A reassessment of early human stone technology from a Southeast Asian perspective

This 3-year Discovery Project (2009–2012) to Adam Brumm, has been funded by the Australian Research Council to examine hominin stone-flaking methods and behavioural competence on both sides of the Movius Line - the boundary separating Acheulean industries of Africa and western Eurasia from the simpler core-and-flake technologies of eastern Asia.

The manufacture of Acheulean handaxes is thought to require advanced cognitive capabilities, specifically the ability to impose preconceived forms on stones. The apparent absence of handaxes in eastern Asia, therefore, forms the basis of the conclusion that early hominin stone-flaking east of the Movius Line was less technologically sophisticated than contemporaneous Acheulean industries elsewhere. However, morphological patterning in handaxes is the subject of intense debate: do these complex shapes reflect the conscious efforts of hominins to impose these forms on stones, or are they byproducts of other intentions, such as resharpening tool-edges or reducing cores to produce flakes? Most archaeologists favour the first view, and handaxes are widely thought to represent the earliest evidence for ‘imposed form’. However, inferring intent from tool form is a tricky business and an equally plausible argument can be made that morphological patterning in handaxes is largely a product of typological thinking.

Why do classic handaxes appear to be absent from early Southeast Asian assemblages? What is it about stone flaking routines in western Eurasia that produced so many handaxe forms, and how do they differ from Southeast Asian approaches, which did not – on present facts – produce these objects? To address these problems Adam is comparing early hominin stone flaking techniques and gestures on both sides of the Movius Line, making detailed technological analyses of assemblages from Early and Middle Pleistocene Indonesia and from Lower Palaeolithic Britain.

Diacritical flake scar analysis of an Acheulean handaxe from High Lodge (~500 ka), Lower Palaeolithic Britain. This establishes the order of removals, and the techniques and gestures used to flake the stone. (Photo courtesy of The British Museum). Scale, 10 mm.
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