

# Cave Bajondillo (Torremolinos, Málaga, Andalucía). News of the transition between the Middle and Upper Paleolithic in the South of Iberian Peninsula

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## Introduction<sup>1</sup>

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Bajondillo Cave is situated within the boundaries of Torremolinos, a municipality located to the West of the Bay of Malaga. This area has demonstrated historiographically a great potential for studies of the cultural dynamics of the Upper Pleistocene in the South of the Iberian peninsula (Fig. 1). The site was excavated in an urgent intervention carried out over various months in 1989. The archaeological series which was uncovered proceeds from a sedimentary column of about 5 m of maximum potential, in which a total of seventeen layers were differentiated in its West profile (see Cortés and Simón, 1997), the section where a major part of the sedimentary succession is reflected in the different explored sections. This column displays general conditions of sub horizontal deposition in the majority of the site. With regard to the industrial identified associations, we should mention a basal span of some 80 cm of thickness with Mousterian industries followed by a span of some 385 cm of thickness corresponding to the Aurignacian, Gravettian, Solutrean episodes and other of Recent Prehistory, according to the technotypological characteristics of the lithic collections (Baldomero et al., 1991; Cortés and Simón, 1997-98).

The stratigraphic series has previously been presented as well as its correlation with certain paleogeographical data of the Bay of Malaga (Cortés and Simón, 1997).

The situation of Bajondillo, together with others that exist on the coastal edge of the Bay of Malaga (shelters of the “Humo” complex), is in relation with the extensive use made of the existing caverns in favour of the travertine formations of the western sector and of Mesozoic limestone of the Malaguide Formation of the eastern sector. The occupation of shelters and cavities seems to be correlated with an orientation towards the South East, protected in this way from the principal inclemencies of the area during the winter seasons, the West wind. It also should be born in mind that the situation in the immediacies of the coast allows a diversified predation based on the confluence of various ecosystems tied to the proximity of greatly differing heights above sea level within a short superficial route.

## Bajondillo-level 14. Characteristics and parallels

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With regard to the end of the Middle Palaeolithic and the commencement of the industrial complexes appertaining to the initial Upper Palaeolithic (IUP) in the extreme SW of Europe, Bajondillo provides the tract containing the layers 11 to 14 of the profile-West. Bajondillo-14 consists of a deposit, of brownie-yellow soils of an average thickness of 20 cm and a large number of coarse travertine roof falls of reduced dimensions, which perhaps could be connected to an episode of climatic degradation.



FIG. 1 – Bay of Malaga. Map of Middle and Upper Paleolithic sites.

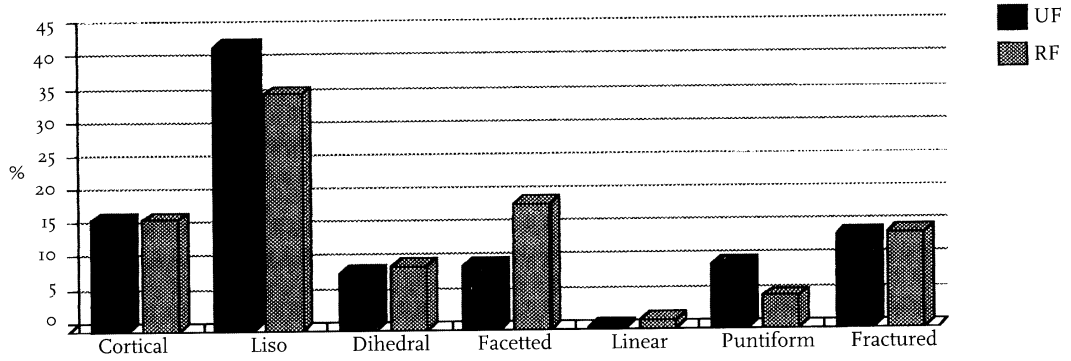
The recuperated lithic component marks a clear inflection with the internal dynamics of the underlying ensembles and clear differences with the collections on top of this layer.

Amongst the raw materials used within the process of the various operative lithic chains, flint is the most common. Marginally we may note the use of quartzite, quartz... that, together, does not reach amounts over 10% (Fig. 2). The raw material procurement of abiotic resources in this level is mainly associated with the collection of outcrops in secondary positions, possibility associated with coastal or fluvial deposits.

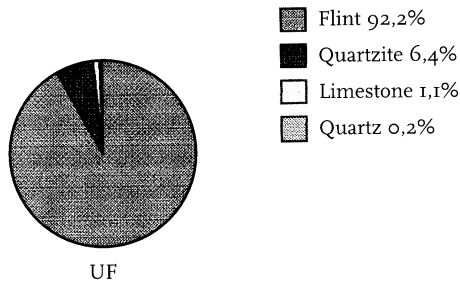
The schemas of production of these abiotic resources are obtained according to norms where the Levallois “récurrent” centripetal method is frequent (Fig. 6). Amongst the extracted supports of relevance is the flat butt, even though for the modification of utensils faceted ones are preferred. As well we have at our disposal a good join of corticals examples (Fig. 2).

In the typological section (Fig. 3-4), always in essential indexes (Fig. 2), we have a very low Group II ( $IR < 15\%$ ), characterised by the loss of diversity with regard to the underlying ensembles and the increase of the marginal. The Group-III displays, throughout the Bajondillo’s Mousterian series, a gentle but continuous rise which, in the case we are dealing with, approximates 10%, with a  $IB > IG$ . One fact must be born in mind, throughout out the whole UP section of the site, the burins are only surpassed by end-scrapers in level 11 (Aurignacian) (Cortés and Simón, 1997). This tonic is maintained in the Mousterian packet, maintaining in addition an  $IP > IG$  proportion.

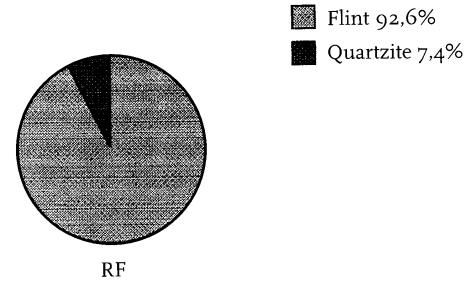
Types of butts. Unretouched (UF) and retouched flakes (RF)



Raw materials



Raw materials



Principal typological groups

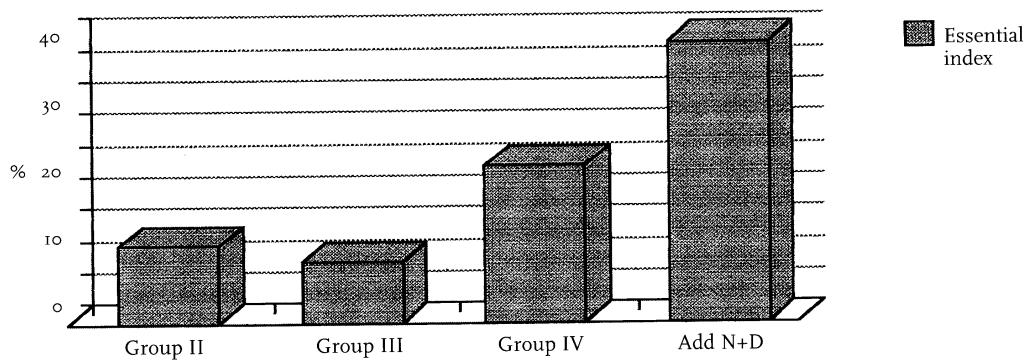


FIG. 2 – Bajondillo layer 14. Raw materials. Types of butts. Principal typological groups.

Whilst the denticulate obtain on their own levels in excess of 14,9%, the lm-d exceeds slightly 39,4% of the material retouched. We should also mention the use of the blunt edges of natural backed knives and *éclats débordants*, as would indicate the numerous marks visible on their edges.

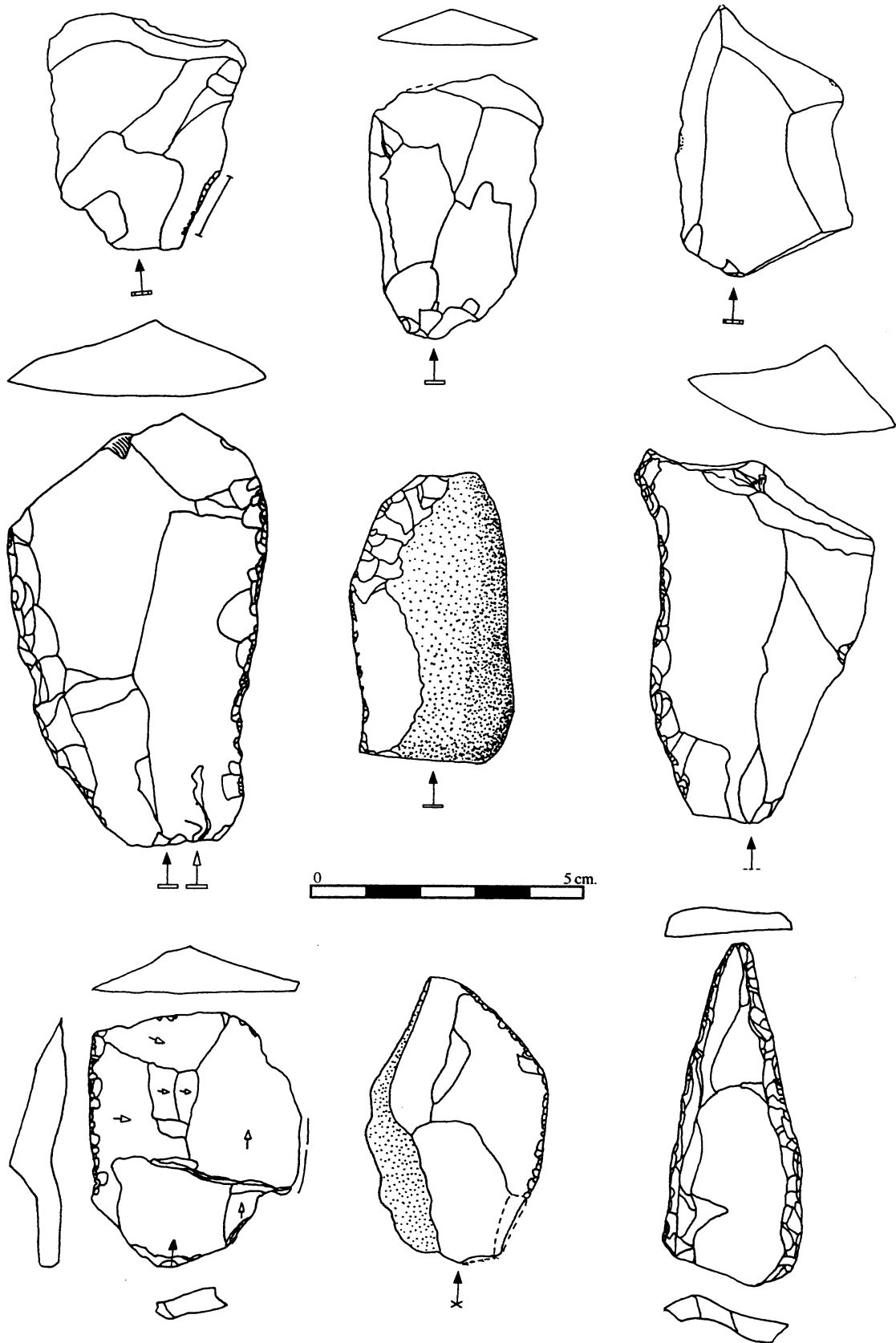


FIG. 3 – Bajondillo layer 14. Tools.

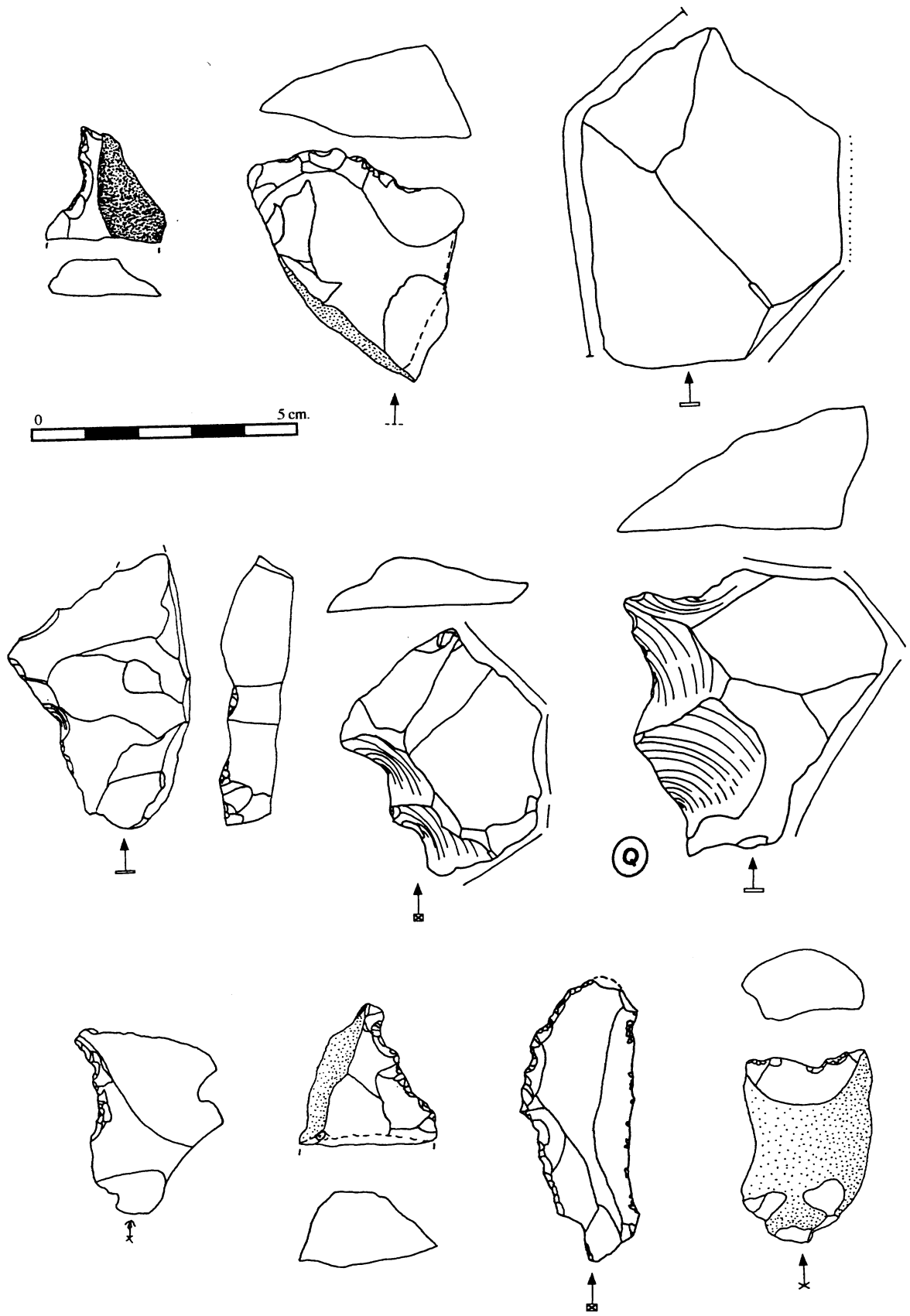


FIG. 4 – Bajondillo layer 14. Tools in flint, with an exception in quartzite (Q).

Following this line of thought, Bajondillo/14 together with Carigüela V-1 (Vega, 1988, 1990; Vega et al., 1988) each would constitute Mousterian levels clearly assimilable to a facies rich in denticulate. With regard to the chronological situation we reckon as probable that both are agree. In this sense, in the context of Western Europe, the Group-IV launch, within the technocomplexes of the Middle Palaeolithic, seem to be related with ancient of the Lower Würmiense Pleniglacial or with the Hengelo's Period/ Commencements of the conventional Würm III, example followed as well by the Mousterian sites of the Valencian Country (Villaverde, 1995). If we add to this: the existence in Bajondillo/12-11 of aurignacian industries (*Cif. infra*), the own general characteristics of the sequence of the Bajondillo's Middle Palaeolithic... it seems in a first instance coherent to situate level 14 in an advanced episode (perhaps Würm-III), in this way, apart from Carigüela, would find parallels of Bajondillo/14's industrial ensemble in:

- Neneito (Alicante) (Iturbe et al., 1993). Station whose Mousterian series has a ceiling closed by a collection enriched with notches and denticulate and especially with the unit D-2.
- Petxina (Valencia), superficial and 2 level (Villaverde, 1984). Because of the decrease of various indexes (Levallois technical, faceted, typological Levallois) the retrocession of scrapers and the increase of notches-denticulate.

Without exhausting the join of ensembles positioned in moments of the Great interpleni-glacial-Upper Würmian Pleniglacial indexes, with low IR and elevated Group-III y IV we will quote: Romaní (Barcelona); Gabasa-a+c (Huesca)... (Cf. L.A.U.R.V., 1996; Utrilla and Montes, 1989...).

Leaving aside for another occasion the technotypological characteristics of level 13, we have following on the ensemble Bajondillo/11-12. This latter was individualised in excavation, only in the surroundings of the Central-South area of the shelter rock and as much for its characteristics as its associated industrial ensemble, it seems to indicate more a particular area within the overlying level rather than a sedimentary entity in its own right.

### **Bajondillo level 11 and the "Aurignacian" in the South of the Iberian Peninsula**

Bajondillo/11 supposes a radical change with regard to the series pertaining to the Middle Palaeolithic by the generalisation of blade technology evidence and the appearance of implements appertaining to the Upper Palaeolithic (end-scrapers, burins...) (Fig. 5 and 7).

With regard to the typological panoply of this stratum 11-12, we have an IG>IB. Amongst the end-scrapers we find carinate end-scrapers and nosed end-scrapers (Fig. 5). Special mention should be made to examples made from a base of cortical flakes with strong similarities to advanced moments of the Aurignacian of the Mediterranean Iberian peninsula.

It should also be noted that the manufacture of small bladelets, some of which display a sinuous profile.

An important point to bear in mind with regard to the transit of the Middle Leptolithic Palaeolithic industries in the Iberian Peninsula would be the noticeable delayed North-South gradient (based on the obtained sedimentary climatic and numerical chronological evidence) based on various Mousterian sites inserted within the Würm III: Cova Negra, Beneito, Carigüela, Zafarraya... (Fumanal and Villaverde, 1988; Villaverde and Fumanal, 1990; Iturbe et al., 1993; Fumanal, 1995; Vega et al., 1988; Barroso and Hublin, 1994;

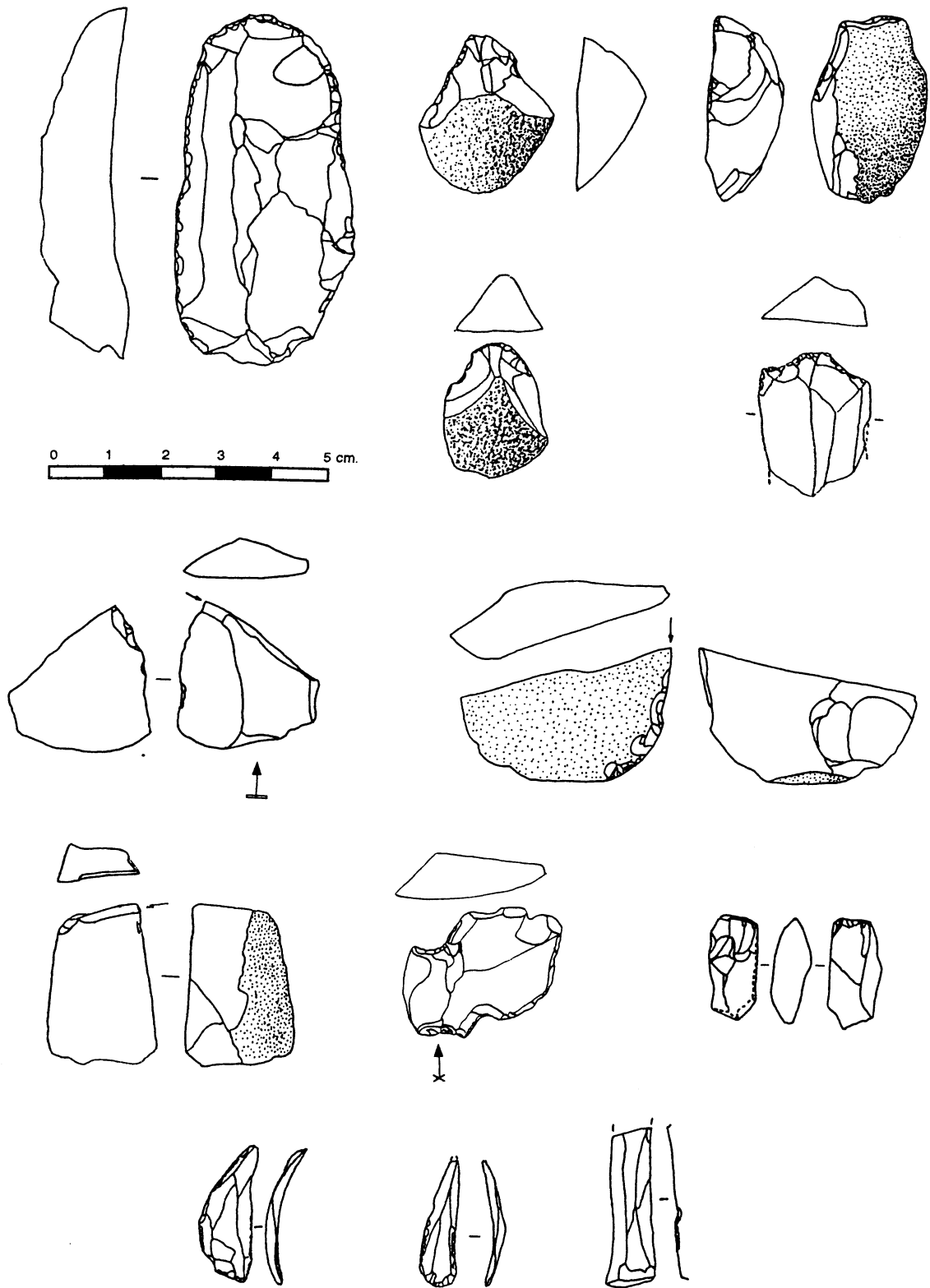


FIG. 5 – Bajondillo layers 12-II. Tools.

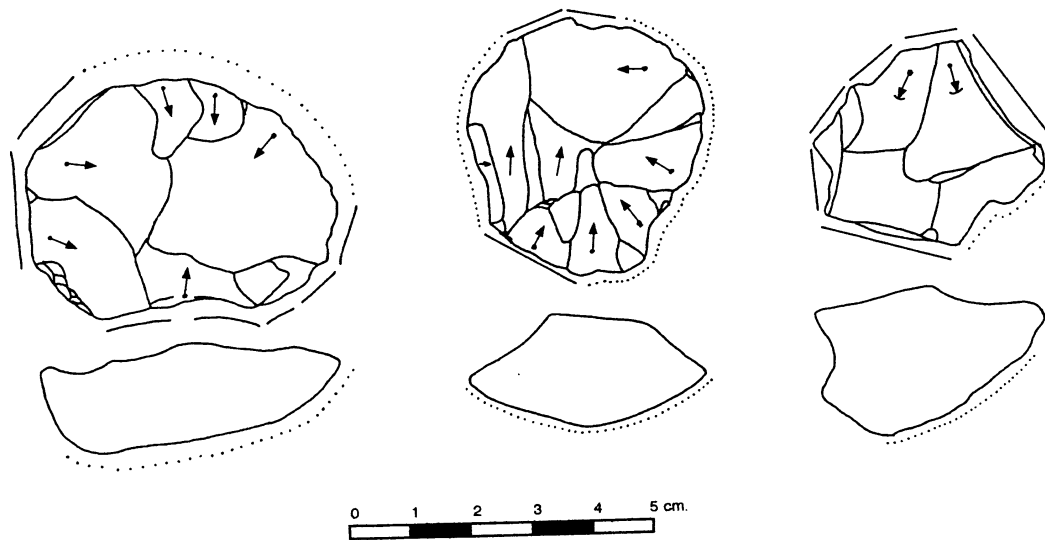


FIG. 6 – Bajondillo layer 14. Cores.

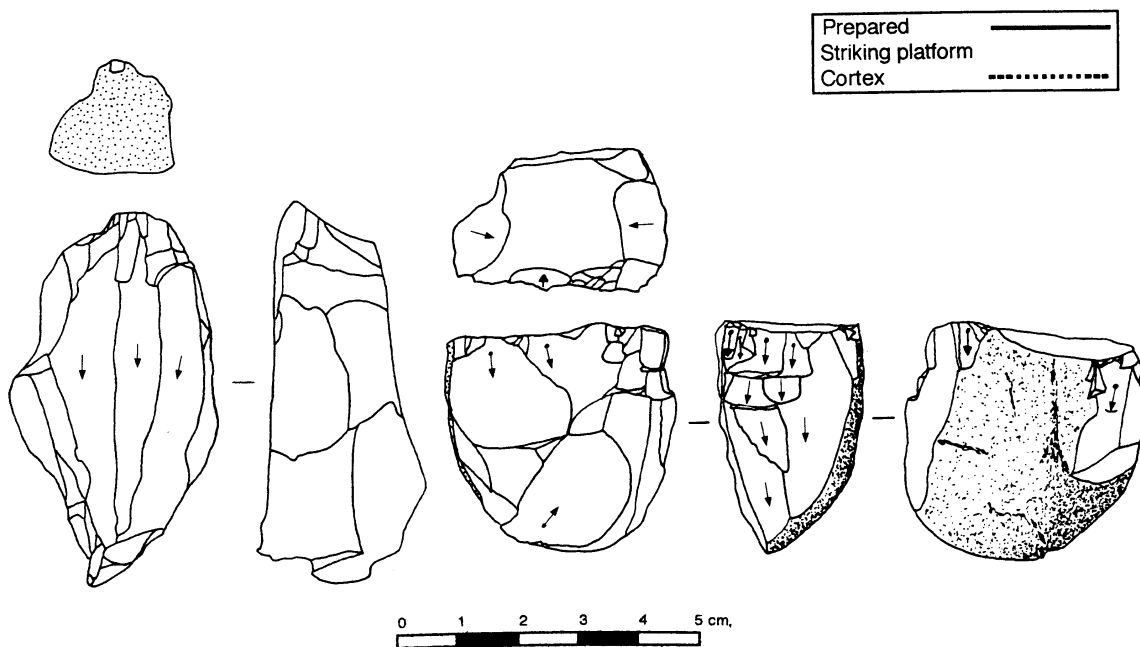


FIG. 7 – Bajondillo layers 12-II. Cores.

Hublin et al., 1995) to quote just a few of the locations of the Spanish Mediterranean slope. Neither the central Spanish plains (Moure et al., 1997) nor Portugal (Zilhão, 1993; Raposo, 1998) seem alien to this late maintenance of *Homo sapiens neandertalensis* populations in the eastern zone of the Iberian Peninsula.

With respect to this, a fact which draws one's attention is: in spite of 10 millennia of overlapping between the Aurignacian and the late Mousterian (Cantabria-Catalan *versus* the rest of the Iberian Peninsula) which indicate the numeric chronologies, there is still no



existence of a site with interstratifications of the Mousterian industries and of the IUP. In this sense, there are numerous underlying problems that complicate the investigation of this period:

- a) The scarcity of dedicated investigation.
- b) The clear dependence on luck in the location of sites of this chronology (for example Bajondillo).
- c) The anthropic-natural erosion of the Mediterranean environment, which provoke numerous erosive scars, dismantling the deposits...
- d) The lithic material and above all osseous poverty that encumber the appropriate valuation of the ensemble.
- e) The problems related with the application of different dating systems (conventional C14, AMS...), even more difficult to contrast with each other; the standard high level of deviations; the susceptibility of obtaining rejuvenated statistical data with minimal contamination of the samples.
- f) The vast temporal interval that grant, when they exist, numerous regional series. Thus, in Catalonia an overlapping of radiometries between late Mousterian sites and archaic Aurignacian sites, even though there are no verified stratigraphic intercalations (Maroto et al., 1996).

Taking as a base what we know, the IUP appears in the Meridional latitudes of the Iberian Peninsula in the form of Aurignacian industries, up until now known as “non-archaic”, which irradiate quickly the regions of the Spanish Mediterranean, associated as it would seem with sporadic stays (Villaverde, 1992-95) in a way that the abandoned implements, even though they advise of operation scheme of leptolithic production, are generally unspecific at a typological level. The way of penetration of these influences would have, for the central-meridional environment of the Iberian Peninsula a direction North-South (Villaverde et al., 1998) or rather South-North (Straus et al., 1993).

If we exclude Beneito and Bajondillo, the rest of the Aurignacian sites of the Mediterranean south of the Ebro consist of superficial sites, occupations that inaugurate the sites, sites without extensive stratigraphic series, small collections, which make its attribution more difficult.

The relation between locations with Mousterian and/or IUP seems to denote until now such a techno-typological divergence which impedes sustaining cultural processes on the interior of late Neanderthal communities with projection in the regional IUP. On the other hand, the statistical dates of the sites of the Mediterranean IUP (Mallaetes, Beneito, Nerja, Gorham's cave...) seem to define an amount of *circa* 30-28 Ky. for the Palaeolithic middle-leptolithic transit. Recently there has been given a preview of the new investigations and dating carried out in various Gibraltar sites (Cf. Abstracts from the Gibraltar Reunion/1998; Barton et al., 1999). The new studies, although they have had difficulty in identifying the Waechter stratigraphic series, have brought new dating in Gorham's (Pettitt, 1998) which seem to confirm the known dates for the levels D1-E-F and G of the excavation, with coincidental numerical chronologies and archaeological vestiges with regard to the occupational rupture/hiatus between 45 Ky. and *circa* 30 Ky. accompanied by a morphotechnological change still difficult to evaluate (Barton, 1998).

Chronologies somewhat more recent for Mousterian industries have been obtained in various Portuguese excavations (Raposo, 1998) and Zafarraya (Hublin et al., 1995), site this, which is near to the Bay of Malaga (see Fig. 1). In the event that the dates and advanced cul-

tural attributes were confirmed for Gorham's cave, we may be witnessing a straddling of the numeric chronological dates between Mousterian and Initial Upper Palaeolithic complexes similar to those detected in the North West area of the Iberian Peninsula (Maroto et al., 1996).

The gradual increment of the series of dating, although parallel to a parsimony of associated archaeological documentation, for the chronological band 40-28 Ky. in the middle of the Meridional of the Iberian Peninsular, is permitting the revelation of a much more complex reality, and which is originating in the rebirth of the always burning subject transital human-cultural substitution between the Middle Palaeolithic and the Initial Upper Palaeolithic, dealt with recently from the view point of a conceptual dynamism of the problem (Cf. for example the proposals of Straus et al., 1993 or D'Er-rico et al., 1998).

### **The Economy of the Middle Palaeolithic and the Bajondillo Cave**

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Regarding the matter of subsistence, Bajondillo counts upon a scarce collection of fauna, if we add to this the elevated fragmentation of the osteological remains and the bad conditions of conservation that are present, the possibilities of obtaining relevant data on this aspect of the Bajondillo are very limited.

The malacological collection, even though some what more numerous, does not allow us to make inferences which contrast with its weight within the diet but, as we have explained before it does agree with that which has been detected in numerous coastal places with Mousterian industries of the Iberian Peninsula, from Portugal passing for the sites of Gibraltar or the Bay of Malaga to Murcia (Antunes, 1991; Fernández and Andrews 1998; Sanchidrián et al., 1996; Cortés and Sanchidrián, 1998; Montes, 1981) in that which concerns its bromatological use æ without a doubt complimentary æ it is within the boundaries of biotic resource acquisition programmes. Activities and strategies which possibly have to be understood from a view point of a certain coastal-interior stationality, if we integrate the Mousterian references above 1000 masl of the region (Zafarraya, Carigüela...).

The data referring to cinegetic-subsistencial examples in the sites in the Spanish Mediterranean (Villaverde and Martínez, 1992; Villaverde et al., 1996) are not conclusive enough to be able to define a continuism *versus* rupture between the Mousterian and the IUP, differences only perceptible perhaps in a greater level of mobility during the first or most important presence of lagomorphs with anthropic manipulation during the second.

It can be said that the first evidences of shellfish collet techniques are given during the Middle Palaeolithic (Sanchidrián et al., 1996; Cortés and Sanchidrián, 1998). However the projection of this resource towards the hinterland is unequal. The Middle Palaeolithic Communities use them only when, depending on the proximity to the coast, they are profitable (as happens in the Gibraltar and Bay of Málaga sites), whilst we are lacking in references to marine species in the interior. In the South of the Iberian Peninsula we do not have intermediary stations that allow us to evaluate the maximum range of these products in the interior. The pattern that can be deduced from these facts could be related perhaps with the model revealed by other regions (Altuna, 1989) peculiar to a strict good exploitation of the location's surrounding space.

However, during the IUP certain molluscs were transported to the interior as support elements for ornaments (in Beneito — Iturbe et al., 1993 — more than 35 km from the

coast). In this context the circalittoral stations constitute the starting point to obtain the marine malacological resources and the initial station for its circulation within the various social networks of the IUP, an event which takes over in our meridional context the alimentary use of these resources, coinciding perhaps with the commencement of a more social-cultural complexity.

## **The Bay of Malaga and cultural sequence of the Mediterranean Region of the Iberian Peninsular**

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Taking into account the proximity of the European and African continents in our geographical area, there has been throughout historiography a large influence of “Africanist Theories” for virtually any segment of Prehistory. In this way, we come across for example the suggestive hypothesis of the late Aterian populations crossing the Straits of Gibraltar due to the pressure of new populations in the North of Africa around 22 ky. coinciding with one of the periods when the sea was at its lowest level during the Upper Pleistocene (Débenath et al., 1986). Nether the less the general characteristics of the Upper Aterian, with a strong Mousterian component highlighted by various investigators (Bordes, Tixier, Camps, Débenath, Wengler....), with abundant “archaic” items (chopper and chopping tools) (Débenath, 1992) and where tanged tools obtain a more significant relevance in more late series, which makes some authors speak of recent phase of the Mousterian (Wengler, 1995, 1997), this does not seem to be projected on the Iberian Peninsular, at least in sequences such as Cova Negra, Beneito, Carigüela, nor in that which refers to Bajondillo, where we find, although with chronological imprecision or techno-typological peculiarities, a sequence globally “classic” inserted in the characteristics maintained by a large amount of the excavations in the Spanish Mediterranean.

There is nothing that exists in Bajondillo, which allows us to sustain, supported by archaeological registers, contacts between the two shores during the final stages of the Middle Palaeolithic. To the clear divergences in the section of the material culture it would be possible to add the anthropological component recuperated in similar chronologies in the South of Europe and the North of Africa, which would begin to abound in these disagreements.

From all that has been previously stated it is possible to conclude that the Bay of Malaga, in conjunction with the Middle Palaeolithic series of Bajondillo, would be concordant with the characteristics revealed in the Mousterian sites of Eastern Andalusia (Vega, 1988, 1990; Vega et al., 1988) whose final episodes would be marked by a process similar to the one detected in Carigüela, Beneito... with an enrichment of notches and denticulate, a decrease of Group-II and a certain increase of Group-III; whilst the Upper Palaeolithic, adding to this the data of Bajondillo and Nerja (site with good chrono-sedimentary/climatic series, registers of fauna, etc.; Aura et al., 1998) seems to fit in without difficulty, even with its particular peculiarities, in the technocultural succession maintained by the central sector of the Spanish Mediterranean.

To these problems Bajondillo contributes with an ample Mousterian and Upper Palaeolithic Series (which while it rises stratigraphically loses definition) which can bring to light new date to the precarious available information. In this sense, the work being carried out at the moment on the chrono-sedimentary and the internal dynamics of the Mousterian Industries, we hope will be useful. Estimated transit up to now, with cultural imprecision around *circa* 30 Ky. of Gorham’s cave (Pettitt, 1998; Barton et al., 1999) and *circa* 25 Ky. of Nerja (Aura et al., 1998).

## NOTES

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