

## Geo- and Bio-Factors in Transformation of Context of the Chongokni Stone Industry and Problems in Archaeological Interpretation

**Kidong Bae**

Department of Anthropology, Hanyang University, Ansan, Korea

Identification of post-depositional process of a site becomes more and more important in archaeology. Particularly in Paleolithic archaeology, it is understood that a site could have been transformed to very different one in its context and content. Among many natural factors, geomorphological process is the most common in disturbance and transformation of Paleolithic site.

Stone artefact assemblages from the Chongokni Paleolithic site and their depositional contexts provide cases showing how much different Paleolithic assemblages could have been formed by geological, in particular fluvial geomorphological processes in one culture. Also evidences indicate that bio-factor also played an important role in disturbance of the original context of clay material supposedly deposited in a low-energy fluvial environment. A stone artefact assemblage from a sandy layer (of the TPIIB pit) is believed to have been resulted in by sorting in stream. Size and orientation of artefacts in the assemblage fall into very narrow range of variations. On the other hand, some assemblages from clay deposits show wide range of distributions in their size.

Heavy duty bifaces to small debris were found in these assemblages. It is not certain how these assemblages were formed. Occasional casual activities probably left those in this area, but geological processes was also a strong candidate. At any rate, these two different patterns of assemblages are similar in their composition and size distribution to the stone industries of so-called two cultural traditions suggested by Professor Jia and his colleagues. This fact suggests a doubt on the relevancy of the Jia's hypothesis of dichotomous tradition of Paleolithic cultures in Northeast Asia.

Loose concentration of stone artefacts in clay deposits could have been formed by surface water erosion and bio-disturbance. Some conjoined pieces of stone artefacts were found on different level, for one case, 80cm difference in their level. Surface-running water often carves deep ditches on ground and some of exposed stone artefacts are fallen down into the ditches. This process is believed to have changed the level of artefact. Earthworm and burrowing animal activities cause gradual earth movement by digging and refilling. In an area of 25 square meters, more than five hundreds earth worm holes were counted. It cannot be estimated how much these bio-factors disturb original context of deposits, it seems very serious in some environments.

This observation confirms some of previous studies of site formation processes. Post depositional processes can distort original context of archaeological sites in certain variable degree. Therefore, it may be meaningless to compare stone artefact assemblages without considering them.