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PLEISTOCENE AND HOLOCENE HUNTER-GATHERERS IN IBERIA AND THE GIBRALTAR STRAIT.

THE CURRENT ARCHAEOLOGICAL RECORD

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Abric de El Pastor in the Neanderthal Occupation of the Alcoy valleys. Alicante (Spain)

Abric de El Pastor is a Middle Palaeolithic site located in the Mesozoic limestone hills formed by the Sierra de Mariola, at an altitude of 820 m above sea level. It is located on the right bank of the ravine Barranc del Cou, on the upper part of the hillside, facing north-east and with a surface area of nearly 40 m². It is an ancient karst tube formed in a bed of conglomeratic limestone, in the Tortonian Isochronic calcarenites.

1. M. Bretons' excavations

The first archaeological excavations in Abric de El Pastor were carried out in 1953 by M. Bretons, a bookseller from Alcoy interested in the local archaeology and prehistory (Bermúdez de Castro, 1983). Bretons's funds for his work, as reflected in the documentation held in the C.V.M. Monteiqui Archaeological Museum. This consists of numerous letters dealing with methodology with reciprocal relations about the excavations and the treatment of the archaeological record, also of historiographical interest because of references to the Middle Palaeolithic in Southeastern Spain; in addition to the excavation logbook, stratigraphic sketch, catalogue and photographic archive.

The stratigraphic notes and some photos have been used to determine that the excavated area was in the central part of the rock-shelter and only affected the upper part of the deposit (about 50cm). Bretons thought he had reached the end of the sequence. Indeed, it was generally believed that the excavation had exhausted the potential of the deposit, which had yielded rich lithic and faunal assemblages.

2. Current research in Abric de El Pastor

The study of the site re-started in 2005 with an intensive survey of the Alcoy valleys, followed by a series series of excavations, initially aimed at establishing their stratigraphic context and the chronocultural sequence, as far as its state of conservation permitted, within a full phase-disciplinary study of the Neanderthal occupation of the mountains of Alicante (Gabasa et al., 2007-08; 2008; Morales and Sanchis, 2008; Molina et al., 2010).

The lithic assemblage recovered by Bretons is mainly flint and quartz (2,490 pieces), flanked by variegated chert from the surroundings of the site (Molina et al., 2010). Cores, flakes and retouched tools were abundant, above all Levallois, and even several refits were achieved. This attests knapping in situ and the integrity of the lithic assemblage (Gabasa et al., 2008). The retouched elements form a large proportion of the assemblage (n = 543) with a predominance of side-scrapers and a significant group of pointed elements (n = 43). Some of the tools show extensive fractures (Fig. 1a and b) (Gabasa et al., 2007-08). The archaeozoological record from the old excavations is formed by a faunal assemblage with an arthropic origin, with a choice of prey consisting mainly of deer, red deer and bovine, as well as the Mediterranean tortoise, which was a common resource (Morales and Sanchis, 2008).

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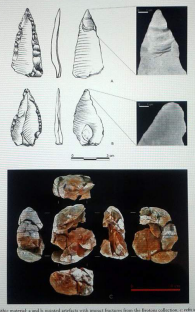

Figure 1. Lithic material: a and b: pointed artefacts with impact fractures from the Bretons collection, c refits in Mariola type flint. from S1 IVb, demonstrating the almost total reduction of a block.

2.1. The stratigraphic sequence

The current excavations cover an area of 43 m² (70% of the total surface area). The sedimentary sequence uncovered to date is 1.5m thick and has been divided into six stratigraphic units, according to macroscopic and micromorphological textural parameters (Fig. 2a and b). The main origin of the sediment is the disgregation of the conglomeratic roof, which underwent a process of collapse, leaving stone gravel that outcrops in the rock-shelter. The matrix consists of micritic calcite in a good state of conservation, with little evidence of solution. In general there is very little clay, which is only present as fine coverings and filling the pertusis. From top to bottom, the sequence is as follows:

- S1/ VI: This has only been identified in a stratigraphic sounding it is still in the process of being excavated and its thickness is unknown. It is a silty-sandy sediment, with a high content of stones, which differs from the following units. It has yielded a dense accumulation of materials (flint, fauna and charcoal) and several hearths, next to the wall of the rock-shelter (Fig. 2b).
- S1/V: This has also been identified in the stratigraphic sounding. The silty-sandy sediment is slightly compacted. Its thickness in S1/VI is about 25cm thick. It displays evidence of diversions and repeated reducing-oxidising processes, indicating a regime of greater humidity than in upper levels (Fig. 2b).
- S1/IV: Identified all over the excavated area, with a mean thickness of about 70cm, it consists of a sandy matrix with a high content of coarse layers of cobble-stones (IVa, IVc, IVe and IVg) alternate with clayey-sandy silty, sand and fine-grained gravel (IVb, IVd and IVf). Several remnants of human occupations, probably of a short duration, have been discriminated in it (Machado et al., 2011) (Fig 2a and 2b).
- S1/ III: This stratigraphic unit has equally been identified throughout the excavation area, with a thickness varying from 5 to 15cm. It consists of rounded gravel with no matrix, which suggests a period of sub-aerial exposure, in which the rock-shelter was affected by non-off processes. The archaeological remains are very scarce (Fig. 2b).
- S1/ II: This is a silici sediment occurring in the north-west sector of the excavated area, truncated by S1/ I. Its calcitic matrix, cemented in places, contains a large number of solution pertusis and a significant porosity due to abundant spots of organic material. The archaeological evidence in this unit is limited to a faunal assemblage associated with a hearth.
- S1/ I: Several episodes of Holocene sedimentation, in which no sub-units (Ia to If) have been discriminated, are all in an erosional contact with the Pleistocene deposits (S1/ II and S1/ III). Loess (fine in diameter), connected with anthropic activity, fills the rock-shelter. They contain Middle Palaeolithic remains in a secondary position, from the erosion of the upper part of the Pleistocene sequence, some of which is conserved in breccia, adhered to the wall up to 0.7m above the modern surface (Fig. 2a).

Most of the remains retrieved by Bretons must have come from S1/ I, whose characteristics coincide with that researcher's descriptions of his Level A, although he did not mention the existence of a lower layer with Palaeolithic objects. The sediments pertaining to S1/ II and S1/ III have not really affected the stratigraphic units II, III and IVb.

2.2. Hearths

The excavations at Abric de El Pastor have been able to totally uncover hearth in S1/ II, two in IVa, three in IVb, one in IVc and five in IVd, as well as further evidence in S1/ VI. In general, they occupy the centre of the rock-shelter, near the wall, and have a diameter of approximately 1m, but vary from 0.5 to 1m in diameter. The ash has only been conserved occasionally, as shown by micromorphological analysis and FTIR, and therefore these hearths are recognised by their thermal impact on the substrate, whether it is rocky or sandy. They played a structural role in the organisation of the rock-shelter (Fig. 2b). The hearths are characterised by a very rich anthracological record attesting the use of a wide range of plants in the activities carried out with the fires (Vidal, per comm.).

2.3. Human occupations

The excavation over the area of S1/ IV has made it possible to recognise certain aspects of the dynamics of the occupation by the groups who lived in the rock-shelter. S1/ II and S1/ III, however, have been poor and affected by post-depositional processes and anthropic activities. Similarly, S1/ V and VI are only known partially in the sounding. However, the

Figure 2. a) Stratigraphic sequence S1/ I to IVd; b) Stratigraphic sequence in the sounding from S1/ IV d to VI.

objects found in S1/ IVa, IVb and IVc are evidence for exposure time and an brief occupation of low intensity (Vidal-Indet et al., 2011). The absence of thermoaltered flint in these units susceptible to dating by TL has not allowed a chronological determination, and therefore it can only be said that they are older than 75 ± 10ka, the result of a TL determination for materials in the Bretons collection (N. Mercier, per comm.). All these occupations are very similar in the use of the space (central hearth or hearths, activities around them and an empty space at the back of the rock-shelter). However, they are different in terms of the importance of the activities carried out. In S1/ IVa and IVc, animal processing predominated, especially the consumption of Testudo hermanni, whereas knapping tools are practically unknown. In contrast, these tasks predominate in IVb (Fig. 1c). S1/ IVd, currently being excavated, reflects a similar pattern, although with a larger number of hearths.

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Bolomor Cave (Tavernes de la Valldigna, Valencia, Spain)

Location and geographical context

Bolomor cave is located on the southern slope of the Valldigna valley, on the right bank of Bolomor Canyon, near the Valencian town of Tavernes de la Valldigna. Valldigna is a flat-bottomed valley with an east-west orientation. The river Vaca runs through the valley, recruited by the springs of the nearby limestone massifs.

The cavity, about 100 m above sea level, is part of the series of karst forms along the northern slope of the Mondúver massif, opposite the Cabo Negro promontory and the Sierra de Les Agutes/ Sierra de Corbera. The canal lies northeast of the site, almost perpendicular with the valley, whose base extends from the coast to the valley's inner reaches. The tectonic fortification and fracturing of the Tortonian limestone in a northeast-southwest direction. It is located on a vertical cliff that forms part of the southern flank of the tectonic depression of the Valldigna. It has a surface area of approximately 35 x 17 m (600 m²). By Universal Transverse Mercator (UTM) coordinates, the cave's entrance is located at zone 30N, 737618E- 4370668N, according to sheet no. 770-4 of the National Geographic Institute.

Valldigna is located in one of the western areas of Valencia, with a typical Mediterranean climate and an annual rainfall of over 700 mm. The regional to

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