Title: A Study of Variation Among Side-Notched Bifaces From Northern Archaic Sites in Alaska

Abstract:
The Northern Archaic (~6,000-1,000 cal years BP), an Alaskan archaeological tradition, is often identified based on the presence of side-notched bifaces. Side-notched bifaces have been generally thought of as a distinct and morphologically homogenous artifact type. However, morphological and functional variation among these bifaces, commonly referred to as projectile points, is not well understood. This study examines the potential for variability across a large sample of 209 side-notched bifaces from 63 Northern Archaic sites located in central and northern Alaska. The magnitude and potential causes for variability were examined on several spatial and temporal scales, including: 1) a wide geographic expanse across several ecological regions of Alaska; 2) across 1,000 year increments throughout the mid-Holocene (6,000-1,000 cal years BP) and the majority of the temporal extent of the Northern Archaic; and 3) within a tool assemblage from a single location and occupation (Ratekin site, HEA-187) in central Alaska. Morphological variation was found among the tools at all of the regional and temporal scales; however, despite this, functional variation remained relatively consistent at each scale examined, indicating that changes in tool morphology do not represent changes in tool function. In addition, this study explores technological variation from the perspective of human behavioral ecology (HBE), focusing on risk management and how strategies for mitigating risk may be reflected in lithic assemblages (through invention, innovation, and standardization). Within this framework, increased standardization among side-notched bifaces during 4,000-2,000 cal. years BP may reflect risk-averse behavior, intended to reduce risk or uncertainty for the Northern Archaic.