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Breaking the palimpsest: an approach to the cultural sequence of Neanderthal occupation at the Navalmaíllo rockshelter, Pinilla del Valle (Spain)*

Deshaciendo el palimpsesto: una aproximación a la secuencia cultural de la ocupación neandertal del abrigo de Navalmaíllo, Pinilla del Valle (España)

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ABSTRACT

The Navalmaíllo site is a karstic rockshelter located in a mountain environment near the Lozoya river. The location of the site allows for the close monitoring of the surrounding area, for following the migrations of animals and for the temporary residence of human groups. The difficulties associated with estimating the time span of occupational processes at archaeological sites raise the problem of the synchrony and diachrony of occupations that form palimpsests. Archaeostratigraphy has revealed the integrity of the sedimentary deposit, how it has been affected by both natural agents (falling boulders and the conservation of the site) and human agents (the excavation method). The deformation of the plastic deposit is reflected in the archaeostratigraphy, but the two periods of occupation identified have been preserved and were not largely affected. The archaeostratigraphic approach has resulted in the identification of some of the taphosedimentary aspects of Layer F and in the deciphering of the cultural palimpsest, establishing the cultural sequence of occupations at the Navalmaíllo site.

RESUMEN

El yacimiento de Navalmaíllo es un abrigo kárstico localizado en un entorno de montaña cerca del río Lozoya. La ubicación del yacimiento permite un control del entorno, siguiendo las migraciones de animales y para el establecimiento temporal de los grupos humanos. Las dificultades asociadas con la temporalidad relacionada con los procesos ocupacionales de los yacimientos, desvelan la problemática vinculada a la sincronía y diacronía de las ocupaciones que componen los palimpsestos. La

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arqueoestratigrafía ha permitido conocer la integridad del depósito, y cómo se ha visto afectado por procesos naturales (la caída de bloques y la conservación del yacimiento) y humanos (el método de excavación). La deformación del depósito plástico ha quedado reflejada en la arqueoestratigrafía, pero los dos periodos de ocupación identificación han quedado preservados y apenas se han visto afectados por esta caída de bloques. El enfoque arqueoestratigráfico ha permitido la identificación de algunos de los aspectos tafosedimentarios del nivel F y desgranar el palimpsesto cultural, estableciendo la secuencia cultural de ocupaciones en el yacimiento de Navalmaíllo.

Key words: Archaeostratigraphy; Palimpsests; GIS; Spatial Archaeology; Iberian Peninsula; Neanderthals.

Palabras clave: *Arqueoestratigrafía; Palimpsestos; SIG; Arqueología Espacial; Península Ibérica; Neandertales.*

INTRODUCTION

The problem of palimpsests (Bailey 2007) has been a considerable factor in the spatial/temporal considerations of intrasite studies. Understanding time in terms of distinct occupations is essential for establishing diachronic sequences characterized by synchronous assemblages of archaeological items (Vaquero *et al.* 2001a, 2001b, 2012). Archaeostratigraphic units constitute the best "picture" of an occupational episode and its technological, social and functional characteristics.

The theoretical basis of archaeostratigraphy began with some publications in the 80s and referred to the sequences of sedimentation, their relation with distinguishing archaeological assemblages and their temporal significance, issues directly related to the problem of the temporal accumulation of cultural material at the same location, in terms of occupations and frequentation (archaeological palimpsests). Binford (1981: 197) made reference to this problematic issue, in relation with the rates of sedimentation and the creation of palimpsests: "Rates of deposition are much slower than the rapid sequencing of events which characterizes the daily lives of living peoples; even under the best of circumstances, the archaeological record represents a massive palimpsest of derivatives from many separate episodes".

Later, Ferring (1986; Stein and Deo 2002) realized that rapid sedimentation allowed one to distinguish and have a clear view of the archaeological assemblages that have been superimposed over time; he also noticed that a slow sedimentation does not allow distinguishing different assemblages, and therefore different occupations.

Since the 90s there has been a proliferation and diversification of theoretical discussions related to space-time concepts (Fruitet 1991).

Research at the Navalmaíllo rockshelter began in 2002, and the excavations conducted there have yielded important archaeological, geological and taphonomic data. The origin of the fossil accumulation has been interpreted as anthropic due to the high degree of anthropic fracturing and cutmarks on the bones, and the numerous lithic remains recovered at the site. The site is considered a Neanderthal camp, but it was unknown whether the excavated remains were from a single occupation episode or if they resulted from several superimposed occupations. In this work, we present the first results obtained from the breakdown of the archaeological palimpsests using all of the data recorded over nine years of fieldwork.

CONTEXT

The Pleistocene sites of El Calvero de la Higuera are located in the karstic complex of Valle Alto del Lozoya (Fig. 1) near Pinilla del Valle, in the Sierra de Guadarrama mountain range (Madrid, Spain). It is Pleistocene paleokarst formed on a cuesta landform, gently tilted to the north, of Upper Cretaceous dolomites. The karst was formed during the Middle and Late Pleistocene by lithological-structural controls and the lowering of the local base of the Lozoya River and its local tributaries, the Lontanar and Valmaíllo streams (Pérez-González *et al*. 2010; Karampaglidis *et al*. 2014; Karampaglidis 2015). Today, the karstic complex is dismantled as a result of bedrock weathering and surface processes, and is totally infilled by Middle-Late Pleistocene alluvial sediments, debris and colluvium deposits. One of these sites is the Navalmaíllo rockshelter, which was formed by the action of the local Valmaíllo stream and is totally infilled with colluviums, breccias and fluvial sediments. The roof of the rockshelter hung approximately eight meters above the Valmaíllo stream valley. The presence

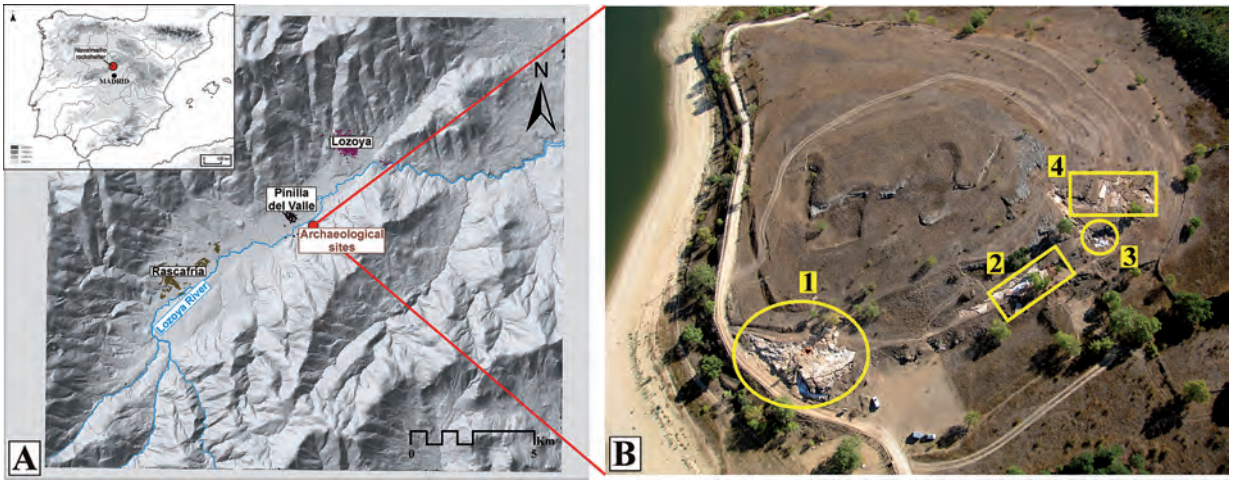


Fig. 1. Location of the Pleistocene sites of Valle Alto del Lozoya, Iberian Peninsula. A. Digital model of the relief and B. Position of the sites in El Calvero de la Higuera: 1. Camino cave; 2. Navalmaíllo rockshelter; 3. Buena Pinta cave and 4. Des-Cubierta cave.

of the site was not immediately evident in the field because the collapse of the roof subsequent to the abandonment of the site homogenized the topographic profile of the slope (Pérez-González *et al*. 2010).

The Navalmaíllo rockshelter has an estimated area of more than 300 m^2 with a Middle-Late Pleistocene sedimentary sequence of approximately >4.5 m of thick. At its base, the sequence is made up of allochtonous fluvial infilling (over 1.5 m thick). This Layer FL corresponds to the terrace + 7 m, dated by thermoluminiscence (TL) on quartz grains to 140.4 ± 11.3 ka BP (MIS 6 or MIS 5) (Pérez-González *et al*. 2010). Moving up, the sediments of the Layer F are linked to archaeological evidence (approx. 1 m thick). Layer D is comprised of fallen blocks and sediment injected by the load and hydroplasticity of the lower layer (Layer F), infilling the gaps between the fallen blocks. The upper part of the sequence is comprised of settled colluviums and, by its stratigraphic position, corresponds to the Upper Pleistocene (Fig. 2) (Pérez-González *et al*. 2010). The Ap Horizon is Holocene. A different version of this lithostratigraphic sequence was published by Arriaza et al. (2017), but it contains several errors that are corrected in this work: the TL samples are incorrectly located and the legend of the injected sediment (Layer D) should be the same than the lower layer (Layer F), as explained above.

The study area of this work measures about 42 m^2 and corresponds to Layer F, whose horizon is deformed by hydroplasticity due to the fall of large limestone blocks during an episode subsequent to the occupation of the rockshelter (Layer D) (Pérez-González *et al*. 2010). The blocks sealed the site, thereby preserving the deposit. Thus, postdepositional agents have not affected the integrity of Layer F. Layer F, on which this work focuses, contains faunal and lithic remains and carbonate fragments of rocks whose dimensions and number decrease towards the base of the layer. These subangular fragments are suspended in a clay-sandy matrix and come from the fall of the roof of the rockshelter. Layer F has been dated using thermoluminescence (TL) on sediments to 77.2 ± 6.0 BP (MIS 5a) (MAD-3767) by the TL Lab at the Universidad Autónoma de Madrid (Pérez-González *et al*. 2010). Figure 3 shows the extension of the site in relation to the overhanging edge of the karstic rockshelter, as well as the cross-section of the Navalmaíllo rockshelter. During the main human occupation (Layer F) the alluvial valley of the Valmaíllo-Lontanar system would have been approximately 1 m above the terrace +3 m, delimiting an alluvial surface very close to the site and providing the access to water resources and raw materials located on the alluvial surface.

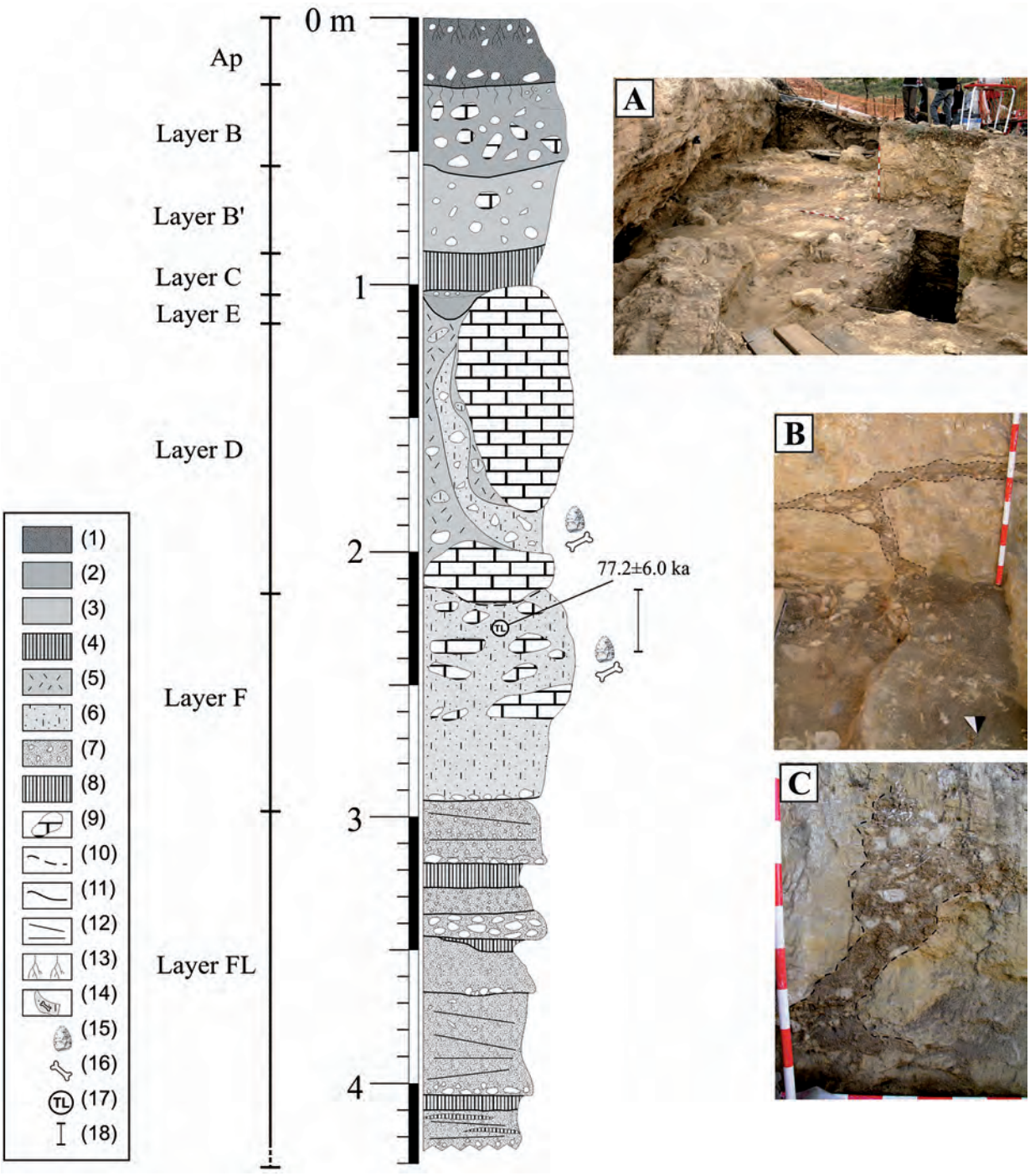


Fig. 2. Lithostratigraphic sequence of the Navalmaíllo rockshelter. Legend and description: (1) Ap horizon. Limestone pebbles in silty sand matrix. Rootlets; (2) Limestone pebbles in silty carbonated matrix; (3) Limestone pebbles in silty matrix; (4) Silty clay; (5) Injected deposit with limestone cobbles in silty matrix; (6) At the top, limestone blocks and cobbles/pebbles in clay matrix. Abundant lithic and faunal remains; (7) Gravels of granitic and metamorphic rocks in sandy matrix; (8) Clay; (9) Limestone block; (10) Loading contact; (11) Bed contact; (12) Crossed stratification; (13) Rootlets; (14) Injection structures; (15) Lithic remains; (16) Faunal remains; (17) Thermoluminiscence sample for dating. A. General view of the Navalmaíllo rockshelter and B. and C. Detail of the level D.

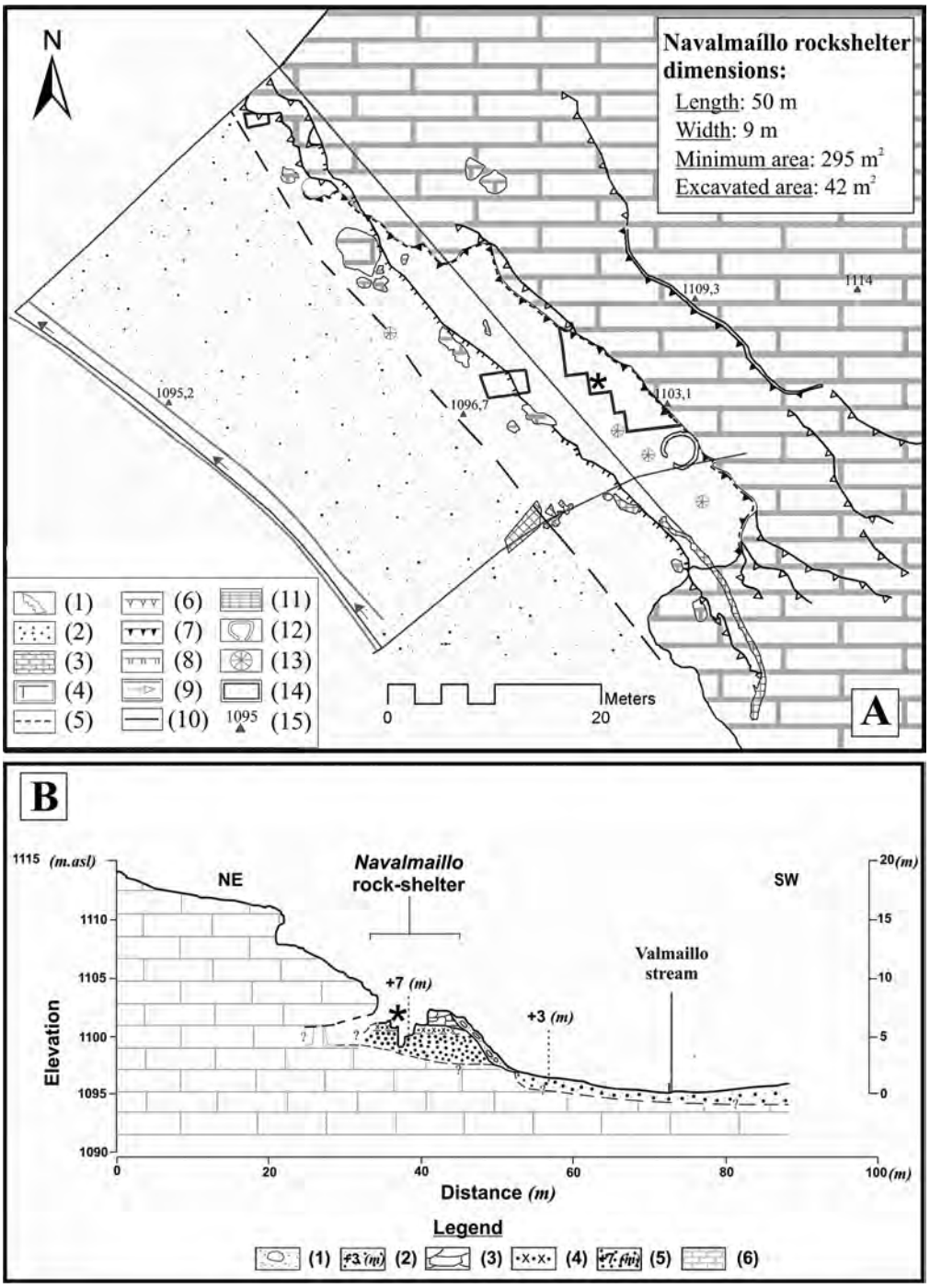


Fig. 3. A. Map of the Navalmaíllo site. Legend: (1) Deposits associated with the Navalmaíllo rockshelter (Upper Pleistocene); (2) Alluvial deposits (Holocene); (3) Dolomites (Cretaceous); (4) Dolomitic blocks; (5) Irregular contact; (6) Dolomite structural marks; (7) Ceiling rock strata; (8) Slope change; (9) Valmaíllo stream; (10) Fence; (11) Stone wall; (12) Medieval lime kiln; (13) Tree; (14) Excavation area; (15) Altitude m.a.s.l.; B. Section of Navalmaíllo rockshelter and surroundings. Legend: (1) Colluviums and breccias (Late Pleistocene-Holocene); (2) Alluvial terrace +3 m above Lontanar stream (Late Pleistocene-Holocene); (3) Colluvium with large collapsed blocks (Late Pleistocene-Holocene); (4) Navalmaíllo archaeological site; (5) Alluvial terrace +7 m above Lontanar stream (Middle-Upper Pleistocene); (6) Dolomites (Cretaceous) (modified from Pérez-González *et al*. 2010).

The archaeological assemblage of the Navalmaíllo rockshelter has been ascribed to the Mousterian and is dominated by quartz artifacts, although other raw materials have also been documented at the site (chert, quartzite, porphyry and sandstone), all of which appear to have been worked in the same manner as the quartz (Márquez *et al*. 2013). The macrofaunal assemblage of Layer F indicates that the majority of the remains are from medium to large adult animals and the taxa represented at the site are Artiodactyla, Perissodactila, Carnivora, Rodentia, Soricomorpha and Lagomorpha (Huguet *et al*. 2010; Arsuaga *et al*. 2011; Márquez *et al*. 2013; Baquedano *et al*. 2014).

The integrity of the archaeological record is demonstrated by the characteristics of the lithic industry and the bone assemblage. The *chaînes operatoires* appear to have been largely unbroken. In spite of the local abundance and quality of quartz, "many of the cores and tools made of this material discovered at the site are very small, as indeed are those of the other raw materials (chert, rock crystal, and quartzite)" (Márquez *et al.* 2013: 391). All the materials appear to have been processed using the same techniques. Therefore, the small pieces were intentionally made (Márquez *et al.* 2013). In relation with the features of the faunal remains, the origin of the record is anthropogenic with cut marks and green fractures. The main characteristics are the small size of the remains and the clear evidences of anthropic modification, like burnt bones, peeling, impact points and knapping marks on the surface of the bone (Huguet *et al.* 2010).

METHODOLOGY

The Cartesian method of excavation was used to record the location and position of the lithic materials as well as of bone remains larger than 2 cm. All limestone blocks measuring 10 cm or more were also recorded. The total number recorded items from 2002 to 2010 totals over 15,900 (8,850 are lithic industry and 6,280 faunal remains; the rest of the items are charcoal, ochre or blocks). All of these items were charted, making it possible to draw up detailed maps of scattered materials.

The horizon of Layer F was considered deformed by load and hydroplasticity due to the fall of limestone blocks that took place in a later episode (Layer D). This was taken into account when the archaeostratigraphic profiles were projected and analyzed. Although obvious, it is important to reiterate that the fall of the limestone blocks occurred subsequently to the occupation of the rockshelter. Layer F exhibited some very interesting features for an archaeostratigraphic analysis that had the potential to characterize the internal structure of the archaeological assemblage. Thus, a grid of archaeostratigraphic profiles was created following the orientation of the entrance to the rockshelter (Fig. 4). At the beginning of the research on the archaeostratigraphic profiles, the step resulting from the lifting of a large limestone block between lines B and C, as well as the deformation of Layer F caused by this block, became clear. Also, it should be taken into account that not all materials were recorded (as done at the rest of the site) during the excavation of the stratigraphic trench (squares D18 and E18), but rather only the identifiable remains were documented. The excavation memory of the fieldwork of 2007 indicated that only the identifiable lithic and faunal remains were registered. If all the excavated remains in the trench had been registered like the rest of the materials, currently we would know the number of sublevels in the Layer F.

Archaeostratigraphy

The computer application Arch·e Plotter was used for the creation of profiles specifically for the archaeostratigraphic analysis. This application was combined with Geographic Information Systems software (ArcGIS 9.3) for density studies and three-dimensional projections (ArcMap and ArcScene). As in the distribution maps of the objects, density studies were employed to chart the vertical distribution of materials. The entire excavated area was sectioned out using a grid of profiles perpendicular and parallel to the wall of the rockshelter (Fig. 4). These profiles were individually analyzed and subjected to archaeostratigraphic criteria, in such a way that it was possible to isolate the sterile layers by separating archaeological assemblages or events (periods of

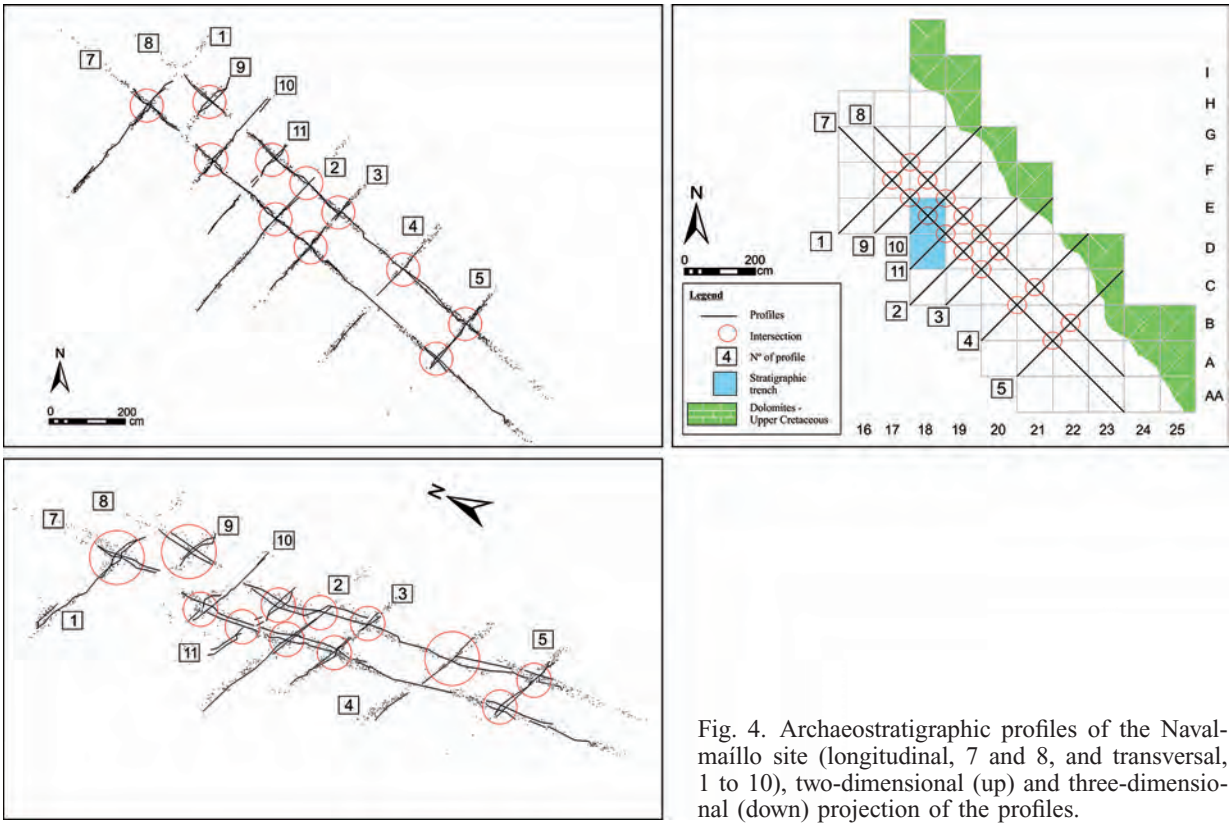


Fig. 4. Archaeostratigraphic profiles of the Navalmaíllo site (longitudinal, 7 and 8, and transversal, 1 to 10), two-dimensional (up) and three-dimensional (down) projection of the profiles.

occupation at the site). The planimetric technique was used to conduct the vertical density study of the archaeostratigraphic profiles. The Z values of the all remains (lithics, bones, charcoals, etc.) were used, instead of the X or Y values, for the density analysis in plan. We calculated the density of the materials with the geospatial processing program ArcMap. The value of the search radius used was 5 and the calculation type was 'simple'. The density value was therefore obtained through the sum of the points that fell into the same search area and its division by the size of the search area. Finally, we checked our results by comparing the projected profiles, the three-dimensional profiles, and the density profiles.

Lithic refits

Preliminary refit analyses have been carried out, to determinate the stratigraphic robusticity at the site (Sumner y Kuman 2014), so the vertical and horizontal data of the conjoining lithic items have been considered in our study. This information enables us to observe the degree of vertical alteration (such as bioturbation) affecting the layers, horizontal information about the characteristics of the dispersion of materials inside the layer ([1]; Cziesla *et al*. 1990; [2]; Bleed 2002) and information about possible disturbances, stratigraphic transfers or other phenomena that may alter the original composition of the archaeological deposit. Refitting of tools provides information on space/time associations and facilitates the study of synchronic associations (Cziesla *et al*. 1990; Martínez-Moreno *et al*. 2015). Additionally, they allow us to verify whether the observed archae-

[1] Geneste, J.-M. 1985: *Analyse lithique d'industries moustériennes du Périgord: une approche technologique du comportement des groupes humains au Paléolithique moyen*. Unpublished doctoral dissertation, Université de Bourdeaux I, France.

[2] Vaquero, M. 1997: *Tecnología y comportamiento humano: Organización de las actividades y cambio diacrónico en el Paleolítico medio del Abric Romaní*. Unpublished doctoral dissertation, Universitat Rovira i Virgili, Tarragona, Spain.

ostratigraphic layers are "real" or not[3]. If refitting lines cross the hiatus that separates the archaeostratigraphic layers, it is possible that some type of postdepositional alteration has taken place, a cultural reworking of sediments or structures, or that the observed hiatus simply does not really exist. Refits are essential for the archaeostratigraphic method since they can be used as a significant complement for showing and understanding the existence of different moments of human occupations within the same stratigraphic layer. The large amount of lithic and faunal remains at the site enabled us to incorporate refit studies into this archaeostratigraphic analysis. In this case, we worked with lithic material because it is the best understood and makes identification simpler due to the features of the raw materials. Raw materials included were quartz, quartzite, chert, porphyry and rock crystal. All materials were taken into account and the bags of the different years of excavation campaigns were analyzed. Once catalogued, all flakes and cores were separated by raw material type and grouped with respect to grain size, colour and texture, existing cortex or any other visual pattern. We took all the lithics and searched for matches. Six refits, each composed of two pieces, have been found. The refitted sequences were identified as flake-to-flake, flake-to-core, distal fracture, Siret fracture and distal fracture. The refits are of quartz and porphyry and do not exhibit a concrete pattern of spatial dispersion over the entire space of the site.

RESULTS

The archaeostratigraphic profiles analyzed in this study revealed the existence of a hiatus between two "packages" of material in the palimpsest of Layer F of the Navalmaíllo site. The presence of an empty and continuous space, which was not evident during the excavation, was particularly interesting. It may indicate the absence of cultural material at the site, i.e. the absence of human occupation or at least the introduction of materials brought in by humans. This hiatus was present throughout the deposit and features regular dimensions, which indicates that it was not due to exceptional conditions in some areas of the site. The density study was carried out as a complementary analysis and as a graphic representation for ease of interpretation. Figure 5 clearly shows the gap between the two denser "packages" of the archaeological materials. The presence of two archaeological sub-layers is also evident.

Both sub-layers are independent, as shown by the projected refits. The position of the refit pieces is almost horizontal (Fig. 5). Furthermore, in most cases there is a long distance between refits (up to 232 cm), which may indicate that they belong to the same occupation period. The refits have yielded several results. First, they confirm the existence of at least two layers of occupation, as the refitting lines do not cross the identified hiatus. Second, they demonstrate the dynamic of the site and its integrity, as the postdepositional processes that may have altered the deposit were not aggressive enough to disturb the archaeological deposit. And third, despite being plastic sediment, the concordances and the occupancy layers contained within the sedimentary layer have remained intact. Figure 6 shows the dispersion of materials and the delimitation of the hiatus, with a lower density (or absence) of material which separates the two archaeostratigraphic layers. Note the deformation of Layer F in C21 due to the lifting of the large limestone block, as well as the dispersion and minor amount of material in F18 resulting from the excavation of the stratigraphic trench. The two sub-layers have been named using the lowercase alphabetic sequence, so they are sub-layer *a* and sub-layer *b*. The identified archaeostratigraphic layers were controlled by crossing between profiles, using both 2D and 3D techniques. These sub-layers could be palimpsests formed by the accumulation of an undetermined number of occupations, but currently there are no techniques that allow a greater definition of the number of occupations.

The features of the excavation were taken into account when studying the archaeostratigraphic profiles. First, there is a low density of material in the area of the stratigraphic trench. The method employed for its excavation was the coordination of materials of a greater size or typology, so the

[3] Sánchez-Romero, L. 2012: *Arqueoestratigrafía y distribución espacial en el nivel F del Abrigo de Navalmaíllo, El Calvero de la Higuera (Pinilla del Valle, Comunidad de Madrid)*. Unpublished master's thesis, Universitat Rovira i Virgili, Tarragona, Spain.

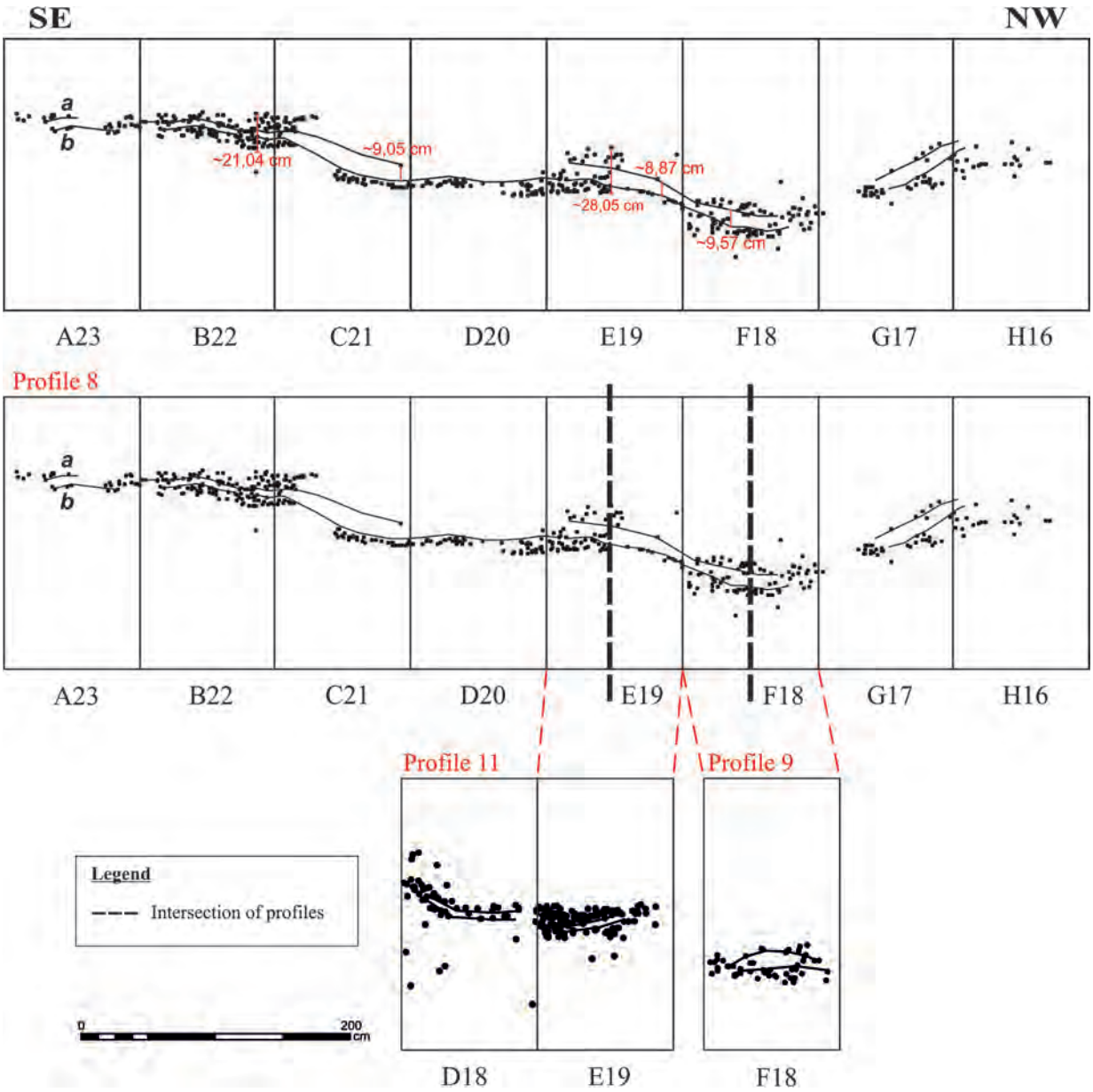
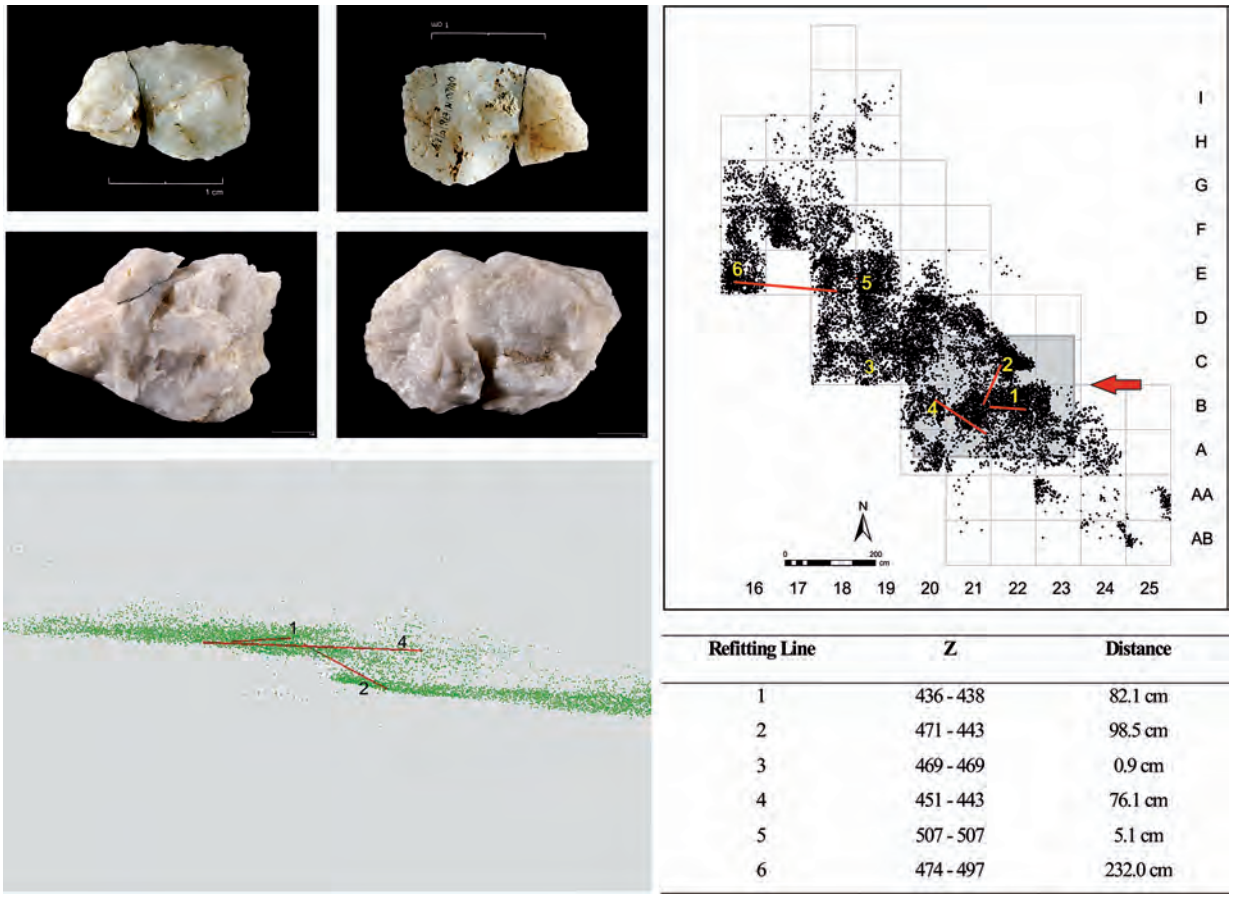


Fig. 5. Archaeostratigraphic profile 8 with measurements of the archaeological package and the hiatus. The measurements are virtually constant throughout the site's deposit. Intersection point in archaeostratigraphic profile 8. It is possible to see the intersection with profiles 11 and 9, and the coincidence of the hiatus that may separate periods of occupation (archaeological sub-layers).

amount of material in this area was significantly lower compared to the rest of the site. Second, we considered the large deformation in the sedimentary layer caused by the fall and the weight of the limestone blocks. A step can be seen between lines B and C of the grid which occurred when an enormous block fell. This block was lifted to allow us to observe the deformation of Layer F. The presence of a refit between the B and C squares confirms that the layer is deformed, but not altered, and that there is a sedimentary and archaeostratigraphic concordance.



Refitting Line	Z	Distance
1	436 - 438	82.1 cm
2	471 - 443	98.5 cm
3	469 - 469	0.9 cm
4	451 - 443	76.1 cm
5	507 - 507	5.1 cm
6	474 - 497	232.0 cm

Fig. 6. Some quartz refits (up, left); 3D view of refitting lines from the East (down, left) and plan of the Navalmaíllo site (up, right); table with the number of the refitting lines, Z and distance between the pieces that compound the refits (down, right).

DISCUSSION

Archaeostratigraphy can be defined as the diachronic study of archaeological materials within a sedimentary deposit (Canals *et al.* 2003; Canals and Galobart 2003). Through this type of analysis it is possible to infer data about the evolution of occupations (diachrony) and the relationship of the materials within the same space (synchrony), as well as to understand any possible taphosedimentary elements in the accumulation of archaeological items. Archaeostratigraphy analyzes the infill sequences of cultural materials, differentiating between geological and cultural time (Canals and Galobart 2003; Canals *et al*. 2003), and it seeks to reduce the "palimpsest effect" (from the vertical point of view) to give coherence and a temporal (synchronous) context to the assemblages. Palimpsests are the result of several occupations, and every occupation is the result of several consecutive activities. For that reason, the behavioral study of hominids should be closer to singular moments within an occupation (López-Ortega *et al*. 2017). The archaeostratigraphic studies carried out at Layer F of the Navalmaíllo rockshelter have led to the breakup of the palimpsest and to the establishment of the first archaeostratigraphic sequence of occupation of the site. It was evident that, due to the enormous amount of both lithic and bone material, Layer F harbored an intense occupation by *Homo neanderthalensis*. We currently know that there was not a single intense occupation, but at least two different overlapping occupations separated by a period of site aban-

donment. The main purpose of the designation of the archaeostratigraphic layers, or archaeo-layers, is to serve as a starting point for the following layers of occupation that may appear in Layer F of the Navalmaíllo site.

Archaeostratigraphy lets us know what is beyond the archaeopaleontological assemblage contained in the sedimentary deposit. It adds temporal meaning to the material accumulation and shows whether this accumulation is result of a single moment of occupation or of several overlapping occupation periods. The repeated occupation of a specific site has a deeper reading than a purely archaeological one, i. e. it indicates a recurrence that may be related to interest in the site from the point of view of regional networks of resource use. The Navalmaíllo site could have been used as a point in the landscape within a regional network of settlements and resource provisioning in a mountain environment, as can be seen at other sites, such as La Roca dels Bous (Martínez-Moreno *et al*. 2004; Martínez-Moreno *et al*. 2010; Martínez-Moreno *et al*. 2015) and Abric Romaní (Carbonell 2012). The Valle del Lozoya offers a great number of resources that would have allowed for comfortable survival in the environment: nearby water resources; the morphology of the valley itself, which facilitates monitoring of animal migrations; open but controlled spaces; a karstic system for refuge; and the river as a source of lithic resources for knapping, among other benefits.

The connections found allow us to make inferences about the integrity of the deposit and the in situ position of the archaeological remains. The main obstacles when we identify the occupations at the site are the thickness of the layer, as well as the large amount of materials. The long distance connections between the conjoining flakes suggest that the movement of these artifacts did not occur naturally and are not attributable to postdepositional processes, but rather are the result of human factors which affect these lithic remains (Vaquero *et al*. 2015; López-Ortega *et al.* 2017).

As mentioned above, the alterations found at the site correspond with the excavation of the trench and the deformation by charge of the fallen blocks. These questions were identified during the excavation processes and during the study. Also, we have verify that, although the deposit is deformed, there is a concordance between the sub-layers they are constant and identifiable.

CONCLUSIONS

Archaeostratigraphy has revealed the integrity of the sedimentary deposit, how it has been affected by natural agents (falling boulders and the conservation of the site) and the preservation of the occupation levels, and how the excavation method can determine the information of the site. We are conscious that intact preservation is the most desirable condition (Binford 1981), but the archaeological record is composed by accumulation processes that combine natural and human (no-natural) agents. The reality is that disturbed contexts are typical of almost every Palaeolithic site in Europe. The deformation of the plastic deposit is reflected in the archaeostratigraphy, but the two periods of occupation identified have been preserved and were not largely affected. Moreover, this research has confirmed that a non-thorough excavation method (e.g. in the excavation of the stratigraphic trench) can alter the projection of the record and therefore affect the quantity and quality of knowledge gleaned from the site. The efficacy of archaeostratigraphy as a segregation method of diachronic archaeological assemblages depends on the density of the archaeological record available and the dimensions of the analyzed space. The lateral evolution of the sedimentary or post-sedimentary processes could negatively affect the conservation of the original archaeological assemblages. The study carried out at the Navalmaíllo site has revealed that the occupation of the rockshelter was not continuous, but temporary and repeated.

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