Vale de Rodrigo 3. Construction of Chamber and Tumulus

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Zusammenfassung – Die Grabungen zwischen 1992 und 2005 am Megalithgrab Vale de Rodrigo 3 haben u.a. gezeigt, dass die Grabkammer nach ihrer Errichtung längere Zeit ohne Hügel gestanden hat. Die Überhügelung erfolgte in mehreren Etappen. Noch zum Zeitpunkt der Zerstörung des Decksteins muss der obere Teil der Tragsteine frei sichtbar gewesen sein.

Schlüsselwörter – Portugiesische Megalithgräber, Hügelaufbau, Petrographie und Geologie, Transport

Abstract – Excavations between 1992 and 2001 of the Portuguese megalithic tomb Vale de Rodrigo 3 showed that the upper part of the chamber was visibly standing free, at least for some time after the erection of the uprights, and, likewise, at the very moment of destruction. Nevertheless, uprights and fragments of the broken capstone are nowadays widely covered by earth, and the same is the case with the former open access to the grave-chamber. That means, the mound was constructed in several stages and has got its actual shape after the destruction of the capstone. At that time the entrance of the chamber was already closed.

Keywords – Portuguese megalithic tombs, mounds, Petrography and Geology, transport

Seit der Tagung „Megalithic Tombs – Their Context and Construction" in Kalundborg, Dänemark, im Juni 1995 waren wir Jürgen Hoika, den wir aus seiner Marburger Studienzeit kannten, freundschaftlich verbunden. Da die Akten der Tagung und so auch unser Bericht nie veröffentlich wurden, wollen wir diesen in aktualisierter Form dem Andenken des Freundes widmen.

Introduction

The four megalithic tombs of Vale de Rodrigo, near Évora (Southern Portugal) were discovered in 1944 by Georg and Vera Leisner (**fig. 1**). It was then Vale de Rodrigo 1, a 4 m high mound of 40 m diameter with a megalithic chamber, covered by a corbelled roof which caught the attention of the archaeologists. This monument had been excavated, four years before, by the farmhouse-people. For its mixed architectural feature it seemed to be a transition link between true megalithic chambers and tholoi, and the Leisners thought it to have a key position in the evolution and development of megaliths between the atlantic and the mediterranean world, not only concerning Southern Portugal. Beyond this, at the bottom of the mound, there lies a 4 m long, decorated menhir, in 1944 still an exceptional finding. (The overwhelming majority of the more than 200 menhirs, stone circles and so on, nowadays known in Portugal were discovered only after 1964 (Pina 1971, 151; 1976, 9; Vicente & Martins 1979).

Impressed by the unusual context of Vale de Rodrigo 1, the Leisners immediately measured and drawed the architectural remains, recorded also the still available finds and published all in the same year (Leisner 1944) (**fig. 2**).

The other three graves of Vale de Rodrigo were first mentioned in a regional study (Leisner1949), where a ground-plan from Vale de Rodrigo 2 was published, and, after this, in the first volume of the Corpus of Megaliths concerning Portugal (Leisner & Leisner 1956). The ground-plan of Vale de Rodrigo 3 was first illustrated only in 1959 (Leisner & Leisner 1959). From Vale de Rodrigo 4 the Leisners still saw a single standing upright at an outer wall of the farmhouse, but meanwhile it disappeared. On the other hand, there were recognized by our team some thick plates, re-used as steps to the entrances of the actual farmhouse at Vale de Rodrigo, and probably part of the tumulus is still preserved below the building. (Höck 2001). Since 1987 the authors, following an idea of W. Dehn, Marburg, and in colaboration with W. Vortisch, former Marburg, now Leoben, Austria, started new geological and archaeological studies in the region of Vale de Rodrigo (Dehn, Kalb & Vortisch 1992). Within this scope excavations started at Vale de Rodrigo 2, in 1991, carried out by a team of the University of Lund, Sweden, under the direction of Lars Larsson (Larsson 1995, 1997, 1998, 2000, 2001), and, at Vale de Rodrigo 3, in 1992, conducted by the authors (Kalb & Höck 1994; Becker 1994; Höck 2001; Höck & Kalb 2001; Kalb 1996, 2002; Kalb & Höck 1995, 1997a-c).

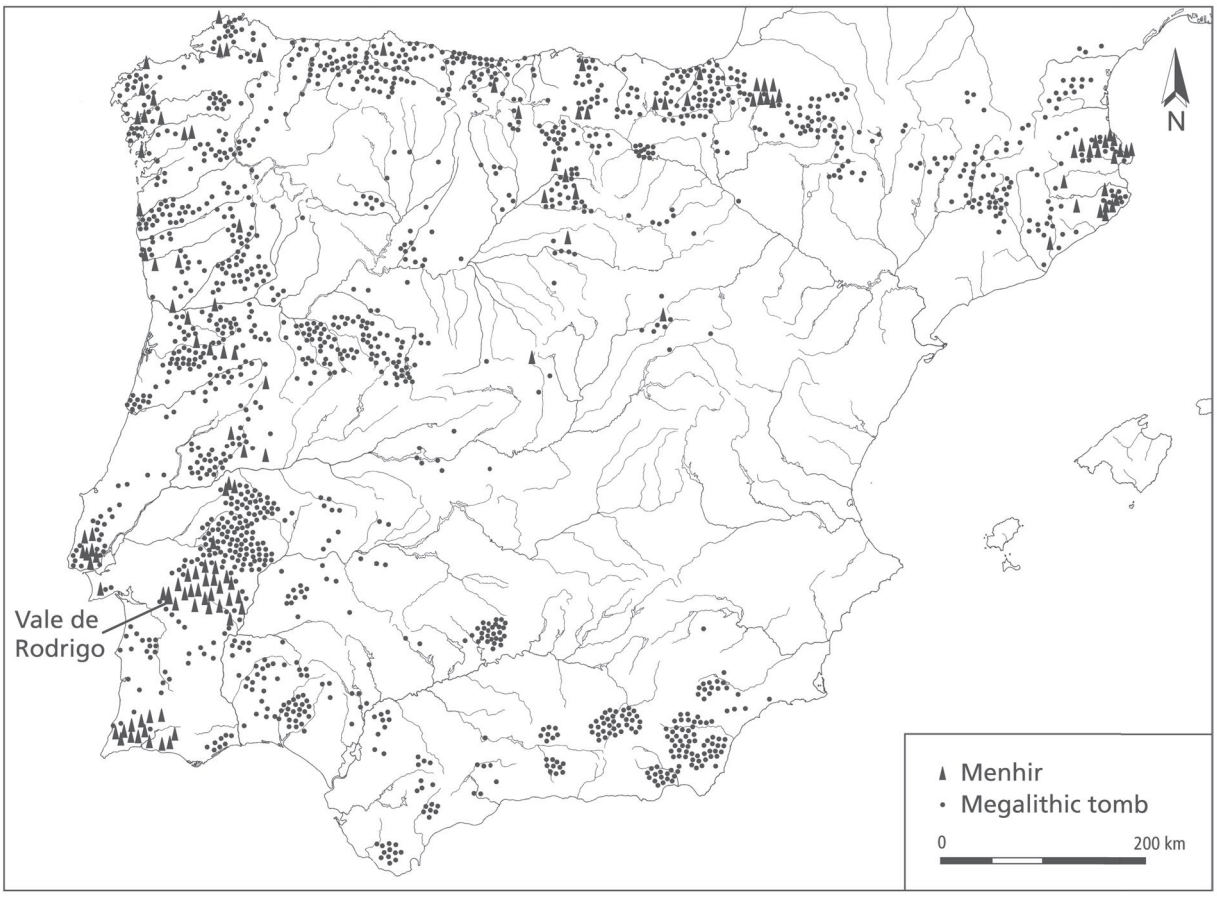

Fig. 1 Location of Vale de Rodrigo in the Iberian Peninsula.

The chamber of Vale de Rodrigo 3 Geology

The geological examination of the chamber- stones, which were visible before excavation (Dehn/Kalb /Vortisch 1992, 19 fig. 9), showed, that for the construction of the chamber were used different rock materials (**fig. 3**), none of them available at the very site. Most of the uprights (or presumed uprights, see below) are of non-porfíric biotite-tonalite, whose nearestby occurence is 2,5 to 3 kms distant from the monument. Porfiric granodiorit, recorded from three blocks at Vale de Rodrigo 3, has its nearest source even at a distance of 8 km to the North, or 6 km to the East. The neareby localized biotite-hornblende-tonalite is only used for two uprights. Similar to Vale de Rodrigo 3, different material was also used for the construction of the other tombs of Vale de Rodrigo. One of the uprights and the above mentioned menhir of Vale de Rodrigo 1 were both of a kind of muscovit leading granit whose source is localized at 10 km distance to the Southeast of this monument (**fig. 4**).

Size and shape

The short descriptions from 1949 and 1956 identify Vale de Rodrigo 3 as a "trapezoid chamber" or "long-chamber", with a long passage, below a tumulus of about 30 to 40 m in diameter. G. and V. Leisner were carefully enough to note, that the exact determination of the architectural type of this grave was impossible without excavations. They held a domed roof for possible, similar to Vale de Rodrigo 1, because on the one hand they underestimated the height of the uprights, i.e. the height of the conserved mound, and on the other hand they observed very well the relatively vertical position of them.

Our first trench (1/1) has shown, that Georg and Vera Leisner were not right, when they attributed only little height to the Vale de Rodrigo 3 uprights (**fig. 5**). The uprights no. 3 and no. 5 are higher than 3 m, they are wedged into the natural subsoil and they stand out over it about 2.70 m.

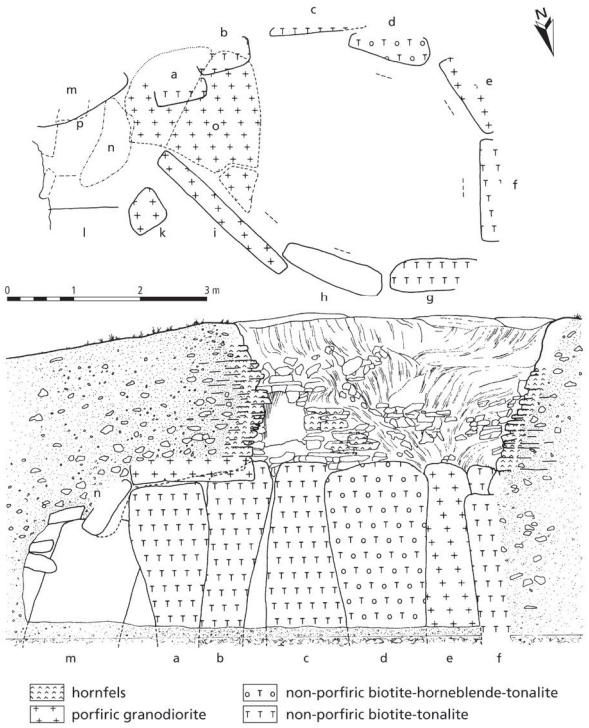

Fig. 2 Plan and section of Vale de Rodrigo 1 (LEISNER 1944).

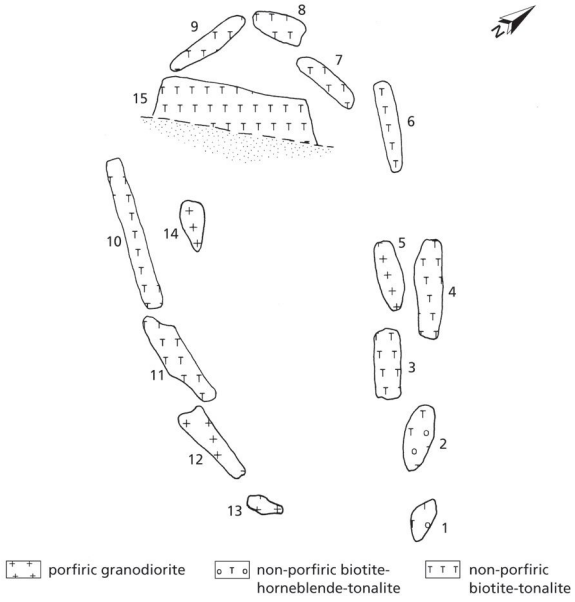

Fig. 3 Vale de Rodrigo 3, geological study (DEHN, KALB & VORTISCH 1992).

The capstone

Excavations at the top of the chamber (trenches 1/1, 2/1 and 3/3 , 1/11) (**fig. 6**) showed that the stones n°s. 4, 6 and 10 were not the supposed uprights. Stone n°. 4 leaned against the upright no. 5 and entered into the ground only 50 cms deep, in a circular ditch, whose filling yielded roman tegulae and a medieval coin. Stone n°. 10 is without doubt one of the fragments of a big capstone, and a petrografical study makes probable that the n°s. 18, 15, 6, 25, 16, 17 and maybe also no. 4 all belonged together. The rock is identical and the edges and thickness of those fragments have a rather similar outfit. Stone n°. 14, which was thought to be a loose boulder, turned out to be the top of a cracked upright, standing below the capstone- fragment n°. 10 (**fig. 7**). The so identified cap-stone seems to have not been smashed by men, for corresponding traces miss wholly, and the fractures are even and fit together. The most likely explanation for the cause of the destruction seems to us, also after consulting technicians, to have been a mighty earthquake, as it was already supposed for the destruction of other Portuguese megaliths (LEISNER/RIBEIRO 1969, 17). If the cap-stone and the uprights would have been packed up totally in clay and earth, the force of the quake couldn't have taken the effect it had. That is an argument for the idea, that the upper part of the megalith stood free and was visible (see below). The destruction must have occurred probably in "megalithic times" (see below).

The pillar

Instead of 10 uprights of the chamber, recorded by Leisner, now is recognized the former existance of at least 13 of a total of probably 14 or 15. Therefore the chamber is a little bit longer as thought before.

The cap-stone, (which beyond its ancient fractures has suffered still a modern one, on the backside of fragment n°. 15) could not have covered the whole chamber, but only a part.

A round stone (n°. 24) (**fig. 8**), visible at the surface in the front part of the chamber's interior, which was not noted by Leisner and thought by us to be a loose boulder, was proved, by excavation, to be a pillar. His bottom is wedged in the ground. Presumably he supported the above mentioned or any other cap-stone.

In Portugal there is only one similar and until now singular construction, the Anta das Cabeças, about 25 km at the North of Vale de Rodrigo, which shows a similar shape and was also provided with a pillar (LEISNER/LEISNER 1951b) (**fig. 9**). Other examples of oblong chambers with pillars are cited from Pozuelo in Huelva, Spain (LEISNER & LEISNER 1956, 66).

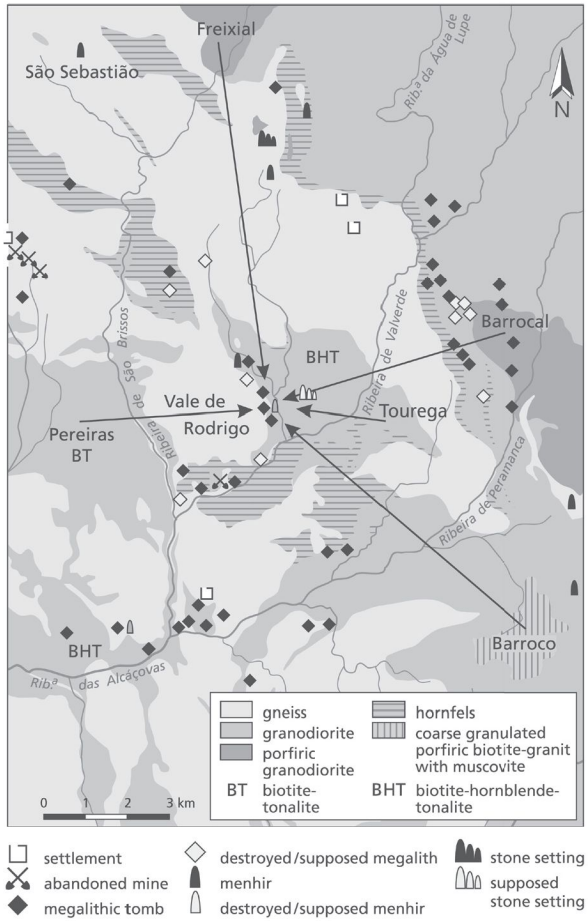

Fig. 4 Map showing the minimum distances and directions for the transport of construction material of Vale de Rodrigo (KALB 2002).

Fig. 5 Vale de Rodrigo 3, trench 1/1 with uprights n°. 3 (left, biotite-tonalite) and n°. 5 (right, porfiric granodiorite). Also uprights n°s. 2, 12, 11 and capstone fragments n°.16 and n°.10.

The excavation

The excavation in 1995, i.e. two small trenches (1/10 and part of 1/12) in the front part of the chamber, where this is not sealed by any collapsed cap-stone-fragment, reached, at the heigth of 206.23 m above sea level, intact stratums. In trench 1/12 were found three complete vessels, protected by the lightly inclined upright n°. 26. Only one of them is squashed – maybe by the above mentioned presumed earthquake. In trench 1/10, there were two nearly intact slate-plates, also in situ. A projection of the cap-stone-fragment n°. 18, fallen into the chamber, shows that this must rest at the same level, namely at the height of about 206.23 m above sea level, in the back part of the chamber (**fig. 10**). The stratum, characterized, as we saw, by slate-plates and typical chalcolithic ceramics, is the terminus post quem for the destruction of the cap-stone, i. e. for the supposed earthquake. In the filling of the front part of the chamber, beside arrowheads, slate-beads and other typical "megalithic material", was found a sherd of Late Bronze Age Alpiarça type, at the height of about 206.60 m above sea level, which perhaps might indicate a terminus ante quem for the destruction. As we know from the trench 1/1 outside of the chamber (**fig. 11**), the natural subsoil lies at the level of 205.20 m above sea.

The mound of Vale de Rodrigo 3

Excepting in recent excavations, the mounds of Portuguese and Spanish megaliths were not very well investigated. There are usually only few remarks about diameter or preserved heights, and normally those were not measured but estimated. Nevertheless, the exact topographic plans with low-distanced contour-lines allow, even without excavation, usually a lot of information. In Vale de Rodrigo 3 we could show by this way, that the mound measures more than 40 m in diameter (instead of estimated 30 m, by LEISNER), and that it must have a preserved height of at least over 2 m (instead of "only little"). By the same way was also detected a stone-enclosure, at the bottom of the mound, indicated by several stone-blocks.

A kind of platform beside the chamber, eas-

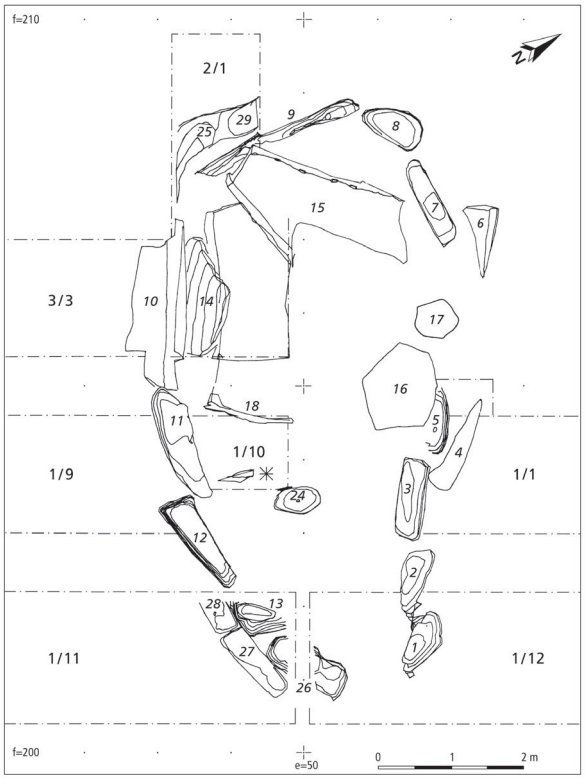

Fig. 6 Vale de Rodrigo 3, plan of the chamber during excavations, showing the trenches. 1:100.

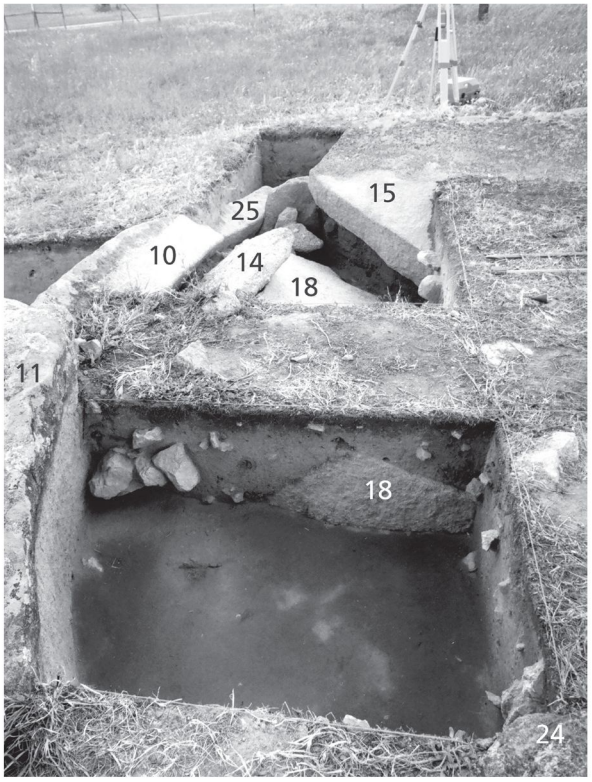

Fig. 7 Vale de Rodrigo 3, western part of the chamber with uprights (n°s. 11, 14, 25), backstone (n°. 20), capstone fragments (n°s. 10, 15, 18) and pillar (n°. 24).Foto LBK 94-3-36.

ily visible in the plan, seemed to indicate a second stone-construction, like there are a few examples in the more eastern situated Reguengos de Monsaraz region (Leisner/Leisner 1951a, Taf. 10 und 14). This was the reason, that we, before beginning the excavation, proceeded to geophysical prospection (resistivity) (Becker 1994). The field-plan of these measurements resulted in no hint on such a second construction beside the chamber, but authenticated very well the already supposed stone enclosure. It also shows the course of the passage and gives hints on more irregularities in the mound-structure.

The big trench 1 (**fig. 11**) made from outside the chamber through the mound authenticated the absence of a second stone-chamber. The excavation showed, that the platform beside the chamber is the result of a very compact clay-hill or -ramp, which is not connected to the chamber The levels, that form the present-day shape of the mound, decline here in direction to the chamber. The same observation was made also in trench 2/1 behind the back-stone. The upper part of the uprights and the cap-stone were then visible, at least for some time. This fact contradicts totally the current perception of Portuguese megaliths at the time when they were in use. They were all supposed to have been covered (cf. Scarre 2006, 15)! In any case, cap-stone and top of the uprights at Vale de Rodrigo 3 were visible at the moment of the destruction of the cap-stone. Otherwise it would not have been

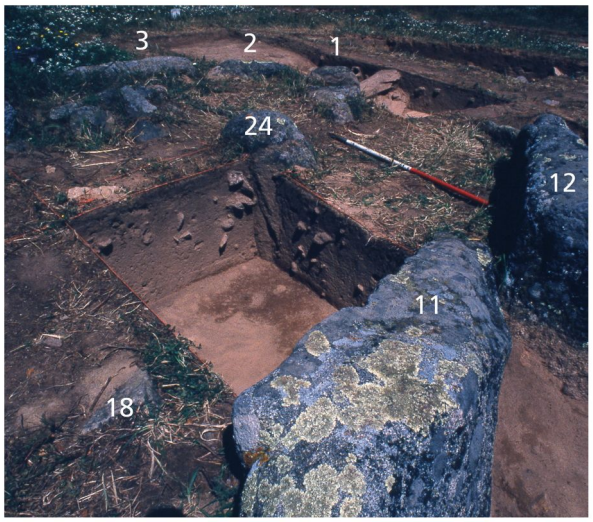

Fig. 8 Vale de Rodrigo 3 trench 1/10 showing the pillar (n°. 24), the uprights n°s.1, 2, 3, 11 and 12 and the capstone fragment n°. 18. Dia DAI-Lx. 3233.

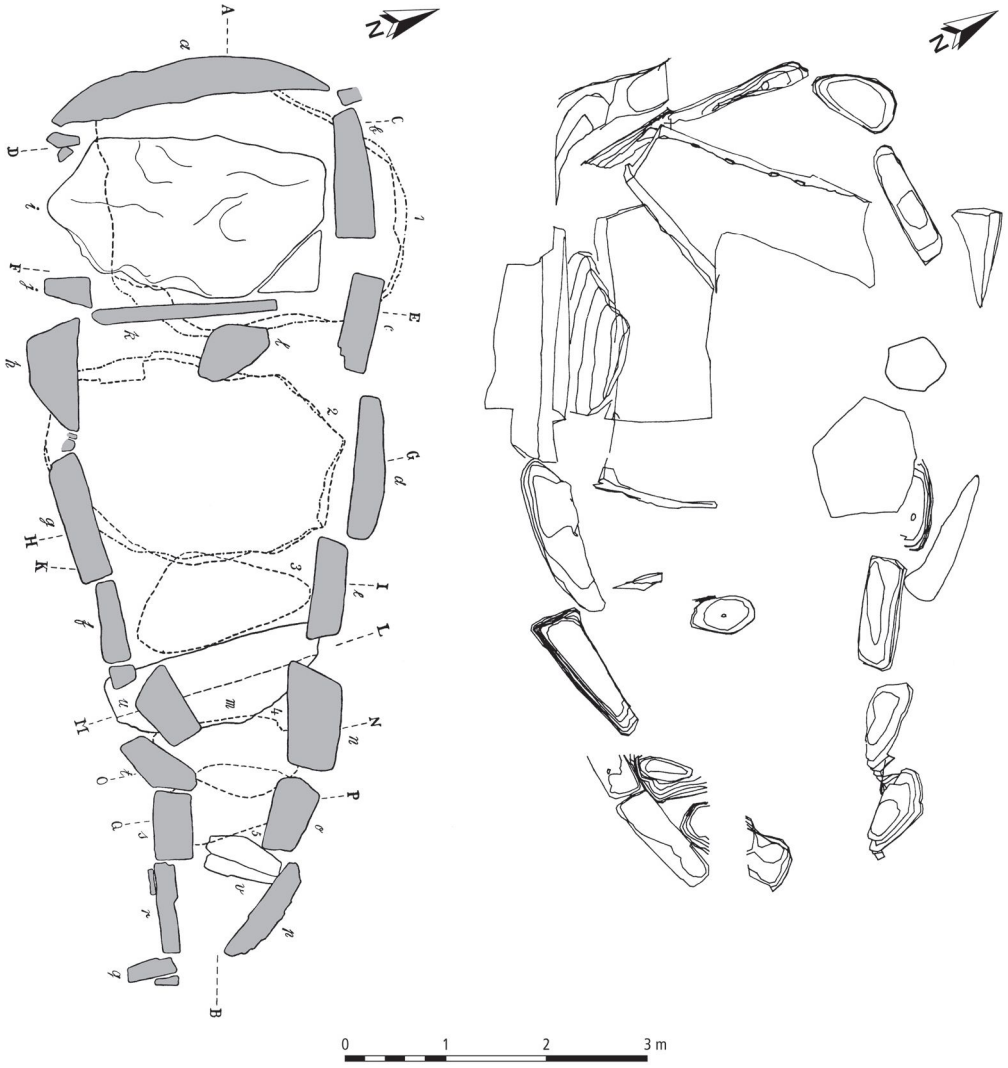

Fig. 9 Groundplans from Anta das Cabeças, Arraiolos (left; LEISNER & LEISNER 1951b) and Vale de Rodrigo 3 (right).

be possible, that the fragment n°. 10, which has not fallen into the chamber, but outside, lays with his under-edge more than half a meter deeper than the top of the uprights, and the top of the actual mound.

Striking is, that the above mentioned clay-stratums, which were solidly pounded and didn't yield any finds, pose over an other, older stratum, which for its part leans against the uprights. This fact could be manifestly secured in profile. This also points out that at least for some time the uprights here were free-standing (**fig. 11**).

The stone-enclosure

Stone enclosures of megalithic mounds are sometimes mentioned, but only recently excavated or documentated.

The stone-enclosure of Vale de Rodrigo 3 appears in the image of the resistivity measurements rather as a hexagon than as a circle, and this is being confirmed by the excavation. It has manifestly the chamber to the centre, and it seems, that the above mentioned pillar (n°. 24) is its central point. This signifies, that the assymetrical shape produced by the platform beside the chamber either was deliberated or was provoked by later events, for instance a demolition of a platform on the other sinde.

Until now we could not clarify the stratigraphical relationship between clay-accumulation and enclosure. The stones, also the bigger blocks, are set on earth, what signifies, that they are not the rest of a solid-founded contention-wall. (This observation is repeated also in the profile from the back-stone through the mound, at trench 2.) It is interesting to remark, that the also detected stone-enclosures of Vale de Rodrigo 1 and Vale de Rodrigo 2 have different shapes: That of Monument 1 shows an elipsoid shape (perhaps of two phases), that of Monument 2 a circle.

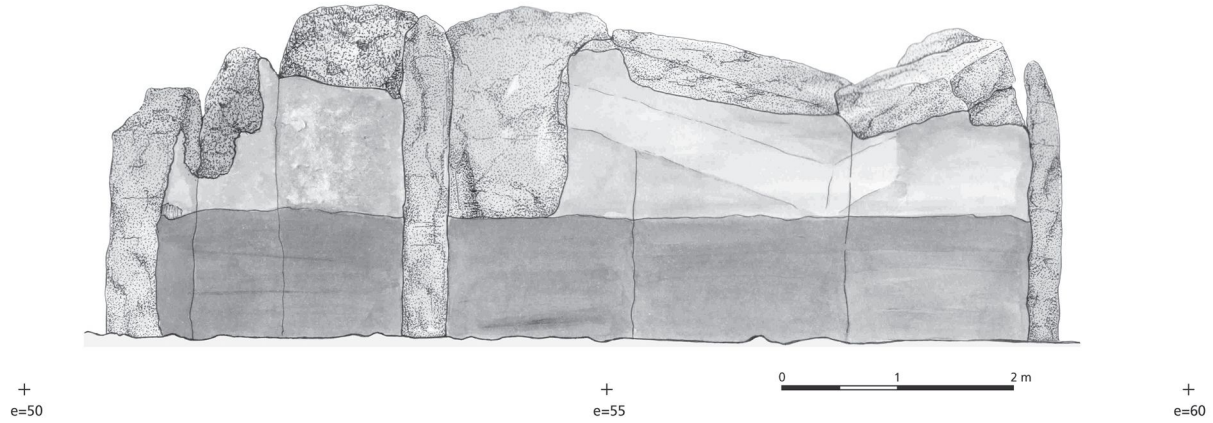

Fig. 10 Vale de Rodrigo 3, section through the chamber with reconstruction of its lower part and of capstone fragment n°. 18.

The passage

It was considered as a rule in Portugal, that big megalithic monuments usually have also long, covered passages. With its mound of over 40 m diameter and its chamber of 8 m of length, Vale de Rodrigo 3 is considered such a big monument, as also Vale de Rodrigo 1 (with 40 m hill-diameter) and Vale de Rodrigo 2 (with about 50 m hill-diameter).

At Vale de Rodrigo 3, the resistivity measurements have shown the course of the passage. However, the excavation did not yield the expected covered stone passage. Instead, there is a sandy filling embedded between the clay-mass of the hill. Either the stones of the passage have been pulled out completely (until now, we have no indication for this), or at this site there never existed a covered passage. The access to the chamber through the mound than was open, or had, at most, only a short covered passage. The resistivity in the access-area is provoked by the accumulation of loose stones which originally may have covered the slope of the mound.

In Vale de Rodrigo 2 the excavation showed, that there existed a short covered passage of first only two, later on four yokes. In Vale de Rodrigo 1 the resistivity measurements seem to point out a similar solution with a short passage. This means that the reconstruction proposed by G. Leisner with a long, covered passage seems to be wrong. Those results corroborate the observations of D. Cruz and R. Vilaça at megaliths in the Beira Alta region (Cruz/Vilaça 1990; 1994, 63; Cruz 1995).

The final shape of the mound

Conspicuous is at all three monuments, that at neither of them this lack (or not-more-existence) of the passage can be noted in the mound-surface. This signifies, that the evenly rounded, actual shape of the mounds must have been created after closing the passages and by filling up the accesses to the chambers through the mounds. In Vale de Rodrigo 3 this must have happened after the cap-stone was shattered into pieces, which came to fall into the chamber and outside of it, for they are embedded in the actual mound.

From this observation we have to draw conclusions: before we calculate, based on the volume of the mound-material, the necessary work-days respectively the required (that means existing) manpower and so the population, at Vale de Rodrigo 3 we have to consider one more unknown component: the mound's volume itself. Maybe, at the time of the construction of the chamber, it was zero, later on, perhaps, only half of the actual volume. The inner structure of the mounds of megalithic monuments, at least in Portugal, are very seldom investigated, and corresponding observations and documentations are rare, in relation to the high number of known monuments. Therefore we cannot exclude, that also other mounds of megaliths got their actual shape in different construction periods at different times.

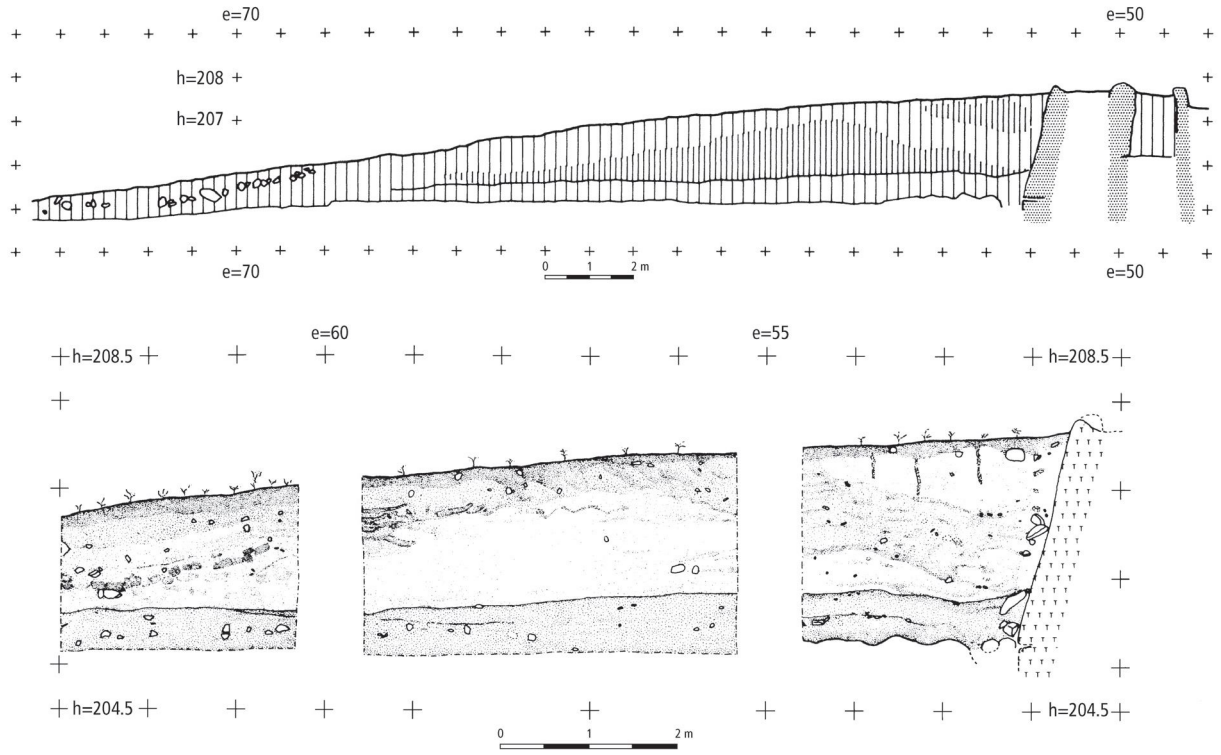

Fig. 11 Vale de Rodrigo 3, trench 1, section in f=203 and f=203.60.

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