

***The bifacial shaping in the TK Acheulean site (Bed II, Olduvai Gorge, Tanzania):  
new excavations 50 years after Mary Leakey***

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TK -Thiongo Korongo- is a site located on the Upper Bed II at the Olduvai Gorge, to the north slope of the Main Gorge, some 2 km east of the joining point with the Side Gorge. An age of c. 1.3 My has been estimated.

Two main levels were identified during the excavations carried out by M. Leakey in 1963: an Upper Occupation Floor (TKUF) and a Lower Occupation Floor (TKLF). Faunal remains and lithic industry were documented on a primary position, although they showed alterations due to long exposition to atmospherical agents and post-sedimentary processes. Both levels were first identified as Developed Oldowan B by M. Leakey (1971). Later, she changed their attribution to TKLF Acheulean (Leakey, 1975). Both levels have been classified as Acheulean techno-complex in further studies (de la Torre, 2004; Mora and de la Torre, 2005).

Under the Olduvai Paleoanthropology and Paleoecology Project (TOPPP), 113 m<sup>2</sup> have been excavated between 2010 and 2012 on three areas of TK, being these works still in progress. The following study focuses on a series of 5,805 pieces -including 3,812 pieces of shatter- of the TKLF, which was obtained from 51.9 m<sup>2</sup>-Sector A-. This series shows a very high concentration of industry, mainly done in quartzite from a very near inselberg (NQ) and volcanic rocks (VR). The total weight is 494.3 kg, and it has a density of 112 pieces per m<sup>2</sup>-38 excluding shatter-.

The *débitage chaîne opératoire* is unique and almost complete. All phases, raw materials capturing, management systems, maintenance and abandonment are well documented. The knapping was carried out exclusively with lithic hammer, through freehand and bipolar techniques. The core exploitation follows simple reduction strategies, with presence of non-hierarchised discoid notions, and with no signs of *levallois*.

The shaping tools, not only bifaces -67 specimens in NQ and 10 in VR-, but also cleavers (3) and trihedral pics (3), adopted differentiated managing systems on both varieties of raw material. Large NQ and RV bifaces show similar measures, proportions and weight. On the whole, they seem to be very specialized tools; NQ bifaces were

manufactured in the area, and in both cases -NQ and VR- they were used, kept and abandoned in the site. NQ and VR are one of the main technological characteristics of TKLF, which allow ascribing this site to the Acheulean techno-complex with security.

## References

- Leakey, M. D., 1971. Olduvai Gorge, vol. 3. Excavations in Beds I and II, 1960-1963. Cambridge University Press.
- Leakey, M. D., 1975. Cultural Patterns in the Olduvai Sequence. In: Butzer, K. W., Isaac, G. L. (Eds.). *After the Australopithecines. Stratigraphy, Ecology, and Cultural Change in the Middle Pleistocene.* Chicago, Mouton, pp. 477-493.
- Mora, R., de la Torre, I., 2005. Percussion tools in Olduvai Bed I and II (Tanzania): Implications for early human activities. *Journal of Anthropological Archaeology* 24, 179-192.
- Torre, I., de la, 2004. *Estrategias tecnológicas en el Pleistoceno inferior de África oriental (Olduvai y Peninj, norte de Tanzania).* Tesis doctoral. Universidad Complutense. Madrid.

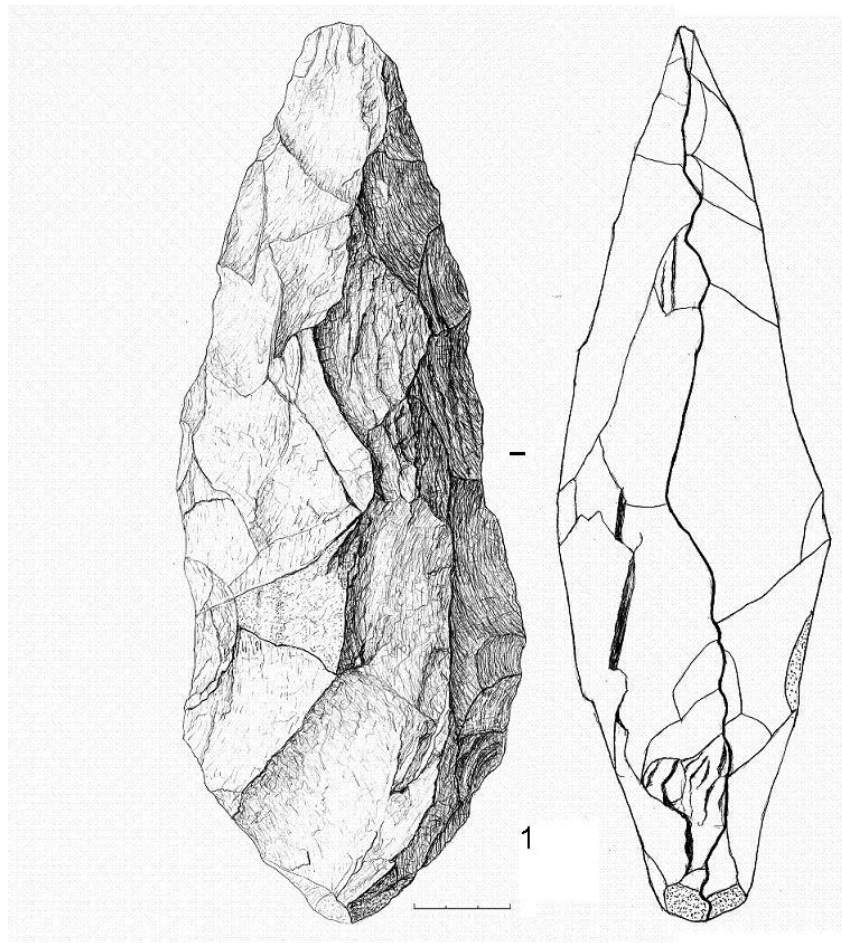


Fig 1: Biface on basalt. TKLF (drawing by R. Rojas)

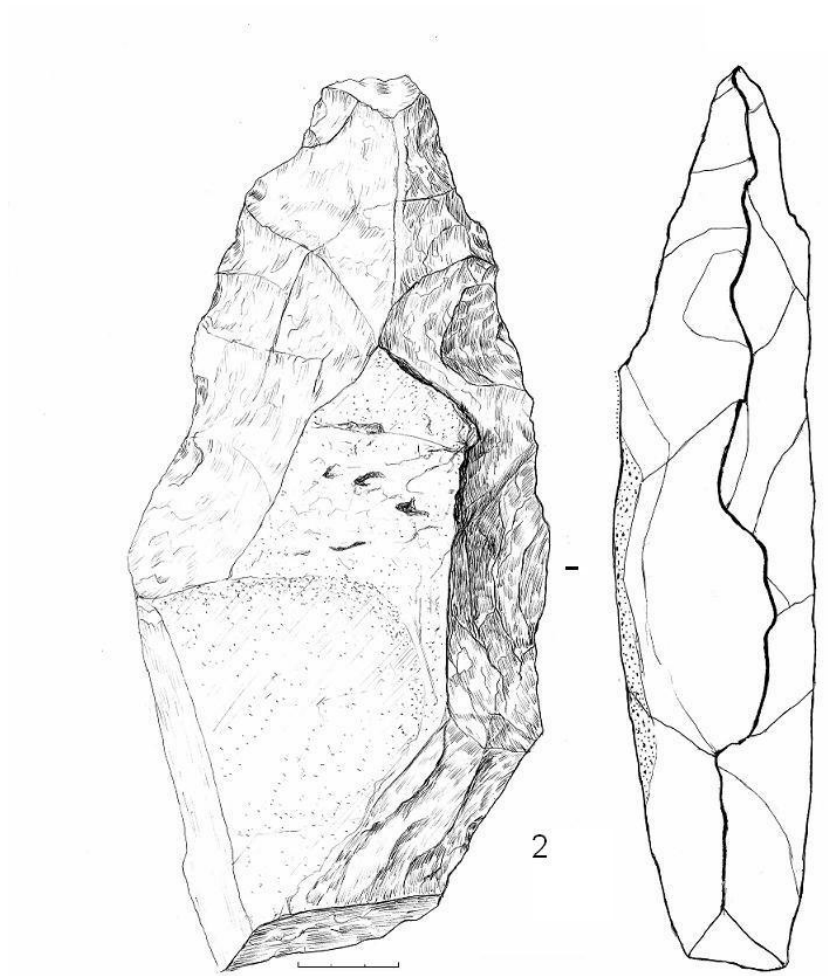


Fig 2: Biface on quartzite. TKLF (drawing by R. Rojas)