashi 1970), was widespread throughout Beringia at this time. Thus far, Swan Point is the only site in Alaska that meets the criteria of age (12,000 BC), artifact inventory, and microblade production technique (Fig. 2) to be included in Phase I of the East Beringian tradition. The East Beringian tradition only includes sites that are older than ca. 9,500 BC (11,500 BP) and does not include the American Paleoarctic tradition or Denali complex, both of which I consider to be completely “Alaskan prodigy,”

i.e., descendants of earlier north Asian/Siberian traditions but with distinct tool manufacturing techniques (Holmes 2001:156). I see the abandonment of the Yubetsu/Dyuktai technique in favor of the Campus technique (cf. Anderson 1970; Mobley 1991; West 1967, 1984) in microblade technology as significant in defining the early Holocene prehistory in Alaska.

### TRANSITIONAL PERIOD

The transitional period begins at the start of the Younger Dryas climatic interval, ca. 11,000 BC, and was marked by significant changes in climate and animal extinctions (e.g., mammoth and horse), as well as changes in technology. The American Paleoarctic tradition and Denali complex, although clearly grounded in ancestral Siberian technology, took another trajectory. Communication between Alaska and the rest of North America became possible along an interior ice-free corridor (Catto 1996; Clague et al. 2004) after ca. 11,000 BC. This may have resulted in phenomena such as the Nenana complex in the

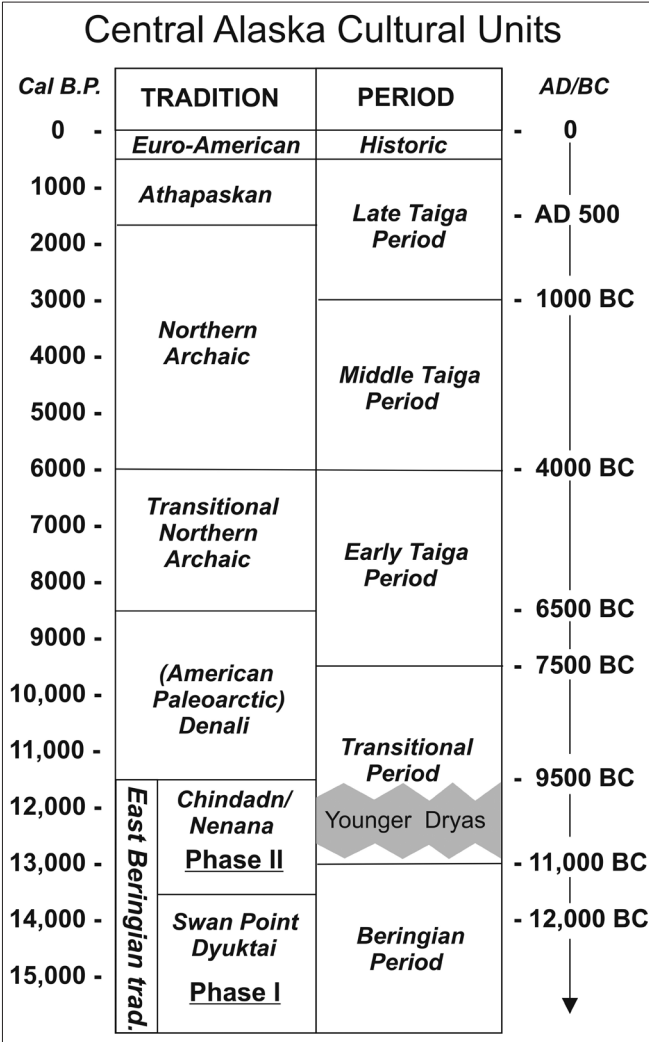


Figure 1. Outline of Cultural Units for Central Alaska.

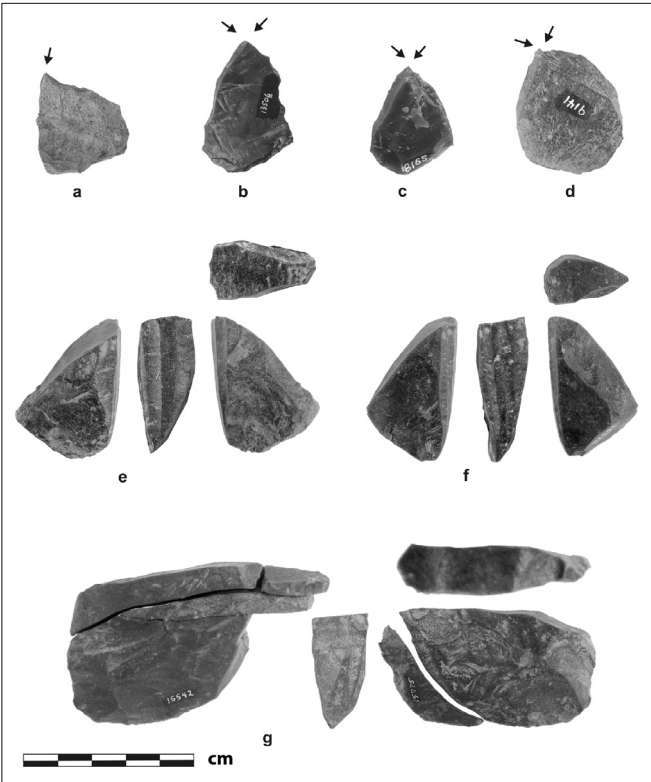
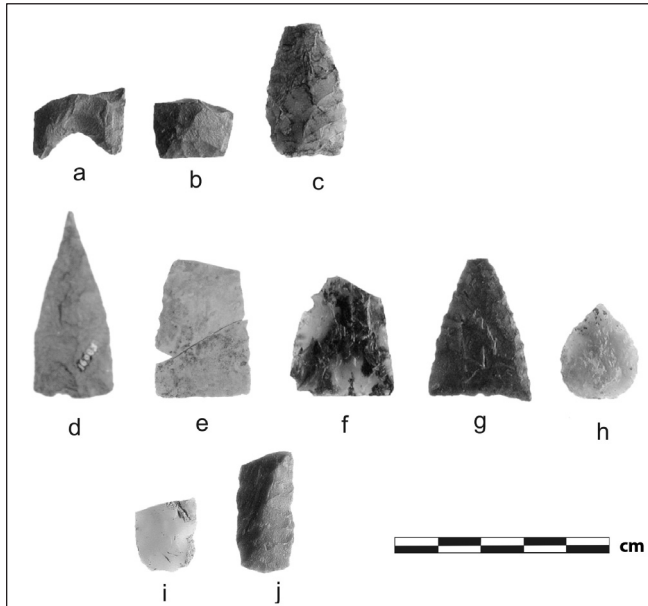


Figure 2. East Beringian tradition artifacts from Swan Point Cultural Zone 4 (c. 12,500-12,000 BC), > Level 15: a, transverse burin; b-d, dihedral burins; e-f, exhausted microblade cores; g, microblade core with refit “ski” spalls and frontal spall.

interior and the later Mesa complex in northern Alaska, which appeared with no apparent Siberian antecedent. In Cultural Zone 3 at Swan Point, ca. 10,000 BC (Table 1), there was a notable decrease in microblade production and emphasis on small biface points (Fig. 3). Swan



**Figure 3.** *Transitional Period artifacts from Swan Point Cultural Zone 3: Level 9 bifaces, a, concave base; b, straight base; c, trianguloid form; levels 10-11 bifaces, d-g, trianguloid forms (f, with graver spurs); h, “tear drop” round base; Level 12 i, small lanceolate base; Level 14 j, small lanceolate form.*

Point Cultural Zone 3 and other sites or components with Chindadn biface points are delegated to Phase II of the East Beringian tradition. Dwarf birch shrub tundra continued to dominate the landscape; however, willow increased by 10,000 BC and *Populus* was significant by 9000 BC. Spruce and alder were important elements of the vegetation mosaic by 8000 BC.

## TAIGA PERIOD

The Taiga period, as the name attests, began with a landscape draped in birch-spruce woodland. In central Alaska five environments were all exploited by humans during the Taiga period: (1) periglacial shrub tundra; (2) scrub forest/scrub tundra; (3) gallery forest and/or parkland; (4) birch forest; and (5) black spruce taiga. At 7500 BC the Denali complex or American Paleoarctic tradition was still present, but there were signs that perhaps a nonmicroblade technology may have been present as well, an example being the distinctive biface technology of the Eroadaway site (Holmes 1988).

By about 6000 BC the archaeological record for the Alaskan interior boreal forest fades; there are no sites securely dated and described for the period ca. 6000 to 4000 BC. One possibility for this low visibility is that there may have been a population decrease. The earliest archaeological evidence for the Yukon, outside of Bluefish Caves, is found at sites like the Canyon and Annie Lake, leading some archaeologists to term this evidence the “Northern

**Table 1.** *Radiocarbon dates from Swan Point for the Transitional and Taiga Periods. Calibrated by OxCal 4.0 (Bronk Ramsey 1995, 2001; Reimer et al. 2004).*

Laboratory No.	<sup>14</sup> C Age BP	Calibrated Age 2 σ	Comments	Cultural Zone
Beta 223302	860 ± 40	AD 1040–1270 (910–680 CalBP)	hearth charcoal	CZ 1a
WSU-4523	1220 ± 70	AD 660–970 (1290–980 CalBP)	charcoal	CZ 1a
WSU-4524	1570 ± 70	AD 340–640 (1610–1310 CalBP)	charcoal assoc. w/burnt bone	CZ 1a
WSU-4522	1670 ± 60	AD 240–540 (1710–1410 CalBP)	charcoal	CZ 1a
WSU-4521	1750 ± 80	AD 70–440 (1880–1420 CalBP)	charcoal assoc. w/ burnt bone	CZ 1a
Beta-190580	4260 ± 40	3010–2690 BC (4960–4640 CalBP)	hearth charcoal	CZ 1b
Beta-209886	6610 ± 40	5620–5480 BC (7570–7430 CalBP)	charcoal	CZ 2
WSU-4426	7400 ± 80	6430–6080 BC (8380–8030 CalBP)	charcoal	CZ 2
Beta-190578	10,010 ± 90	10,050–9250 BC (12,000–11,200 CalBP)	hearth charcoal	CZ 3
Beta-170458	10,050 ± 60	10,050–9300 BC (12,000–11,250 CalBP)	hearth charcoal	CZ 3
Beta-56666	10,230 ± 80	10,450–9650 BC (12,400–11,600 CalBP)	hearth charcoal	CZ 3
Beta-209885	10,570 ± 40	10,850–10,440 BC (12,780–12,390 CalBP)	hearth charcoal	CZ 3

Cordilleran Tradition,” implying ties to the northwestern Paleoindian tradition (cf. Clark 1983; Hare 1995:131). It can be noted that the 5900 BC Annie Lake microblade component (Greer 1993; Hare 1995:31) is contemporary with the Canyon site, thereby giving support to Workman’s (1978) inclusion of the Canyon Creek site, despite the lack of microblades, in his Little Arm Phase. Nevertheless, in interior Alaska we do not have a firm understanding of what the archaeology was like during the period 6000 to 4000 BC. Artifacts from Swan Point Cultural Zone 2, ca. 7500 to 4000 BC (Table 1) are sparse but include lanceolate points, large side scrapers, and subconical microblade cores (Fig. 4).

Conventional wisdom suggests that, during the later part of the Early Taiga period, either (1) the Denali complex was changing into the Northern Archaic, with some Denali traits continuing forward, or (2) there was an abrupt change in technology. It has been suggested that Denali traits were lost when a rather large-scale population movement, traceable to the Archaic Tradition of the Plains, followed the northward and westward expansion of the boreal forest (Anderson 1968a, 1968b; Workman 1978). This would account for so-called “pure” Northern Archaic assemblages, i.e., those without microblades. This large-scale migration theory has been challenged by Clark (1992) and others (cf. Morrison 1987), on grounds that there is considerable regional diversity in the Northern Archaic with numerous examples of assemblages that “amalgamate” microblade technology. However, evidence is lacking that would also show a clear continuity of Denali

traits across almost two thousand years, although this hypothesis continues to be tested.

The modern vegetation exhibits fingers of boreal forest extending northward into the Brooks Range and the Kobuk and Noatak drainages, and southward toward Bristol Bay and down toward the Alaska Peninsula. According to Edwards et al. (2000), there is almost no change in the northern position of the tundra/taiga biome distribution in Alaska from around 4800 BC to the present. The boreal forest was well established by the start of the Middle Taiga period, having attained its full extent in Alaska by 4000 BC. Coincidentally, this marks the beginning of the Northern Archaic tradition.

### NORTHERN ARCHAIC AND THE MIDDLE TAIGA PERIOD

The Northern Archaic satisfies the definition of a cultural tradition, defined as any distinctive tool kit or technology that exists relatively unchanged for an extended period of time and usually over an extended area. Anderson defined the Northern Archaic tradition on the basis of a sharp distinction between “Arctic-oriented” and “Interior-oriented” cultural systems. While he has now deemphasized any “strictly ecological connection between the Northern Archaic and a particular habitat” (Anderson 1988:88), there remains a strong correlation between the Northern Archaic and the boreal forest. I would note here that Anderson defined six phases of Northern Archaic at Onion Portage. Notched points occurred only in Phases 1–3 and were the only “point” forms present, whereas Phases 4–6 had a variety of stemmed and “oblanceolate” point forms. It is important to remember that the Northern Archaic tradition is more than just notched points.

It is striking to find the early appearance of notched point sites over such a wide geographic range. Between 4000 and 3000 BC notched point forms are found not only at Onion Portage, but also in the Noatak drainage (Anderson 1972), at Ugashik Lake and Bristol Bay (Dumond 1981; Henn 1978), in the Upper Susitna basin (Betts 1987; Dixon et al. 1985), and in the Tangle Lakes area (McGhee 1971; West 1972). The distribution is probably even greater than depicted in Fig. 5, which plots notched point sites that have acceptable associated radio-carbon dates. A number of sites have bracketing dates or reported dates only relative to the notched point component. Clearly there was a sudden but widespread occurrence of notched points throughout the region.

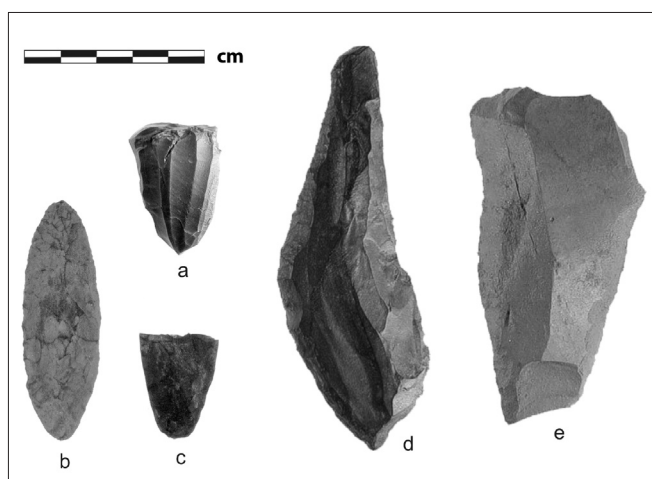
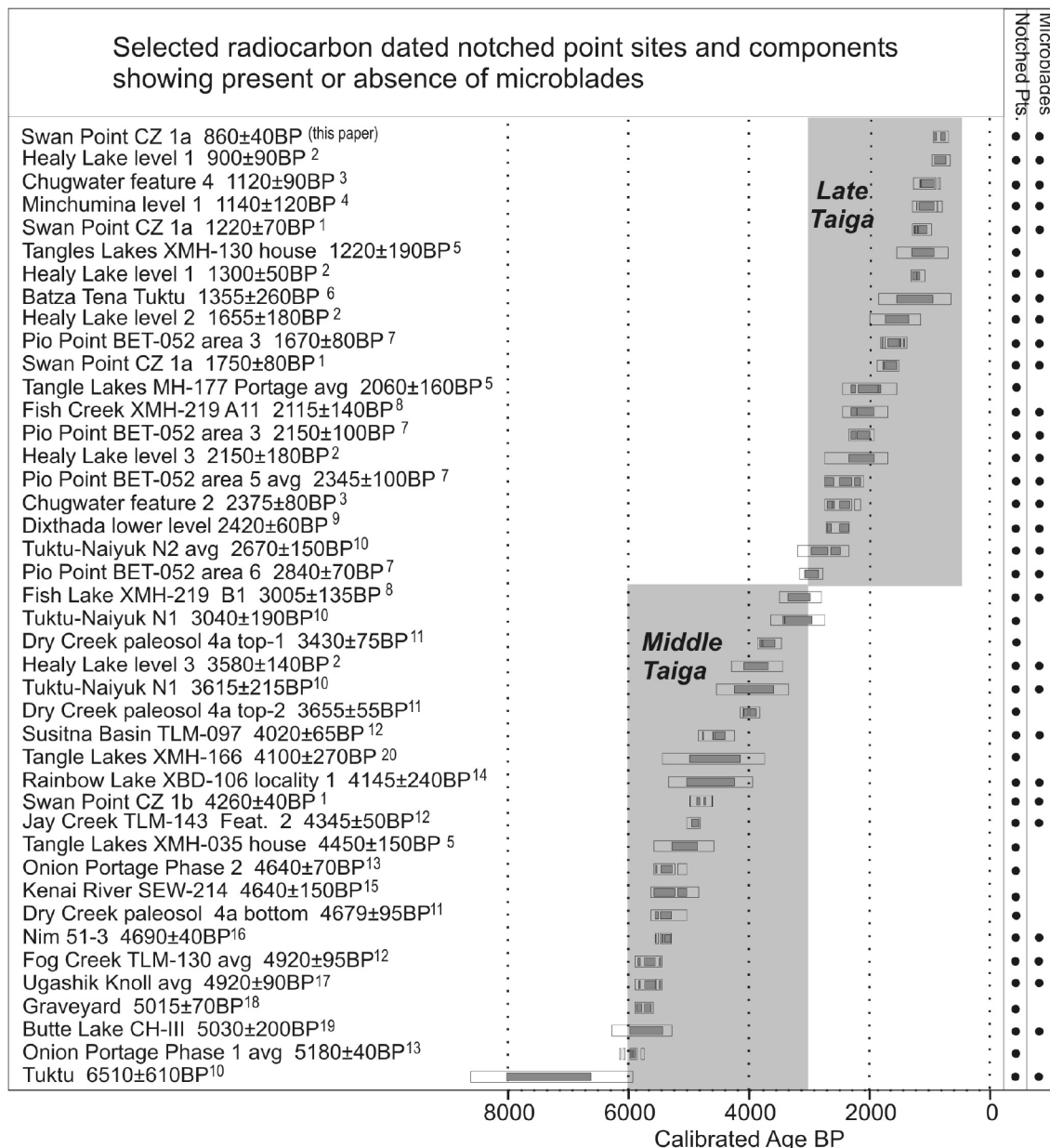


Figure 4. Early Taiga Period artifacts from Swan Point Cultural Zone 2, levels 7-8: a, sub-conical microblade core; b, lanceolate biface; c, lanceolate base; d-e, large unifacial side scrapers.



A clear majority of sites have associated microblades (e.g., at Ugashik Knoll, Butte Lake, and Nimiuktuk-51–3), while other contemporary and regionally close sites lack associated microblades (e.g., at Graveyard and Onion Portage). The point to remember is as follows: just because microblades and notched points are sometimes found associated and sometimes not, we need not divide the Northern Archaic into “pure” and “tainted” or mixed

sites. Not all sites will display every tool in the tool kit. Furthermore, it is important to recognize how small, and therefore biased and perhaps misleading, some artifact inventories are. The significance of sample size is often overlooked when archaeologists evaluate site cultural affiliations. Also, depositional environment affects the potential for mixing assemblages from separated time intervals, especially in shallow sites, and must be evaluated. Evidence



*Figure 5. Plot of uncalibrated radiocarbon dates for Alaska sites with notched points, and their association with microblades. Sources: 1-Holmes 1996; 2-Cook 1996; 3-Lively 1988; 4-Holmes 1986; 5-McGhee 1971; 6-Clark and McFadyen Clark 1993; 7-Dillingham 1994; 8-Cook et al. 1977; 9-Shinkwin 1979; 10-Gal 1982; 11-Powers et al. 1989; 12-Dixon et al. 1985; 13-Anderson 1988; 14-Bacon and Holmes 1980; 15- Holmes 1984; 16-Esdale 2004; 17-Henn 1978; Dumond 1981; 19-Betts 1987; 20-Brandau and Noakes 1978.*

from dated context suggests that we are more likely to find sites with the two traits associated than without. The data demonstrate that microblade technology was integral to the Northern Archaic tradition. There are even hints that microblade technology may have been present in the inventory of artifacts found in the Onion Portage Northern Archaic phases. Anderson lists five microblades and one microblade core in the overall Northern Archaic artifact inventory (Anderson 1988:Fig. 67). Although it is unclear in which phase or band/layer they were found, Anderson clearly does not consider them as part of the Northern Archaic. In the case of the Tangle Lakes Northern Archaic

sites, e.g., Mt. Hayes 35 and XMH-166, it is not clear whether or not microblades were part of the inventory.

It is interesting to attempt to follow the temporal history of notched points in different regions of Alaska. They appear in diverse locations at about the same time, between 4000 and 3000 BC. But in some regions (Northwestern Alaska, Bristol Bay, and the Susitna Basin) they seem to disappear altogether, while in other regions (Tangle Lakes) they reappear around 500 BC. Elsewhere in the Tanana Valley (at Healy Lake, Minchumina, Chugwater, Dixthada, and Swan Point) and the south flank of the Brooks Range, notched points are present at ca. AD 1000.

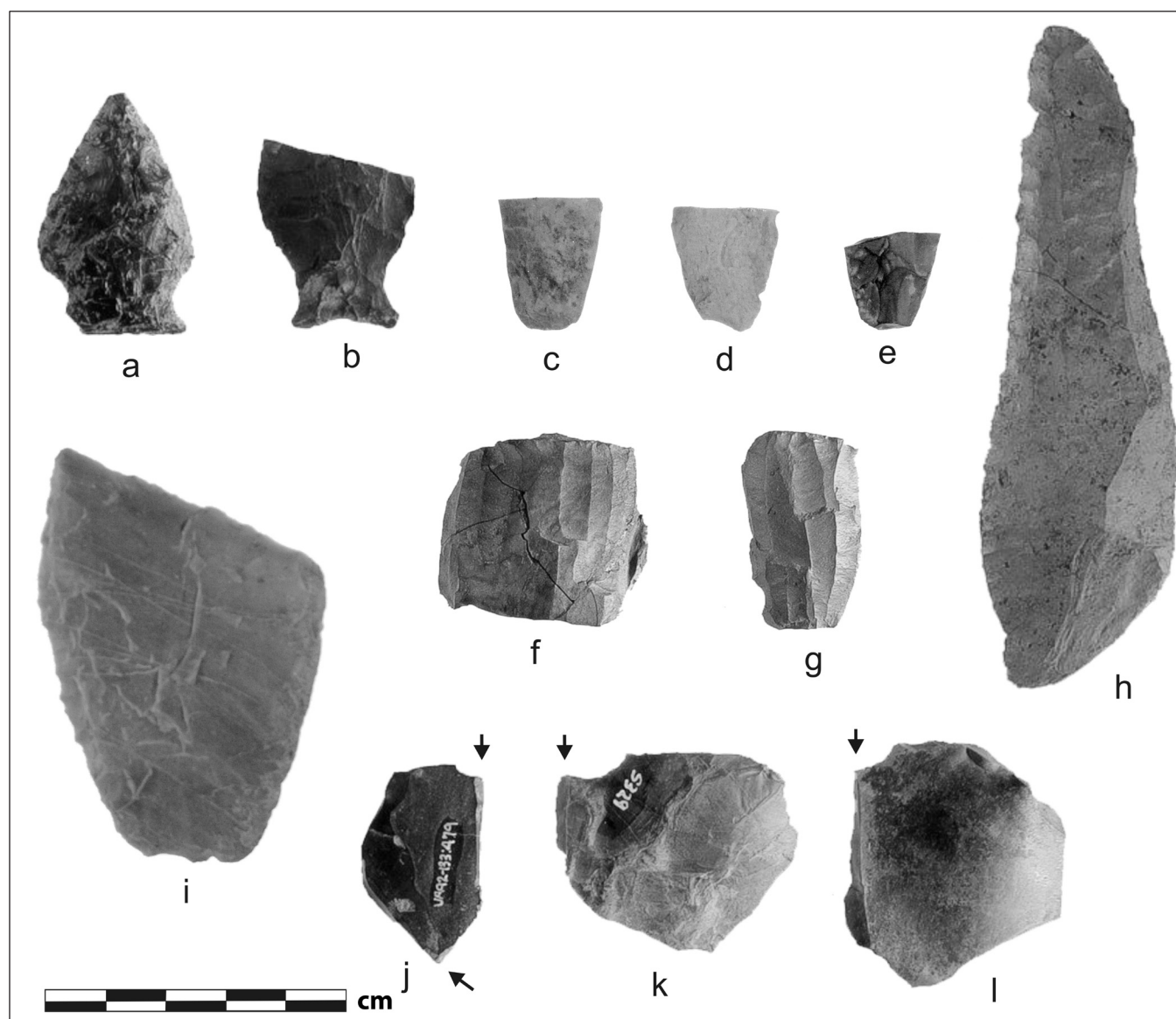


Figure 6. Middle Taiga Period artifacts from Swan Point Cultural Zone 1b levels 5-6: a-b, notched point forms; c-e, lanceolate biface bases; f-g, multiplatform tabular microblade cores; h, large unifacial side scraper; i, large, thin biface; j-l, "Donnelly" transverse flake burins.

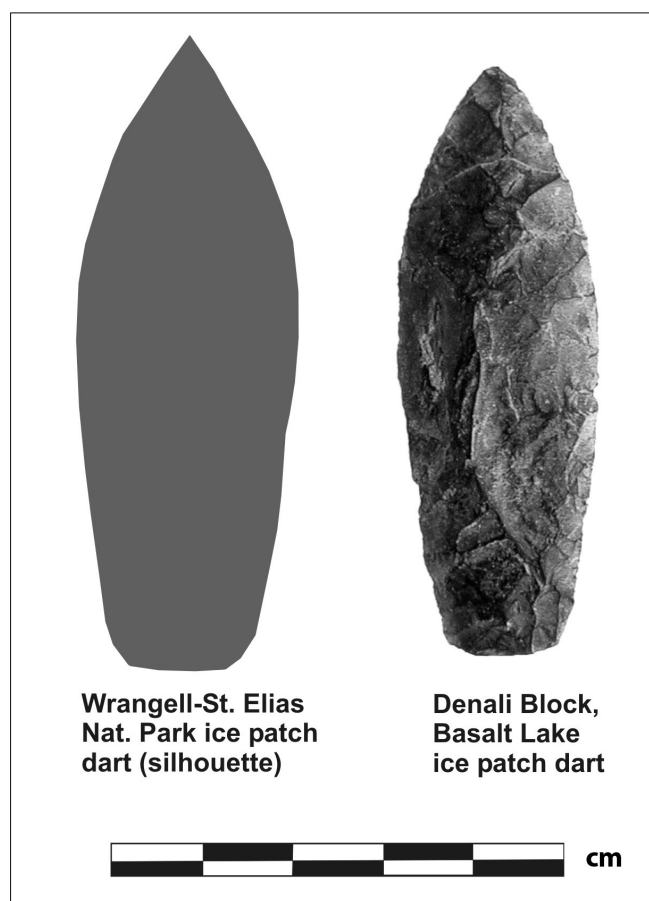
The Middle Taiga period begins with the establishment of the Northern Archaic tradition, which occupied a large geographical unit on the order of a “culture area.” The culture area concept requires that there be continuity of shared cultural traits that were derived from a common base. But we encounter some difficulty here, because the common base for Northern Archaic would seem to be Denali complex/American Paleoarctic microblade technology. As has been noted, there is a two-thousand-year data gap separating the traditions. Rapid diffusion of traits from outside Alaska is another possible explanation, but is it any better? How do we evaluate its merit? My thought is that while there must have been a base of common traits among these widely spaced Northern Archaic groups (putting the issue of common origin aside), it seems clear that in a rather short interval of time these groups were becoming regionally distinct. Even so, it is unlikely the Northern Archaic developed in isolation during the Middle Taiga period, as there were non-Northern Archaic groups all around the boreal forest borders that likely affected this process, e.g., Arctic Small Tool tradition.

Although the focus here has been on notched points and microblades, the picture is much more complex. Other aspects of the tool kit, e.g., burins and scrapers, are significant as well, as is the overall way of life. Cultural Zone 1b (ca. 4000 to 1000 BC) at Swan Point includes large scrapers, lanceolate points and knives, Donnelly burins, notched points, and tabular microblade cores (Fig. 6). The hunting technology of the Northern Archaic tradition may have more to do with various lanceolate projectile systems than with notched points. There is some ambiguity concerning notched points; a notched point may have begun as a projectile and later been broken and adapted for use as a knife. It is clear that the atlatl was the means for launching both notched and lanceolate projectile points throughout the Middle Taiga period and into the beginning of the Late Taiga period, given recent evidence emerging from ice patch archaeology in Yukon and Alaska (cf. Hare et al. 2004; Dixon 2005). Examples of both notched points and lanceolate points have been found hafted to foreshafts in association with atlatl dart shafts. Fig. 7 shows the silhouette of an 800 BC hafted lanceolate point from the Wrangell/St. Elias Mountains (Dixon et al. 2005:Fig.6) compared to a similar point found in an Alaska Range ice patch in 2003 (VanderHoek et al. 2007:191). The radiocarbon dates that Hare et al. (2004) used to document atlatl and bow-and-arrow use during the Holocene in the southwest Yukon have been plotted to show the relation-

ship between the Middle and Late Taiga periods (Fig. 8). The introduction of the bow-and-arrow at ca. 1000 BC occurs at the juncture of Middle and Late Taiga periods.

### LATE TAIGA PERIOD AND THE ATHAPASKANS

The Late Taiga period began around 1000 BC and lasted until the Historic period. Northern Archaic tradition assemblages became more diversified during this time, yet exhibit continuity with the preceding Middle Taiga period, i.e., the presence of notched points and microblades along with numerous lanceolate point forms, scrapers, and burins. The Onion Portage Itkillik complex, which Anderson (1988:150) interpreted as a “late phase



*Figure 7. Comparison of two Middle/Late Taiga Period lanceolate points found on melting ice patches. Left side; silhouette of lanceolate dart point found hafted in a wooden foreshaft (dated to c.800 BC, wood shaft and c. 1000 BC, sinew binding) from Wrangell Mountains. (Dixon et al. 2005). Right side; lanceolate point found in Alaska Range near Tangle Lakes (VanderHoek et al. 2007).*

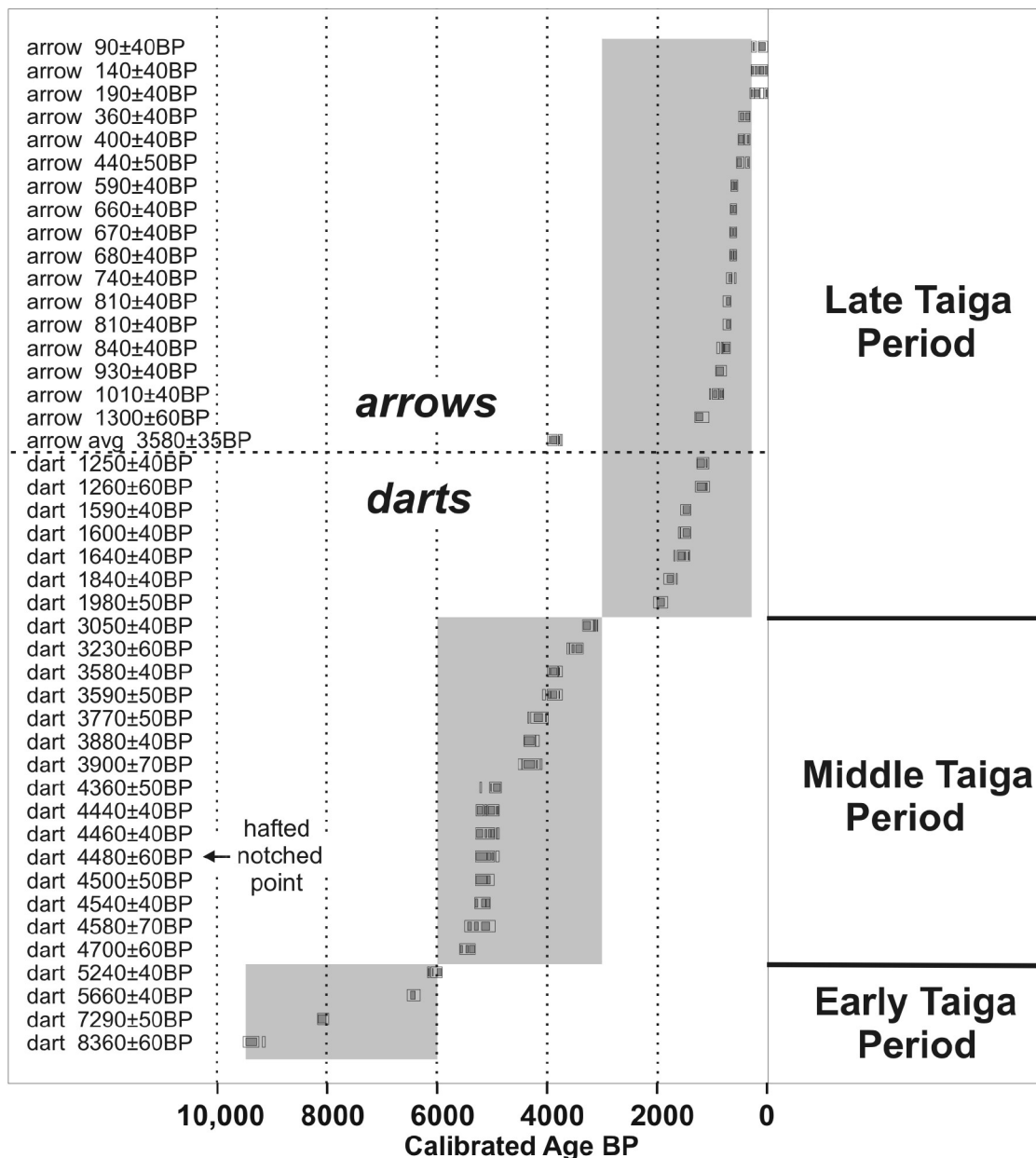


Figure 8. Plot of uncalibrated radiocarbon dates on artifacts from Southwest Yukon alpine ice patches alongside Taiga Periods. Note: occurrence of notched point dart c. 3100 BC, change from atlatl dart to bow and arrow between c. AD 800-700, and the 1000 gap in the radiocarbon record. Source for radiocarbon data (Hare et al. 2004).

of the Northern Archaic,” lacks notched points but is nearly identical in artifact types to the earlier Northern Archaic Palisades and Portage complexes. Anderson (1988) suggested that the Itkillik complex represents Athapaskans and may have been intrusive into an otherwise Eskimo continuum. The “Minchumina tradition” (Holmes 1986), a local variant of the Northern Archaic tradition with three phases within the Late Taiga period, also provides an example of diversification at the end of the Northern Archaic. A Norton tradition in-

fluence (Dogwood phase), evident at Minchumina, may represent an Eskimo intrusion into what had become a local Athapaskan continuum. While the Minchumina Cranberry and Raspberry phases lie comfortably within the Late Taiga period, the dating for the earlier Blueberry phase needs better resolution. Artifacts from Swan Point Cultural Zone 1a (ca. 1000 BC to AD 1000) include tabular and boulder spall scrapers, ground and pecked adzes, various end scrapers and side scrapers, notched points, and lanceolate bifaces (Fig. 9).



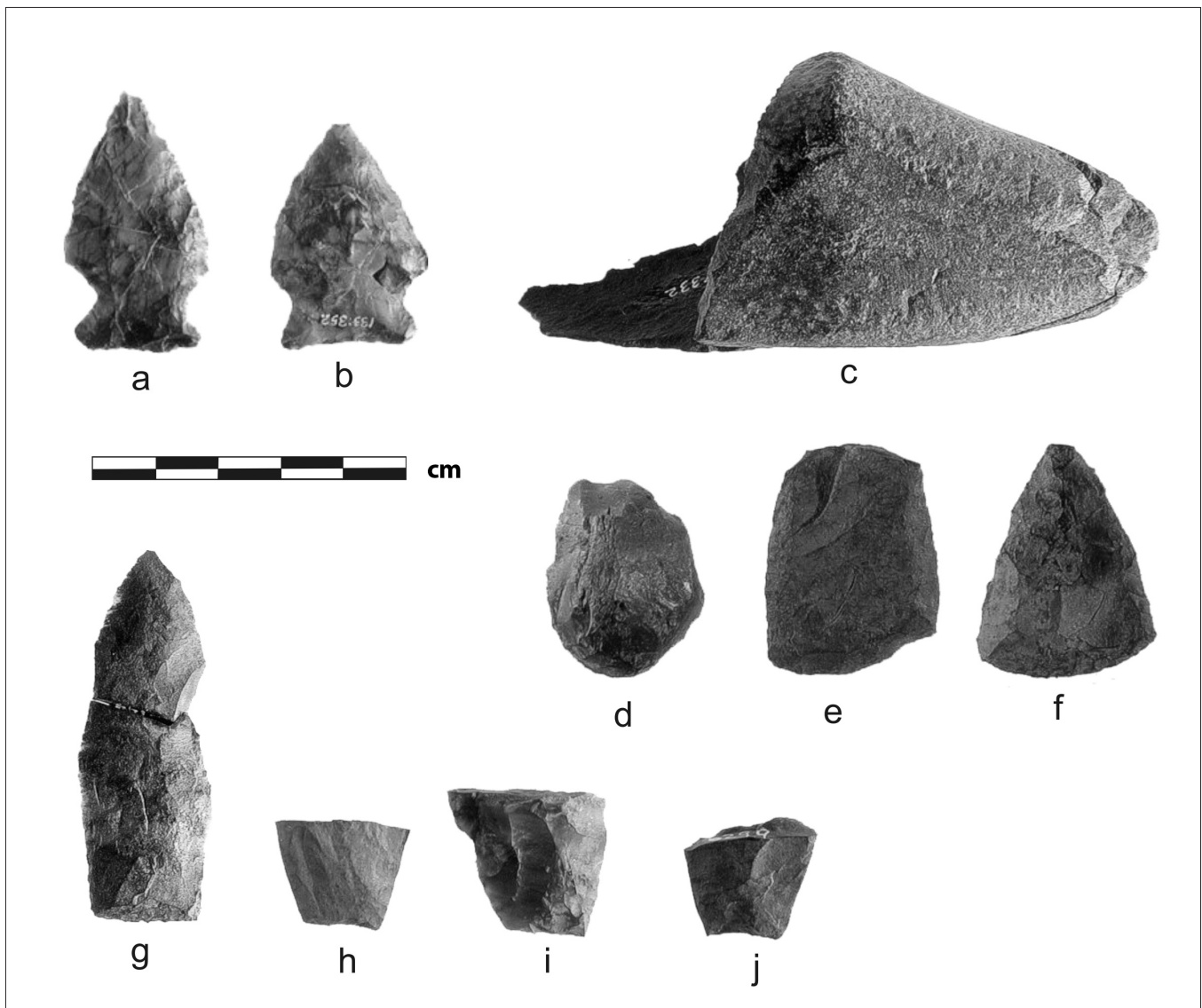


Figure 9. Late Taiga Period artifacts from Swan Point Cultural Zone 1a levels 1-5: a-b, notched points; c, ground/pecked adze fragment; d-f, unifacial end scrapers; g, lanceolate biface; h-j, lanceolate biface bases.

The term “Late Denali phase or complex” (cf. Dixon 1985) is often used to refer to interior sites of the Late Taiga period because they have microblades and Donnelly-style burins. It is one thing to recognize the presence of “Denali-like” traits in a late context, and quite another to argue for a cultural connection to the earlier Denali complex. I recognize and emphasize differences between the Denali complex (or American Paleoarctic tradition) and the later Northern Archaic tradition. I am not alone in suggesting that archaeologists refer to the post-1000 BC assemblages as something other than “Denali” to avoid the impression of cultural continuity over four or five thousand years.

Sometime around AD 800 there was a marked change in the archaeological record across much of the interior bo-

real forest. Workman (1974, 1979) has suggested that the White River ashfall at this time may have triggered human population displacements in Yukon that led to Athapaskan migrations eastward into the Mackenzie Valley and southward into northern British Columbia. There was an earlier (ca. AD 500) White River ashfall that affected eastern Alaska as far north as the Yukon River (Lerbekmo and Campbell 1969; Lerbekmo et al. 1975). Whether either of these events had any lasting effect on Alaskan populations is unknown and awaits further research. Nevertheless, technological change is well documented, e.g., at Gulkana (Workman 1977) and Dixthada (Shinkwin 1979). There is less emphasis on lithic technology (microblade and burin technologies disappear) and more on bone, antler, and

copper technology. The bow-and-arrow is now the hunting method, as reflected in various small arrow point types and barbed antler points (cf. Hare et al. 2004; Dixon et al. 2005; VanderHoek et al. 2007). This marks the end of the Northern Archaic tradition and the beginning of the Athapaskan tradition, which leads to ethnically recognizable Athapaskan groups.

## DISCUSSION

Researchers are encouraged to consider the Taiga period as an overarching framework to accommodate local and regional cultural classification. For much of the Holocene period in central Alaska the Northern Archaic tradition is the predominant cultural construct. The concept “Archaic” is not new in American archaeology. It is interesting to recall how it has been used to distinguish “Indian” from “Eskimo” ancestry. From its original use in eastern North America, application of the term has spread, although its use in Alaska and Yukon came relatively late. Since Anderson (1968a) introduced the term, the Northern Archaic tradition has gained in popularity (cf. Dumond 1977; Ackerman 2004; Clark 1992; Workman 1978).

The Archaic has been defined as “the stage of migratory hunting and gathering cultures continuing into environmental conditions approximating those of the present” (Willey and Phillips 1958:107). Some of the characteristics that distinguish Archaic cultures from earlier cultures can be seen to apply to the Northern Archaic tradition, e.g., a greater variety of biface points, especially corner-notched and side-notched forms. Other characteristics include hammerstones, polishing stones, whetstones, abraders, and notched pebbles. Masses of fire-broken rocks, presumably used in stone boiling and pit roasting, are typical traits. Examination of the archaeological record shows that all of the defining characteristics for an ideal archeological construct are seldom found at any particular site, nor should we expect them to be.

It seems clear that the Northern Archaic tradition is long and complex. As such it should be conceived of in terms of local and regional variation. Regional variants or geographic distinctions are already recognized, and will help our understanding of cultural differences and simi-

larities. As we have seen, there is reason to consider the Northern Archaic in terms of early and late developments. We know that an early notched point horizon was widespread. The question of whether or not notched point assemblages belong to distinct cultural episodes may not be quite as nagging as once thought. The evidence shows that variants of notched points provide an unbroken thread that lasted for five thousand years (Fig. 5). Furthermore, although the correlation is not perfect, the archaeological record shows a pattern of nearly continuous association of notched points and microblades in central Alaska for this same period. Therefore, the relationship of notched point and microblade technology is valid.

One of the least understood periods in Alaskan prehistory is the Early Taiga period. It has not yet been demonstrated that *in situ* microblade and burin technology along with various lanceolate biface styles of the transitional period led directly to what is recognized as Northern Archaic. Once the archaeological knowledge base is expanded in specific geographic regions through detailed chronological sequences, we will get better answers. We should look closely to the consequences of both people and cultural influences coming from outside Alaska into a sparsely populated landscape that had become taiga.

Effort is needed to better understand the end of the Late Taiga period and the associated changes in technology. Is cultural continuity traceable from pre-AD 500 to the Athapaskan tradition?<sup>2</sup> The beginning of the Late Taiga period is best characterized as pre-Athapaskan, in that the material culture is a variant of Northern Archaic. Linguistic studies suggest that central Alaska has been occupied by Athapaskan-speaking groups for at least the past two to three thousand years (Krauss 1972:953). The eventual loss of microblades along with notched points is significant in recognition of an Athapaskan tradition. The timing of this change in technology awaits finer resolution.

When it comes to cultural influences on material traits, the Northern Archaic may be viewed, not so much as open ended, but as open sided as well. In general, cultural development and change during the Taiga period is conceived of as both parallel (cultural variability happens within isolated cultural groups) and lateral (cultural traits and influences diffuse throughout neighboring groups).

2 Although Cook and McKennan (1970) defined the Athapaskan tradition as beginning as early as c. 2500 BC, others (Dixon 1985; Holmes 1979) have restricted it to the past fifteen hundred years before the historic period. See Bacon (1987) for a critical discussion of cultural chronology for central Alaska.

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