Taphonomic insights into the Middle Pleistocene in the Iberian Peninsula
The human cranium from Gruta da Aroeira (Portugal)

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1. INTRODUCTION
A partial human cranium has recently been recovered from the Gruta da Aroeira site in the Alminda karst system (Torres Novas, Portugal)3.
The cranium was recovered from the Acheulean layer (Unit 2) dated to 390–436 ka. Together with the cranium, abundant faunal remains and lithics were found, including Acheulean handaxes.

2. OBJECTIVES
The aim of this work is to describe the taphonomic signatures in order to approximate the cause of death and the biological agencies and geologic processes involved.

3. METHODS
Cranial breakage was analyzed to assess the presence/absence of perimortem (fresh bone) and postmortem (dry bone) fractures5. Taphonomic analyses noted surface modifications employing the usual methods.

4. RESULTS

4.1. TRAMPLING

4.2. ABRASION

4.3. PERIMORTEM FRACTURE

4.4. POSTMORTEM FRACTURES

5. CONCLUSIONS
-Our taphonomic hypothesis is that the cranium (or the skeleton) was accumulated somewhere in the cave and after was displaced through the debris cone, when main vault breakage could have occurred.
-Cannibalism, secondary treatment of the corpse and accumulation induced by carnivores can all be discarded.
-The type of the perimortem fracture (isolated and linear) and the location (lateral location, below the HBL, right side) makes an accident the most plausible explanation for the cranial fracture (e.g. while hunting, the result of a fall, etc.).
-Non-biological causes such as rock block falls or the like cannot be ruled out altogether but we have no data to speculate on these causes.
-Most of the fractures present features (right angles, linear outlines, jagged surfaces and absence of cortical delamination) are compatible with postmortem injuries (excavation) and with post-depositional causes (geological agents or sediment pressure).

References

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