

## 6. Conclusions

The El Castillo Cave site is one of the most important records of the Middle and Upper Palaeolithic on the Iberian Peninsula and indeed in Europe. The presence of a stratigraphy representing all stages of human presence dating back more than 300,000 years enables a wide range of working hypotheses to be tested, both his-

torically and in other disciplines (palaeontology, climatology, etc.). Our studies have focused on the transition period from the Middle to the Upper Palaeolithic. They have contributed several aspects that challenge –and indeed will continue to challenge– current views. This confirms the importance of the site and the opportunities it presents.

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La Güelga cave. Cangas de Onís.  
Asturias

## Introduction

La Güelga Cave, whose name refers in local language to wet and shady sites, opens on the heart of limestone mountain valley, forming a *cul-de-sac*. The stream flows from the current cave aperture and has configured a *karst* system with corresponding terraces drain caverns that were successively occupied during the Middle and Upper Paleolithic. This group of rock shelters and caves has been divided into different sectors for his investigation, which has developed since 1989 up to the present time. On the lower terrace *A-B* and *C* areas are located, occupied during the Magdalenian and Solutrean. At the top, *D sector*, with occupations attributed to Châtelperronian, Aurignacian and Mousterian. This valley, closed in itself, has provided numerous lithic remains in surfaces, mostly attributable to Mode 3, surely exponents of intense and prolonged occupations. It's placed 200 m above sea level, and along with Buxu and

Azules caves, is a site core in the middle reaches of the Sella River, territorially linked with others coast sites, 15 km away, around the Ribadesella Bay (Menéndez, 2003).

**Areas A, B and C (Upper Paleolithic):** Located around the current cave entrance. They show remains of an intense Solutrean occupation swept by the river into the karst. The only evidence from the upper Solutrean, industry also present in neighboring Buxu Cave, are gap vestiges attached to the wall of the shelter and *in situ* layer (*Area C*), with notch points and concave base. Also, *A* and *C* were excavated and assigned to Cantabrian Lower Magdalenian or Magdalenian III occupation, from the so-called *Juyo facies*. The lithic and especially bone industry display the existence of a group of hunters, specialized in deer (55%), chamois (24%) and goats (20%), probably during the middle months of the year (spring / summer), which left at layer 3 an excellent collection of art mobilier. It must be highlighted the hyoid

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hanging on deer, decorated assegai and bones, emphasizing an adult deer tibia fragment, with three heads, of the same animal, synchronously recorded, all done with fresh bone, but with very different styles and conventions. This occupation of the late Magdalenian is well dated, around to 14 key BP (Fig.1).



Figure 1. Engraved Magdalenian tibia.

**Area D (Transition MP / UP):** In the middle terrace, around 11 m above the current stream bed, appears a cave entrance excavated since 2000, which was filled in by debris from collapsed cornice that fell and formed a slope. Overall, nine archaeological layers were excavated inside the shelter, which we have called *D interior*. The result was a Châtelperronian – Aurignacian – Mousterian sequence, separated by periods of collapse and abandonment of the cavern (Quesada & Menéndez 2009). As stratigraphic variations in certain areas were observed and the Aurignacian interlayer was the utmost interest to the transition paradigm MP / UP, in 2005 a new excavation zone was determined to be opened on the outdoor terrace under the large blocks of old collapsed shelter. This area, which has been called D exterior, it provided Mousterian intense occupation. In 2012, in collaboration with the Neanderthal Museum in Mettmann and the University of Cologne (Germany), led by G-Ch. Weniger, it was made micromorphological analysis of D zone, interior and exterior levels, to contrast them with the sedimentological

results (Jordá *et al.*, 2013; Menéndez *et al.*, 2014). We summarize the current geoarchaeological results and hypotheses for future work.

The geoarchaeological *D sector* sequence from La Güelga comprises a series of levels generated by both anthropogenic and natural processes. These natural processes detected by the sedimentological analysis, highlight the gravitational collapse of large blocks, gelifraction and diffuse gullies of very low energy (Jordá Pardo *et al.*, 2013). The micromorphological analysis of D interior area identifies features that indicate the nature *in situ* of both the Mousterian (L9) and Aurignacian (L5-L6) levels, whereas in the Châtelperronian levels (L1 and L2) the traits indicate were emplaced by processes of creep after a roof block fall and aren't significantly compacted by trampling. Chronological inversion seems to confirm this hypothesis.

**D Interior:** The sequence excavated by now consists of nine archaeological layers deposited in slope (Fig. 2), into the cave, under a strong surface layer (S1 and S2) (Quesada & Menéndez, 2009; Jordá *et al.*, 2013).

**Châtelperronian (L1 and L2):** Layers 1 and 2 form a sedimentological unit in slope into the cave interior. It only was useful for excavation 3.7 m<sup>2</sup>. It was found a flint laminar industry, having noted the presence of two Châtelperron points, and another assemblage of quartzite flakes, such as scrapers and denticulates. The presence of lithic manufactured the absence of bone artifacts and <sup>14</sup>C studies (Table 1) encouraged us to define this set as Châtelperronian, considering the possible underlying Aurignacian as an interstratification. Recent dating of the lower level (L5) and sedimentological and microstratigraphic analysis carried out by the University of Cologne does not ensure that this level. is *in situ*

Under level 2 a fringe of stone blocks detached from the shelter and a layer of clay and silt appears from the outside. They are levels 3 and 4, almost sterile.

**Aurignacian (L5 and L6):** Under a line of stone blocks (L5) appears a clay layer (L6); shown *in situ* by the sedimentological and microstratigraphic analyses. This unit has provided a few anthropic remains, but very typical. The lithic assemblage, mostly laminar, is made on flint and quartzite. There are nosed scrapers, one Aurignacian blade and retouched flakes. Regarding bone industry, were found several flattened oval sec-

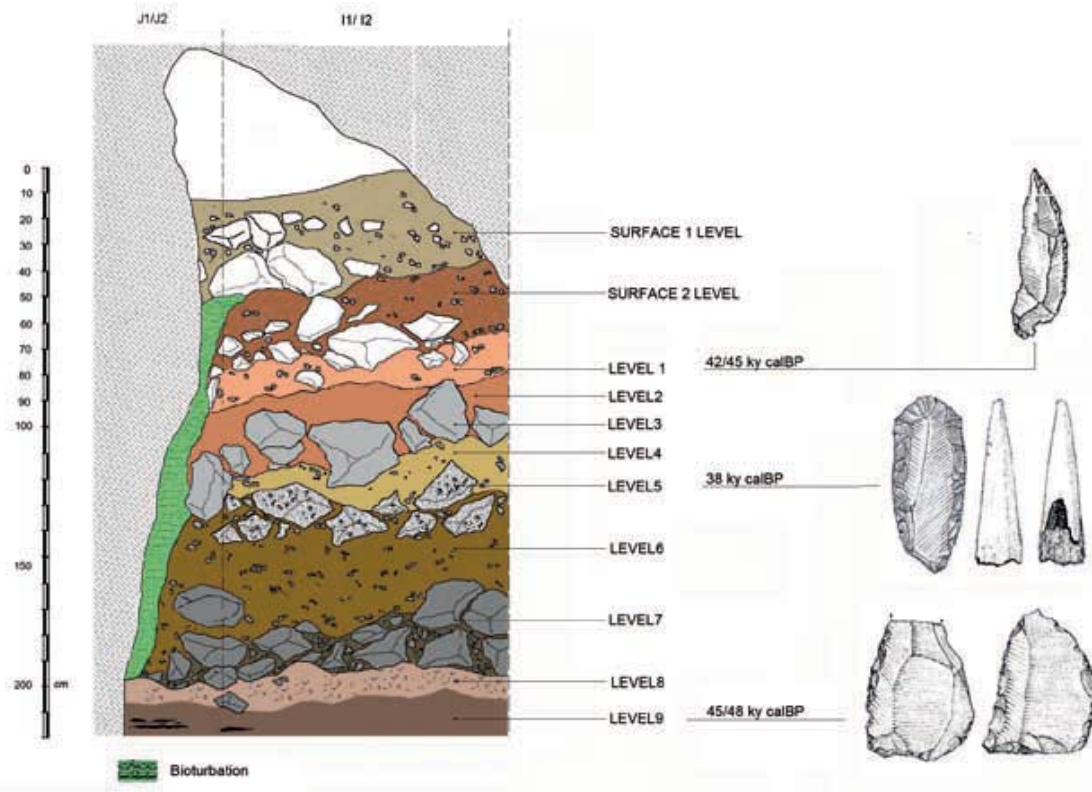


Figure 2. Overall stratigraphy of Güelga Cave.

tion awls, a mooted mesial fragment of assegai and one whistle on deer phalanx. The chronology (pending new dates) places it into 38ky calBP. Despite the reduced sample, the homogeneity and conventional characters of the assemblage, the absence of contradictory elements, preliminary dating and stratigraphic position indicate an undoubted Aurignacian presence. Below this layer, a long period of cave abandonment (L7 and L8) is documented.

**Mousterian:** It is represented in D interior by level 9, showing intense human presence evident in combustion remains, wealth lithic industry (Mode 3), with Levallois pieces and animals bones with fleshing traces; as well as the possibility of setting spatial occupation patterns. This inside occupation matches on open air the terrace level with the 4B layer from *D exterior*. Both have provided a typically Mousterian lithic accumulation, consisting of local quartzite flakes re-touched, denticulate and scrapers, as well as Levallois points. All phases of the operational chain are present, mostly discoid and also Levallois.

Scarce flints remain Piloña type show relationships with other sites, such as Sidrón cave in the same river basin. Premolar (15) and several human dental fragments, with Neanderthal morphology, were found. The  $^{14}\text{C}$  dating with pretreatment by ultra filtration (OxA) places this occupation in the period 55/44 ky in OIS 3c, between H6 and H4 events (Menéndez *et al.*, 2009; Quesada & Menéndez, 2009; Jordá *et al.*, 2013). The fauna recovered, around 70,000 remains, showing deer (66%) and chamois (31%) predominance, also uncommon species and diverse ecosystems, such as mammoth (*Mammuthus primigenius*), panther (*P. pardus*), megaloceros, rhino, wolf, boar, etc., suggesting a recurrent and prolonged use of the site by the Neanderthal populations of the River Sella basin.

#### Conclusions:

The assignment Châtelperronian sediments (L1 and L2) are displaced. Their sedimento-

Zone	Level	Culture	Material	Procedure	Code	BP Date	Deviation	95 % probability calibrate Date	
								CalPal 2007 Hulu	INTCAL 13
Indoor D	2	¿Châtelperronian?	Bone with marks	AMS + untrafiltration	COL2014	37429	302	42780 -41460 calBP	42320 -41400 calBP
Indoor D	2	¿Châtelperronian?	Bone with marks	AMS + untrafiltration	OxA-27958	40300	1200	45910 -42070 calBP	45890 -42090 calBP
Indoor D	5	Aurignacian	Bone with marks	AMS + untrafiltration	Beta-377233	33610	220	41730 -35570 calBP	38720 -37200 calBP
Indoor D	9	Mousterian	Bone with marks	AMS + untrafiltration	OxA-19244	43700	800	49020 -44540 calBP	48740 -45300 calBP
Indoor D	9	Mousterian	Bone with marks	AMS + untrafiltration	OxA-19245	44300	1200	50660 -44380 calBP	Out range calibration
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20122	47400	2700	Out range calibration	Out range calibration
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20123	>43200			
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20124	48500	3500	Out range calibration	Out range calibration
Outdoor D	4b	Mousterian	Bone with marks	AMS + untrafiltration	OxA-20125	>43600			

**Table 1.** Datations of Cueva de la Güelga

logical quality is not enough to defend such a significant hypothesis as interlayer Aurignacian. Future work should pursue an explanation for their stratigraphic position and timing (42/45 Ky calBP).

There is an Aurignacian presence, with little information, but with a timeline around 38ky

calBP, earlier to an intense Mousterian occupation (45/48 Ky calBP).

There is a long period of abandonment between Aurignacian and Mousterian occupations (7/10Ky).

The lower Magdalenian occupation provided an excellent collection of portable art.