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# Techniques and criteria for the geometric documentation of the excavations of the dolmen "Alto de la Huesera" (Álava, Spain) and its virtual reconstruction

Javier Fernandez-Eraso<sup>\*†1</sup>, José Antonio Mujika-Alustiza<sup>\*‡1</sup>, José Manuel Valle Melón<sup>§1</sup>, and Álvaro Rodríguez Miranda<sup>¶1</sup>

<sup>1</sup>Universidad del País Vasco / Euskal Herriko Unibertsitatea (UPV / EHU) – Espagne

## Résumé

The dolmen "Alto de la Huesera" is one of the nine megaliths tombs identified to the south of the Sierra of Cantabria (Alava, Spain), it was discovered in 1947 and excavated the following year. These first works focused only in the chamber and led the specialists to even think that it lacked of corridor. Between 2010 and 2014, a new series of excavations resulted in the location of the expected corridor –more than 8 meters long- and the delimitation of a tumulus of 16 meters of diameter. Recovered objects suggest that the construction should have been made at the end of the Neolithic, although obtained dating indicates an intensive use over the Chalcolithic and the beginning of the Bronze Age.

The excavations recovered remains of 130 inhumations of both sexes and varied ages, together with bronze and stone arrowheads, bell-beaker pottery and personal adornment items such as pearls, earrings and pendants in stone (variscite, coral fossil, lignite) or bone, as well as a plate in gold. In 2012 an anthropomorphic stele was discovered in the corridor, the design shows a hand with a halberd and some daggers engraved near the shoulders.

The top slab of the dolmen collapsed at an early stage. That fact led to the temporary abandonment of the monument. Some time after, the corridor was closed down while the chamber continued to be used as burial area.

Turning to methodological aspects, current practice considers mandatory that the hypotheses resulting from the archaeological works are documented in such a way that the scientific community will be able to access not only to the final results but also to the initial data and the description of the interpretative process. All this, in order to articulate the debate and the contrast by other specialists. While the description of the deductive processes and hypotheses in the graphic representation count on a sound foundation from the London Charter (2006), preservation of information sources is still an open issue. In this respect, current methodologies for geometric documentation allow detailed and accurate registers of the shape, size and appearance of the different moments of the excavations.

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\*Intervenant

†Auteur correspondant:

‡Auteur correspondant: joseantonio.mugica@ehu.es

§Auteur correspondant: jm.valle@ehu.es

¶Auteur correspondant: alvaro\_rodriguez@ehu.es

For all that, this text pays particular attention to the description of the approach employed for the geometric documentation of the dolmen during the excavations and virtual reconstruction, as well as, to the data management for their preservation and re-use over time.

**Mots-Clés:** dolmen, Neolithic, geometric documentation, data management, data re, use, virtual reconstruction