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# New data for the study of the Neolithic in the Interior of the Iberian Peninsula. Comments on J. Zilhao's interpretation of the Mendandia site

Nuevos datos para el estudio del Neolítico del interior de la Península Ibérica. Apostillas a una lectura por parte de J. Zilhao del yacimiento de Mendandia

**PALABRAS CLAVES:** Neolítico. Mendandia. Península Ibérica. Domesticación. C14. Agricultura. Estratigrafía.

**KEY WORDS:** Mendandia. Iberian Peninsula. Domestication. C14. t. Traceology. DNA analysis. Stratigraphy.

**GAKO-HITZAK:** Neolitoa. Mendandia. Iberiar Penintsula. Domestikazioa. C14. Nekazaritza. Estratigrafia.

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## RESUMEN

Recientes trabajos sobre los niveles neolíticos de Mendandia aportan nuevos datos de interés para el neolítico de interior de la Península Ibérica: estudios de traceología; análisis genéticos; nueva fecha C14. En este artículo revisitamos los caracteres culturales del campamento prehistórico, y salimos al paso de interpretaciones manipuladas.

## ABSTRACT

The Mendandia site plays an important, though contentious, part in the debate on the Neolithisation of the Iberian Peninsula. In the present work, the criteria relating to sedimentology, chronology and cultural succession that support the reliability of the prehistoric settlement are strengthened. The article presents new data on the economy, and may be important to understand when and how it was introduced in the region.

## LABURPENA

Mendandiako maila neolitikoei buruz duela gutxi egindako azterketek datu berri interesgarriak ematen dituzte Iberiar Penintsulako barneko Neolitoari dagokionez: trazeologia-azterlanak; analisi genetikoak; C14 data berria. Artikulu honetan historiaurreko kanpalekuaren kultura-izaerak berri-kusten ditugu, eta manipulaturako interpretazioak gainditzen ditugu.

It was six years ago when we first published the excavation report on Mendandia (ALDAY 2005 with a subsequent second edition, ALDAY 2006). We foresaw then that the results obtained would cause a certain impact on the scientific community: as far as the Mesolithic levels—particularly level IV—, as well the Neolithic levels are concerned—as a whole. It was precisely for this reason that we had given hardly any advance information on said report, as we intended to publish it at one go, together with a whole series of analyses which would respond to any questions raised. It is true that the Mesolithic records were well received and even included in the studies drawn up on the period in relation to the Iberian Peninsula. However, it has proved more difficult for the Neolithic inventory to be included in general theories on the Neolithisation of the Iberian Peninsula. In recent years, some

complementary works have been drawn up on the Mendandia record. In these circumstances, we consider it opportune to stress the qualities of the site's Neolithic horizons, in order to clear any (false?) doubts that we have observed in our colleagues and, at the same time, to offer a succinct summary of the latest developments.

## 1. THE REASONS FOR THIS ARTICLE

It is worth mentioning four starting points for the proper channelling of the text's meaning.

1. – I, personally, scrupulously respect the work of others and the cultural interpretations which any researcher may make of certain prehistoric problems. Moreover, I uphold this maxim even though the historical hypotheses developed qualifies, modifies or, directly, contradicts my own opinion. I am

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aware that archaeological documentation (incomplete by its nature and because of the means used in its approach) may be fully observed from different points of view and, as a result, may give rise to differing evaluations. I therefore assume the criticism made of my exposition and am always willing to change my point of view.

2. - There may be an exception to the foregoing rule: when, in the case of the debate on the prehistoric problem, there has been an, apparently voluntary, omission/manipulation of substantial elements, with an aim to manipulate arguments and remain impassive, upholding a given stance in the face of a series of data which, if they are not rejected, may counteract said stance.

3. - In my opinion, this is evident in a recent Zilhão publication (2011). Faced with this situation, for the sake of scientific clarity, I consider it necessary to refute the extremely faulty interpretation made in said article of the prehistoric site of Mendandia: taking into account the general text (though not the bibliographic references), 17% of the article is devoted to the site. This review does not intend to assess the author's interpretations of the Neolithisation of the Iberian Peninsula (in view of what was stated in point 1), but it will, on the other hand, review the inconsistencies expressed on the sediment and cultural qualities of the subrock layer of Mendandia.

4. - However, first of all, I would like to make my position clear regarding the site in question. Following its discovery and excavation, my attitude with respect to the drawing up of most of the chapters of the report on the archaeological work was that of a mere *notary*. That is to say: a) my role was to certify the exhumation method used on the land; b) set out the composition and characters of the sediments of each of the strata documented; c) give an account of the archaeological content rescued in each horizon and; d) compare the series of complementary analysis (palynological, anthracological and chemical) made by independent researchers. These documents were to be drawn up as objectively as possible.

Naturally, the excavation report sets aside a series of chapters for classifying the information gathered (signed by qualified specialists, as well as writers, as appropriate, for each of the disciplines involved), and some chapters at the end for final assessment. In this case, subjectivity is an active ingredient, deriving from the actual methods for

classifying that are used and the cultural situations that are recreated.

Leaving aside these final chapters (which are not the object of the following discussion), as *notary* of the works, I defend an honest reading of the settlement, contrary to the unfortunate interpretations included in Zilhão's work.

## 2. THE IRRATIONALITY OF A SELF-INTERESTED INTERPRETATION

A decalogue of irrational arguments observed in the work of reference must be set out in order to stress the characteristics of the Neolithic record of the cave.

1. - The sentence "*The cultural assignation of the latter two levels is based on the presence of ceramics*" is false. The cultural assignation of the Neolithic levels (of the three of them) bears in mind: a) at a first stage, the stratigraphical identity defining them, acknowledged at the very time of the excavation, therefore, before having knowledge of their material content and; b) at a second stage, the presence of ceramics and lithic instruments typical of this cultural stage (and not of another). From my point of view, the radiometric values do not define these or other strata in terms of culture (of Mendandia or of any other archaeological site); they merely identify their frame of development.

2. - The sentence "*Of the 17,284 bones recovered in the two 'Neolithic' units – 1297 of which (7.5%) were identified to species – not one, however, is of a domesticate, and no cereal remains were recovered either. At best, therefore, these levels could correspond to a 'pottery Mesolithic'*" is erroneous or, at least, allows for an interpretation that is less forced. The absence of evidence of domestication only indicates that, in this specific context, said practices are absent, but not that its occupants should be conceived as hunter-gatherers. To avail of one of Zilhão's own arguments (expounded in one of the debates at the congress on the Neolithic in the Iberian Peninsula held in Santander): absence of evidence is not evidence of absence. As will be put forward in a later third section, there is evidence of domestication in Mendandia.

In any case, Zilhão does not deny the existence of the Neolithic in Mendandia –and repeatedly qualifies the ceramic items as epicardial (?) – although he does deny its chronological position. Consequently, indirectly and unconsciously, he ad-

mits the existence of Neolithic settlements that do not leave traces of domestication –perhaps due to its logistic function, which is what, further on, he attributes to Mendandia-. His own reasoning thus offers evident contradictions.

3.- His question on “why the exact same ceramic typology eventually does appear at those sites in levels that are dated to almost a millennium later” is, to say the least, inopportune. In an excavation report and in a previous work published in a widely-distributed journal in the sphere of the prehistory of the Iberian Peninsula (ALDAY 2003), as well as in the work on Mendandia which Dr. Zilhão takes as a reference (ALDAY 2007), there is a clear description of the evolution of ceramic production of the settlement according to what is characteristic of each level: as regards volume, characters, decorative techniques, iconographic developments, physical and chemical properties and composition. The evolution described is significant in itself but, moreover, it renders the author's question meaningless, as he mistakenly considers the ceramic content as a whole, irrespective of the levels with which it is associated.

For the same reason, his next question “*how did they become associated with animal bones that are several centuries older?*” is inappropriate as it is based on a false axiom. Yet, it is the key argument for mistakenly, as we shall see below, denying, in the subsequent paragraphs, Mendandia's stratigraphic values.

4. - His sentence “*If we bear in mind the few elements of sedimentological description that have been published*”, is thoroughly misguided. Both editions of the excavation report include: a) a chapter signed by M.J. González, as expert in geomorphology and well accustomed to reading the stratigraphic record, dedicated in its entirety to the sedimentological analyses of the settlement; a second chapter signed by I. Yusta, in his capacity as geologist, which examines the Holocene soils of the site - as he had previously done in the case of other prehistoric deposits-. However, in addition, a third chapter outlines the characteristics of the sedimentary horizons as well as the origin –geological, anthropological or other- of the materials of which they are made up, through the observations compiled, on a daily basis, during the excavation process –and which are reflected in a data sheet for each of the new sectors measuring one square metre by five centimetres in width!-. In all, 45

pages give an account of the sediments of the layer, including numerous section drawings, photographs, graphs and analyses.

Why therefore does Dr. Zilhão ignore these abundant documents? Because his reading, and re-interpretation, of Mendandia is based on his consultation of a résumé on the site published in French in the *l'Anthropologie* journal (ALDAY 2007). That is to say, Dr. Zilhão favours the review of a small work over the scrutiny of a large volume in which 15 independent specialists reflect, and argue, on the site's capacities. Is this scientific procedure? Certainly not, unless one alleges ignorance, which, in this case, would seem more serious, as he “conceals” –in his apparent ignorance-, the elements which appear not to support his arguments.

5. - Perhaps one of the most disconcerting facts in Dr. Zilhão's text is that, on the basis of an insufficient number of “sedimentary references for the layer” (since he is unaware of those published) he reconstructs the stratigraphic sequence to his liking. It is clearly an empty and insignificant exercise, as it is not supported by solid values, thus discrediting itself and, by extension, the conclusions which, from this point on, are the prop for his entire reinterpretation of the archaeological deposit.

Contrary to what he affirms –without any objective data-: a) level I has not been disturbed by animal activity. It is simply the current surface of the cover, due to the fact that when prehistoric man abandoned the settlement, all sedimentary activity ceased –the report outlines the elements forming the sediments and the reason for this cease in activity-; a herd of horses dozes sporadically on this ground, but it does not disturb its layout; b) level II has not been disturbed by animals either –on what basis this assumption?-; c) the subdivision between horizons III-upper and III-lower is not arbitrary, but was recognised during the excavation process (although, I must admit, not always over the entire excavated surface, as we are dealing with a continuous formation process), and subsequently reinforced as a result of the interaction of the material components. From our point of view, it should be understood that the sedimentary differentiation is subtle but real, and supported by a variety of industrial and chronological criteria: whoever is familiar with sedimentary processes in similar contexts in this geographical sphere knows that this situation is absolutely normal and can easily cite numerous reference cases.

From his perspective (annulling the reliability of levels I and II as they are disturbed?), levels I to III-inferior would make up a Mesolithic layer of soil 50 cm-thick (!) where Neolithic materials, due to some mysterious procedure (orderly, continuous, and challenging physics), gradually *submerge* into its interior. What's more, I would like to underline the orderly and continuous (and would add disconcerting) nature of said procedure because the [supposed] processes which, according to Zilhão, would explain this marvellous and incredible *submersion* (anthropic disturbance and paedogenesis, which he was able to appreciate without any familiarity with the record and lacking exact information) are capable of affecting the entire excavation area to the same extent (though those who were involved in the excavation or the specialists analysing the sediments were unaware of the same).

In short, he lessens the value of the upper sections of the stratigraphic sequence in Mendandia (why only the upper ones?) on the basis of unfounded arguments, illusions which, by extension, are likewise applicable to all prehistoric stratigraphy, invalidating most of the knowledge that our science has acquired.

6-. Having come to this point, there is a need to add a small additional note and ask: why these odd stratigraphic phenomena only affect Neolithic components of levels I, II and III-upper, Mesolithic horizons III-lower, IV and V being spared? We fail to find a convincing answer.

The conclusion of his particular stratigraphic analysis is that levels I to III-upper of Mendandia (miraculously, III-lower has not been contaminated, as is the case in IV and V) contain Neolithic and

Mesolithic materials. We have therefore no option but to challenge him to specify the (indisputable) Mesolithic components present in level I. Those of us who studied the archaeological collections, and examined each object one by one, were unable to detect them (perhaps because we do not share this deep-rooted intuition with Dr. Zilhão, whose arguments are our very own descriptions and the drawings and photographs which we selected). The exercise can be continued in the case of level II as well as in the case of III-upper<sup>1</sup>.

7. - In order to stress the indivisible nature of horizons I to III-lower of Mendandia, Dr. Zilhão relies by a biased reading of the lithic industry. He says: "according to Alday (2007, 57), 'in the Neolithic of Mendandia (...) there is barely any general change in the lithics [by comparison with the underlying Geometric Mesolithic], with only the appearance of segments, often retouched with the double bevel technique, being of significance". In fact, the complete quote should have read as follows: «Dans le Néolithique de Mendandia (horizons III-supérieur, II et I), il n'y a pratiquement pas de modifications générales de l'industrie lithique – pourtant il y en a dans les détails –; c'est pour cela qu'une vision d'ensemble est suffisante. Le plus représentatif est la substitution des trapèzes et des triangles (il y en a quelques-uns) par des segments, et la récurrence des retouches simples et plates par opposition aux retouches abruptes. L'augmentation des dos et des lames utilisés à peine transformées – ou avec des retouches peu normalisées – est une autre de ces notes caractéristiques: celles-ci, et les perçoirs, reproduisent, dans leurs gestes techniques et métriques, les critères propres aux complexes néolithiques».

<sup>1</sup> Literally, Zilhão considers the upper section of the stratigraphy a palimpsest whose validation must be carried out on the basis of external criteria. In my view, the sentence contains two essential mistakes. The false, and widespread in our discipline, consideration that palimpsest is a synonym of mixing (the indivisible joining of two or more archaeological units in the same sediment unit). The fact of the matter is, in palaeography, a manuscript retaining the marks of earlier writing is considered a palimpsest (written out, engraved again). That is, a true *stratigraphy among* texts, where the upper one does not mix with the one underneath although it cuts into, and may complicate, its reading. In fact, on many occasions, *with the proper methods*, both texts can be correctly interpreted. By analogy, at the beginning of the twentieth century, Professor Breuil applied this concept to the reading of pictorial panels in the caves of El Castillo and Altamira, among others, with these palimpsests serving as the basis for the stylistic evolution that he proposes for Palaeolithic art. A palimpsest is a *set of superpositions*, exactly the case in Mendandia. In conclusion, only a certain lightness in the use of the term could lead to the identification of palimpsest with mixing, instead of its strict meaning of superposition (or stratigraphy). The second mistake lies in the validation of a stratigraphy from external premises, when the true value must be expressed by internal characters. Thus, in a prehistoric sequence, each sedimentary horizon of occupancy is, *indivisibly*, made up of *natural* (such as are not contributed by human activity), *visible*, anthropic (what commonly makes up archaeological inventory) and *invisible* elements (such as are incorporated into the soils as detritus, organic material, charcoal stains, etc., as a result of degradation or putrefaction). Post-depositional effects can be appreciated in them all, and in the whole, and not a selection of certain items to demonstrate possible irregularities. Furthermore, as is logical, radiocarbon dates come from samples taken from the sediment itself, and are *intrinsic* to it, and, strictly speaking, this is not an external validation criterion.

Yes, as we shall see directly, the *non-selected* natural and anthropic components of Mendandia's stratigraphy and their radiocarbon values maintain internal logic (beyond cultural conventionalism or prejudices relating to *what should be*). Its sediments make up a true palimpsest in the correct sense of the term.

The contrast between both quotes is evident, as the second one underlines the fact that: a) even if there are no differences in the more generic aspects of the lithic industry, there are some in the particular aspects. In other words, apart from the substrate products, with respect to both the Mesolithic and the Neolithic, geometrics and backed points take centre stage, to a large extent due to the functionality of the site. However, a special analysis of these categories offers substantial dynamics. b) In this sense, replacement of trapezes and triangles with segment shapes can be clearly appreciated: the very occasional presence in III-upper and II of a triangle and a trapeze is nothing special, as it occurs in the area surrounding Mendandia in Neolithic sites that lack a Mesolithic base (to be more precise: they are just as characteristic of the Neolithic as segments are, and considered an inheritance from the past). It is evident that just as important as substitution in the morphology of the geometric patterns is the change occurring in retouch techniques: from the abrupt retouching of the Mesolithic to simple retouching, often with a double bevel edge, only to return to abrupt retouching in more recent segments (it being noted that this evolution also affects non-segment geometrical shapes). It is no coincidence that these changes are related to the importance of microburins.

As far as the backed blades and backed points are concerned, we believe it is very significant that, in level III-upper, their weight percentage is four times that which it had in III-lower, and their presence is still considerable in II. Moreover, due to the similarity of their situation, we find the increase in simple retouched blades particularly interesting, there being a significant presence in the last two Neolithic episodes. In addition, both situations are perfectly reflected in other Neolithic complexes in the surrounding area, and mark a notable difference with respect to the Mesolithic industry.

We would like to return to one of the many analyses made by A. Cava (2005) in order to illustrate, even more clearly, the differences in the lithic industries of Mendandia's levels. The resulting dendograms of comparison of the complexes, taking into account both the industrial categories and, particularly, the geometric shapes –observing that the two extremes of the levels of the sequence offer little room for manoeuvre– clearly show the affinities between Mesolithic levels IV and III-lower, on the one hand, and Neolithic levels III-upper and II, on

the other. Undoubtedly, we can hazard a guess as to Dr. Zilhão's answer: these affiliations are more apparent than real, a product of the mix –naturally, well ordered in time– of Mesolithic and Neolithic objects in the upper package (no comments are required on this possible answer).

8.- In the face of his insistence, *“Given the above, the parsimonious interpretation of the upper part of the Mendandia stratigraphy is that it corresponds to a Geometric Mesolithic deposit on the surface of which were abandoned, much later, remains of Epicardial uses of the place that subsequently became incorporated in the deposit through natural, ordinary site formation processes”*, we are obliged to reiterate our question: in the specific case of Mendandia, what are these ordinary processes that allow for the introduction of thousands of Neolithic components in the Geometric Mesolithic layer? Which are these Mesolithic objects present in strata III-upper, II and I?

9. - According to Dr. Zilhão the “background noise” heard in the Neolithic is a result of the residential nature of the Mesolithic occupancy. I admit that this affirmation does not fail to surprise me. The careful analysis of the fauna–represented species, capture ages, anatomical parts present and absent, signs of butchery– combined with the anthracological data and of the origin of the raw material, determined that, far from corresponding to a residential settlement profile, both the Mesolithic occupancy and the Neolithic occupancy respond to logistic practices (hunting, manipulation and preservation of food). Consequently, the argument used is thoroughly discredited.

10. - Nevertheless, I do agree (it is not all negative!) with one of the Dr. Zilhão's final affirmations: *“the Mendandia anomaly must remain exactly that: an anomaly”*. In effect, it must be acknowledged that Mendandia is an anomalous record for someone who sees the Neolithisation of the Iberian Peninsula from a single point of view, with apriorism as a basis, simplifying what, in my opinion, was a complex historical process in its formulation and development time. Incidentally, anomalous does not mean invalid: I believe that Mendandia has the necessary conditions –see the next point– for us to accept its capacity and reliability, however much it may oblige us (myself included) to rethink our approach in the advent of the new cultural cycle. Mendandia is a challenge to our way of conceiving the archaeological re-

cord: denying this challenge is like the fable of the blind who, hand in hand, fall one after another into the precipice.

### 3. MENDANDIA: THE REASONING BEHIND THE ARGUMENTS

From my viewpoint, there are three pillars that sustain and inspire confidence in any archaeological site: the stratigraphic sequence, the industrial content and references to absolute chronology.

The stratigraphic sequence of Mendandia (with a little intrahistory): The stratigraphic sequence was defined during the excavation process in such a way that: a) in the course of the first campaign, over an area of four square metres, levels I, II, **III-upper**, **III-lower** were described and work began on digging down to level IV (as recorded in the accumulated documents), b) during the subsequent campaigns, new surfaces were opened up, digging to level IV was completed, and level V was defined. Following the second campaign, levels III-upper and III-lower were generically designated as III as we were not sure where to mark (for the entire excavated area) its limit. However, let it be made clear that, in the first of the campaigns (unaware of the material content!), we advocated a subdivision within level III.

In order to understand the settlement sequence properly, it is necessary to keep a very significant fact in mind: when prehistoric man abandoned the shelter, new sediments ceased to form. Consequently, it is understood that the main cause for the succession of soils was anthropic activity: as this activity was, more or less, similar in each of the habitation episodes (contribution of hunted animals, their manipulation and partial abandonment; transfer of the silica masses which were cut on the site; the lighting of fires; possible skin and fur beds; work in wood and other organic elements...) the general appearance is that of a stratigraphic continuum. Far from being an isolated phenomenon, this situation is repeated in a fair number of settlements in the surrounding area which were used for similar purposes: note the cases of Kanpanoste, Kanpanoste Goikoa or Aizpea. In this, and other cases, there is a sedimentary logic which is better understood from the remains of details rather than at macro level. Is it not the case that, in all other Iberian Neolithic sites considered admissible for understanding the Neolithisation of the Iberian

Peninsula, human intervention left its mark and conditioned our understanding of their sediments? Thus, for example, in the so-called stables, their *nervous* stratigraphy is the result of human action rather than natural contributions.

Mendandia's situation (with a wood screen; a good cover impeding the entrance of materials; on a plain where there are no slope movements; absence of runoffs affecting it; and with an orientation which protects it from dominant winds) explains the absence, today, of sedimentary processes.

The patient digging of soils did not reveal any anomaly in the sediments: nor any erosive phenomena, nor the creation of soils due to abandonment, nor the activity of fossorial animals, nor anthropic actions to undermine its integrity (erection of structures, the excavation of wells or similar). In addition, analyses carried out by González Amuchástegui (2005) and Yusta (2005) confirm the absence of anomalies in its development from two independent points of view.

Mendandia's industrial content: in our discipline, the basis defining cultural episodes lies in the progress of the characters and the composition of the industries which human beings formalise.

In Mendandia, the lower complex is defined as laminar Mesolithic: it is a very discrete collection that has just been supported by new deposits in the area. The contents of level IV are a sound sample of Mesolithic denticulate and notched pieces: in fact, to date it is the largest and best contextualised series in the sphere of the Iberian Peninsula, and one of the cornerstones of the recent definition of this cultural stage. The collection of the III-lower horizon is easily affiliated to the canons of Geometric Mesolithic, with some of the most characteristic geometric armatures of the Upper Ebro valley.

The lithic industries corresponding to levels III-upper, II and I renew in techniques, types and representation of categories Mesolithic presuppositions. They exist along with an abundant ceramic industry which updates their shapes, decorative techniques and iconography with the passage of time. Both ingredients, as well as the presence of a gloss, accurately describe the material culture of the Neolithic in the Basque area, to such an extent that (separating it from the radiocarbon framework) nobody would doubt its identity.

The cultural evolution marked by Mendandia's inventory of instruments –laminar Mesolithic, Meso-

lithic denticulate and notched, early Neolithic- scrupulously adheres to the presuppositions agreed by prehistorians, and offers a stable discourse.

Mendandia's references to absolute chronology (with a little intrahistory):

The first of the excavation campaigns having been completed, a bone sample was sent to the specialist laboratory of Groningen for its radiocarbon assessment. Bones were chosen from level III-upper (as the horizon was called in this campaign) given that the information on the first ceramics in the Basque region was very scarce. The value obtained surprised me (I believe there was a reason for it) and I was faced with a dilemma: a) should we publish the result immediately and demonstrate (making a boast of it?) the antiquity of the territory's ceramic craftwork –and, by extension, of its Neolithic period?–; b) or wait to confirm the value in the future, taking into account that we still do not know Mendandia's complete sequence?(while wishing to offer the data once made the questions and obtained the answers, which involved require other researchers).

We chose the second option, with the result that, once the sediment features of the cover had been acknowledged and their fundamentals understood, another seven bone samples, gathered column-wise in order to obtain a chronological assessment of the horizons, were prepared. It was considered opportune that the bones be taken from an area far from the first samples (in case sediment irregularities had remained undetected in this area).

The results were arranged in such a way that: a) the deeper the sample, the older the value; b) the sample corresponding to the same level –and height- which is the first of the results, offers the exact same chronological estimate.

We do admit that it would have been more effective to send just one bone (instead of several) in each of the samples. It should not serve as an excuse, but it is today's reality that financial constraints prevented us from requesting AMS analytical. At all events, I would like to add an observation and a little more intrahistory:

a) The value obtained in the analysis of an organic sample is apparently absolute (I say apparently in the view of real situations where, for example: the results of two bones of one woman, let refine the concept of "absolute" –ROJO ET AL. 2006), but it is only a relative reference for the level to which it refers. Consequently, it is taken as an

average for the stratum. The value obtained from several bones in the same stratum is an average of all of them and of its relation with the layer in which they are found. Technical discussion aside, considering the use we archaeologists make of radiocarbon dating, what real difference is there between both procedures in recreating the time period of a level or of its culture?

b) Except in the case of level V, the bone samples sent to the laboratory were made up of several bones: recovered from adjoining sectors in the same frame (that is, in less than one square metre) within the same semicut. We know that the laboratory did not use all the bones in each sample, as the total weight was not necessary. This means that several of the results were obtained from just one bone (but we are unable to say in which cases).

From the results obtained, it could be rightly thought that the radiocarbon results guarantees an internal order in the sediment and cultural sequence.

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To be honest, to date, I have heard no sound arguments that undermine, one by one, the three basic pillars supporting Mendandia's credibility. Neither are they apparent across the information that we are offered:

a) Sediment unit V corresponds to a well-defined industrial complex in an adequate chronological context;

b) Sediment unit IV corresponds to a well-defined industrial complex in an adequate chronological context;

c) Sediment unit III-lower corresponds to a well-defined industrial complex in an adequate chronological context;

d) Sediment unit III-upper corresponds to a well-defined industrial complex in which a couple of dates point to an older than expected chronological context;

e) Sediment unit II corresponds to a well-defined industrial complex in an adequate chronological context;

f) Sediment unit I corresponds to a well-defined industrial complex in an adequate chronological context.

What is it that justify such distrust about the Mendandia settlement? Is it merely a question of the relation existing between a time estimate (obtained from a couple of dates) and a given collection of materials? In principle, nobody questions

the fitness of the other associations. Is it right to deny Mendandia's capacity because of this particular fact? Everyone is free to answer this question. In my honest opinion, I do not believe so. I must confess that it would have been easier for me if level III-upper had yielded data more in line with majority views, but this was not the case and, as notary, I certify the same.

#### 4. LATEST REASONING ON MENDANDIA

The excavation report on a site brings together and reinforces efforts made in the digging of its soils and the assessment of its material contents. However, frequently, the work does not stop after its conclusion. More analyses are added and new data are incorporated into the new perspectives that are opened up. Mendandia's case is no exception. Indeed, some fresh reasoning has been accumulated which we shall outline below in advance of its definitive presentation:

a) A recent traceological study on the simple blades of the Neolithic levels identified: a fragment of sickle of level II associated with another piece which is likewise used on a non-wood plant object, possibly a component of a sickle—and discusses whether a third element, with scraping marks on non-wood plant can also be considered a farm implement-. The three instruments are identical in width, greater than the average measurement for the level's laminar objects. What the analysis proposes is farming practices, given the type of sickle to which the pieces would be joined, and given that the type of cut made could only have been made on domestic grains. At this stage, I take for granted that nobody doubts the existence in the Iberian Peninsula of domestic grains at the time of Mendandia's level II. What's more, it is worth remembering that, despite the absence of domestic plant seeds in the settlement, the opening in the wood during the Neolithic stages and the presence of ruderal taxa and nitrophytes would lead us to suspect that *production economy was already taking its first steps* (IRIARTE 2005).

b) The DNA identification of a series of aurochs in the rockshelters determined the presence in level III-upper of an individual with a haplotype typical of cattle of the Near East, those which were already domesticated when introduced into Europe and taking the place of the aurochs native to this continent. We are discussing the true scope of

this document because we are aware of its importance.

c) There is a new C14 date, as yet unpublished, relating to level III-upper, for a singular sample, to be exact, the previously mentioned auroch with Near Eastern characters. The result is identical to the two already known.

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Undoubtedly, one of the aspects that I was most saddened by is the *false debate* that this has given rise to, and being able to confirm certain colleagues' incapacity to accept new data and new possibilities, while setting out an argument worthy of being part of the hilarious tales told in the White Hart tavern (CLARKE 1957). It is as if nothing had occurred from the first announcement of Zilhão maritime colonisation to the publication date of the article under discussion. Nevertheless, in this period of time, up to five congresses have been held on the Neolithic in the Iberian Peninsula (compiling thousands of pages containing fresh information and reflections), along with a variety of meetings whose purpose was to present the latest advances on the subject; no less than a dozen reports were drawn up on sites with Early Neolithic levels (located on the east coast of Spain, Andalusia, Portugal, Castile and Leon, the Basque Country and Aragon), filling with content parts of the Peninsula which, up to very recently, had been very poorly documented (thus breaking down the false barriers in the Ebro valley or presenting documents on the Mesolithic and Neolithic in areas which are said to be covered in impenetrable forests); numerous doctoral theses have been written on the subject; papers have been published on specific aspects of the period together with countless articles analysing new paths—on ceramology, diet, DNA, etc.; fresh data has been offered on the domestication of plants and animals; and a huge database has been compiled on radiochronology. On reading this huge amount of documentation, one should surely find sufficient reason to rethink one's position, instead of pretending that time passes in vain. Furthermore, from my point of view, the Mendandia case does not interfere with the general validity of many of the proposals on Neolithisation. These continue to be valid but, as they are complemented by Mendandia, a reality which is evident for historical logic is observed: such a major process as Neolithisation on European scale can hardly be



given meaning with just one explanation. The complexity of Neolithic dynamics requires of us an exchange of arguments, instead of a flat view. Personally, I do not doubt the existence of maritime movements, even before the Neolithic, but the concept of maritime colonisation is a qualitative leap which needs to overcome a variety of obstacles: we all know that loading a device with a few obsidians for their distribution is not the same as embarking pairs of cows, sheep and pigs along with seed in conditions guaranteeing their preservation, along with a group of humans that are demographically adequate for the great cultural distance that is to be crossed. Moreover, I feel that in environments where a dense and stable Mesolithic population is guaranteed –as is the case of the Ebro valley- the participation of said groups is logical, unless we are willing to accept their physical or cultural liquidation.

If the text serving as a reflection on Mendandia –and on our way of interpreting archaeological data-, had been narrated by Harry Purvis –as Arthur G. Clarke's double- I would have been delighted to read it: and, it goes without saying that, if I were a Portuguese archaeologist, I would not be offended on not finding dinosaurs in Mesolithic levels, and I would take as subtle irony the description as anti-Francoist and/or anti-Salazarist of all of us who do not follow Dr. Zilhão's dictates (an argument which, put conversely, leaves the Portuguese researcher in an uncomfortable position). I thought that what mattered for scientists was the search for reason, not verifying that reason was on their side.

## 5. BIBLIOGRAFÍA

ALDAY, A.

- 2003 Cerámica neolítica de la región vasco-riojana: base documental y cronológica. *Trabajos de Prehistoria* 60 (1), 53-80.
- 2005 *El campamento prehistórico de Mendandia: ocupaciones mesolíticas y neolíticas entre el 8500 y el 6400 BP*. Colección Barandiarán 9. Fundación José Miguel de Barandiarán - Diputación Foral de Álava.
- 2006 *El legado arqueológico de Mendandia: los modos de vida de los últimos cazadores-recolectores en la Prehistoria de Treviño*. Arqueología en Castilla y León Memorias 15. Junta de Castilla y León.
- 2007 Mésolithique et néolithique au Pays Basque d'après l'abri de Mendandia (8500-6400 BP). L'évolution de l'industrie lithique, le problème de la céramique et les stratégies d'occupation. *L'Anthropologie* 111, 39-67.

CAVA, A.

- 2005 Las industrias líticas retocadas de Mendandia. *El campamento prehistórico de Mendandia: ocupaciones mesolíticas y neolíticas entre el 8500 y 6400 BP*. Colección Barandiarán 9, 139-235. Fundación José Miguel de Barandiarán - Diputación Foral de Álava.

CLARKE, A.C.

- 1957 *Tales from the White Hart*. Ballantine. Nueva York.

GONZÁLEZ AMUCHÁSTEGUI, M. J.

- 2005 Marco geomorfológico del yacimiento de Mendandia y su secuencia sedimentológica. *El campamento prehistórico de Mendandia: ocupaciones mesolíticas y neolíticas entre el 8500 y 6400 BP*. Colección Barandiarán 9, 113-119. Fundación José Miguel de Barandiarán - Diputación Foral de Álava.

IRIARTE, M.J.

- 2005 El entorno arqueobotánico del abrigo de Mendandia y su depósito arqueológico: análisis palinológico. *El campamento prehistórico de Mendandia: ocupaciones mesolíticas y neolíticas entre el 8500 y 6400 BP*. Colección Barandiarán 9, 397-410. Fundación José Miguel de Barandiarán - Diputación Foral de Álava.

ROJO, M.A. KUNST, M. GARRIDO, R. Y GARCÍA, I.

- 2006 La neolitización de la Meseta norte a la luz del C-14: análisis de 47 dataciones absolutas inéditas de dos yacimientos domésticos del Valle de Ambrona, Soria, España. *Archivo de prehistoria levantina* 26, 39-100.

YUSTA, I.

- 2005 Los suelos holocénicos del yacimiento prehistórico de Mendandia (Treviño, Burgos): caracterización mineralógica y quimismo como trazadores de la actividad antrópica. *El campamento prehistórico de Mendandia: ocupaciones mesolíticas y neolíticas entre el 8500 y 6400 BP*. Colección Barandiarán, 9, 121-135. Fundación José Miguel de Barandiarán - Diputación Foral de Álava.

ZILHÃO, J.

- 2011 Time is on my side. Hadjikoumis, A. Robinson, E. y Viner, S. (eds.) *The Dynamics of Neolithisation in Europe*. Studies in honour of Andrew Sherratt. Oxford Books, 46-65.