
Large Cutting Tools in East Asia - A convergent development or indicator of migrations?

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Abstract

Representing a step up in complexity and often associated with an increase in cognitive capability (McNabb et al. 2018), the Acheulian is the first lithic technocomplex in which tool shapes follow stronger cultural moulds. With the earliest evidence dated to 1.8 million years ago (Ma) in Kenya (Moncel et al. 2016; Lepre et al. 2012; Díez-Martín et al. 2015), the Acheulian toolkit spread out of Africa into the Levant *circa* 1.5 Ma (Sharon & Barsky 2016), in south west Asia as early as 1.1 Ma (Pappu et al. 2011; Paddayya 2007) and finally to Europe around 0.9 Ma (Moncel & Schreve 2016; Scott & Gibert 2009). Its main defining characteristic is the presence of large cutting tools (LCT) such as cleavers, picks and, the most iconic of these tools, the handaxe (Lycett & Gowlett 2008; Goren-Inbar & Sharon 2006; Soressi & Dibble 2003). Its geographical distribution encompasses almost all of the areas where early hominids spread in the Old World.

While it's true that the presence or combination of these tool types define the Acheulian, this classification is becoming increasingly more controversial (Lycett & Gowlett 2008). Despite their supraregional presence, LCTs were rarely known in East Asia (though recently were well typified e.g. in China and Korea: Li et al. 2017; Yang, Hou & Pelegrin 2016; Yang, Hou, Yue, et al. 2016) which led to theories that it did not exist in these regions (Movius 1948). While recent findings argue in favour of the presence of an Acheulian in East Asia (Dennell 2016; Yang et al. 2014), lingering questions over the nature of these tools still remains. More prominently, it's theorized they may result from convergent developments (Wang et al. 2012) or a development rooted on an earlier convergent culture in the region (as indicated by other researchers e.g. Boeda and Hou, 2011). This handaxe absence could also be a distinctive characteristic of the Acheulian in East Asia, similar to Middle Paleolithic industries, more specifically the Mousterian, in China (Li et al. 2018). The vast geographic distances involved may be the main reason of the aforementioned distinctiveness.

The possibility of migration, however, or a mix of cultural spread, technological convergence and migrations can't be ruled out as the possible origin for East Asian LCTs. The migratory hypothesis as well as theories proposing a "genetic" origin for the Acheulian have been the

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subject of recent investigations (Romanowska et al. 2017; Tennie et al. 2017; Corbey et al. 2016) but they don't directly address the questions surrounding the rarity of a full Acheulian assemblage in the archaeological record of East Asia or their similarity to their counterparts in the rest of the world.

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