

# Lower Paleolithic bone handaxes and chopsticks: Tools and symbols?

Ran Barkai<sup>a,1</sup>

Across the Old World, Lower Paleolithic humans manufactured bone facsimiles of the canonical Acheulean stone handaxe, but these enigmatic bone items (mostly elephant) are exceptionally rare. As no functional use evidence was available, bone handaxes, unlike their more prevalent stone counterparts, were thought to reflect early human worldviews or spiritual conceptions. Sano et al. (1) provide unequivocal evidence for the use of a 1.4-million-year-old bone handaxe from Konso in carcass processing. I suggest that this important discovery further supports a dual functional and perceptual role for these items: Use of a biface does not negate a complementary role in signifying the relationships of early humans with the megafauna who sustained them and with the cosmos in general (2). Handaxes were manufactured over a vast geography and chronology, assisting in the extraction of calories from herbivore (mainly megafauna) prey (3). Human adaptation thus depended on handaxes and large mammals, with the Acheulean representing the most persistent mode of successful adaptation, lasting more than 1.5 million years. Sano et al. (1) rightly claim that the production and use of bone handaxes provide “additional evidence of the technological and behavioral sophistication of African *H[omo] erectus* through Acheulean times,” as attested by their ability to apply stone knapping principles to bone, a material more resistant to flaking and to easy shaping. I nonetheless wish to highlight a different perspective on the issue at hand, and, to this end, suggest the chopstick as a heuristic model for a tool

both practical and symbolic (4). Prevalent across Asia, chopsticks are eating utensils and cultural symbols. Commonly made of bamboo or wood, exceptional items employ gold, rhinoceros horn, deer antler, ivory, mahogany, and jade. While occasionally used, these rarer items are mainly emblematic of the dual significance of chopsticks in the Asian cultural and spiritual sphere. Likewise, the occasional use of an exceptional handaxe produced from megafauna bone does not preclude any symbolic meaning. The same holds, by the way, for the stone handaxes. Moreover, Sano et al. (1) argue that “The scarcity of bone handaxes may signify the difficulty in procuring large bone blanks and the difficulty of flaking bone compared with stone.” The paper thus simultaneously advocates the technological proclivities of early humans in shaping bone while suggesting they were incapable of producing or procuring large bone flakes at will. One should keep in mind that the extraction of marrow necessitates bone breakage (5), and large bone flakes and other bone fragments were available at Konso (6). Given the abundance of suitable stones at Konso (7), the decision to transform a bone flake into a handaxe, despite stone’s better workability and efficiency in butchery (8, 9), testifies to an exceptional, conscious act—an act of reverence that sheds light not only on the technological sophistication of the Acheuleans but also on their perception of the world. Last but not least, a recently reported bone handaxe from China (10) was overlooked and is missing from table 1 of ref. 1.

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<sup>a</sup>Department of Archaeology and Near Eastern Cultures, Tel-Aviv University, Tel Aviv 6997801, Israel

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<sup>1</sup>Email: barkaran@tauex.tau.ac.il.

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