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Dear Profs. McPherron and Steele,

We wish to submit an original research article entitled “Variation in use of East Asian Late Paleolithic weapons: A study of tip cross-sectional area of stemmed points from Korea” for the consideration by *Journal of Paleolithic Archaeology*.

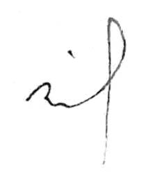
Previous research about the weapons in Late Paleolithic Korea has mainly focused on individual assemblages with the typological and chronological methodologies. A few studies examined the function of the tools by usewear and morphological analysis. What is missing from the previous works are 1) analyses of large dataset that shows full spectrum of the likely uses, and 2) spatial and temporal patterns of the likely uses, which might be related to environmental change.

Our research present to fill the gap using 173 stemmed points from 29 sites located all across Korea dated to 44-10 ka. By measuring tip cross-sectional area (TCSA), we examined the best-fit ballistic probabilities for the stemmed points, the first composite tools in the Korean late Paleolithic. We analyzed TCSA values with other variables including raw materials, weights, radiocarbon dates, site locations, and maps of eco-regional zones.

Our key finding suggests that stemmed points were multi-function tools but mainly used as javelin tips and stabbing spear tips. We found people might have used stemmed points in different ways depending on the local environment. Stemmed points were mostly located in certain ecoregions in Korea without clear spatial patterns. We also observed that stemmed points were predominantly produced before the Last Glacial Maximum (LGM). We propose that prior to the LGM, people may have encountered unfamiliar situations and stemmed points were served as a multifunctional tool to carry multiple and unexpected tasks.

We believe our findings would appeal to broad international audience, such as the readership of *Journal of Paleolithic Archaeology*, as a wide-reaching journal publishing original research on Pleistocene archaeology especially covering study of stone artifacts, cultural human evolution, and paleoecology.

We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal. All authors have approved the manuscript and agree with submission to *Journal of Paleolithic Archaeology*. We have read and have abided by the ethical guidelines for the publication submitted to *Journal of Paleolithic Archaeology*. The authors have no conflicts of interest to declare.

Warmly,

Ben Marwick, Gayoung Park