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Megalithic building techniques in the Languedoc region of southern France: recent excavations at two dolmens in Hérault

Noisette Bec Drelon

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Front cover: Chambered cairn of Cairnholy, Dumfries and Galloway, Scotland. Photo: Chris Scarre

Back cover: Dolmen angevin of La Roche-aux-Fées at Essé, Ille-et Vilaine, France. Photo: Chris Scarre

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Megalithic building techniques in the Languedoc region of southern France: recent excavations at two dolmens in Hérault

Noisette Bec Dreton

Abstract

New investigations have been conducted at two dolmens in the Hérault department as part of a research project on *Devices and facilities around the megalithic monuments in Languedoc between the 4th and 2nd millennium*. They are situated 15km north of Montpellier: the dolmen of Mas de Reinhardt II at Vailhauquès, and the dolmen of Caissa dels Morts II at Murles. The excavations were focused essentially on exploration of the tumulus: burial chambers and passages were empty due to old or clandestine excavations. A trench was dug in the best preserved part of each tumulus in order to understand its structure. Exhaustive excavation was conducted to determine how the monument was influenced by, and interacted with, the geology of the bedrock. The results of this fieldwork show both a choice in the location of the megalith and a systematic adaptation to the area. Thus, the construction of a dolmen is the result of both logical planning and opportunism on the part of the architects.

Keywords: Late Neolithic, southern France, passage tomb, tumulus, building techniques

There is an extensive bibliography on the megalithic monuments of Hérault. Research conducted from 1930 to 1960 enabled the discovery and the excavation of many dolmens. In spite of this craze, knowledge of Hérault's megalithic monuments remains incomplete. In fact the first excavations done by Jean Arnal, Maurice Louis, Denis Peyrolles, and Jacques Audibert only relate to the burial chambers (Arnal 1963; Audibert and Boudou 1955). Those studies have remained incomplete, with no topographical drawing or stratigraphic section. We have to return to these monuments with new problems in order to understand the whole construction and, in particular, peripheral structures – in other words, the barrow. These early investigations are here revisited as part of a research on *Devices and facilities around the megalithic monuments in Languedoc between the 4th and 2nd millennium* (Bec Dreton forthcoming). It is hoped through this to discover new evidence about the construction techniques used, and how the sites were located, in addition to establishing a better chronology for the megalithic phenomenon in this territory.

Geographical situation

We have chosen the limestone Causses of Montpellier, located next to the Pic Saint-Loup, for these initial investigations as it exhibits a remarkable landscape. The density of remains dated to the prehistoric period is particularly significant: numerous dolmens and Neolithic villages have been recorded in this area. For instance, we can cite the dolmens of Lamalou and Ferrières (type site of the Late Neolithic Ferrières culture) and the Chalcolithic villages of Boussargues and Cambous.

In particular, we have selected two dolmens among this important concentration, both situated north of Montpellier – the Mas de Reinhardt II dolmen at Vailhauquès, and the dolmen of La Caissa dels Morts II at Murles. According to Jean Arnal, these burials have been classified among the gallery graves with “p” or “q” shapes (Arnal 1963). The typology of the internal space seemed similar for both dolmens, with only few differences, and from the first glance these monuments showed evidence of the structural development of their tumuli. The new excavations focus mainly on exploration of the tumuli: the burial chambers and passages were empty due to old or clandestine excavations. At the dolmen of Mas de Reinhardt II, we noticed the presence of a kerb made with slabs of stone surrounding the tumulus. At the dolmen of la Caissa dels Morts, despite its geographical proximity, the structures observed were different: we identified a dry stone wall enclosing the tumulus. In addition, exhaustive excavation was conducted to determine how the monument was influenced by, and interacted with, the local geology. Within the framework of new surveys, it would be interesting to determine the nature of these various structures, and to date more precisely their chronology of construction.

Mas de Reinhardt II: a complex and rational architecture

The dolmen of Mas de Reinhardt II lies on the crest of a limestone plateau (*le Closca*): most of its architecture is preserved. The burial chamber is composed of three limestone slabs or blocks, which would have supported a capstone, now lost. The remarkable trapezoidal backstone is significantly taller than the two orthostats pressing against it. The passage is aligned to the south west: together with the burial chamber, it is “p” shaped in plan. The western wall of the access passage is built of dry stone walling while the eastern one is formed by a long megalithic block (now broken into several pieces).

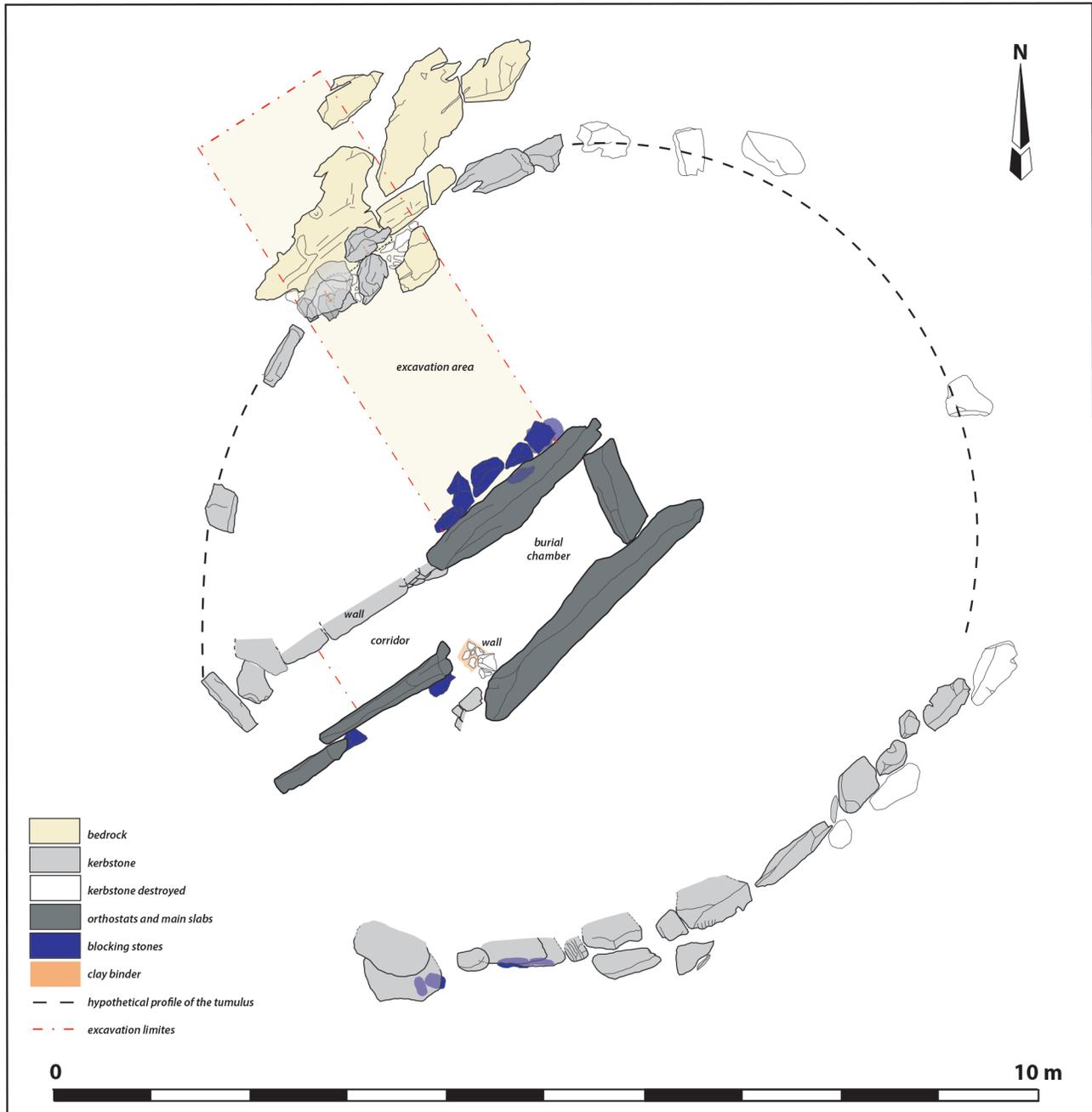


Fig. 3.1: Dolmen of Mas de Reinhardt II (southern France), general plan

A section was excavated across the passage. This revealed a dry stone wall that had been built under part of the southern orthostat to compensate for its irregular shape. The wall may have been concealed by a thin slab: it was found in a collapsed position but may have been a facing for the wall. In addition, the foundation of another wall was found, running perpendicular to the southern orthostat and joined to the south wall of the passage. It faces the backstone and closes that side of the chamber. There is clay mortar between the

stone courses. The discovery of such a binder is unique to the region. The walls of this type of monument are more usually of dry stone construction. The section was extended along the passage enabling the discovery of blocking stones that were used to stabilise the long slab of the access feature. Another block was discovered at the entrance to the passage: it was levelled and ran perpendicular to the passage axis. Perhaps it was a megalithic entrance stone, or a threshold, or an element of the kerb.



Fig. 3.2: Dolmen of Mas de Reinhardt II, stratigraphic section through the mound

The tumulus is about 6m in diameter, and is delimited by a kerb (Fig. 3.1). The general morphology of the bedrock played a key role in the choice of location for the monument. To the west, the builders used a natural step in the bedrock to support some of kerbstones (in Fig. 3.1 the bedrock is in yellow and the kerb is light grey). A boulder that was slightly detached from the bedrock was employed to help demarcate this edge. To the east, the ground slopes naturally downwards, and kerbstones were installed in the depression (Fig. 3.4). The excavation trench revealed that the core of the

tumulus was composed of large limestone boulders arranged in two opposed units (Fig. 3.2). The outer one of these rested directly against the kerbstones that are themselves supported by the bedrock step. The inner unit of the tumulus was placed against the back of the northern orthostat, which was supported on the other side by the backstone. These groups of organised stones distribute the weight and consequently balance the stability of the whole monument. Several packing stones were also found around the base of the orthostat: this is rarely documented in dolmens in Hérault (Fig. 3.3). We



Fig. 3.3: Dolmen of Mas de Reinhardt II, packing stones around the orthostat

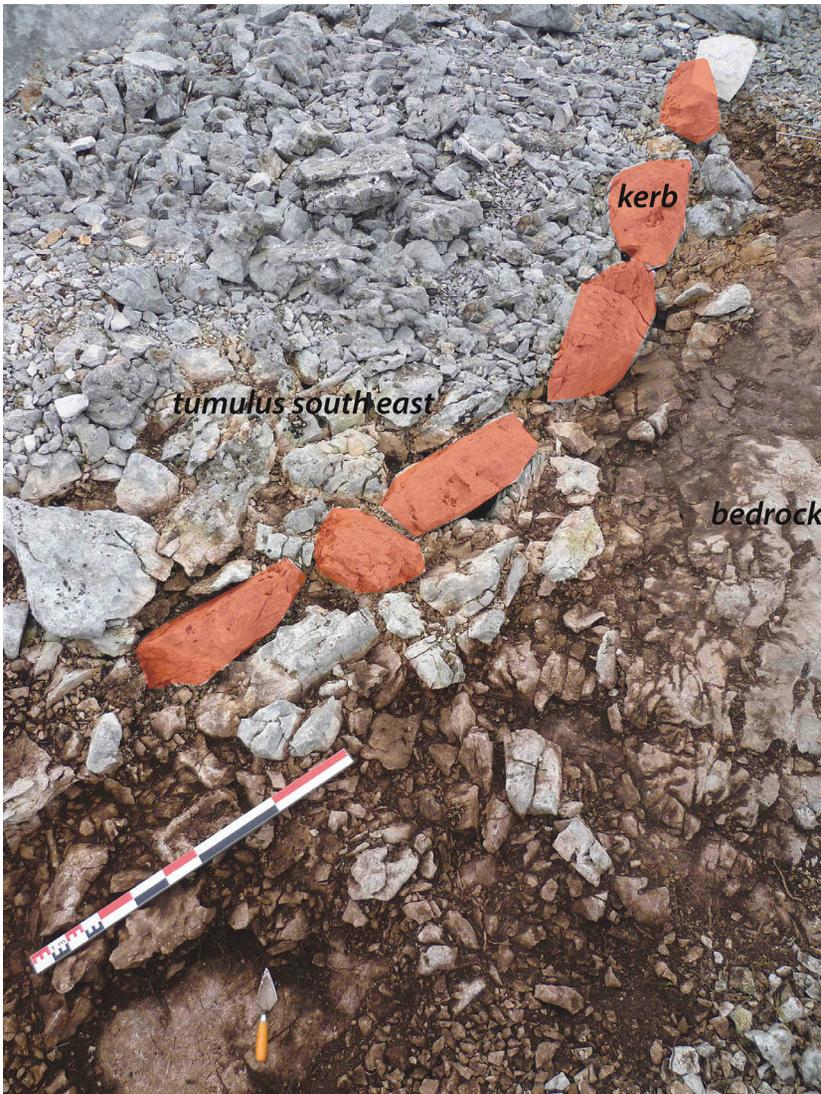


Fig. 3.4: Dolmen of Mas de Reinhardt II, southeastern part of kerb

should also mention the slab of dolomitic limestone found mostly in the passage. These stones are probably part of the original covering system. The most common material used in this structure is Jurassic limestone, which crumbles rapidly. Thus it would be too ambitious to try to estimate the original height of the tumulus.

The objects found in the monument include fragments of vessels, the typology of which is still difficult to define. However, a fragment of a ceramic rim decorated with a garland of pastilles could be linked to the Fontbousse repertoires. A polished axe blade of greenstone (3cm long) was also found at the base of the tumulus. These elements allow us to date the use of the burial chamber roughly to between the late Neolithic/Chalcolithic and the late Bronze Age. The latter is estimated from the presence of low bowl characteristic of reuse for burial at this time. We hope that radiometric dating will reduce the chronological range, and may be give more precise dates. No human bones have been excavated from

the chamber or the passage and the previous excavations did not provide more information. Therefore it seems impossible to infer anything about the number of individuals, or make observations about the funeral practices.

Caissa dels Morts II: locating the tomb – an opportunist approach

Unlike Mas de Reinhardt II, Caissa dels Morts II is a smaller dolmen with an off-centre passage to the east and a “q”-shaped plan (Fig. 3.5). The burial chamber is composed of three megalithic slabs in a trapezoidal shape: it is slightly larger at the entrance than at the backstone. The trapezoidal backstone is set between orthostats and stacks of small dry stones bridge the interstices. The western orthostat was extended to the south by a dry stone wall, although this thin slab may have broken during its’ erection. The builders probably changed their initial architectural plan after this incident. Here, the capstone is also missing, although during the excavation we

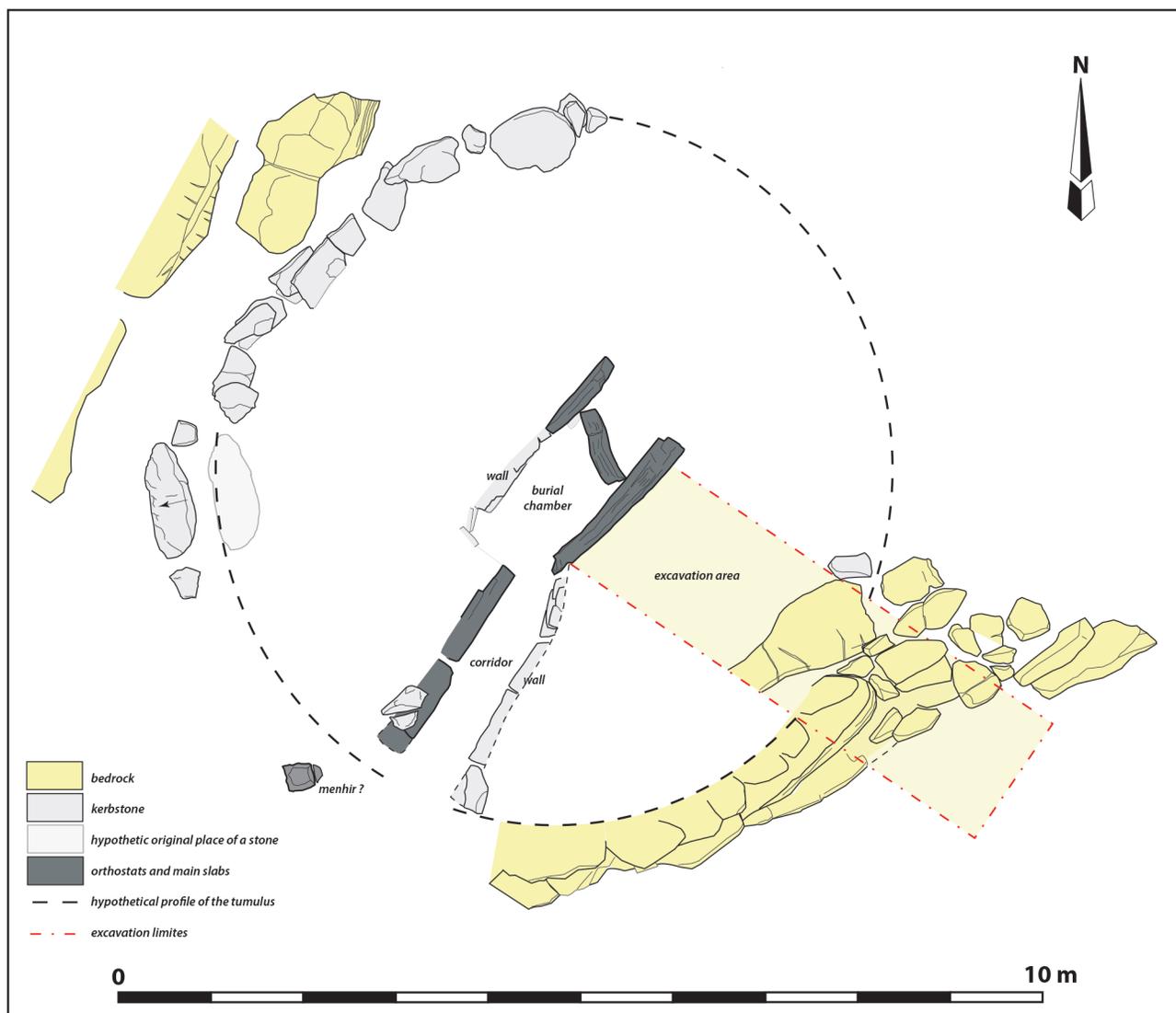


Fig. 3.5: Dolmen of Caissa dels Morts II (southern France), general plan

found several slabs in the chamber which could have belonged to the previous covering slab. The passage is bordered to the west by two megalithic stones and to the east by a dry stone wall. Highlighting the entrance to the west is a 1m high slab, carefully pecked on one of its faces (see Fig. 3.8). This seems to be a menhir. A section was cut in order to determine whether it belonged to the monument or if it was placed in front of it. No holes or packing stones have been observed surrounding this “menhir”: it seems to be resting on natural soil. In addition, in this region no menhirs have been found in association with a dolmen; hence it is more probable that it is a modern addition.

The tumulus, which is circular, is edged on the west and north sides by paving stones (Fig. 3.5): it is difficult to determine their limits due to the presence of karst that masked the majority of the material. On the east and south sides, the

tumulus appeared to be built from four long paving stones that constituted a monumental wall. But after excavation, this proved to be bedrock that had naturally disintegrated into long paving stones (Fig. 3.6). This may provide the reason why builders probably established the monument in this place. It was easier to build on terraced bedrock as it requires less building material, and consequently less energy. In the trench we could also see a stone bank against the orthostat. All the stones have the same orientation and wedge the orthostat into position as at the dolmen of Mas de Reinhardt II (Fig. 3.7). Together, the terraced bedrock and the stone tumulus placed on it give a deceptive, almost *trompe l'œil*, effect of monumentality.

Very little archaeological material was found in the dolmen except for several vessel fragments. A dozen teeth unearthed in the burial chamber allowed us to identify



Fig. 3.6: Dolmen of Caissa dels Morts II, excavation of the tumulus showing stepped bedrock



Fig. 3.7: Dolmen of Caissa dels Morts II, stratigraphic section through the tumulus

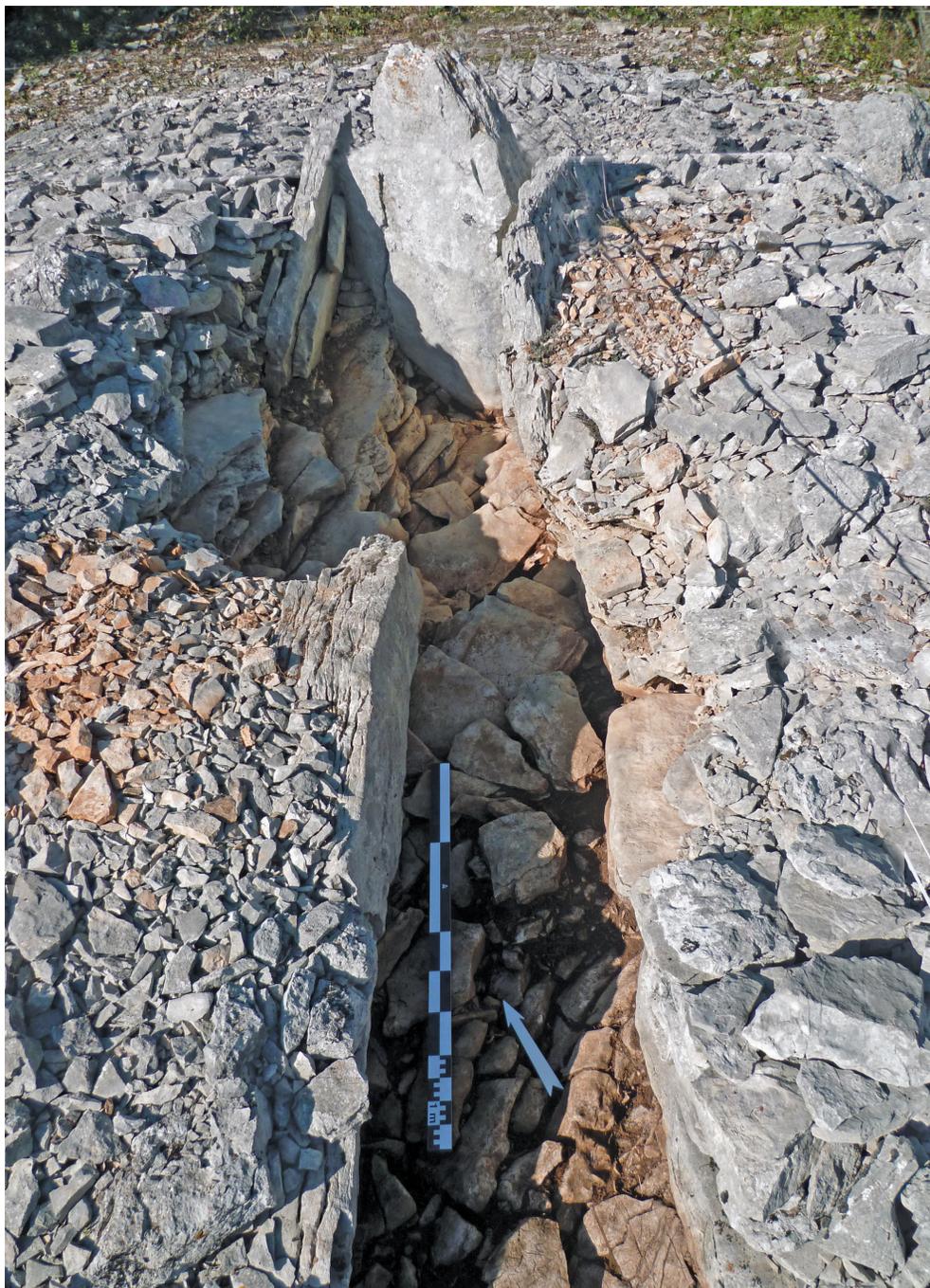


Fig. 3.8: Dolmen of Caissa dels Morts II, chamber and passage access from the south-west

two interred individuals, including a child over four years old. Unfortunately, due to the lack of additional bones no observations can be made about the population (Leroy, rapport d'étude anthropologique, 2012). Radiocarbon dating was carried out on a tooth (Poz-51288: 4360 ± 40 BP, 3038–2900 cal BC, 2s, OxCal 4.2.3), allowing us to date that use of the burial chamber to the late Neolithic.

Function of mound structures: between monumentalisation and stability

With these two examples, we start to see the construction processes underlying megalithic monuments, in particular the spatial organisation and relationships between the different architectural components. We can say that the choice of the location depends on the morphology of the bedrock. It was used in order to monumentalise the tomb

structure and also to stabilise it. A megalithic monument is therefore a complex but rational construction. According to the relative chronology accepted today, the use of Languedoc dolmens begins in the late Neolithic, around 3000 BC. Our ongoing research programme aims to provide more precise details of the chronology of the construction of dolmens in the Languedoc area by continuing the study of many other megalithic burials.

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