

The Oldowan and the Acheulian Archaeological records at Gona, Ethiopia

Sileshi Semaw^{1,2}, Michael J. Rogers³, Isabel Caceres⁴, Naomi Levin⁵, Amanda Leiss⁶

1. Centro Nacional de Investigación sobre la Evolución Humana (CENIEH), Burgos, Spain; sileshi.semaw@cenieh.es
2. Stone Age Institute & Anthropology Department, Indiana University Bloomington, Indiana, USA ;
3. Department of Anthropology, Southern Connecticut State University, New Haven, Connecticut, USA ;
4. Institut Català de Paleoecologia Humana i Evolucio Social (IPHES), & Àrea de Prehistòria, Universitat Rovira i Virgili, Tarragona, Spain ;
5. Earth and Environmental Sciences, University of Michigan, Ann Arbor, Michigan, USA;
6. Department of Anthropology, Yale University, New Haven, Connecticut, USA;

Abstract

Both the timing and the context of the beginnings of hominin stone tool use are still critical issues in the field of paleoanthropology. Over the past two decades several researchers have made claims for earlier beginnings of ancestral hominin use of stone artifacts in Africa, but the archaeological evidence and the contextual information for ancestral tool use prior to 3.0 Ma is still under question. Currently, well-dated earliest Oldowan stone artifacts (2.6 Ma), in primary context, and in association with clear evidence of stone tool cutmarks, are documented at Gona, Ethiopia. In addition to the EG10 and EG12 sites (excavated in the early 1990s), continued excavations by the Gona project has documented additional *in situ* artifacts and fossil fauna from several 2.6 Ma archaeological sites. During the past several years, the Gona research team has also surveyed/excavated numerous sites in the time period 2.6-2.0 Ma, documenting remarkable archaeological materials. Our preliminary observations show a possible shift in hominin behavior during this time interval, but the technological changes in stone tool production were subtle and gradual. Furthermore, the Gona project has carried out years of field investigations in the deposits dated from the earliest to the late Acheulian (1.65 Ma-~250,000 years ago). Taphonomic studies revealed considerable hominin activity related to processing animal carcasses during the later part of the Oldowan (~2.1 Ma) at Gona. The technological transition from the Oldowan to the Acheulian is among the issues being investigated at Gona, but further radioisotopic dates and investigations are needed to firmly establish archaeological occurrences in the 2.0-1.7 Ma time range. Significant progress has been made in our understanding of the earliest Acheulian in much of Africa, but further investigations are still needed to firmly establish the function, context, and cultural transmission implications of Acheulian large cutting tools (LCTs).

Key words: Oldowan; Acheulian; Gona; Stone technology; transition;