Prehistoric climate changes and their effects on the development of the Eskaleut languages

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Prehistoric climate change, population movements, and language contact in the Bering Sea region are intimately connected. The archaeological and paleo-environmental records consistently show cooler climatic periods associated with more abundant marine resources and population expansions, while warming periods correlate with marine instability, region-wide population stresses, decreases, and migrations, as well as evidence of warfare. Although we see this in the smaller climate fluctuations at local levels, the two biggest changes in the past 4000 years coincide with the most important linguistic splits in the Eskaleut language family.

Eskaleut consists of two major branches: Aleut, with a single language spoken today, Unangam Tunuu, and Eskimo, with two major branches, Yupik and Inuit. The age of Proto-Eskaleut is generally put somewhere between 6000 BP and 4000 BP, during the Neoglacial period in the Bering Strait area. Unangam Tunuu (Aleut) split off first, probably via an independent migration ca. 4500 BP, becoming an independent language by ca. 3500 BP (Berge 2018). This timing corresponds almost exactly both with the end of the Neoglacial period and with a massive volcanic eruption that isolated the Eastern Aleutians from the Alaskan mainland and the related culture on Kodiak Island (Maschner 2016), leading to their linguistic differentiation (Berge forthcoming). The eruption caused a catastrophic population crash in central western Alaska, leading to movements from the interior to the coast and significant cultural changes associated with the development of Proto-Yupik culture, although not necessarily language (Tremayne and Brown, 2017).

The warmer period that followed the Neoglacial allowed the spread of whales northward into the Bering Sea, and consequently to the development of the whaling cultures later associated with the Yupik and Inuit peoples on the Siberian coast (Crockford and Frederick 2007). Despite local variations in climate, the next 2000 years were relatively stable and cool (although not glacial), allowing these cultures to flourish, particularly from 2000-1100 BP. From about 1000 BP, the climate warmed significantly, with drastic consequences. In the earliest part of this Medieval Climate Optimum, one of these cultures spread out aggressively from Siberia to Alaska (Mason 2009), precipitating a period of intense societal destabilization in northern coastal Alaska. Around 800 BP, there was a sudden and a very rapid emigration from this part of Alaska and colonization of the northern Canadian arctic to Greenland, a movement associated specifically with the development and spread of Inuit. Although Moss et al. (2007) find no evidence linking this expansion with the start of the climate change, the earlier migration from Siberia does correlate with the change. A concurrent Inuit expansion southward in Alaska precipitated five centuries of tribal wars and population displacements in Yupik areas (Funk 2010). This movement resulted in the arrival of the Yupik language Alutiiq to the Pacific Coast, its replacement of Unangam Tunuu on Kodiak Island (Berge, forthcoming) and the dialect leveling of Unangam Tunuu along the Aleutians (Woodbury 1984).

Climate change is certainly not the only factor in linguistic development. Natural disasters such as the volcanic eruption at the end of the Neoglacial may be a more direct cause of the development of Unangam Tunuu. Other factors include resource depletion as a result of increases in human population, activity, or improvements in technology; and cultural contact through trade, warfare, etc. have all affected the development of the Eskaleut languages. Nevertheless, when climate changes occurred, they acted as significant stressors leading to isolation, migration, or warfare. In this paper, I discuss how important prehistoric climate changes have been on the development of the Eskaleut languages.

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