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Patterns of transitions in Paleolithic stages during MIS 3 and 2 in Korea

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ABSTRACT

During MIS 3 and 2, a large proportion of the entire lithic repertories of the Paleolithic episode are represented in the Korean Paleolithic data. The diversification in Late Paleolithic lithic data in Korea calls into question the utility of a unilinear model of successive cultural stages defined by cultural markers. The recent increase in the number of well-controlled archaeological record with radiometric data during MIS 3 and 2 does not support a straightforward relationship with the conventional set of chrono-typological criteria. Radiocarbon dates were examined for reliability in artifact-bearing horizons from 39 Paleolithic sites in Korea. Using high-resolution examples, this paper examines if the transition from early Late Paleolithic (Stage 1) to late Late Paleolithic (Stage 2) is defined by clear-cut discontinuities. Results are not compatible with the traditional expectation of differences in toolkit assemblages between cultural stages. It is concluded that the conventionally known cultural stages are limited for adequately representing the updated data, because of the complex tempo and the non-directional mode shown during transitions. Although distinctive and varied cultural markers are observed, there is also a considerable overlap in the lithic assemblages of different stages. The cultural shifts and diversifications show both saltational and gradualistic shifting during MIS 3 and 2. Results of this paper provide an insight for reconstructing a workable (regionally distinctive) chrono-typological framework.

1. Introduction

Transitions are a topic of great interest in archaeology. In particular, the transition from Middle to Upper Paleolithic period has received great attention from scholars of both archaeology and paleoanthropology, as the transition event has been associated with the debate on modern human origins. Korean Paleolithic studies do not deviate from this. The theoretical orientation of Korean Paleolithic studies lies in culture history and cultural classification under typological and chronological considerations. This approach presupposes archaeological data with high resolution to answer the questions often raised, regarding origins, migrations, and diffusions. In practice, however, the sparse and insecurely deposited archaeological records do not offer the finely detailed traits associated with historical occurrences.

Culture is often viewed through the essentialist framework. Three key features have been often cited in Korean Paleolithic studies: absence of gradation, presence of abruption, and progression through stages. Although cultural gradation, gradual cultural changes, and reversals may be implicitly acknowledged, they are not explicitly accepted in the basic framework. Regional characteristics in East Asia are neither simple nor static, and it is hard to conform to the traditional three-fold cultural division scheme used in the European Paleolithic literature. The main reason for favoring the European three-fold system lies in the research history in Korea, highly related to the paucity of Paleolithic data: the sparse Paleolithic record in Korea was not sufficient to question the usefulness of the western European classification system that was already established as a default.

Due to the recent increase in the number of systematically excavated sites, there is now a higher resolution than before in the material evidence that allows using the local empirical archaeological data towards a solution that is suitable for the region-specific characteristics, which in turn would result in a regionally synthesized level of research. While some researchers subscribe to the conventional scheme of three cultural stages (Park, 1992a,b), more than 150 relatively well-controlled and stratified excavated sites and numerous find-spots offer an opportunity to see small-scale changes and reconsider the regional and temporal

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repertories previously defined (Bae, 2010b). This reflects a change in focus for the Paleolithic literature, from major cultural shifts to regionally unique material differences even if these do not follow the well-known temporal and regional hallmarks.

The term 'Upper Paleolithic' has been questioned in the Korean literature, and 'Late Paleolithic' has been proposed as its replacement. The term 'Late Paleolithic' reflects a growing consensus towards adopting two discrete cultural episodes, Early–Late Paleolithic, instead of three, Lower–Middle–Upper Paleolithic (Bae, 2010a). The complete absence of significant Middle Paleolithic chrono-typological markers is the prominent reason often cited in support of the two-fold cultural division. The shift from three-to two-fold cultural system has deeper connotations, however. Korean Paleolithic data are compatible with the two stage Paleolithic sequence due to the absence of a clear sign of the Middle Paleolithic markers (Bae and Bae, 2012), a point also raised in the Chinese case (Gao and Norton, 2002; Norton et al., 2009), and due to the evolutionary mode and tempo different from those in the European Paleolithic (Seong, 2009). However, although Bae and Bae (2012) and Seong (2009) support the two-stage system, their shared position comes from two different thought processes. Bae and Bae are concerned with the presence or absence of definitive elements in a predetermined trajectory, while Seong considers the transition process to be cumulative and slow, so that strict cultural stages cannot be defined.

Increase in region-specific data that do not fit into the universal framework forces a re-examination of the preexistent conceptualizations and a unilinear cultural succession, leading to a growing uncertainty about the premise of a singular cultural trajectory. Seong provides an effort of applying the approach of evolutionary archaeology to the Korean Paleolithic data (Seong, 2003, 2006a, b, 2008). This is an alternative approach to the empirical Korean lithic data traditionally construed as cultural sequences, instead allowing the rate of cultural transmissions to vary. Punctuated equilibrium is considered as equally significant as gradualism (O'Brien and Lyman, 2000).

It has been argued previously that the variation of artifact assemblage in Korea does not follow a unilinear evolutionary model. The technological modes proposed by Clark (1969): Mode 1 Oldowan (i.e. simple forms of tools); Mode 2 Acheulean (i.e. bifacially worked tools); Mode 3 Mousterian (i.e. Levalloisian flakes); Mode 4 Upper (Late) Paleolithic (i.e. prismatic blades); Mode 5 Upper (Late) Paleolithic, Mesolithic (i.e. microblades) (Clark, 1969; Foley and Lahr, 2003; Liu et al., 2011) give a useful insight for determining the general patterns of change and measuring technological diversity (Foley and Lahr, 2003). In Africa, almost all the variants appear over an extensive period of time and space. The Oldowan assemblage starts in 2.5 Ma, and refined blade based lithic assemblage in 50 ka (Ambrose, 2001), although early blades are dated earlier (Bar-Yosef and Kuhn, 1999).

The case in Korea is quite different from that in Africa where different modes consecutively appear without an intensive conflation in a narrow time period. All technological modes except Mode 3 appear within a narrow period of time in Korea. The earliest found assemblage in Korea is not of Mode 1 (Oldowan-like) material but of Mode 2 (Acheulean-like) handaxe assemblage (Lee, 2013a), while there is an absence of intermediate assemblage between Mode 2 and Mode 4 tools (Bae, 2010a). Blades and tanged points occur at a relatively early period when compared with other regions in East Asia, while simple core tools persist through time and space (Lee, 2013b). An example of a critical approach to the predetermined large-scale changes can be seen in the case of handaxe research. Yi (2000) divides the Korean lithic data into three succeeding stages of handaxes, non-handaxes, and microlithics. Yi's approach is a noteworthy effort against a conservative model of unilinear progress.

Whereas the argument about the three-stage versus the two-stage chronology in Korean Paleolithic hinges on the presence or absence of the Mode 3 technology, the debate regarding the Late (Upper) Paleolithic in Korea focuses on the nature of the transition. In other words, researchers frame the question around the patterns of similarity observed in the tool-kits. Under the model of an indigenous development of the Late (Upper) Paleolithic, similar traits are assumed to reflect cultural inheritance. The argument is about the prolonged early cultural tradition (Lee, 2002) to the latter period has been raised. Under the hypothesis of an external introduction (Bae, 2010a), similarities would not be related to cultural transmission from the earlier period, but instead reflecting sources of external influences, as can be seen in the example of the 'North–South (Migration) model' (Bae, 2010a; Bae and Bae, 2012).

In regions where the division system does not fit the data well, scholars develop their own criteria. In the case of northern China, the Late Paleolithic (Upper Paleolithic) is divided into the early Upper Paleolithic (EUP) and the late Upper Paleolithic (LUP) on the basis of changes in technological and cultural markers (Qu et al., 2013) such as the initiation of blade production for EUP (Brantingham et al., 2004) and the systematic use of microblades for LUP (Qu et al., 2013). Infrequently occurring and poorly dated markers, however, inevitably result in a rather inconsistent chronological division. For the EUP with blade production, the time range is either from 35 to 30/27 ka cal BP (Bar-Yosef and Wang, 2012) or from ~35 to ~23/22 ka BP (Qu et al., 2013). Furthermore, cultural markers from China are not the majority in number: both blades (Qu et al., 2013) and microblades (Yi et al., 2013) are sparse before LGM. It is difficult to find a distinct change between EUP and LUP in terms of lithic traits.

Japanese researchers also subdivide Upper Paleolithic into two cultural periods, but their typical cultural markers differ from those in China: trapezoids and edge-ground axes during EUP, and backed blades, point-tools, and microblades during LUP (Kudo and Kumon, 2012; Morisaki, 2012). In addition, Japanese researchers use a chronological marker formulated by the Aira-Tn (AT) tephra. Dated as 30–29,000 cal BP, it plays a key role in dividing the Japanese EUP and LUP (Kudo and Kumon, 2012; Takashi, 2012).

Although China and Japan use the same terms, EUP and LUP, the contextual meanings are not always equal. Chinese cultural division is based on the presence or absence of cultural markers such as blades and microblades, while the Japanese division is primarily based on the absolute chronological marker.

In Siberia, the transition between early and late Upper Paleolithic is more complex, partly because the period is often subdivided into three phases (Derevianko et al., 2014). These three phases, initial–early–late, were already in place in the 1990s (Vasil'ev, 1993), and this cultural division scheme is still valid despite the sharp increase in high-resolution sites over the last 20 years. A subtle development in the scheme lies in the emphasis of the importance of EUP, so the initial Upper Paleolithic (IUP) which encompasses EUP with the combination of Levalloisian and prismatic blade technology was proposed recently (Kuhn and Zwyns, 2014).

Different models of cultural change lead to different interpretations of the Korean chronology. Under a gradualistic model, cultural changes are assumed to be slow, while a saltational model assumes rapid and sudden cultural changes. If the early Late Paleolithic is analogous to the Aurignacian and considered to be associated with the initial and major introduction of modernity (Mellars, 2006), the mode and tempo of cultural changes are