THE YOUNG MAN OF VALE FERREIRO (SERAFÃO, FAFE, NORTHERN PORTUGAL): A LATE PREHISTORIC BURIAL

by

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**Abstract:** This paper deals with the discovery of the remains of a young male, aged about 15. The unusual characteristics of this tomb make the find particularly important in the context of the late prehistory of northern Portugal.

**Key-words:** Northern Portugal; late prehistory; burial.

Resumo: Este trabalho dá a conhecer a descoberta de um jovem do sexo masculino, de cerca de 15 anos, enterrado num túmulo com características originais, o que torna este achado de especial importância no contexto da pré-história recente do Norte de Portugal.

Palavras-chave: Norte de Portugal; pré-história recente; enterramento.

1. CIRCUMSTANCES OF THE FIND

The Vale Ferreiro tomb was found on September 8th 1999 during the clearing of a new path1, using a mechanical digger, to the north of the Serafão parish football field, in the municipality of Fafe (Fig. 1).

During the process the mechanical shovel stirred up some small stones and dislodged a piece of a granite slab, uncovering a small vertical cavity with human bones visible inside. This aroused local curiosity, and the more visible bones became slightly dislodged.

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1 On the property of Sr. Parcício Gonçalves, resident of Serafão, to whom we express our appreciation for permitting these excavations.
north and approximately 2 km to the west. This area has an excellent view of the Ave basin, and should therefore be linked to the valley landscape. Approximately 100 m to the north there is a stream that feeds into the River Pequeno, a tributary of the Ave on its left bank (Fig. 2).

According to the Geological Map of Portugal, scale 1: 50 000, the rocky substratum consists of granite, without surface outcrops. The vegetation consists mainly of pine, with scattered oak and eucalyptus. There are agricultural plots in the vicinity belonging to the houses in the area.

Access to Vale Ferreiro is by municipal road no. 207 as far as Barreiro, where there is a turning towards the centre of Godarilhas. From there the access to Vale Ferreiro is by a short dirt road.

4. METHODOLOGY

The first step was to fit the tomb into a 2x2 m square, pointing north; the area of excavation was later extended another 0.4 m to the east and 0.2 m to the north.

At the same time we asked the Municipal Planning Department of Fafe Town Council to provide us with a topographical map of the hill, on the scale of 1: 200.

Next we began the excavation by cleaning the surface sediment, outlining the boundaries of the tomb and removing the slab covering it. Maria Teresa Araújo then carried out the work inside the chamber.

During the next stage the entire ‘cairn’ structure surrounding the funeral chamber was dismantled down to the foundation rock. This choice by the person in charge of the excavation was meant to detect any cult structures or deposits that might have been made during the building of the monument.

The drawings of the different plans and elevations of this tomb were done on the scale of 1: 10. No cross-section of the chamber filling was drawn, because it consisted solely of bones and a thin layer of sediment associated with them. In order to study the skeleton this entire layer also had to be removed, and was then described and collected for sifting and palynological analysis. The earth found amongst the ‘cairn’ surrounding the monument was also collected and sifted.

All work was photographed and videoed.

The sediment and bones found in the chamber were submitted to the Archaeological Museum in Braga, where detailed analysis was carried out. The bones later underwent a series of analyses, described in item 6 of this paper. The lid of the tomb, which was in fragments, was also taken to the museum, where it was restored.

In order to find any engravings or paintings on the stone slabs of the structure, a team from the National Centre for Rock Art (Centro Nacional de Arte Rupestre) was called in, under the supervision of António Martinho Baptista. The team recommended that infrared sensitive film be used to take photographs of each of the slabs. However, no paintings were detected.

After the excavation the structure was covered with stones and earth.

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5 This was done by the photographer Manuel Santos, from the Diogo de Sousa Museum.
5. EXCAVATION

5.1. The tumulus

After removing the thin layer of gravel, we found a large broken granite slab in the centre, placed horizontally (Fig. 7). This was the cover of the grave in situ, surrounded by some small stone blocks. As the excavation progressed, in the area immediately beyond the burial we found a pile of overlapping stone blocks, mainly of quartz, that encircled the chamber and formed a sort of underground cairn. The entire monument was built inside a large pit dug in the granite, measuring 2.07m north-south and 1.85m east-west (Figs. 4 e 8). After the burial, the entire structure had been covered over with light-coloured, loose gravel soil.

There were very few objects in the tumulus. We found an atypical semi-translucent retouched quartz microlith in the sealing layer of the structure, near slab no. 6. This is recorded in the inventory under number MDDS - 2002/0002. In the sieved earth we also found a small piece of a brown pottery vessel, hand-made of sandy clay and smoothly finished on both sides.

5.2. The chamber

Dismantling the ‘cairm’ enabled us to see how the funerary chamber was built. Sub-rectangular in shape, its base measured 0.95 m in length north-south and 0.64 m east-west. It was built using seven slabs of various sizes and shapes, leaning in towards the centre of the structure (Figs. 4, 5, 8 e 9).

There also seem to have been bridging blocks and wedges. With the exception of the cover and slab no. 1, in the north section of the chamber, all other slabs used were highly polished granite blocks with traces of heavy fluvial erosion. This leads us to believe that these orthostats were deliberately brought here from the riverside. Three polished bridging slabs were found. One of these, placed between slabs number 4 and 5 in the south part of the chamber, had a distinctly anthropomorphic shape, in which the head and the outline of the shoulders were easily imaginable (Fig. 9).

The base of the chamber was paved with two smooth slabs (Fig. 6).

The height of the chamber is 0.57 m between the base slab and the underside of the slab covering the tomb.

The slab covering the tomb is irregular in shape; it measures approximately 0.73 m wide by 1.2 m long, and is approximately 0.1 m thick at the maximum. It is currently in the care of Serafão Parish Council. Seeing that the individual buried here must have been placed directly on top of the base slab and that the tomb was intact, only a very thin layer of sediment was found among the bones. This must have come after burial, from processes such as infiltration by plant roots and the decomposition of the body. This earth was light brown in colour, sandy and somewhat compact, containing roots and without any traces of charcoal.

There were no finds of stone or metal in the sediment inside the chamber.

In addition to the skeletal remains of an individual, recorded under number MDDS
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- 1834/99 in the inventory, only one seemingly fossilised vegetal item was found. When observed under the microscope this was shown to have a scaly, irregular surface. It will be analysed by Isabel Figueiral and is recorded under number MDJS – 2002/0001 in the inventory.

6. STUDY OF THE BONES FROM VALE FERREIRA TOMB 1

6.1. Introduction

Anthropological fieldwork and the observation and analysis of graves in their context not only make it possible to obtain data about the type of grave and remains, but also about the spatial organization of the burials, the number of individuals per grave and the way in which the body is set out, significant data required for greater knowledge of early people’s ‘world of the dead’ (Cunha, 1994). This paper therefore aims to provide information on the procedures used in collecting the skeleton found in Vale Ferreiro tomb 1, and to provide as much data as possible about the person buried there.

6.2. Methodology: collection of material and related problems

After removing the slab used to cover the chamber of Vale Ferreiro tomb 1, we began to clean it out, in successive horizontal planes, while at the same time recording the location/marking it on the tomb, collecting, packaging/protecting and labelling the bones and dental remains that were found inside. The first bones to be removed were those near the top – some vertebra, long bones and part of the frontal bone, all of which we believe to have been dislodged from their original resting place. These remains were duly wrapped in paper, packed into plastic bags and later taken to the Archaeological Museum, where they are being stored under number MDS 1834/99 in the inventory.

Next we recorded the material in situ (Fig. 10). The number of plant roots inside the structure made it quite difficult to collect what remained of bones and teeth. In fact, penetration of roots from the vegetation covering the area was the main cause of post-depositional changes in some of the bones, mainly in the epiphyses, which are much more fragile than the compact bones. This not only necessitated the use of a chemical product to remove the right peroneal bone in a block, but also led to progressive deterioration in the laboratory: the jaw in particular, which had been lying on a bed of roots, began to disintegrate when no longer subject to pressure inside the grave. Small circular holes with clearly defined edges on the surface of some bones would seem to indicate the action of worms or grubs after burial.

As in other archaeological contexts, the anthropological material in situ was in a worse state of preservation than that found in the upper, disturbed level.

Some pieces of rib, quite light in colour but with a series of rust-red dots, require further analyses to identify the components.

During excavation, notes were taken on the position of the bones and the individual inside the tomb and which direction they were facing; these and other notes later helped when studying the material in the laboratory. The only reliable measurement (because the
bone was *in situ* and anatomically positioned) was the maximum length of the diaphysis of the left femur (approximately 390 mm), which was significant in determining the age of the individual (Table 3). In the laboratory we also obtained measurements of the long bones, which helped in determining not only age, but also sex and stature.

### 6.3. Study of sex & age, paleopathological analysis and analysis of rheumatic conditions (entesopathy)

In order to understand the ‘world of the living’ of the individual entombed in Vale Ferreiro 1, one has to evaluate parameters related to morphology/morphometry, demography (determination of sex and age), morbidity/mortality (paleopathological analysis) and the physical activity of individuals (analysis of damage caused by rheumatism and related conditions).

However, the characterisation of immature individuals from archaeological contexts presents some difficulties for the human anthropologist. This is because the bones and teeth of children and young people do not survive as well as those of adults, due to their smaller size and greater fragility. This is the result of a greater percentage of organic matter and less mineral in the bones, making them less dense and thereby more susceptible to degradation by environmental factors such as pH (Saunders, 1992).

In this specific case, the large number of roots caused some changes in the bones and teeth, but they did not prevent us using several techniques to help us understand the living characteristics of the individual. We therefore tried to determine sex and age, and to carry out a paleopathological analysis.

#### 6.3.1. Determination of sex

According to El-Nofely & Iscan (1989), in determining the sex of an individual from osteological remains, measurement is important, in that this makes it possible to:

- determine the sexual profile of a burying-ground;
- reconstruct the paleodemography of a population (which reflects the degree of bio-cultural adaptation to the environment, living conditions, diet, etc.);
- interpret the evidence of a certain paleopathology in a population. Keeping in mind that some pathological processes are more common in males than in females, knowing the sex of the individuals helps determine sexual predisposition to catching certain diseases.

To determine the sex of an individual, one needs the largest possible set of data on the sexually more dimorphic bones, such as the skull, pelvis and femur among other long bones. However, determining the sex of sub-adults (skeletons close to maturity) is quite problematic and also depends on age. Due to sexual variability in growth, females from foetal age to maturity grow at different rates from males, a difference that must be influenced by a complex set of factors (Saunders, 1992). Therefore, immature skeletons cannot be subject to sexual analysis, even though skeletons close to maturity may show the necessary characteristics for an approximate diagnosis (El-Nofely & Iscan 1989), because, like adults, they have some sexual
dimorphism in terms of the measurement of the pelvis, among other bones.

Taking these premises in mind, we tried to identify the sex of the individual buried in Vale Ferreiro based on the measurements given in the table below.

<table>
<thead>
<tr>
<th>MEASUREMENT</th>
<th>SIDE</th>
<th>LENGTH (mm)</th>
<th>SEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter of the head of the femur</td>
<td>Left</td>
<td>44*</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>44*</td>
<td>Male</td>
</tr>
<tr>
<td>Length of the talus</td>
<td>Left</td>
<td>54,5*</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>54,5*</td>
<td>Male</td>
</tr>
</tbody>
</table>

*Table 1 – Sex determination based on measurement data. The figures marked with an* are approximate measurements, obtained using the methodology suggested by Olivier and Demoulin (1984). The reference figures that allowed sexual diagnosis were those suggested by Acsádi and Nemeskéri (1970).*

The sexually discriminatory measurements given above, as well as the application of methodologies based on the morphological aspects of the pelvis (Ferembach et al. 1980; Bruzek 1991) indicate that the individual could be male. The measurements of the different components of the thigh bones (*ilium*, *isquium* and *pubis*), however, are similar to those of females, but this may only be a result of the difficulty in obtaining these measurements from the three isolated bones.

6.3.2. Determination of Age

Estimation of the age of immature skeletons involves establishing the physiological age of the skeleton (changes in tissue development) and trying to correlate it with the chronological age at time of death (Saunders, 1992; Ubelaker, 1989). According to Ubelaker (1989), the main criteria for estimating the physiological age of sub-adults are:

- union of epiphyses;
- length of diaphyses of long bones;
- formation/development of teeth, tooth eruption and loss of teeth.

The relatively good state of preservation of the Vale Ferreiro I skeleton not only enabled us to use several methods based on these three criteria above, but also meant that the skull could be subjected to a method of age determination developed by Redfield (1970). The set of data obtained made for a fairly precise estimate of the age of the individual in the tomb.

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* The difference between physiological and chronological age comes from sources of error introduced into the estimation of age, such as variation in maturity and the systematic effects of environmental and genetic factors on growth.
6.3.2.1. Determination of age based on the joining of the epiphyses

The epiphyses (secondary ossification centres) develop after birth and are gradually joined to the main parts of the skeleton, with a considerable interval between the appearance of the centre of ossification and fusion.

According to El-Nofely & Iscan (1989), analysis of epiphyseal fusion should take into account the exact stage of union, the varying interval in fusion time, the possible differences between macroscopic and radiographic examination, and the possible variation between the sexes in terms of time and sequence of fusion. They also point out that growth is affected by lack/excess of various nutrients, as well as by morbidity and genetic factors.

Depending on the sample on which the fusion tables were based, one finds considerable differences in the time of fusion suggested by different authors. Thus, whereas the times of fusion advanced by Brothwell (1981) are applicable to both sexes, those advanced by Ferembach et al. (1980) are separated by sex: this is more correct, due to sexual differences in height and sequence of fusion of the epiphyses. In fact, the analysis of skeletal maturity in girls, at a certain stage of puberty and earlier, shows more advanced skeletal ages than those of boys of the same chronological age (Saunders, 1992).

<table>
<thead>
<tr>
<th>Bone</th>
<th>Area of Epiphysis</th>
<th>Age of fusion according to Brothwell (1981)</th>
<th>Age of fusion according to Ferembach et al. (1980)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left humerus</td>
<td>Head of the humerus</td>
<td>&lt;16-25</td>
<td>Males: &lt;20-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;18-23</td>
</tr>
<tr>
<td></td>
<td>Lateral epicondyle</td>
<td>13-19</td>
<td>Males: 14-18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: 14-17</td>
</tr>
<tr>
<td></td>
<td>Distal/medial epicondyle</td>
<td>&lt;13-19</td>
<td>Males: &lt;14-18</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;14-17</td>
</tr>
<tr>
<td>Third metacarpus</td>
<td>Distal extremity</td>
<td>&lt;14-21</td>
<td>Both sexes: &lt;16-20</td>
</tr>
<tr>
<td>Proximal phalanx of the hand</td>
<td>Proximal extremity</td>
<td>&lt;14-21</td>
<td>Both sexes: &lt;16-20</td>
</tr>
<tr>
<td>Thigh bones</td>
<td>Iliac ridge</td>
<td>&lt;16-23</td>
<td>Both sexes: &lt;21-24</td>
</tr>
<tr>
<td></td>
<td>Fusion of the 3 bones</td>
<td>&lt;13-16</td>
<td>Both sexes: &lt;15-18</td>
</tr>
<tr>
<td></td>
<td>Isquion</td>
<td>&lt;17-25</td>
<td>Males: &lt;21-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;17-20</td>
</tr>
<tr>
<td>Femurs</td>
<td>Head of the femur, large and small trochanter</td>
<td>&lt;15-20</td>
<td>Males: &lt;18-21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;15-19</td>
</tr>
<tr>
<td></td>
<td>Lower extremity of the femur</td>
<td>&lt;16-23</td>
<td>Males: &lt;17-20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;15-19</td>
</tr>
<tr>
<td>Tibias</td>
<td>Upper epiphyses of the tibia</td>
<td>&lt;16-23</td>
<td>Males: &lt;17-20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;15-19</td>
</tr>
<tr>
<td></td>
<td>Lower epiphyses of the tibia</td>
<td>&lt;16-20</td>
<td>Males: &lt;17-19</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;15-18</td>
</tr>
<tr>
<td></td>
<td>Fore tuberosity of the tibia</td>
<td>&lt;16-23</td>
<td>Males: &lt;17-20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Females: &lt;15-19</td>
</tr>
<tr>
<td>Left peroneal bone</td>
<td>Lower epiphyses</td>
<td>&lt;16-20</td>
<td>Males: &lt;17-19</td>
</tr>
<tr>
<td>Calcaneum</td>
<td>Hind tuberosity</td>
<td>&lt;12-22</td>
<td>Both sexes: &lt;16-19</td>
</tr>
<tr>
<td>First left metatarsus</td>
<td>Proximal extremity</td>
<td>&lt;12-22</td>
<td>Both sexes: &lt;16-20</td>
</tr>
</tbody>
</table>

Table 2 – Determination of age based on joining of epiphyses.
Analysis of joining of the epiphyses of the Vale Ferreiro skeleton shows that the fusion process of the lateral epicondyle of the humerus had already started. Therefore, according to Brothwell (1981), the individual would have been older than 13 but definitely younger than 19. Ferembach et al. (1980) indicate that the fusion of this epiphyses begins at 14 years of age in both sexes, and ends at 17 in females and 18 in males. Therefore, along with the analysis of the results given in Table 2, we believe the individual to have been aged between 14 and 18, probably between 14 and 16.

6.3.2.2. Determination of age based on length of the long bones

The age at time of death of a subadult individual may also be determined based on the maximum length of the diaphyses of the long bones and/or maximum with of the ilium of the thigh bone(s). We are referring, naturally, to the tables suggested by Merchant & Ubelaker (1977 in Ubelaker, 1989).

<table>
<thead>
<tr>
<th>Bone</th>
<th>Measurement (in mm)</th>
<th>Approximate age (in years)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left humerus</td>
<td>Damaged</td>
<td>&gt;15.5 and &lt;17.5</td>
<td></td>
</tr>
<tr>
<td>Right femur</td>
<td>385</td>
<td>&gt;15.5 and &lt;17.5</td>
<td></td>
</tr>
<tr>
<td>Left femur</td>
<td>385</td>
<td>&gt;15.5 and &lt;17.5</td>
<td>Maximum length in situ is 390 mm (&gt;15.5 years old and &lt;17.5 years old)</td>
</tr>
<tr>
<td>Right tibia</td>
<td>328</td>
<td>&gt;15.5 and &lt;17.5</td>
<td></td>
</tr>
<tr>
<td>Left tibia</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bone</th>
<th>Measurement (in mm)</th>
<th>Approximate age (in years)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left ilium</td>
<td>Damaged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right ilium</td>
<td>137*</td>
<td>&gt;12.5 and &lt;15.5</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 – Determination of age based on the length of the long bones and the maximum width of the ilium, according to the table suggested by Merchant & Ubelaker (1977 in Ubelaker, 1989).

*Approximate measurement.

An analysis of Table 3 would indicate an age of fifteen and a half or older, but definitely younger than seventeen and a half.

6.3.2.3. Determination of age based on dental development

Tooth development and dental eruption is less variable than joining of the epiphyses; in other words, the rates of dental calcification of males and females are similar, particularly up to 12 years of age – the interval between the eruption of the 2nd and 3rd molars
(Saunders, 1992). But despite the same eruption sequence, the time of eruption may vary and there are also strong genetic influences between sexes (El-Nofey & Iscan, 1989).

According to Schour and Massler's (1941 in Hillson, 1986) classic age determination tables for subadults, which include 18 stages of tooth formation/eruption, each corresponding to a certain age interval, the dentition of the individual in Vale Ferreiro was between Stage 17 (15 years of age ± 6 months) and Stage 18 (approximately 21 years of age). All of the permanent teeth had already erupted and all third molars were completely formed, as were the roots of the permanent canine teeth. We should, however, point out that this interval is very broad since, although the third molars are completely calcified, we cannot be certain that they had completely erupted above the gum line (in which case the tooth's anatomical crown would be the same as its clinical crown) or whether they were still in the process of erupting (in which case the tooth's clinical crown would be smaller than its anatomical crown).

We must point out that the standards used in age determination, based on tooth development, calcification and eruption, are based on modern populations. There may also be some variation between individuals in the same population, in different populations and in different periods of time, as well as between sexes (El-Nofey & Iscan, 1989): the age interval (from 15 years ± 6 months to 21 years of age) should therefore be viewed as fairly relative.

6.3.2.4. Determination of age based on the skull

The fact that the skull was in a reasonable state of preservation, even though it was incomplete, meant we were able to apply the method suggested by Redfield (1970), based on the development of the skull bones from foetal age up to adult age, especially the occipital bone.

Based on the descriptions of the different stages of development of the occipital bone made by the author above, the skull of the young man from Vale Ferreiro may fit into stage F of development, corresponding to the stage of "young adult". This stage is characterised by the obliteration of the sphenoid synchondrosis of the occipital bone, which may begin in the middle of adolescence and, after slow progression, end at around 20 years of age. Since this seam was open, the individual was certainly a young adolescent. However, we must mention that this phenomenon is very difficult to observe, since obliteration begins on the inside and only later progresses to the outside.

From all the above analyses we can identify the following age-determining characteristics of the individual buried in Vale Ferreiro:

- The presence of secondary epiphyses of the long bones (such as femurs and tibias), not joined to the respective diaphyses, leads us immediately to conclude that the individual was anatomically a young subadult. In fact, according to the diagram of the joining of the epiphyses by Brothwell (1981), the individual in question would be between 13 and 19 years of age. According to the diagram by Ferembach

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7 Seam between the portion of the occipital bone (basilaris) that forms the base of the skull and the fore third of the occipital condyles and the sphenoid bone.
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et al. (1980) the individual would be between 14 and 18 years old, if male, as would appear to be the case, and between 14 and 17 years old, if female. In conclusion, the individual would be aged between 14 and 18;

- The length of the diaphyses of the femurs and of the right tibia, according to the tables of Merchant & Ubelaker (1970 in Ubelaker, 1989) would indicate an age interval between 15 and a half and no older than 17 and a half;

- As regards tooth development, the tables by Shour & Massler (1941 in Hillson, 1986) indicate that the individual would be between 15 years old ± 6 months and 21 years old. Note that any major discrepancy between the estimated age and the estimated skeletal age based on the length of the diaphyses should take into the account the additional effects of pathological “stress”, which can significantly affect the growth of the long bones (Saunders, 1992), which does not appear to be the case here;

- The occipital bone of the individual from Vale Ferreiro 1, according to the method suggested by Redfield (1970), was in stage F of development, which corresponds to that of a young adult, since the sphen-o-occipital synchondrosis was still open, and this usually only closes at around 20 years of age;

- The characteristics of the pubic symphysis (in relatively good condition), fit into Phase I as described by Suchey & Brooks (1990) (surface of the symphysis showing horizontal ridges and furrows, with pronounced undulation and with no clear delimitation of the upper and lower extremities) which would indicate an average age of 18.5 ± 2.1 years, in the case of males, which includes 95% of the individuals aged between 15 and 23.

Based on this, it is our conclusion that this person would have been approximately 15 years old at the time of death, and definitely younger than 17 and a half*.

6.3.3. Paleopathologic analysis

Careful macroscopic analysis of both bones and teeth revealed no pathological lesions. Radiological analysis of the tibiae, thighbones, jaw and skull* also showed no traces of trauma. We therefore also conclude that the individual was in good oral health.

6.3.4. Analysis of enthesopathy

This type of analysis is not normally applied to young individuals, since they do not yet show clear places of muscular and/or tendon insertion. In fact, in the analysis of the young man from Vale Ferreiro 1 we found no formation of bone excrescence in the tibiae and femurs, as would result from repeated motion of certain muscles of some members. We would like to point out, however, a very slight emphasis of the oblique line of the tibia,

* Made possible by co-operation with the Anthropology Department of the University of Coimbra.
in the form of a groove. This is the line (peroneal muscle or popliteal line), that defines
the lower frontier of the popliteal muscle, and its greater prominence may indicate some
frequency of certain movements involving lateral rotation and/or flexing of the tibia.

6.4. Characteristics of the young man from Vale Ferreiro 1

Many analyses could be carried out on the material studied here. In addition to the
usual morphological and radiological analysis, the results of which can be found in this
paper, other suggestions included DNA analysis, analysis of microscopic abrasion of teeth
and analysis of any traces of particles lodged in the teeth. DNA analysis was not carried
out because of the scarcity of Late Prehistoric osteological remains in northern Portugal,
an important factor in comparative research that would allow us to make valid conclusions.
Analysis of traces of particles lodged in the teeth and of microscopic wearing of the surface
of the teeth were not carried out for the same reason, and also because we were dealing
with a young person, which would make any results of little significance.

Careful analysis of the position, depth and condition of each bone found in Vale
Ferreiro tomb 1 enabled us to draw some conclusions as to the number of individuals it
contained, their spatial organisation and the position of those buried.

The fact that we found vertebrae (including the first sacral vertebrae), ribs (in situ),
and the right-hand part of the skull (frontal, temporal and incomplete parietal) in the
uppermost levels, and, in increasingly deeper levels, several bones in situ and anatomically
articulated (thighbones, sacrum, humerus, femur, tibia and left: peroneal bone, temporal,
parietal and left part of the occipital), in addition to foot bones, points to the burial of only
one individual. The body would have been placed vertically, but in a foetal position. Later
the head seems to have fallen towards the left.

The analysis of certain sexually discriminatory measurements, as well as certain
morphological characteristics of some bones (pelvis and skull) would indicate the individ-
ual was male, probably aged 15 when he died. The absence of bone or dental pathologies
revealed by morphological and radiological examination, as well as the lack of any trace
of trauma, would seem to indicate the individual was in a reasonably good state of health
at the time of his death. Therefore if the cause of death was illness, it had not been
prolonged enough to leave its mark on the skeleton.

7. FINAL OBSERVATIONS

The set of data from the excavation of Vale Ferreiro tomb 1 allows us to conclude
that this monument was used for funerary purposes for only a short period of time. In this
case it was a ritual burial of a single young male, approximately 15 years old, who, based
on his bones, would appear to have been in good health until the illness or accident that
causd his death.

The architectural characteristics of this grave are very unusual, giving this find
significant importance. The structure, with a cistoid chamber and "cairn" type tumulus, was
built inside a hole or pit and then covered after use, making it completely indistinguishable
from the landscape.
Although there are a significant number of known tombs in the northwest of the Iberian Peninsula, all indistinguishable from the landscape that surrounds them, going back to different cultural and chronological periods (Kalb et al. 1979; Silva et al., 1981; Jorge, 1989; 1992; Cruz, 1992; Bettencourt, 1992/1993; Gonçalves, 1992/1993; Vaquero Lastres, 1993a and 1993b; Jorge et al., 1997; Silva, 1997; Cruz, 2000), the Vale Ferreiro tomb has no parallel with any of those known in Galicia or in northern and central-northern Portugal. The care and investment in building this tomb can also be seen from the slabs of the chamber, deliberately chosen from the riverside, very probably the banks of the Ave, which would mean they must have been transported approximately 1.5 km. Given that the person entombed was a young man, it seems valid to advance the possibility that all this pomp had to do with his status and social prestige in life, possibly indicating he lived in a community where social standing was already handed down based on heredity.

It is also curious that the ‘cairn’ was largely built using blocks of quartz, which, if intentional, probably had nothing to do with trying to make the monument more visible, an explanation that seems valid for many cairn-type tombs from the Bronze Age in Beira Alta (Cruz et al., 2000).

Possibly the importance of this ritual site is shown by its situation on a small hill, rising above lower ground to the north, west and south and clearly visible to anyone working and passing through the Ave basin or over the ridges above this hill to the east.

Despite the large amount of data collected, it is not conclusive enough to precisely place the burial in its cultural and chronological context. However, some characteristics indicate that the burial took place during either the Chalcolithic or the Bronze Age. This is based first on the fact that the burial was individual, secondly on the inconspicuous nature of the monument, and finally on the large number of quartz blocks used in the cairn.

The first characteristic finds a parallel in some graves in northern Portugal, in particular, one in Vale da Casa (Vila Nova de Foz Côa, Guarda), radiometrically dated to the 3rd millennium BC, in the four graves of the necropolis of Tapada da Caldeira (Baião, Oporto), dated to the end of the 17th century and the end of the 15th century BC (Jorge, S., 1980a; 1980b; 1983; 1985) and in the necropolis of Agra de Antas (Esposende, Braga), dated to the end of the 14th century and the middle of the 12th century BC (Bettencourt, 1999; 2000; Cruz & Gonçalves, 1998/1999).

As for the second and third categories, a series of tombs has been found in Beira Alta that were hardly noticeable in the landscape and in which quartz blocks were used, all of which have been genetically dated back to the Bronze Age. This is the case with the tombs found in Fonte da Malga and Casinha Derribada (Viseu), Senhora da Ouvida (Castro Daire, Viseu) and Pousadão (Vila Nova de Paiva, Viseu), among others (Kalb & Hock, 1979; Cruz et al., 1998a; 1998b; Cruz & Vilaça, 1999; Cruz et al., 2000). Although these appear to have general similarities with Vale Ferreiro tomb 1, they are also different in that the tomb 1 no rituals involving fire were used, which was the case with all these other burials.

Given the special characteristics of this monument, in which we also found a microlith and an anthropomorphic slab which could be Neolithic, a bone sample has been sent for radiometric dating, which will help in placing it in its chronological and cultural context.

The remaining structures in this area, spatially associated with tomb 1, validate the classification of this hill as an area of great archaeological importance, fully justifying the preservation of the site and the continuation of archaeological work using the most recent research methods.
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Fig. 1 – The find shown on a map of the Iberian Peninsula.

Fig. 2 – Vale Ferreiro on the Portuguese Military map, scale 1:25,000.
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Fig. 3 – Plan of the Vale Ferreira hillock.
Fig. 4 – The tomb surrounded by some small stone blocks.

Fig. 5 – The funerary chamber after removing the tumulus.
Fig. 6 – Sections of the funerary chamber, showing some of its side slabs.
Fig. 7 – The cover of the grave in situ.

Fig. 8 – The chamber, surrounded by small stone blocks.
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Fig. 9 – The funerary chamber, with highly polished granite blocks. The slab with the circle is anthropomorphic in shape.

Fig. 10 – Some bones in situ.