

Abstract

Numerous studies within the last 200 years have shed light on the socioeconomic patterns of the Beaker culture during the Bronze Age, particularly in the United Kingdom. However, with the expanding role of GIS in the field of archaeology, there is an increasing amount of spatial data on this cultural group, allowing opportunities for analysis that can begin to describe inter- and intrasite spatial connections. The geographic connections of pathways, for example, can illustrate the corridors of cultural exchange that gave rise to and sustained the Beakers for over 1,000 years. Using Least Cost Path analysis, this thesis aimed to model such spatial connections in Northeast England.

The study generated 66 anisotropic LCPs that modeled possible path connections between sites. The first 18 LCPs served as the primary LCPs between sites – within clusters and between clusters. Three assessment tests were conducted to validate these LCPs. First, for each primary LCP, another LCP was generated traveling in the reverse direction. Second, new segments that utilized pairs of nearby sites, approximating the alignment of original pairs, were generated; the new segments also included a primary and a reverse LCP. Finally, areas with high LCP coincidence were compared to aerial images for coincidence with paths or features. The study found that the LCPs were mostly coincident or near coincident. However, varying degrees of local variation in the trajectories of many LCPs were evident. Four areas with high LCP coincidence or near coincidence were selected for aerial imagery comparison which showed LCPs generally following watercourses. Generating LCPs can model human movement during the Bronze Age; however, datasets that describe the environmental conditions of the period as well cultural datasets that spatially delineate territories and taboos are needed in order to more

accurately understand the efficacy of these LCPs and the costs associated with prehistoric travel in the region.