

---

# Double Patina and the Acheulian Longue Durée: Collecting and Modifying Patinated Flaked Items during the Lower Palaeolithic

Bar Efrati\*<sup>1,2</sup>, Maayan Shemer<sup>3,4</sup>, and Ran Barkai<sup>5,6</sup>

<sup>1</sup>The Sonia and Marco Nadler Institute of Archaeology, Tel-Aviv University – Haim Levanon st. 49,  
POB 39040, 69978 Tel-Aviv, Israel

<sup>2</sup>Department of Archaeology and Ancient Near East Cultures (TAU) – Tel-Aviv University Haim  
Levanon st. 49, POB 39040, 69978 Tel-Aviv, Israel

<sup>3</sup>Israel Antiquities Authority – Israel

<sup>4</sup>Ben-Gurion University of the Negev – Israel

<sup>5</sup>The Sonia and Marco Nadler Institute of Archaeology, Tel-Aviv University – Israel

<sup>6</sup>Department of Archaeology and Ancient Near East Cultures – Israel

## Abstract

The surfaces of flint items are subjected to various chemical alterations over time and under certain environmental conditions. These chemical alterations often defined in research as "patination". While scholars tend to distinguish between various types of patina, all are discerned from "fresh" flint surfaces by differences in colors, gloss and textures. Some well-developed patinas can even be distinguished solely by the naked eye. Amongst the different studies associated with flint patination, "double patina" is used as an evidence for lithic recycling. Recycling, in this case, is a behavior that implies the employment of an existing "old" artifact and its further modification for a new use-phase. Hence, using patinated flaked items as workable materials is a clear example of recycling since the new phase of modification can be clearly and easily differentiated from the older patinated flaked surface. Moreover, the presence of patina on the original flaked surfaces implies for a gap in time between the original production (and possible use) of the original (now patinated) item, and its post-patina collection and modification.

Recently, the phenomenon of double patina was systematically studied at two Lower Palaeolithic sites in Israel: The Late Acheulian open-air sites of Jaljulia and Revadim Quarry. Here, an attempt is made to present the phenomenon of "double patina" and its role in the general lithic procurement and lithic recycling behaviors practiced at those sites, arguing for a possible new behavioral pattern that was not recognized yet.

The results lead us to suggest that the act of recycling was not conducted due to shortage in lithic materials (as both sites still comprise of more lithic items made out of fresh flint, and since their surroundings are rich in flint sources), but rather due to behavioral choices which seem to span throughout the Lower Palaeolithic and beyond; in time and space. Furthermore, it appears that the collection of "older" patinated items for recycling was purposeful and specific, as "old" patinated cores and blanks with specific desired proprieties (e.g., morphology and size) were chosen and collected. We will suggest that the collection and modification might have been a pan-Acheulian behavioral trait that could reflect both practical and perceptual characteristics of the Acheulian.

---

\*Speaker

**Keywords:** Double Patina, Acheulian, Lower Palaeolithic