Variation in use of East Asian Late Paleolithic weapons: A study of tip cross-sectional area of stemmed points from Korea

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The introduction of blade technology, stemmed points, end scrapers, burins, denticulates, and finer grained materials led to the transition from the Early to Late Paleolithic in Korea. Stemmed points have been considered a representative tool that led this whole set of changes. In this research, we examine the function of stemmed points to understand the role that they played during the technological transition as well as throughout the Late Paleolithic. Our main questions are: What were stemmed points used for? How diverse were their functions? What are the temporal patterns in stemmed point functions? We measured tip cross-sectional areas (TCSA) to discriminate different functional classes of projectile points, for example, poisoned arrowheads or thrusting spear. We analyze TCSA with other variables including raw materials, weight, site and radiocarbon dates. Our results show that the stemmed points mostly functioned as javelins and thrusting spear tips, with smaller numbers as dart tips and arrowheads. TCSA values are depending on size and raw material types. We found different usage of stemmed points in different sites, which could indicate people used stemmed points in different ways depending on the environment. However, some sites show a wide range of TCSA values that represent multi-purpose usage of stemmed points. The temporal pattern of TCSA values is one of little change throughout the Late Paleolithic period. We conclude that stemmed points were mainly used as Javelin but they were multi-functional tools.