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DENA'INA PREHISTORY

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I. INTRODUCTION

This outline of prehistory is done from the perspective of the indigenous Dena'ina. Many prehistorians prefer to work from an ethnically neutral perspective assigning names to archaeological cultures but seldom recognizing the ethnic identity of those cultures except in the very near past where connections to the ethnographic record are inescapable. An ethnically neutral approach makes sense in ethnographically complex areas such as other parts of North America where the likelihood connecting the wrong group to the wrong culture is high. In the Western North American subarctic, however, that is not the case. In the entire arctic and western subarctic there have been only two language families, the Athabascan (Dené) and Eskimo-Aleut with the latter generally in the coastal periphery and the former generally in the subarctic interior. Unlike other cultural areas such as the American Southwest where nearby Pueblos with very similar cultures may speak entirely different languages, in the north Athabascan speakers exhibit a high degree of cultural consistency and until post-contact times, there have been no non-Athabascans occupying their territory. There is simply no evidence for the occupation of the western sub-arctic by any other indigenous group before European colonization; thus the likelihood of a prehistoric group being Athabascan is high. In this chapter I will offer the interpretation that Athabascan speaking Dena'ina and ancestral Dené occupied the boreal forest of south-central Alaska since perhaps 8000 B.C. and may have been the first humans to occupy historic Dena'ina territory. Since Dena'ina territory lies on the interface between the Athabascan and Eskimo-Aleut culture areas, there has been some boundary movement that is detectable in the prehistoric record, yet the core in the Inland area in the vicinity of Lake Clark this has always been Dené territory.

Prehistory is best understood when considered from a broad, regional point-of-view consequently this chapter will not focus on the prehistoric record within Lake Clark National Park and Preserve itself, but on the entire Dena'ina region as influenced by events in Athabascan/Dené territory. Prehistoric reconstruction and interpretation is always a work-in-progress and the current state of Dena'ina prehistory is framed

primarily by two questions: first, when and why did Dena'ina move into their present territory; and second, when and what were the dynamics of the Dena'ina becoming sedentary intensive salmon fishers. The first question, Dena'ina origins, is to be understood within the context of the Northern Dené in general and the first peopling of North America. The second question, the origin of Dena'ina sedentism, involves differentiation of the Dena'ina and Ahtna from other Athabascan cultural groups in Alaska and Canada and coincides with climatic changes about A.D. 1000. These questions have three audiences: first, the Dena'ina people for whom personal and cultural identity is closely tied to a meaningful history; second, non-Dena'ina including both Alaskan residents and visitors to Lake Clark National Park who gain perspective and insight through history; and third, indigenous historians, park service cultural interpreters, and anthropologists for whom these are challenging research questions that reach far beyond the confines of south-central Alaska.

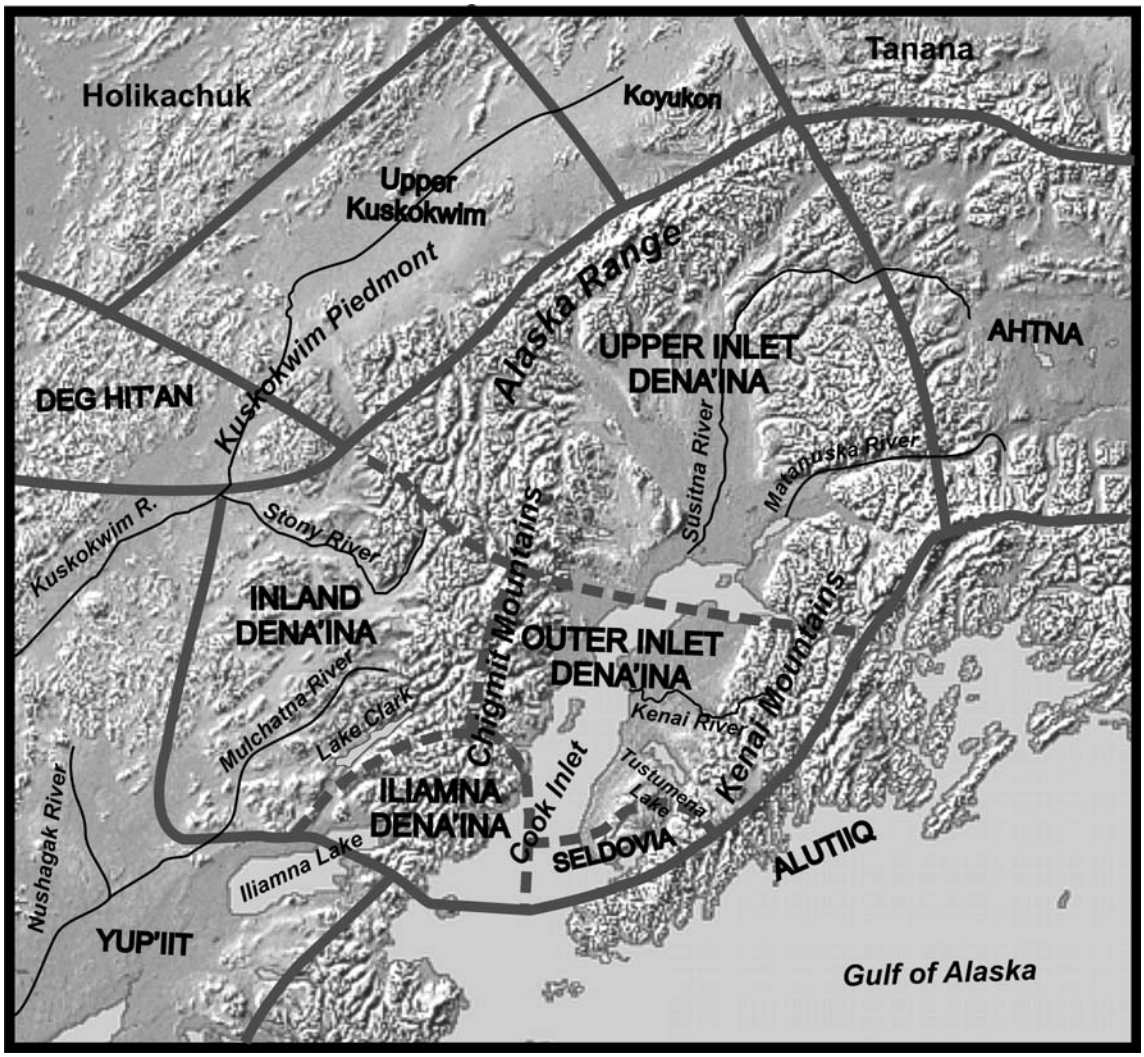

Figure 1. Dena'ina and Adjacent Cultural Areas. Modified from Krauss (1974, 1982); Kari and Fall (2003); Kari and Kari (1982).

Most prehistoric studies in North America are based primarily on archaeological information which relies on a reasonably complete record of excavated artifacts and related information from which cultural dynamics can be inferred. But the artifact record is limited in Northern Athabascan territory for three reasons. First, parts of Dené territory, such as the Inland Dena'ina area (see Figure 1), have not been completely surveyed for sites. Second, for long periods of time the Northern Dené employed an adaptive strategy based primarily on caribou hunting supplemented by non-anadromous fishing and plant collecting. Boreal forest caribou movements are not always confined to predictable routes, and lake fishing requires a strategy utilizing many lakes allowing those that have been intensively fished to recover. Hence, for much of their history the Northern Dené were highly nomadic with low population densities and consequently archaeological sites are small, dispersed, and contain few artifacts or surface features to define them (Clark 1991:6-8). A second reason is related to spiritually motivated behavior involving a basic Dené pre-contact belief reflected in what Dena'ina call *beggesh*. Because traces of information left on artifacts were believed to be potentially hostile to animals, ancestor spirits, and other spirits, the disposal of artifacts was carefully controlled further shrinking the recoverable artifact record (see Section VIII). Consequently, nowhere in Northern Dené territory has the archaeological record been definitively pushed back beyond 2500 B.C. (in the Southwest Yukon Territory, see Workman 1977, 1974). The Dena'ina prehistoric record cannot be independently assessed based solely on an artifact/feature record before about A.D. 1000 which dates the advent of intensive salmon fishing. But the occupation of the Lake Clark and Cook Inlet areas by the Dena'ina is undoubtedly considerably older. Fortunately there is a wealth of additional information from Dena'ina linguistics, mythology, social structural studies, cosmology, and oral traditions from which to construct a more complete Dena'ina prehistory. From the various lines of evidence outlined below, I have summarized the probable events of Dena'ina prehistory based on a current assessment of the evidence. These are described in a historic event scenario in Section II and the evidence is discussed in greater detail in subsequent sections. As cited in the text, numerous culture bearers and researchers have contributed to this interpretation though not all would necessarily agree with the formulation presented here. This synthesis is intended to organize the current state of knowledge and provide a framework through which to further refine our understanding of Dena'ina prehistory.

For the purpose of this essay, "Dena'ina" will be taken to mean a group of people who speak the Dena'ina language or have a near relative who speaks the language; have a genetic relationship to Dena'ina people; identify themselves as being Dena'ina, or have cultural behaviors that can be traced to Dena'ina culture as we understand it in the late 19th century. "Prehistory" will be used to be that period of time before colonial occupation of Dena'ina territory by Russians and later Americans starting in the late 18th century and will be used interchangeably with the term "pre-contact." Prehistory is not used in the sense of there being no history before a written record; to the contrary, Dena'ina prehistoric times were a rich interplay of events that defined their place in the Northern Dené world in general and Alaska in particular and reflect their uniqueness as a people while underscoring their connections to the Northern Dené of Alaska and Canada. "Northern Dené" and "Athabascan" will be used interchangeably and refer to both the indigenous people who speak one of the twenty-seven Dené/Athabascan languages of the

north and the cultural behavior of those people. “NaDené” will be used to include both ancestral Dené speakers and the Tlingit and Eyak languages to whom they are distantly related. “Ancestral Dena’ina” means the early Dena’ina before they differentiated into the dialects we know of today; the equivalent word for ancestral Dena’ina is *ts’itsatna* the word for ancestors. “Ancestral Dené” and “ancestral Athabascan” refers to the people before they differentiated into the various cultural groups known historically such as the Dena’ina.

Dena’ina is both a cultural area and a language area; the two terms are used synonymously. It is one of eleven Athabascan language/culture areas in Alaska. Together with the sixteen Athabascan culture/language areas in Canada, they comprise the Northern Athabascan or Northern Dené area. Mapping these areas gives the impression they are discrete groups, but it would be more accurate to think of them as centers that grade into one another. For example, the boundary between Dena’ina and Ahtna is not fixed and probably never has been fixed, but language and culture grade from Dena’ina to Ahtna from the Susitna drainage through the upper Matanuska River valley to the Copper River drainage. Five language centers reflecting sometimes subtle but significant cultural and linguistic differences occur within Dena’ina territory. These dialect areas formed during pre-contact times and are the basis through which to discuss prehistoric events that resulted in the configuration represented in Figure 1. They include the Inland, Iliamna, Outer Inlet, Seldovia, and Upper Inlet dialect areas, and traditional Dena’ina band territories were found within these dialect areas. Because the formidable Alaska Range and Chigmit Mountains are a significant geographic barrier between the Inland and Iliamna areas to the west, and the Upper and Outer Inlet areas to the east, it is sometimes convenient to distinguish between the Eastern Dena’ina (Outer and Upper Inlet dialects) and Western Dena’ina (Inland and Iliamna dialects).

II. OUTLINE OF DENA’INA PREHISTORY

The following outline summarizes the information from oral tradition, mythology, linguistics, social structure, and archaeology presented in greater detail in subsequent sections. Figure 2 presents in chart form a summary of the prehistoric record from the five Dena’ina language areas.

Pre-12,000 B.C.

- There are at least three theories concerning ancestral Dené origins. One and two below would have occurred before 12,000 B.C. Some archaeologists believe the Dené occurred later with the appearance of the Paleo-Arctic peoples about 8000 B.C. and that discussion is included within the 8-4000 B.C. time period below.

1. Dené, possibly related to Paleo-Indian archaeological cultures, moved north from lower mid-continent North America following glacial retreats occupying deglaciated areas of Canada and established an ancestral Athabascan homeland in northern British Columbia.
2. Ancestral Dené migrated from the land area beneath the now-flooded Bering Sea (Beringia) down the Alaskan coast and moved inland establishing a Dené homeland in northern British Columbia.

12,000 to 8,000 B.C.

- Assuming #1 or #2 above, the northern Dené then spread from Northern British Columbia north and west toward Alaska and east into subarctic Canada as far as Hudson Bay. Late Pleistocene and early Holocene de-glaciation made many previously ice-covered areas of the Alaska Range and coastal Alaska suitable for human habitation and an ancestral Athabascan population represented by the Chindahdin and possibly Nenana archaeological complexes begin to expand into previously glaciated areas.

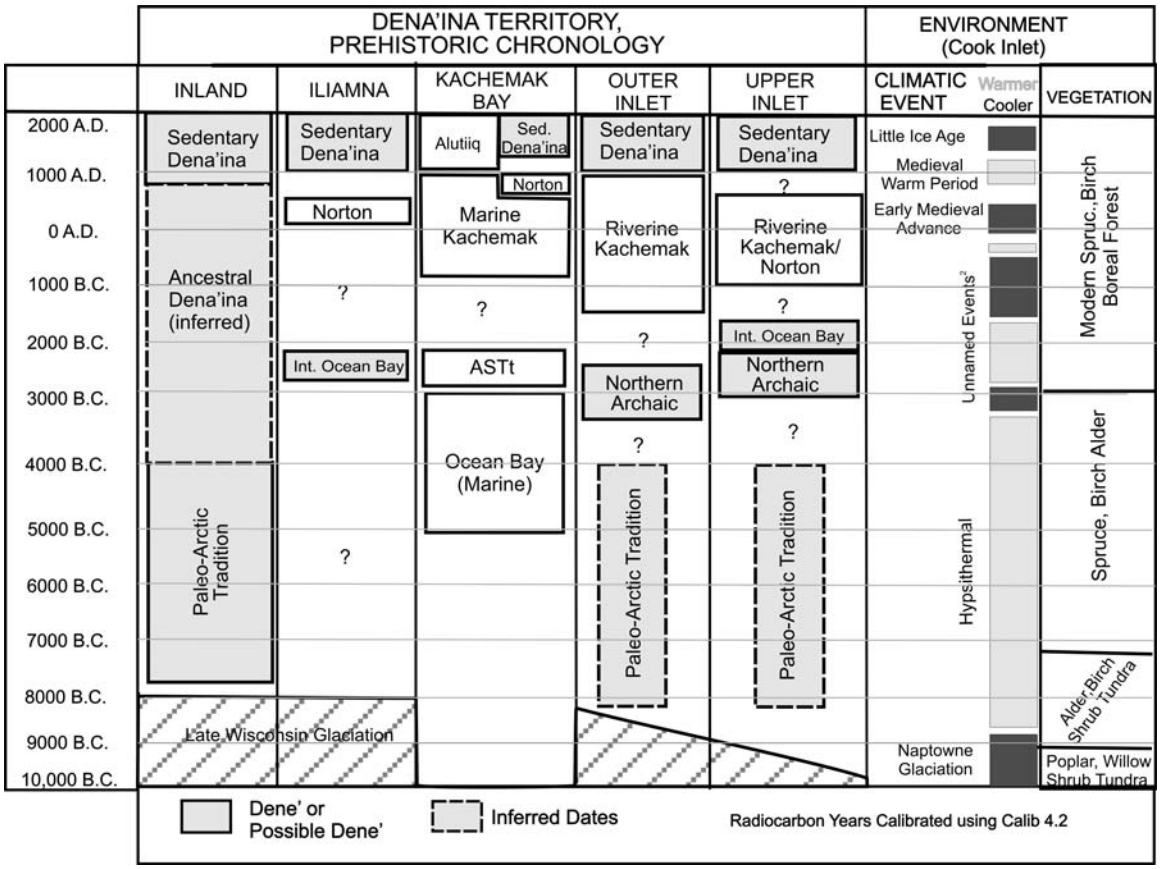

Figure 2. Chronology of Dena'ina Prehistory identifying ethnographic and archaeological cultures. Shaded Archaeological Cultures Represent Actual (solid outline) or Potential (boxed dashed line) Dena'ina Speakers. The Paleo-Indian culture referred to in the text does not appear on this chart because, to date, there is no evidence of it in Dena'ina territory.
Archaeological information from Ackerman (1996), Reger (1998), Reger and Boraas (1996) Reger and Townsend (2004) and Workman (1998). Environmental information from Ager (1983), Mann et al. (1998), R. Reger and Phinney (1996), and Wiles and Caulkin (1994).

8,000 to 4,000 B.C.

- With Post-Pleistocene warming, retreating glaciers made occupation of Dena'ina territory possible. Interior Dené had moved from the Yukon River drainage into the Kuskokwim drainage and established themselves in the piedmont west of the Alaska Range. Ancestral Dena'ina then expanded south to the Mulchatna River and into the Lake Clark and Iliamna areas eventually occupying Cook Inlet. At the same time ancestral Dené moved from the Copper River to the Upper Cook Inlet area. Dena'ina

began to differentiate as a separate language distinguishable from other Athabascan languages.

- A Paleo-Arctic culture distinguished by microblade/core artifacts, possibly brought by an ancestral Ket-speaking population, possibly by stimulus diffusion, crossed from the Russian Far East to Alaska and was adopted by the resident ancestral Dena'ina people among others. Ancestral Dena'ina in the Kuskokwim drainage and Cook Inlet adapted the Paleo-Arctic core/blade technology to mixed subsistence hunting relying heavily on caribou but also including fishing, small game hunting, and plant use along with some coastal resource utilization (but not a full marine technology) by highly nomadic groups organized in small bands.
- An alternate interpretation is the Paleo-Arctic culture represents the first Dené who migrated to Alaska and Canada as part of the second of three migration waves connected to the Three Wave Theory of North American occupation.

4,000 B.C. to 1500 B.C.

- The Paleo-Arctic culture gave way to the Northern Archaic influenced culture distinguished by side-notched points as the Cook Inlet and Lake Clark boreal forest environment took modern form.
- Marine oriented Ocean Bay slate technology was adopted by some Athabascans in interior areas such as Iliamna Lake where it is associated with non-marine hunting and fishing.

1500 B.C. to A.D. 1000

- Yupik speakers with Norton-style artifacts typical of Southwest Alaska expanded via Iliamna Lake into Cook Inlet becoming the sedentary Riverine Kachemak tradition with major sites in the Kasilof, Kenai and Susitna drainages and displaced a resident Dené population. They became intensive salmon fishers utilizing nets in rivers, but lacked large-scale fish storage techniques.
- The Dena'ina remained the primary culture in the Inland area. In Iliamna and the Upper and Outer Inlet the Dena'ina withdrew to non-competing ecosystems in Cook Inlet utilizing nomadic caribou hunting in mountainous areas.

A.D. 1000 to A.D. 1800

- With a world-wide climatic event called the Medieval Warm Period (A.D. 1000), salmon runs increased in the North Pacific and Inland Dena'ina in the Lake Clark and Mulchatna areas shifted from nomadic hunting relying primarily on caribou and whitefish, to intensive salmon fishing utilizing weirs (wicker dams) in narrow tributary creeks or side channels. At the same time they developed underground cold storage pit storage technology for salmon creating a food surplus.
- Dena'ina social organization adapted in response to food-getting innovations and sedentary villages with males of a matrilineal clan marrying wives from opposite clans (moiety exogamy) all controlled by a *Qeshqa* (chief) emerged to organize labor for intensive salmon fishing and equitably distribute food resources.
- Dena'ina sedentism based on intensive salmon fishing first appeared in the Inland area and the successful strategy quickly spread to Iliamna and to the Outer Inlet where it

transplanted the less successful (lacking cold storage pit technology) Riverine Kachemak who withdrew to Southwest Alaska or were absorbed by intermarriage.

- Dena'ina sedentism spread north to the Susitna drainage. Eventually Dena'ina occupied the Kenai Peninsula south as far as Kachemak Bay reflected in a small population of now-extinct Seldovia dialect speakers.

III. EVIDENCE FROM THE DENA'INA ORAL TRADITION[1]

Dena'ina oral tradition is derived from that of Alaskan Dené in general which holds that the Dené arrived in the north from the south and are culturally, linguistically, genetically, and spiritually related to the Navaho and Apache of the Southwestern United States. According to this oral tradition, at a point in the distant past a group Southwestern Dené occupied Pleistocene glacial margins and followed the stuttering retreat of glacial ice north eventually making their way into present-day subarctic Canada and arriving in Alaska about 40,000 years ago.

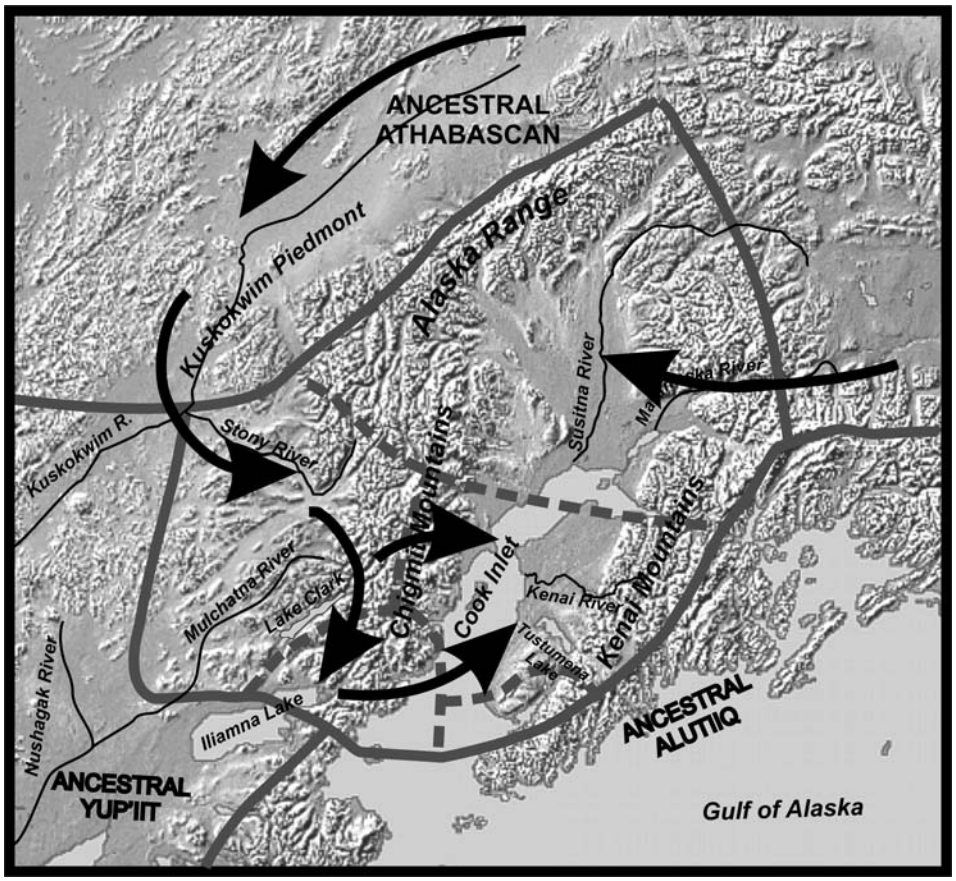

Figure 3. Probable movements into Dena'ina territory based on oral tradition, mythology and linguistic information.

[1] Unless otherwise cited, information on origins from oral tradition is primarily derived from Dena'ina elders Peter Kalifornsky and Nellie Chickalusion, and from Ahtna elder Katie Wade. Kalifornsky, Chickalusian and Wade recounted these stories to Donita Peter who explained this perspective to Alan Boraas. Peter Kalifornsky also relayed some of this information to Alan Boraas.

The ancestral Dené entered Alaska from the east and movement followed the major river systems downstream eventually differentiating into the various languages we know today. Dena'ina entered their present territory from two directions (see Figure 3). One group migrated via the Kuskokwim drainage north and west of present Dena'ina territory. The Stony River/Telaquana band of Dena'ina are known as *Htsaht'ana* meaning 'First People' (Kari 1996:60), and a story recorded by Pete Bobby of Lime Village opens with the phrase *K'qizaghetnu qeł hdghinih natuda naguna*, 'They say our ancestors were from *K'qizaghetnu* (Bobby 1978:1). *K'qizaghetnu* refers to Stony River (Kari and Kari 1982:16), the furthest west point in current Dena'ina territory, and refers to a band who occupied the Stony and Swift River tributaries of the Kuskokwim River. Kari (1988:328) points out the people call the piedmont drained by the Upper Kuskokwim River including the Upper Kuskokwim (Kolchan) territory *Htsaynenq'* 'west of the Alaska Range' an area perceived to be the Dena'ina homeland (Kari 1988:328). Oral tradition has the Dena'ina moving from the Stoney River drainage down to the middle and upper Mulchatna River, then through mountain passes into Lake Clark, and down to the Iliamna Lake area. Still later, the Dena'ina moved through the Chigmit Mountain passes into Cook Inlet first occupying the Kenai Peninsula at the East Forelands (Kalifornsky 1991:325).

A second migration came from the east via the Copper River. Some Dené who had occupied the Copper River drainage crossed into the Susitna River drainage merging with Dené already there becoming the Upper Inlet Dena'ina. Shem Pete records that Upper Inlet occupation was of long duration but that they never jointly occupied the Susitna Valley with Alutiiq (*Ułchena*) (Kari 1988:333; 2003:14)

IV. EVIDENCE FROM DENA'INA MYTHOLOGY

Dena'ina mythology (*sukdu* or traditional story) records origins and movements; however, a thorough analysis remains to be undertaken. The following stories illustrate how mythology informs prehistoric Dena'ina origins.

One of the most important Dena'ina origin stories, the "Telaqwana Mountain Story," occurs in three written versions: one told by Alexi Evan to Anna Rooth (1971:68-70), the second transcribed by James Kari from a recording by Alexi Evan, and the third titled "Imagination" written by Peter Kalifornsky (1991:72). These are part of an as yet unrecorded story cycle that will, perhaps, further define Dena'ina origins. In the "Telaqwana Mountain Story" a hungry, starving people from the northwest move to the mountains where a spiritually powerful person, perhaps a d*ghili dnayi* or mountain spirit that has taken the form of an old man, magically opens a mountain using a stick[2] endowed with *beggesha* (positive spiritual powers) allowing the people to enter the mountain where they find great quantities of game animals and become prosperous. The mountain is Telaqwana Mountain or *Nduk'eyux Dghil'u* 'Mountain Which Game Enters' (Kari 1988:328) east of Lime Village at the headwaters of the Stony River. Symbolically, starvation indicates some problem--perhaps literally starvation or perhaps something else--which caused a movement south and east from the Kuskokwim piedmont, and the

[2] A spiritually endowed stick such as used in the Telaqwana Mountain Story exists in the Mellick Collection (Nick Mellick, personal communication, 2001).

solution to the problem is found in the abundance of game in the mountains of Western Dena'ina territory. Thus, the story depicts a Dena'ina migration from somewhere beyond the Upper Kuskokwim River area into the present territory of the Inland Dena'ina. Telaquana Mountain is an appropriate setting for this story not only because it is one of the first mountains encountered coming up the Stony River, but it has a ten-mile long slope that gradually leads up to the mountain and seemingly invites the people into Inland Territory. There is no other feature exactly like it in the vicinity.

Clan origin stories are also informative about Dena'ina migrations. Kalifornsky's "The Dena'ina Clans" contains the following passage (Kalifornsky 1991:205):

> Nulchina, The Sky Clan people, they say, stayed in the sky on a frozen cloud; and they drifted over this way to a little warmer place, and the frost melted away from under them, and they landed on top of Mount Susitna, they say. And they went down the Inlet, and they came to Iliamna. And they called the people already living there Dudna….

The movement of the people from a colder place "to a little warmer place" indicates the movement from beyond the Alaska Range to Cook Inlet and may coincide with A.D. 1000 Medieval Warm Period. The Upper and Outer Inlet had been occupied by the Riverine Kachemak people, who, with Norton tradition (ancestral Yup'iit) affinities, were likely Yup'ik[3] speakers (see Section VIII,B). The Dena'ina name for Yup'iit is *Dudna*, and the story thus defines the southeastern boundary of Dena'ina territory in the Iliamna Lake area. Upper Inlet clan origin stories depict the close relationship between the Upper Inlet Dena'ina and Ahtna with several clans entering Cook Inlet from Ahtna territory (Kari 1988: 333). De Laguna and McClellan (1981:653) indicate Ahtna origin stories describe movement from Copper River to Cook Inlet.

Dena'ina mythology reinforces the migrations outlined in the Dena'ina oral tradition cited above and is supported by linguistic and archaeological evidence described below. From the mythology we can conclude the Dena'ina came to their territory from two directions: the northwest eventually spreading throughout their known territory with the southern boundary abutting that of the Yup'iit and the treeless shrub tundra of the mid-Iliamna Lake and lower Mulchatna River area, and the Alutiiq along the fjorded coastline of outer Cook Inlet.

Tenenbaum and Kari (Kari 1988) identify a significant genre of war stories between Dena'ina and Yup'iit Eskimos centering in the Iliamna Lake and Mulchatna River areas suggesting that this borderlands was contested territory. Stories set in the Stony River area also portray conflict (Kari 2003:144-147), but they do not contain agents of culture heroes and other symbols as do the Dena'ina/Yup'iit conflicts suggesting mutual use with Deg Hit'an and Upper Kuskokwim people (Kari 1988:329). Kari suggests this is further evidence that the plateau area northwest of the Stony River (*Htsaynenq'* 'west of the Alaska Range') was part of a long established Dena'ina or ancestral Dena'ina homeland and not contested allegorically or otherwise. A similar set of war stories occur in Cook Inlet with Alutiiq (*Ułchena*) usually coming up the Inlet to attack Dena'ina villages. The tone of these stories is less allegorical and more historical and may not reflect territorial conflict but Alutiiq attempts to force bilateral trade.

[3] Yup'iit refers to the people, Yup'ik refers to the language.

Osgood (1976:109-110) has pointed out that maritime Alutiiq territory contained few resources the Dena'ina needed, but the Dena'ina controlled subarctic resources mostly in the form of furs the Alutiiq needed. Consequently, the Alutiiq desired to trade with the Dena'ina, but the Dena'ina did not need to trade with the Alutiiq. To attempt to coerce bilateral trade, Alutiiq raided Dena'ina villages taking women hostages who were then held in ransom to force trade. Sometimes the Dena'ina would repel the attackers, sometimes they would acquiesce to the trade, and sometimes they would counter-attack in retaliation. However it played out, the Dena'ina controlled the trade because they controlled the desired resources.

The first salmon ceremony recorded by Osgood (1976:148-9) and a salmon ceremony recorded by Shem Pete (Kari and Fall 2003:184-190) both depict the origin of intensive salmon fishing (dated archaeologically at A.D. 1000, see Section VIII, B). In both instances the stories indicates the Dena'ina already occupy their territory and thus these are not a mythology of origins, but a mythology of adaptation. In Osgood's story a chief admonishes his daughter not to go near the salmon weir; she does, slips into the water, and disappears. A few years later the chief sees his grandson in the form of a salmon in the weir and initiates the first salmon ceremony in recognition of the Dena'ina becoming salmon people.

V. EVIDENCE FROM DENA'INA LINGUISTICS

A number of linguists have attempted to identify the ancestral Athabascan and ancestral NaDené homeland and hence the place from which the Northern Dené diaspora emanated. Krauss and Golla (1981:68) place ancestral NaDené territorial homeland in the Upper Yukon River drainage in the vicinity of the Alaska, Yukon, and British Columbia borders, the general area which Northern Athabascan, Eyak and Tlingit differentiates. On the basis of Athabascan river stem morphology, Kari (1996) places the Northern Athabascan nucleus further to the southeast at the continental divide where the Yukon, Mackenzie, and Stikine watersheds meet near Dease Lake in Northern British Columbia Kaska territory. Greenburg (1996:530-531) places the Northern Na-Dene homeland in the same general area, insular Southeast Alaska, at the intersection of the Athabascan/Eyak/Tlingit/Haida[4] boundary based on the premise that Athabascan languages would have differentiated from that point into their respective geographic territories with little cross-fertilization. Dumond (1969) earlier proposed the same Na-Dene homeland, British Columbia interior from Southeast Alaska, on the basis of the distribution of Athabascan, Eyak, Tlingit and Haida languages. In sum, the most likely ancestral Athabascan homeland, and therefore the point from which prehistoric Athabascan diaspora must have proceeded, is interior British Columbia as identified by Kari, Greenburg, and Dumond. From the Dena'ina perspective, they would have come to their present location generally from the east.

Greenberg (1996; Greenberg, et al.1986) is one of the primary authors of the "Three Wave Theory" of Native American origins which combines linguistic, genetic, and dental information to compose a theory that the peopling of North America came in Amerindian, Northern Athabascan, and Eskimo/Aleut waves respectively. (See Section

[4] Greenberg and Dumond follow Sapir's original definition that NaDené included Haida. Kari and Krauss do not consider Haida as NaDené, therefore the language center shifts north.

VIII, A for archaeological discussion of this theory.) To Greenberg the Amerindian[5] language family (including all Native Americans except NaDené and Eskimos) shows the greatest amount of language variation hence has had the longest time to evolve and is further from Asia and, therefore, comprises the first wave of migration; Northern Athabascan languages exhibit the next highest degree of variation and are of intermediate position from Asia, between Amerindian and Eskimo/Aleut and comprise the next wave; and Eskimo/Aleut languages have the least amount of variation and are closest of Asian origins and, therefore, are the last wave.

If the Northern Dené language homeland is in Northern British Columbia, the Three Wave Theory imposes the complicated and improbable scenario that the Dené migrants coming overland from Asia would have bypassed historic Alaskan Athabascan territories, established a Northern British Columbia homeland, and migrated back to Alaska. Either the NaDené portion of the Three Wave theory is wrong, the Northern British Columbia ancestral Athabascan homeland is wrong, or the initial movement from Asia was via a coastal route, then penetrated into insular British Columbia and migrating back toward Alaska. (See Section VIII for a discussion of this scenario in relation to a coastal migration theory.) Lastly, the Three Wave Theory is incompatible with Dena'ina oral tradition which has Dené arriving in the north from the American Southwest, a proposition quite compatible with linguistic Northern ancestral Athabascan homeland assessments.

One of the Siberian Yenesian languages, Ket, has been identified by Vajda (1999) as having a grammatical structure similar to American Athabascan languages and is the most compelling evidence to date of Asian and North American connections because the intricate grammatical structure of Athabascan verbs is so unique that the likelihood of independent invention is virtually impossible. However, whether the movement implied by this Siberian/Alaskan connection was west to east or east to west, remains to be determined. Assuming the movement was from Siberia to Alaska, ancestral Ket may be related to the appearance of the Paleo-Arctic culture discussed in Section VIII.

Timing, of course, is a major part of the origins issue. On the basis of a method of estimating the time when two similar languages diverged (glottochronology), Krauss (1990) makes the following interpretations:

1. Ancestral Athabascans were present in Alaska and Yukon before 4000 B.C. the point at which ancestral Athabascan and Tlingit differentiate.
2. Eyak was the first to differentiate from ancestral Athabascan and that split occurred around 1500 B.C.
3. Differentiation into the rest of the Northern Athabascan languages, including Dena'ina, occurred by 500 B.C.

While subject to further refinement, these dates provide good evidence of the minimal date of the antiquity of Dené in Alaska.

Kari (1996) has developed the most complete hypothesis of Dena'ina origins which is part of his overall theory of Northern Athabascan expansion. He proposes that Athabascan groups expanded radially in five stages from the Northern ancestral

[5] That Amerindian represents one language family is disputed by many linguists (e.g. Nichols 1990) who interpret the high degree of phonological and structural diversity within Amerindian to mean multiple language families perhaps reflecting multiple migrations rather than a single *in situ* evolution in North America.

Athabascan homeland in Northern British Columbia described above. In Alaska, Athabascans expanded by moving down the Yukon, Tanana, Kuskokwim and Copper river systems in the process differentiating into various linguistic groups. Kari bases his hypothesis on the distribution of river stem terms (morphemes) which change as one proceeds downstream from the Upper Yukon in northern British Columbia from **-tu'* in the core Northern British Columbia area, to **-niq'ə* in the Gwich'in, Tanana, Han area, to **-na'* in the Ahtna, Deg Hit'an, Upper Kuskokwim, Dena'ina area (Kari 1996:260). River stem terminology is not trivial. Rivers are integral to subsistence and transportation and form the basis of the intricate Athabascan directional system. Moreover, rivers are part of Athabascan identity particularly in Alaska where they are so closely tied to salmon harvesting. Hence, a linguistic change in river stem morphology is a significant boundary marker between groups and, as Kari has proposed, reflects prehistoric movements and the differentiation of one Athabascan language group from another.

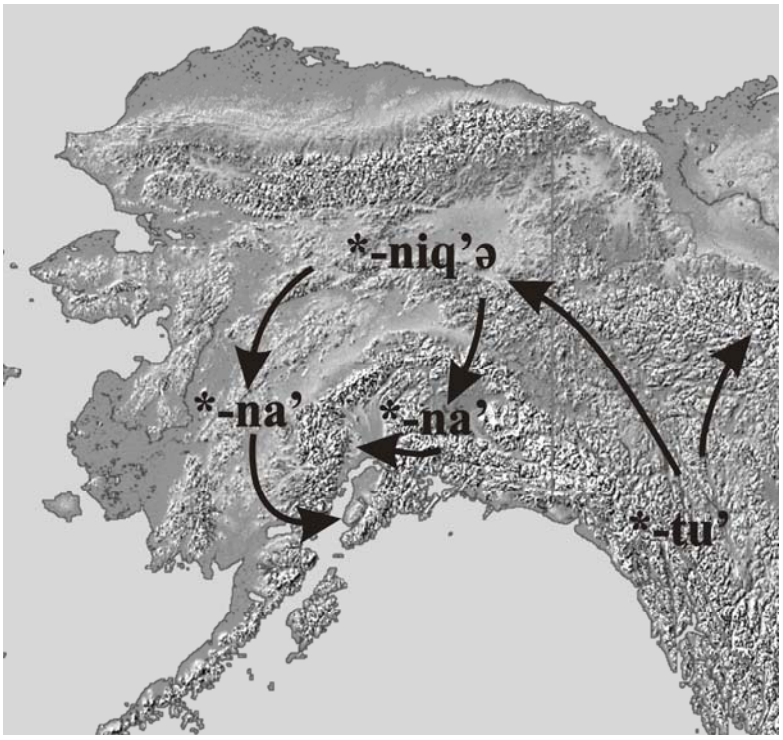

Figure 4. Athabascan Stream Stems Showing Possible Prehistoric Movements. Adapted from Kari (1996).

The group that eventually became the Dena'ina had been part of this ancestral Athabascan core that moved down the Yukon River and eventually became established in the Upper Kuskokwim piedmont known as *Htsaynenq'* (see Section III. Oral Tradition) recognized as the ancestral Dena'ina home. At that point in time the people might be considered ancestral Dena'ina and not yet differentiated from ancestral Upper Kuskokwim (whose word for themselves (ethnonym) is also Dena'ina) and Deg Hit'an and would have occurred before about 500 B.C. according to Krauss's age estimate. Kari's hypothesis has ancestral Dena'ina differentiating from the Upper Kuskokwim as they moved into their present Inland and Iliamna territory (Kari 2003:144-147). About the same time ancestral Athabascans moving down the Copper River established what became Ahtna territory with a portion moving into the Susitna drainage contributing to the close language similarity between the Upper Inlet dialect and Ahtna language. The similarity of Upper Inlet Dena'ina to Ahtna and the dissimilarity of Outer Inlet Dena'ina to Ahtna and Upper Inlet Dena'ina indicates upper Cook Inlet was occupied by Athabascans coming from the east while Outer Cook Inlet was occupied by Dena'ina coming from the west, either Iliamna dialect speakers or Inland Dena'ina

speakers (Kari 2003:13). The close similarity of Outer Inlet Dena'ina to Iliamna Dena'ina (James Kari, personal communication, June, 2004) suggests the Dena'ina occupation of Cook Inlet may have come from the low pass connecting Iliamna Lake to Tuxedni Bay although, as Kari points out movement could also have been through Lake Clark Pass or Merrill Pass.

Throughout Dena'ina territory, even on the Kenai Peninsula where a known presumed Yup'ik or Alutiiq speaking culture represented in the Kachemak tradition predates the Dena'ina (see Section VIII Archaeology), there is little evidence for archaic Eskimo or non-Athabascan place names (Kari 1988:327). This may attest to the incompatibly of the very distinctive Dena'ina language to accommodate non-Athabascan words or, more likely, to the long duration of Dena'ina in their territory. Dené may have occupied south-central Alaska from the beginning.

Kari's hypothesis conforms to Dena'ina oral tradition, and mythology and is not contradicted by archaeological information. Kari's two-directional occupation of Cook Inlet is the basis from which further research of Dena'ina origins should proceed.

VI. EVIDENCE FROM SOCIAL STRUCTURE

In an extensive study of Athabascan kinship terms, Dyan and Aberle (1974) undertook to reconstruct how ancestral Athabascan (Proto-Athabascan) society was organized before it differentiated into the various groups known historically. Their conclusion is that ancestral Athabascan culture lumped certain close relatives under the same term (classificatory kinship terminology) combining "mother" and "mother's sister" into one term (*-*unkda* [6]), and "father" and "father's brother", into another term (*-*ukda)*; but distinguished "mother's brother" (*-*ez'a*) and "father's sister" *(*-*vach'a*) with distinctive terms[7]. Moreover their analysis of cousin terms indicated that siblings and their mother's sister's or father's brother's children (parallel cousins) were all called the equivalent of "brother" or "sister" and were distinguished from their mother's brother's or father's sister's children (cross cousins) which were given different terms. Dyan and Aberle conclude that ancestral Athabascan kinship structure had matrilineal clans, a newly married couple lived in the village of the wife's mother (matrilocal residence), and that a preferred marriage partner for a man was his father's sister's or mother's brother's daughter[8]. Rubel and Rosman (1983) observe that ancestral Athabascans probably had two sets of clans (a moiety) that further defined who one could marry and probably a potlatch or similar reciprocal gift giving institution.

If this reconstruction is accurate we can assume that it, or something close to it, existed in the distant Dené past and formed the basis of further differentiation as Dené adapted to varying ecosystems within their northern territory. Rubel and Rosman (1983); (see also Ives 1990) have offered the thesis that the ancestral Athabascan kinship system described above is essentially that of the nomadic and semi-nomadic Athabascans of the Alaska Plateau (e.g. Koyukon, Tanana) and Canadian subarctic mountains (e.g. Gwich'in, Kaska) and reflects an adaptation to intensive caribou hunting and fishing (but not intensive weir-based salmon fishing) where flexible social units loosely allied with

[6] Dena'ina kinship terms are from Kari (1994:52-4) in the Outer Inlet dialect. The terms are bound morphemes and require a possessive prefix (my, our, etc.) represented by *.
[7] This is called bifurcate merging kinship terminology.
[8] This is referred to as preferred bilateral cross-cousin marriage.

one-another through marriage would maximize survival. From this "base culture," the Dené diverged into their various cultural groups. Those that had migrated to the east into the MacKenzie borderlands region of Canada dropped the clan system in favor of mobile, small extended family groups suitable for nomadic caribou hunting and lake fishing (bilateral kin groups), while groups that became intensive salmon fishers, the Dena'ina and Ahtna, along with the Northwest Coast Tlingit, evolved more complex social developments from that base.

The first Dena'ina probably had a kinship system much like the ancestral Athabascan system described above but a more elaborate system evolved as the Dena'ina became intensive salmon fishers around A.D. 1000. From that point until well into historic times, villages were organized around males of the same matrilineal clan constituting the core of the organization. One had to marry outside of one's set of clans (moiety exogamy) with a male's preferred spouse his father's sister's daughter[9] although mother's brother's daughter or any woman from an "opposite" clan was permissible. This created a bond between clans because one clan, in effect, supplied a marriage partner for another and this "gift" had to be repaid. Thus alliances between clans formed the basis for mutual help between villages. (i.e. "That village needs help and my sister married into that village; I'm going to help them.") These complex kinship and marriage patterns were a powerfully cohesive force in a culture that had evolved a village of clan helpers (*nakilaqa* 'our clan helpers') to organize labor for salmon harvesting.

There is evidence, however, that some Dena'ina residing in Inland areas lacking high-yield salmon streams retained the old ancestral Athabascan social system (bilateral cross-cousin marriage) (Ellanna and Balluta 1992:99-123) indicative of mixed caribou hunting, non-intensive salmon fishing.

VII. EVIDENCE FROM COSMOLOGY

Traditional Dena'ina cosmology rested on the premise there are at least six dimensions operating in parallel time and space (Boraas and Peter, forthcoming publication). These dimensions consisted of human space/time, ancestor space/time, animal space/time, animal spirit space/time, spirit space/time, and *Naqeltani*, a state of purity or pure love. One concept--that there were mechanisms of communication between the dimensions, one form of which expressed by the concept of *beggesh*-- is potentially reflected in the prehistoric artifact record, or, rather, lack of an artifact record.

Beggesh is a form of negative energy, often described as being like a scent that permeates an artifact. If an artifact were used by a person with ill will such as in a murder or other heinous act, it was believed to permanently take on information of that act. Acts of lesser evil, even thoughts of ill will, could likewise leave their scent on an owner's artifact. *Beggesh* could be detected by a shaman or a spiritually powerful person who had achieved a state of true belief and become a *K'ech Eltanen* (Boraas and Peter 1996), but it could also pass into any of the other dimensions except perhaps *Naq'eltani* and be detected by animals, ancestors, or spirits. If an animal sensed an artifact's *beggesh* it would likely withdraw from the area and thus *beggesh* was believed to have implications for survival. Likewise artifact *beggesh* was offensive to ancestor spirits and the other spirits that populated Dena'ina cosmology (*dghely dnayi*, 'mountain people'; *ch'wala dnayi* 'tree people' etc.) who might then haunt the village, house, or person that did not

[9] This is referred to as preferred patrilateral cross-cousin marriage.

control his or her artifacts. Artifacts could also absorb "good" information in which case it was called *beggesha*, but this was of less concern than *beggesh* because it had no negative impact on the spirits and animals.

Because of *beggesh* artifacts potentially carried threatening information and were carefully accounted for and not casually discarded (Boraas, forthcoming; Boraas and Kalifornsky 1991). Upon death, one's personal artifacts were burned (Osgood 1976:165-168), and therefore purified, in the funeral cremation both to prevent negative messages from being transmitted to animals and to provide tools for use by the deceased in the ancestor dimension (Donita Peter, personal communication, November, 2004). Since there are few sites that we can attribute to the prehistoric Dena'ina which contain abundant artifacts, the concept of *beggesh* may be very old and the Dena'ina multi-dimensional cosmology may extend well back into prehistoric time with lack of artifact scatter a defining trait of Dena'ina sites.

Lack of bone refuse from eating hunted animals is another characteristic of Dena'ina sites that has spiritual implications (Boraas and Kalifornsky 1991). Pre-contact Dena'ina believed that it was necessary to send hunted and subsequently consumed animals back to a "reincarnation place" presided over by *K'unkda Jelen*, 'The Mother of Everything Over and Over' (Kalifornsky 1991:40-45). This was done by an informal ritual of burning bones in the fire or distributing them in the water. At the reincarnation place they would "put their clothes on" meaning they would become alive again and return to the human land to again become an animal. Unlike archaeological sites from other non-Dené cultures in Alaska in which huge piles of animal bone refuse called middens are found, some of which built up for centuries and are many feet thick, it is rare to find even small middens in Dena'ina archaeological sites.

VIII. EVIDENCE FROM ARCHAEOLOGY

Reconciling the archaeological record with information from other areas is difficult because artifacts, the primary information from archaeological sites, cannot always be associated with an ethnic group, especially from earlier time periods. A more productive strategy is to synthesize the non-archaeological prehistoric information as has been done above, and try to correlate the archaeological data with it.

A. Dené and Dena'ina Origins

Archaeologically, three theories concerning the first peopling of Alaska concern origins of the Dené: Asiatic Origin, Beringian Origin, and a Southern Origin. First, the Three-Wave hypothesis outlined in Section V holds that a second wave migrated from the Russian Far East to Alaska and subarctic Canada and represents the Asiatic origin of all Dené. The most likely archaeological culture to represent this migration is the distinctive micro-blade and core makers of the Paleo-Arctic culture although whether it represents the first Dené or a migration that merged with Dené already in Alaska is open to question. The connection between Dené and the Paleo-Arctic tradition is largely based on 1) correlation with linguistic evidence cited above (Section V) which places ancestral Athabascans in the North 6000 years ago (4000 B.C.) or earlier the same time range as the Paleo-Arctic peoples (see Figure 2); 2) with the occurrence of Paleo-Arctic sites in most parts of Alaskan Athabascan territory; and 3) the fact that there is no residual linguistic evidence such as place names for any other North American ethnic group in the

core subarctic area other than Athabascans. Though well known in other parts of the sub-arctic, only a small number of Paleo-Arctic sites have been found in Dena'ina territory including Inland (Ackerman 1996), Upper Inlet, and Outer Inlet (Reger 1998) territories. The only Paleo-Arctic site that has radiocarbon age estimates is in the Lime Hills and dates to about 7000 B.C. (Ackerman 1996:473) The others bear similarity to cores and microblades north of the Alaska Range (Denali Complex) and are assumed to be of the same age, 8-4000 B.C. (Reger 1998). In this theory an earlier wave preceded the Paleo-Arctic, represented by the Paleo-Indian tradition which would have passed through Alaska eventually becoming established in mid-continent North America as the Clovis, Folsom and related Paleo-Indian cultures. Later waves presumably related to Arctic Small Tool and other traditions would have come last and become Eskimo and Aleut cultures.

Concerning the Dené, three problems exist with the three-wave theory. First the progenitors of the Paleo-Arctic tradition in the Russian Far East occupy areas that have little Athabascan trace today either as linguistic or cultural isolates, place-name heritage, or any other evidence that the Asiatic microblade making cultures were somehow connected to Athabscans. A possible exception is the Athabascan-like Ket language in the Yenisee River area (Section V). Second, archaeological cultures exist in Alaska such as the Chindahdin complex in the interior that have been interpreted as ancestral Dené and pre-date the Paleo-Arctic peoples. Third, and most compelling, is difficulty reconciling the three wave theory with the linguistic evidence cited in Section V that the northern Athabascan homeland is in Northern British Columbia because Athabascans would have had to have followed the unlikely scenario of migrating through Interior Alaska to British Columbia and then back to Alaska.

A second option is that Dene origins are earlier than Paleo-Arctic and related to the Paleo-Indian occupation of Alaska 10-12,000 B.C. or earlier. Because there are no Paleo-Indian precursors in the Russian Far East or Siberia, Kunz et al. (2003) have proposed that a Paleo-Indian culture evolved in Alaska in the area now largely under the Bering Sea, but was then an exposed 2000 km wide land bridge (Beringia) and could have begun migrating southward as early as 12,500 B.C. following a coastal route eventually establishing themselves in mid-latitude North America where they became and/or merged with the Paleo-Indian cultures (Clovis, Folsom, Agate Basin etc.). The first major break in the North Pacific coastal mountain chain this migration would have followed are the Nass and Skeena River drainages in southeast Alaska and it is possible that some of these Paleo-Indian migrants crossed into interior British Columbia becoming the ancestral Athabascans cited in Section V. The Paleo-Indian Dené then merged with the Paleo-Arctic migrants who came later (see discussion above for the connection between the Paleo-Arctic cultures and Dené).

A third interpretation, that of a Southern Origin, concerns the problematic timing of Paleo-Indian sites where the earliest securely dated sites are around 8,500 B.C. in both Alaska and mid-continent North America. Lacking a clearly defined time-slope the movement could have been north to south, as the three wave hypothesis holds, or could have been south to north as some archaeologists such as Bever (2001) have suggested. This interpretation is in conformance with Dené oral tradition (see Section III) although the movement from the Dene perspective was considerably earlier in time. A Southern

Origin suggests the peopling of North America involved something other than a Bering Land Bridge route and South American and even European origins have been proposed.

Both the Beringian and Southern Origin hypothesis fit with the establishment of a Northern British Columbia homeland from which a subsequent Northern Dené diaspora would have emanated including migrating down the interior river systems into Alaska when interior environmental conditions were optimal reestablishing themselves in an Alaska now largely ice-free from retreating glaciers and emerge as the 8000 B.C. Chindahdin and possibly Nenana complex archaeological cultures of which the former Cook and McKennan (1971) suggest are ancestral Athabascans. With Athabascans already in Alaska represented by the Chindahdin/Nenana archaeological cultures, the Paleo-Arctic tradition, then, represents a movement of people to Alaska bearing a distinctively Asiatic toolkit and merged with indigenous ancestral Athabascans or were themselves Ket speaking Athabascans (see Section V). Alternatively the idea of core and blade tools spread to Alaska from the Russian Far East without a corresponding movement of people.

Which of these three interpretations will emerge as the correct one remains to be seen. And it is entirely possible that new information will yield entirely new interpretations perhaps combining the existing perspectives or adding new ones.

Between 4,000 B.C. and 1500 B.C. there is evidence ancestral Dena'ina adopted elements of a nearby coastal cultures. In the Kodiak archipelago and Kachemak Bay a marine oriented Ocean Bay culture appears with distinctive slate points among other artifacts. Some of these appear in inland areas such as Iliamna Lake (Reger and Townsend 2004) and Hewlett Late (Dixon (2003) but are associated with caribou hunting/lake fishing sites suggesting to Reger and Townsend and (2004) that interior peoples, possibly Dena'ina, adopted the slate technology from marine cultures for their own purposes. Around 2000 B.C. side-notched chipped-stone points characteristic of the widespread Northern Archaic culture appear in Cook Inlet although it is unclear whether these were traded in, adopted as an artifact style by indigenous peoples, or represent a movement of people into Cook Inlet.

B. Late Prehistoric Dena'ina

The origin of sedentary salmon fishing occurs much later and is therefore better known. There is no evidence of intensive salmon fishing in Cook Inlet before 1000 B.C. when the Riverine Kachemak tradition appears (Reger and Boraas 1996) (see Figure 5). Reger has pointed out the close affinities between Riverine Kachemak artifact assemblages and the Norton archaeological culture of the same age in Southwestern Alaska particularly in chipped stone artifacts (Reger 1998:169). Numerous similarities between Riverine Kachemak sites and Late Prehistoric Yup'iit sites of the Mulchatna and Kuskokwim River drainages suggest the Riverine people may have been Yup'ik speakers (Boraas 2002). These similarities include large oval houses with stepped entries, central hearths defined by a plank perimeter, internal fish storage pits, stone lamps, slate ulus and a spruce-root net/notched stone technology adapted to river drift net fishing. Riverine village sites are almost invariably located at the terminal end of river drift zones (Boraas 2002) and represent an adaptation based on drift net fishing. Although the archaeological record is not as developed, a similar Yup'iit style culture probably existed in the middle Kuskokwim, Nushagak, and lower Mulchatna drainages during the same time period.

The Yup'iit Riverine people appear to have lacked the cold storage technology of the later Dena'ina storing processed fish in small pits inside their houses, and, in addition, utilizing small "stinkfish" pits outside the house although it is not clear if these were used for storage in addition to processing. Because of limited storage technology, the harvest of salmon and hence the population size would have been limited not by the number of fish they could catch and process, but by the number of fish they could store.

During this time period ancestral Athabascans already occupying Cook Inlet and the Iliamna Lake area would have been displaced by the Riverine Kachemak people, however, there is no reason they couldn't have maintained their nomadic caribou hunting patterns in areas not occupied by the Riverine people. A recent reanalysis of the Pedro Bay site indicates a Norton occupation in eastern Iliamna Lake (Reger and Townsend 2004), but there is no evidence of Riverine Kachemak or Norton cultures in the Inland Dena'ina area where ancestral caribou hunting and non-intensive fishing continued without competition.

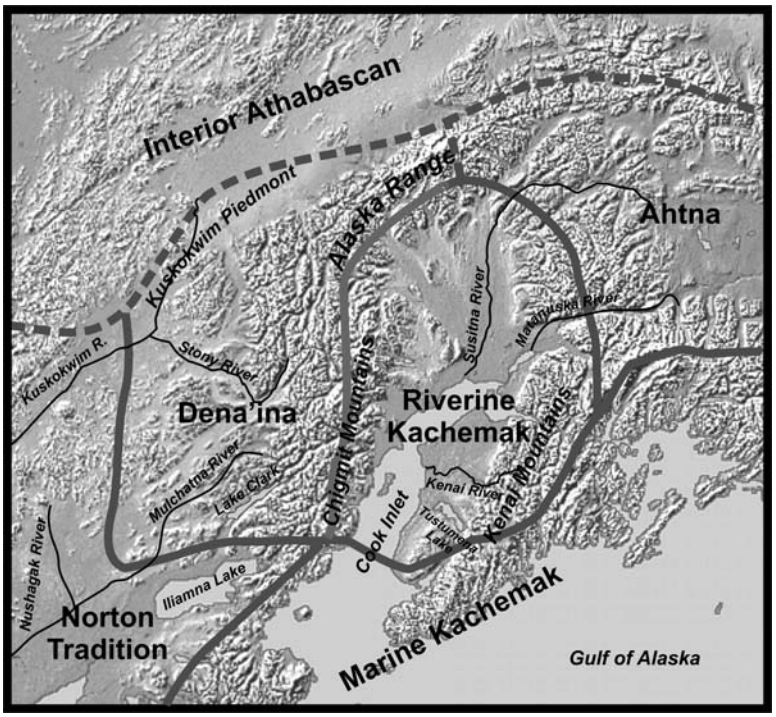

Figure 5. Prehistoric Cultures in South-Central Alaska 1000 B.C. to A.D. 1000. The Dashed lines are approximate boundaries.

The appearance of intensive salmon fishing in Dena'ina territory correlates with the Medieval Warm Period about A.D. 1000. Fisheries research correlates increased anadromous salmon runs with warmer North Pacific water temperatures and fossil nitrogen derived only in salt water but found in fresh water lakes substantiates higher runs of anadromous fish (Mann et al. 1998). In response to the presence of increased salmon, the Dena'ina developed two technological adaptations: weir fishing and underground cold storage pits. Weir fishing in tributary streams and side channels is an efficient; though labor intensive, means of production. In essence stout pole and wicker dams blocked fish movement but permitted water to pass through. The damned fish are then picked, cleaned, dried, and stored. When not fishing, a gate is opened and spawning salmon proceed upstream. In this way large numbers of salmon could be harvested. Underground storage pits provided the means to store surplus fish and were the basis of Dena'ina political and social complexity. Called *ełnen tugh*, they consisted of a pit lined with birch bark and moss and layered with dried fish and grass. The filled pits were

allowed to freeze in the fall and the fresh frozen fish were eaten throughout the winter and spring until the next summer's salmon run. Should the need arise, surplus frozen fish could be given to partner villages through the Qeshqa's formal partner the *selden,* or to villages where close kin lived as established through marriage ties (see Section VI). Recent mapping of the Slikok Creek site on a tributary of the Kenai River (Boraas, forthcoming publication) has identified 91 underground cold storage pits among five large prehistoric houses (*nichił*). Though not necessarily contemporaneous, the pits reflect the volume of salmon stored by Dena'ina corporate kin villages described in Section VI.

There are only two places in Alaska where underground cold storage technology could have evolved: Dena'ina territory and Ahtna territory. The technology required 1) large numbers of salmon moving into tributary creeks or side channels (weirs cannot be used in the main channel of large, swift flowing rivers) creating a concentrated biomass, and 2) frozen ground but not permafrost. Southeast Alaska, Prince William Sound, Kodiak Island and the Aleutian Islands, of course, have large salmon runs but lack frozen ground to preserve the fish. The Kuskokwim delta and points north also have substantial fish runs but have extensive permafrost making digging underground pits virtually impossible. Moreover, in much of the Yukon River system the fish are not sufficiently concentrated or are too nutritionally spent to permit intensive salmon harvesting supporting large populations. Only in pockets of southcentral Alaska, notably the middle to upper Mulchatna River drainage, Lake Clark, the Upper and Outer Inlet territory as well as the middle Copper River is there winter frozen ground without permafrost and substantial fish runs easily collected from small tributary streams and side-channels.

Weir technology and the surplus of stored fish probably triggered the shift described in Section VI that became a corporate kin structure to organize labor for intensive fishing. The corporate kin group consisted of a matrilineal/avunculocal village organization, the *nakilaqa* or clan helpers, with resources controlled by the *Qeshqa* or chief with political powers that included redistributing stored food resources. The *nakilaqa* lived in sedentary villages consisting of substantial log houses, *nichił*, near tributary streams from which a centrally-based seasonal round operated. Radiocarbon dates from *nichił* and related structures indicate sedentism spread through Dena'ina territory starting around A.D. 1000. Sedentism probably originating in the Lake Clark area (see Lynch 1982 for a discussion of the important Kijik Site) where radiocarbon dates of sedentary houses are slightly earlier other places in Dena'ina territory. The Inland area lacked a resident Riverine Kachemak occupation and intensive weir fishing probably emerged from greater reliance on increasing salmon and a relative decrease in reliance on caribou. The successful technology then spread to Cook Inlet where Dena'ina replaced the 2000 year incursion of the Riverine Kachemak people who then withdraw to Yup'iit territory via Iliamna Lake or intermarry with Dena'ina.

In its sedentary, intensive fishing form, the Dena'ina culture thrived from A.D. 1000 to well into the historic era and is a model of what a sustainable economy with equitable access to resources is like.

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