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978-1-107-02250-8 - The Foragers of Point Hope: The Biology and Archaeology of Humans on the Edge of the Alaskan Arctic

Edited by Charles E. Hilton, Benjamin M. Auerbach and Libby W. Cowgill

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# 1 *Introduction: Humans on the edge of the Alaskan Arctic*

CHARLES E. HILTON, BENJAMIN M.  
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The ability to make a living in the Arctic represents one of humanity's truly exceptional achievements. The fact that it was accomplished by people who depended exclusively on wild (that is, uncultivated) resources attests to the levels of human imagination and ingenuity in creating cultural systems that effectively buffered against the physical elements of the Arctic. For these reasons, studies of North American Arctic foraging peoples have long played an important role in the early foundations and development of American anthropology (Collins, 1984; Dumond, 1987; Burch, 1988). North American Arctic foragers represent one end of the range of variation of the human foraging spectrum (Bettinger, 1991; Kelly, 1995; Binford, 2001), but, as they exist at one end of that range, they especially present insight into human adaptability.

Arctic peoples clearly push the boundaries of human adaptation and resiliency by living in areas marked by long periods of cold temperatures, limited availability of plant resources for food, and marked seasonal variation in daylight hours. North American Arctic foragers, both today and in the past, present a broad range of sophisticated technology, dietary flexibility, social organization, and residential mobility as they expanded across large areas of the North American Arctic landscapes. Given this remarkable resiliency in the face of adverse conditions, researchers have examined numerous aspects of cultural and biological characteristics of North American Arctic foragers in order to understand the complex problems related to survival in these circumpolar environments, and the many solutions taken by humans to overcome them.

As separate cultural entities, Arctic forager groups often possess distinctive organizational strategies and technological skills that provide an impressive array of innovative solutions for survival in their circumpolar landscapes

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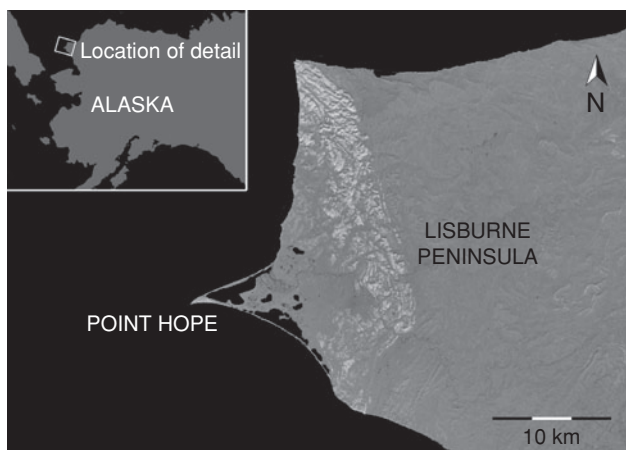
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Figure 1.1. Location of Point Hope on the Lisburne Peninsula of Alaska (inset). Image is modified from Google Maps.

(Murdoch, 1892; Nelson, 1899; Stefansson, 1914; Rainey, 1941; Spencer, 1959, 1977, 1984; Nelson, 1969; Binford, 1978; Sheehan, 1985; Fagan, 2005). Different groups of North American Arctic foragers relied on large terrestrial fauna – namely the organizational strategies developed by some hunters that took advantage of caribou behavior during their annual migrations – as well as other, smaller terrestrial animals (Binford, 1978; Hall, 1984). Other Arctic foragers learned to rely heavily on marine resources, exploiting a variety of species and utilizing multiple technologies. In certain cases, cultural groups developed hunting methods that utilized kayaks and umiaks in order to engage in ice-lead hunting of marine mammals, whereas others utilized similar watercraft for open-water hunting of sea mammals (Spencer, 1977; Dumond, 1987; Burch, 1988; Fagan, 2005). The successful nature of all of these strategies allowed for the rapid expansion of these human groups from Bering Strait to the western shores of Greenland (Spencer, 1977; Dumond, 1987; Burch, 1988; Fagan, 2005).

Nowhere is the success of these different modes of cultural organization and faunal exploitation of the Arctic more evident and juxtaposed than the focal region of this volume – approximately 300 kilometers north of the Arctic Circle, at the far western end of Alaska’s Lisburne Peninsula, on a spit of land jutting into the Chukchi Sea called Tikiġaq (“finger” in Iñupiat; see Figure 1.1). Currently known as Point Hope, this location on the northwest coast of Alaska has served as a settlement location for Arctic hunters of different cultures. With evidence of repeated prehistoric occupations spanning nearly two millennia, Point Hope has been a critical place where people gained access to key

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resources from the surrounding environments. Nevertheless, only a small body of analyses, predominantly archaeological, has been offered on Point Hope to date. Thus, this volume integrating evidence from both archaeological and skeletal contexts aims to bring a more comprehensive understanding of the biology and culture of humans practicing foraging systems at high northern latitudes.

As a place on the landscape, the numerous prehistoric houses and settlement structures found distributed along its beach ridges confirm Point Hope's importance to past groups, a prominence maintained today by the Tikiġagmiut who live adjacent to (and atop) the archaeological sites. The prehistoric houses, which represent many generations of occupants and construction episodes, indicate a concentration of people who were able to take advantage of predictable resources found nearby. Moreover, Point Hope appears to have been occupied for longer time periods than other prehistoric human communities of northwest coastal Alaska.

The atypical aggregation, within the broader region, of prehistoric people at the Point Hope locality has compelled anthropological researchers to investigate the role of this settlement and its inhabitants, mostly in relationship to the development of the modern Iñupiat and their foraging systems. The archaeological sites at Point Hope have yielded a large set of human skeletal remains and a rich archaeological assemblage dating to before European contact (Larsen and Rainey, 1948; Rainey, 1971). Excavated by the Rainey–Larsen Point Hope Expedition between 1939 and 1941, Point Hope is one of the oldest “continuously” occupied sites in North America, although the occupations likely do not represent any linear ancestor–descendant temporal sequences (Collins, 1984; see contributions by Jensen, Mason, and Maley in this volume). Approximately 10,000 artifacts and the remnants of over 500 permanent dwellings were uncovered at Point Hope (Larsen and Rainey, 1948; Rainey, 1971). In addition, the excavation of the skeletal remains of almost 500 individuals makes the Point Hope human skeletal remains one of the largest northern latitude samples in the world. These individuals provide an important resource for the study of hunting and gathering populations in general, and analyses of Arctic subsistence, the morphology of high latitude North American groups, and the population history of the western North American Arctic specifically.

As noted, to date, the vast majority of the anthropological information available about precontact Point Hope is derived from purely archaeological investigations. The main cultural periods at Point Hope consist of the Ipiutak (c. 1,600 to 1,100 years BP) and Tigara (c. 800 to 300 years BP). Even though these groups lived in the same location, they practiced distinct forms of subsistence and had richly distinct cultures (Larsen and Rainey, 1948; Rainey, 1971; Schwartz *et al.*, 1995). Larsen and Rainey (1948) proposed that Ipiutak

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individuals relied seasonally on caribou found in more inland areas of Alaska. Their conclusions were based on the fact that Ipiutak deposits held what they considered to be high frequencies of caribou skeletal remains, caribou derived artifacts such as antler flint flakers, and the presence of bows and arrows, implements that were traditionally used to hunt caribou (Murdoch, 1892; Nelson, 1899; Larsen and Rainey, 1948; Rainey, 1971). In contrast, Tigara archaeological artifacts point to a heavy dependence on maritime resources including walruses, seals, and, especially, whales. The Tigara component displays a high frequency of whale-hunting implements, such as large harpoons and floatation devices, and whale bones were frequently utilized for house construction (Larsen and Rainey, 1948; Spencer, 1959, 1977; Rainey, 1971).

Despite previous research (much is summarized by Tattersall and Thomas in the Foreword), the nature of prehistoric life at Point Hope and the interaction between its inhabitants and their surrounding environments remain largely unknown. While analyses of the artifacts have yielded insight into the development and spread of the Ipiutak and Thule cultures in the region (see Jensen, Chapter 2, and Mason, Chapter 3, this volume), as well as an appreciation for shamanistic art and practice (see Fitzhugh, Chapter 11, this volume), limited study has utilized the human skeletons. To this point, research regarding Point Hope prehistory has generally centered around three ethnohistorical questions, and a fourth comparative one: (1) what were the origins of the people who inhabited Point Hope; (2) what was the scope of subsistence activities and their impact on the people who utilized those activities; (3) how did social networks related to kin, marriage, and forager mobility operate; and (4) how did prehistoric Point Hope communities fit into the broader scheme of foraging lifeways in Alaska and beyond? While these questions have provided a useful framework for initial work on Point Hope, the body of work done to date has not sufficiently positioned the data with respect to issues of broad anthropological and cross-disciplinary relevance. Thus, this volume builds upon and importantly expands previous work to add analytic insights pertaining to forager evolutionary history and climatic adaptations of circumpolar foragers. More specifically, these essays contextualize the morphology, diet, and disease of these communities within a diverse mosaic of populations. In doing so, the volume contributes to timely questions about the ways that humans transform even the harshest environments into habitable landscapes.

The volume's biological and archaeological approach is particularly salutary. These contributions arrive at an opportune time; new theoretical approaches in the last twenty-five years in the areas of human behavioral ecology and ethnoarchaeology have generated reappraisals of hunter-gatherer lifeways, giving us a more expansive understanding of behavioral variation in association with modern human foragers. A key outcome of these reassessments indicates that

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modern human foragers exhibit a greater range of behavioral variability than previously discussed in the anthropological literature. Human foraging groups are now recognized as possessing greater responsiveness to ecological changes and cultural innovations. This behavioral flexibility also means that foraging populations are not monolithic but, rather, are technologically dynamic and culturally diverse. These perspectives are particularly relevant as we consider how such behavioral flexibility in a cultural system manifests itself in skeletal variation. This lived experience-on bone approach permits holistic assessments of the histories and livelihoods of past populations.

**The foragers of Point Hope: Addressing the unresolved and the unexplored**

This volume, then, is focused on addressing questions and topics that have not been thoroughly considered, or have been overlooked. While other researchers have discussed the morphological distinctions between the Ipiutak population and Tigara population that occupied Point Hope, their affinities with populations across the western Alaskan Arctic region are unclear. Indeed, an enduring mystery that Point Hope is especially well positioned to address is the origin and place of the Ipiutak culture within the western North American Arctic, as well as, potentially, the fate of that group. As noted above, researchers have established that the Ipiutak and Tigara peoples practiced dissimilar modes of subsistence, based on archaeofaunal analyses and hunting artifacts, but the dental and skeletal evidence for the dietary and activity differences incurred with this distinction have not been as explicitly examined. And while a majority of biological anthropology research on the skeletons buried at Point Hope has considered disease, trauma, and their effects, the consequences of these pathological lesions for understanding the lifeways and cultural differences between the groups bear further consideration in light of the many sources of evidence provided in this volume. Finally, even though researchers have used the morphology of the past groups living at Point Hope as a “representative” sample for human adaptations to high latitudes, their body shape, size, proportions, and limb mechanical properties have generally not been considered within the context of population history in the Arctic, and the specific lifeways of these groups.

Thus, this volume seeks to bring these topics into conversation, and organizes its contributions into three thematic parts to aid their synthesis. The first part provides archaeological and historical context for population and cultural history in the western North American Arctic. The second part derives evidence from the skeletal remains at Point Hope to illuminate similarities

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and differences between the individuals associated with the Ipiutak and Tigara cultures in light of regional (or global) biological variation. Finally, the third part provides three syntheses of this evidence.

The first part of the volume provides readers with the context necessary to establish reasons for the biological explorations that follow in the second part. Readers will find Anne Jensen's chapter (Chapter 2) useful for establishing the chronology of traditions in western and northern Alaska; her comprehensive review of archaeological sites and cultures connects and elucidates a complex history (both of peoples and of archaeologists) that provides the background necessary to understand the importance of evidence gleaned from Point Hope. Owen Mason builds on this general background in Chapter 3 by focusing on the Ipiutak culture, contextualizing the place of Point Hope within that archaeological tradition, and exploring the setting of the Ipiutak within the broader regional history. Then, in Chapter 4, Blaine Maley examines the population relationships evidenced by the archaeological record using cranial data to assess biological affinities. Together, these chapters provide the archaeological, population, and cultural foundations for biological analyses of the peoples of Point Hope.

In the second part, the contributors collectively demonstrate that, while clear biological distinctions existed between the Ipiutak and the Tigara populations, they were not wholly dissimilar. Kristen Krueger, in Chapter 5, provides information on non-dental tooth use and diet via her assessment of levels and patterns of anterior dental microwear between the Point Hope Ipiutak and Tigara individuals. The analyses by Sireen El Zaatari in Chapter 6 complement Krueger's study by investigating the evidence for dietary differences between the two cultural periods on occlusal molar microwear patterns. Together, Krueger and El Zaatari distinguish the subsistence and diets of various Arctic foragers. Charles Hilton and colleagues add further evidence to this division, as they examine morbidity differences between the Ipiutak and the Tigara peoples through the lens of postcranial skeletal lesions in Chapter 7. They argue that physical demands exerted on the postcranial skeleton increased with the transition to whaling subsistence, a finding that is further assessed mechanically in the next chapter. Laura Shackelford's analysis of limb strength properties in Chapter 8 reflects on the mechanical repercussions of high marine and terrestrial mobility on the postcranial remains of adults at Point Hope, and adds another source of evidence for understanding the lifeways of these peoples. Lastly, Libby Cowgill explores these activity patterns and variation in ecogeographic body proportion in the large sample of juvenile skeletons from Point Hope, establishing distinctions and similarities between the Point Hope groups within a global context. In total, these chapters provide the first collection of holistic skeletal analyses of the past occupants of Point Hope.

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Finally, in the third part, Auerbach, Fitzhugh, and Dumond provide thoughtful analyses and commentaries integrating the evidence presented in the previous two parts. Benjamin Auerbach's contribution (Chapter 10) synthesizes the biological analyses of the second part, and brings them into conversation with previously published findings about Point Hope, as well as emphasizing the need to place this biological understanding within a broader, continental context. William Fitzhugh echoes the importance of maintaining a broader perspective when reaching conclusions about archaeological sites, as he provides a unique circumpolar context for understanding the place of the Point Hope Ipiutak culture among many archaeological and living Arctic cultures in Chapter 11. In Chapter 12, Don Dumond brings these elements together, as he unites the archaeological, biological, and ethnohistorical evidence to yield broad conclusions about the lifeways, history, and culture of the foragers who lived on the edge of the Alaskan Arctic.

Together, these analyses from archaeological and biological perspectives provide an approach for evaluating and reconstructing the origins, variation, and demands on Arctic foragers. Overall, they provide a testament to and insight on the adaptive success of humans within one of the world's inhospitable environments. Incontrovertibly, one conclusion drawn from these many perspectives is that humans arrived at a variety solutions to subsistence in the Arctic – even at the same location – reflected in their teeth, bones, and artifacts, and the rituals and lifeways those represent. Given the success of human occupation of northwest Alaska, this volume provides a unique contribution from an archaeological context regarding the adaptive variability that encompasses the modern human condition.

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## **Part I**

### *Regional archaeological and biological context*

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