



Dr. Daniel Temple

Title: Persistence of Time: Resilience and Adaptability in Prehistoric Jomon Hunter-Gatherers from the Inland Sea Region of Southwestern Honshu, Japan

Abstract

Jomon hunter-gatherers thrived in the Japanese Islands between ca. 16,500 and 2300 BP. These populations absorbed a variety of stressors including volcanic eruptions, tsunamis, earthquakes, and climate change. In one instance, Jomon people experienced a period of sustained climatic cooling around 4000 BP. This study uses dental caries prevalence, long bone diaphyseal robusticity, mortuary practices, tooth extraction patterns, and stress experiences to evaluate evidence for resilience/adaptability versus transformation in the socioecological and cultural systems of these prehistoric hunter-gatherers. The work finds evidence for resilience/adaptability in the socioecological system of these populations. Jomon people intensified consumption of carbohydrate-rich foods, but the paleoethnobotanical record suggests that this food was already part of the deeper socioecological memory of these populations. Mortuary ritual and tooth extraction practices became more elaborate. However, these changes also appear to be internally reflective as these behaviors were referential of the preexisting cultural and socioecological system of Jomon people, particularly the incorporation of animal remains (amulets) into burials and tooth extraction practices that were referential of earlier populations. Finally, patterns of growth disruption are found, though these had little impact on mortality further militating against the possibility of disruptive transformation.

Bio

Daniel Temple is an associate professor of anthropology at George Mason University. His areas of expertise include hunter-gatherers from Japan, Siberia, and the North American Arctic. He has published more than 30 articles and book chapters on topics such as growth and development, life history evolution and stress, diet, hunter-gatherer mortuary ritual and ontology, resilience and adaptation, and the agricultural transition.

Dr. Ian Scharlotta

Title: Diet or Mobility? Multi-isotopic (C, N, and Sr) dietary modeling at Shamanka II

Abstract

Recently, dietary reconstructions tend to rely increasingly on Bayesian techniques such as FRUITS. These models benefit from the use of additional bio- or geo-chemical proxies, which help refine proportional contributions of potentially overlapping reference groups. However, each new proxy comes with additional considerations and uncertainties. Strontium isotopes are typically discussed as recording primarily geographic information (place of origin) that can be used to infer the movements of individuals through different phases of their lives. Yet incorporation strontium into the body follows the same vector as the isotopes of ^{13}C and ^{15}N , raising the question of whether strontium ratios are truly informing about movement of the individual or changes in the diet. Differential dietary contributions from known sources can produce surprising variability in skeletal isotopic values. Inferring human movement across landscape thus relies on demonstration that observed values could not have come from local sources and require inputs from other geographic regions. Contemporary biogeochemical records are necessary to sort out these possibilities. Refinements in the developmental age estimates for the specific sampling locations on human teeth enable the integration of additional proxy data through matching of biochemical signatures obtained from dentin and enamel micro-samples. Using multi-isotopic proxies, dietary modeling allows better assessment of relative contribution to overall diet of such food groups as terrestrial large game, lake or riverine fish, seal, and plant foods (inner bark, willow shoots, mushrooms). Despite notable strontium variability, dietary reconstruction suggests the use of inner bark as the primary variable responsible for this “mobility” indicator.

Bio

Ian Scharlotta is an Alumni of the University of Alberta and Baikal Archaeology Project member for over a decade. He is currently working with Texas State University's Center for Archaeological Studies to help Vandenberg Air Force Base (California) develop and implement a radiocarbon database along with regional and habitat-specific offset corrections due to complex upwelling effects. His expertise includes micro-sampling, individual life histories using biogeochemical micro-sampling, artifact provenance studies, technological analysis of material culture of California/Southwest/Great Basin, and Lake Baikal, Siberia, and how social complexity is intertwined with the technological and cultural landscape.

