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THE PREHISTORIC CAVE SITE

“CUEVA DE LAS GRAJAS” IN MATIENZO, NORTH SPAIN

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SUMMARY:

Caves with surface deposits of pottery, unassociated with human remains, are relatively common on the Cantabrian Coast, at least in its central-eastern sector; in spite of which they are still not fully understood. This article presents the results of a detailed study of such a site, and attempts to establish its chronology and use. Perhaps the main result is the evidence of its great internal complexity, probably the consequence of different activities carried out at different times.

RESUMEN:

El fenómeno de las cuevas con depósitos cerámicos en superficie, sin asociación a restos humanos, es relativamente frecuente en la Cornisa Cantábrica, al menos en su sector centro-oriental; a pesar de ello es aún muy poco lo que se sabe de este tipo de manifestaciones. En este artículo se ofrecen los resultados del estudio de detalle de un yacimiento de este tipo intentando establecer su cronología y su atribución funcional. Su principal resultado es quizás la evidencia de la enorme complejidad interna de estos conjuntos, probablemente resultado de la suma de distintas actividades, desarrolladas en diferentes momentos.

1. Introduction

Cueva de las Grajas was first shown to members of the British Caving Expedition by local people from Matienzo in 1977, and the cave was catalogued in the expedition's publications (Corrin and Smith 1981). But its recognition as an archaeological site didn't come until early 1994, when it was explored by members of the Colectivo para la Ampliación de los Estudios Arqueológicos y Prehistóricos (C.A.E.A.P.) based in Camargo, Cantabria. As they saw the importance of the ceramic and fauna concentrations, as well as their vulnerability as lying on the floor of an open cave, they applied for permission to collect material from the surface of the floor and for analysis. This was conceded by the Cantabrian Regional Government on 18 March 1994. The fieldwork was then carried out between April and July, mainly by C.A.E.A.P., with the collaboration of the British Caving Expedition.

2. The Site

The cave is located on the beech-forested hill called El Duengo, in the northern part of the Matienzo polje. Its entrance, about 4m high and 3m wide, faces north-west, at 380m above sea-level and about 200m above the valley floor (Pic 1 & Fig 1).



Photo 1 Entrance of Cueva de las Grajas

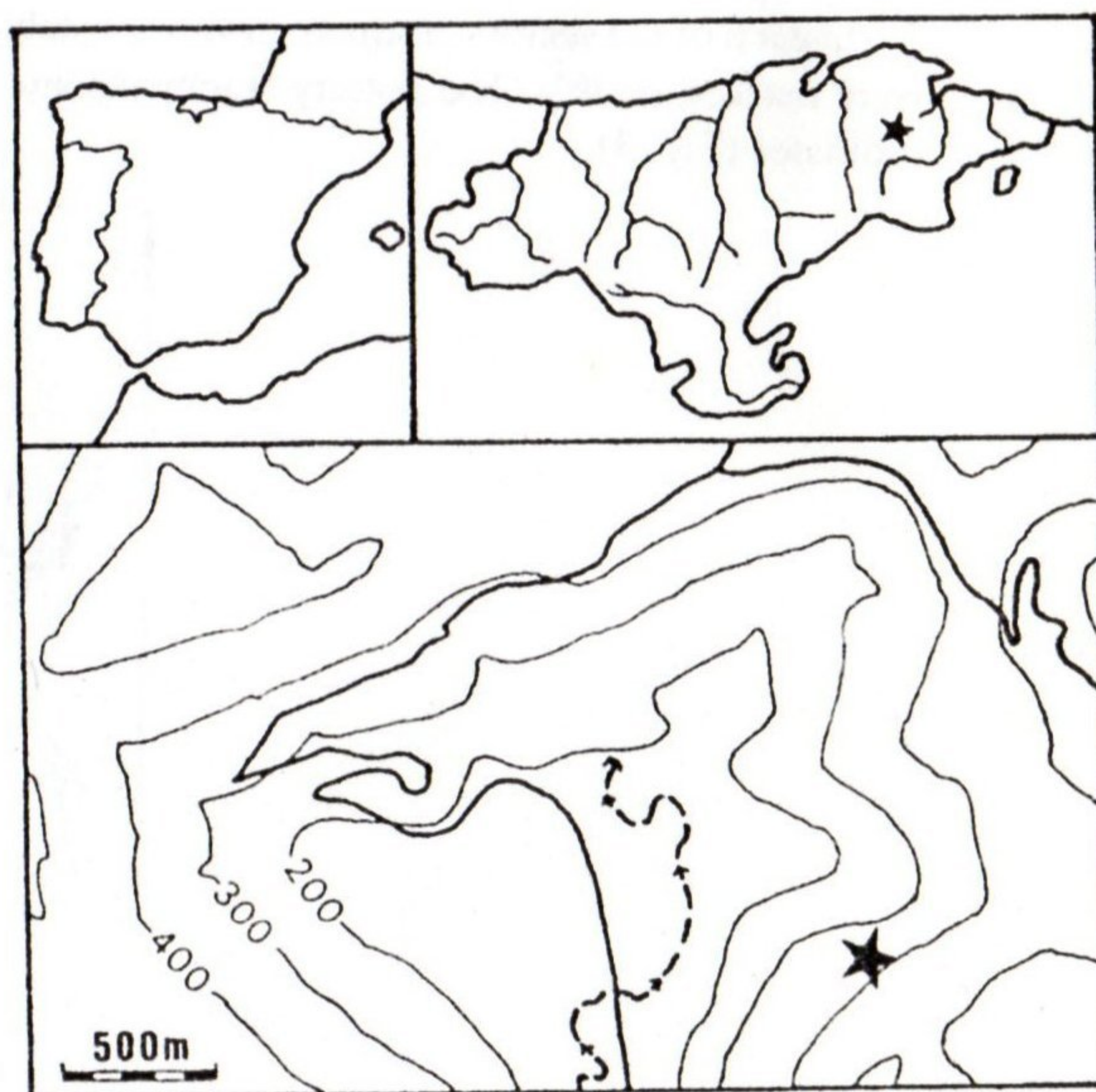


Fig. 1 Position of Cueva de las Grajas on maps of Spain, Cantabria and Matienzo.

It has developed in Urgonian Cretaceous limestone, and now forms part of the fossil karst, without any active streams apart from the drips feeding several gour pools. The cave must be of considerable age, and a huge stalagmite boss has grown to fill the centre of the chamber (Photo 2).



Photo 2 Interior of the cave, showing the massive central stalagmite.

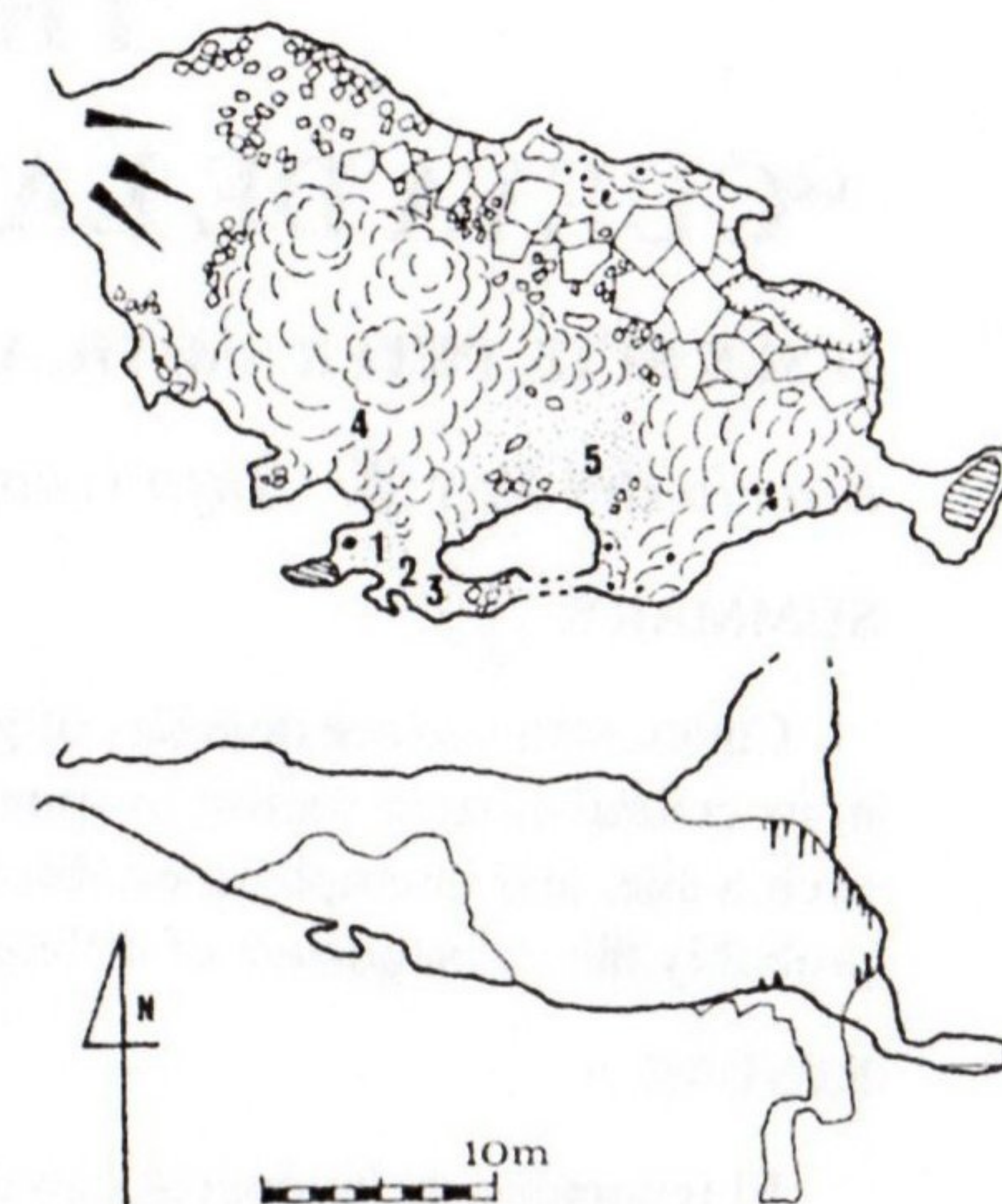


Fig. 2 Plan and cross-section of the cave, showing the five sectors described in the text.

The entrance slope, with its surface debris, comes to the base of this stalagmite boss which can be avoided on either hand. On the left the slope continues over boulders which are larger at the back of the chamber, and between which there are a number of small climbs or shafts. The chamber closes down beyond an area of flowstone, in a low passage filled by a large gour pool (Fig. 2).

The path to the right, or south, of the huge stalagmite crosses a flowstone to a small level area, and another slope to a second levelling out. From here a further slope drops steeply to the floor of the chamber, which here is of damp sand and gravel. Above this the roof rises in a large aven, developed along a fissure in the limestone. The total length of the cave (straight line from entrance to far wall) is about 45m.

The slope at the entrance, and the other slopes, boulders and stalagmites inside, mean that the cave has little level ground which could be used as living space. The area outside the entrance also slopes too steeply to be of much use.

3. The Prehistoric Remains

The examination of the cave floor revealed several concentrations of archaeological materials. The main area, located on the southern side of the cave, was sub-divided into five sectors during the collection of these materials.

In each of the sectors, a square grid was established based on the survey stations of the full cave survey, and details of the cave floor were marked on this. The pottery fragments and animal bones were then collected and also plotted on the grid, using cartesian co-ordinates (Fig. 3).

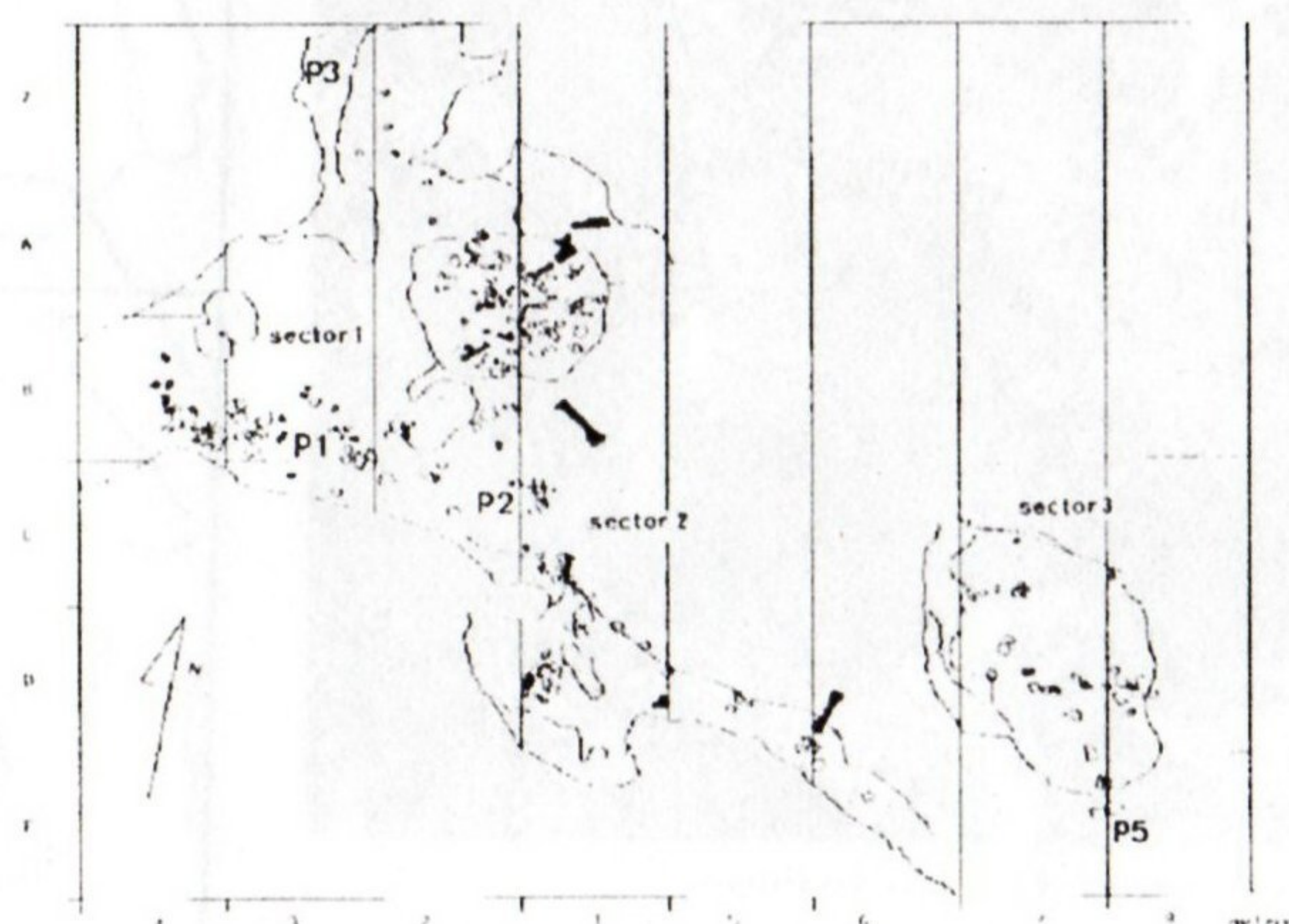


Fig. 3 Distribution of pottery and bone fragments, with the hypothetical original positions of pots 1, 2, 3 and 5.

Most of the remains were found superficially, as there are no thick sedimentary deposits. However, in two hollows the pottery was found in a layer of clay about 3 or 4 cm thick and this may cover other levels. As our permission did not include digging, we did not go any deeper into the sediments. In certain places the pottery was covered by hard flowstone and could not be removed. Samples of earth were taken from the hollows for separate analysis (see section 8).

The position of the five sectors was as follows:

Sector 1 is located by the right-hand wall, at the end of the area of flowstone, to the south of the stalagmite boss. It consists principally of a hollow, above which there is a small slope, and at the top of this, a small ledge. The hollow ends at the start of a lower passage, occupied by a gour pool.

Sector 2 continues from Sector 1 as a flowstone slope against the cave wall, in which there is a small rift with a very narrow entrance.

Sector 3 consists exclusively of another hollow at the base of the slope in Sector 2. The hollow lies between this slope, the cave wall, and a large block of limestone.

The small Sector 4 is nearer the entrance, at the base of the large stalagmite boss, in the area of flowstone before Sector 1.

Finally, Sector 5 covers a wide area at the rear of the chamber, including the patch of sand and areas of flowstone and small boulders.

4. The Pottery

All the fragments of pottery collected belong to a minimum of 5 vessels, described in detail in the appendix. They are of very different sizes and shapes, from the very large pot no.1 to the small third pot. Pot no.2 is medium-sized, with the rim turned slightly outwards. No.4 is a straight-walled open-mouthed vessel, and no.5 is a carenated pot with polished walls (Figs. 4-7; Photos 3 and 4; and the appendix for full descriptions).



Fig. 4 Pot No. 1

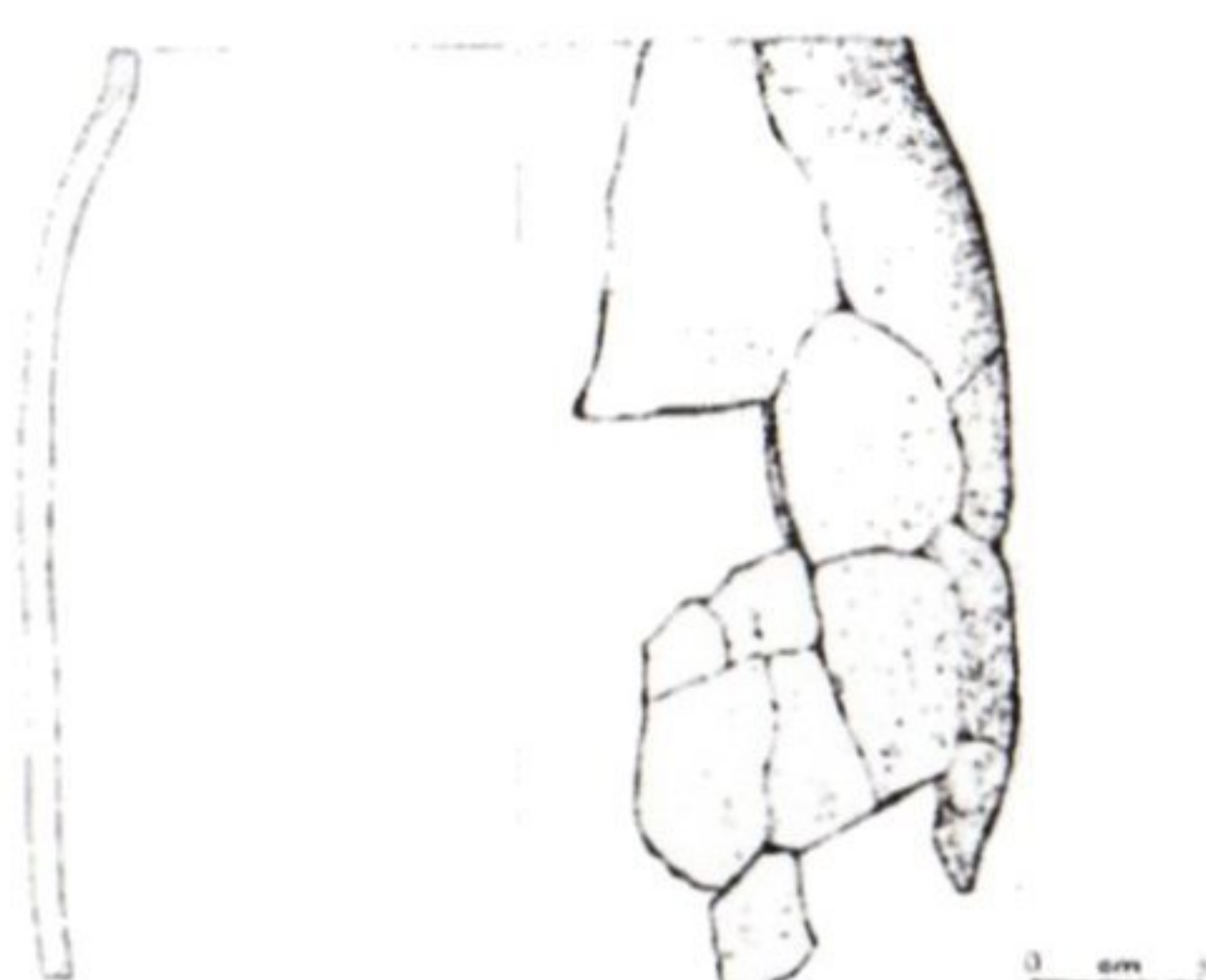


Fig. 5 Pot No. 2

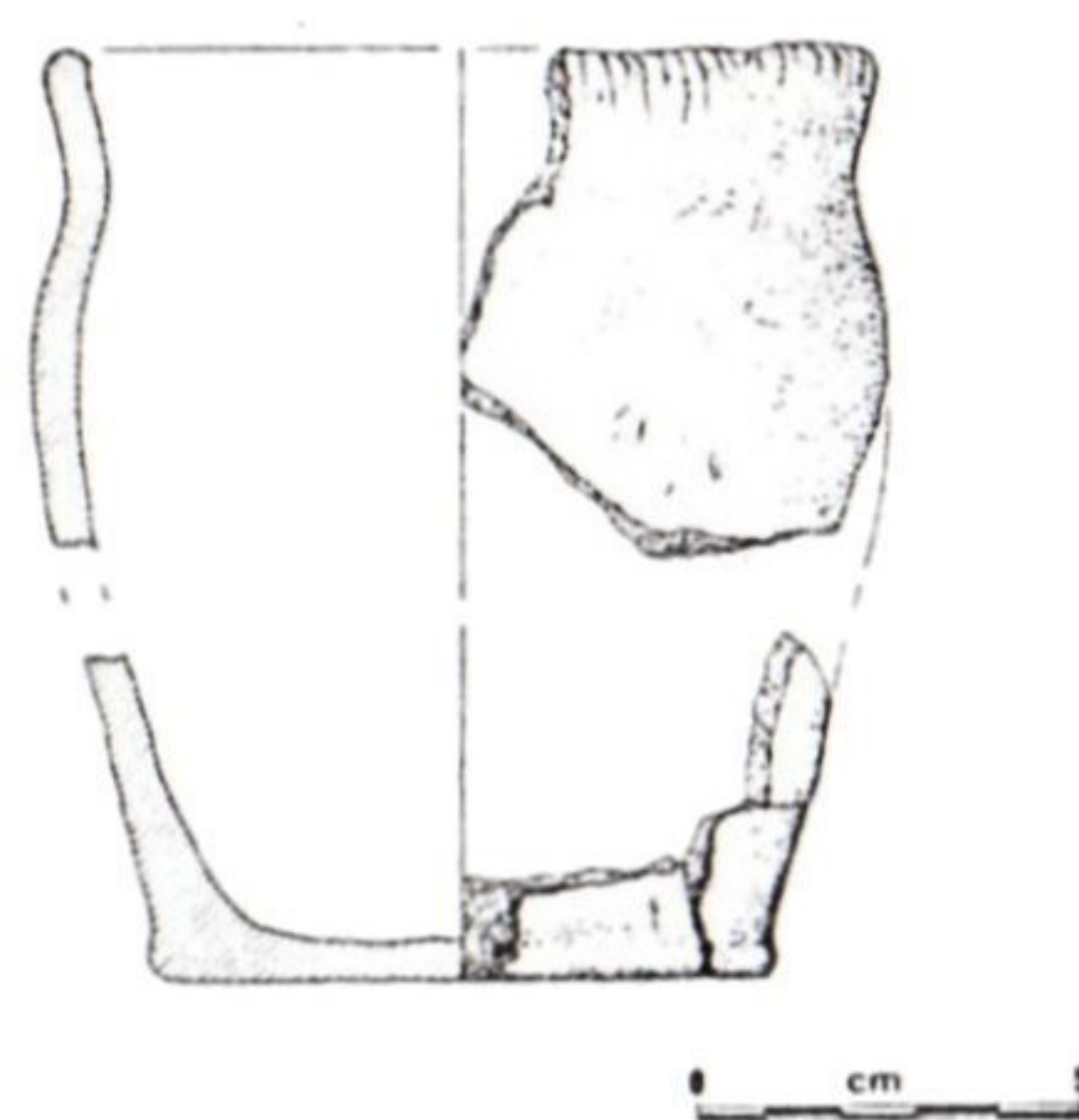


Fig. 6 Pot No. 3



Fig. 7 Pot No. 4



Photo 3 Upper part of pot no. 1

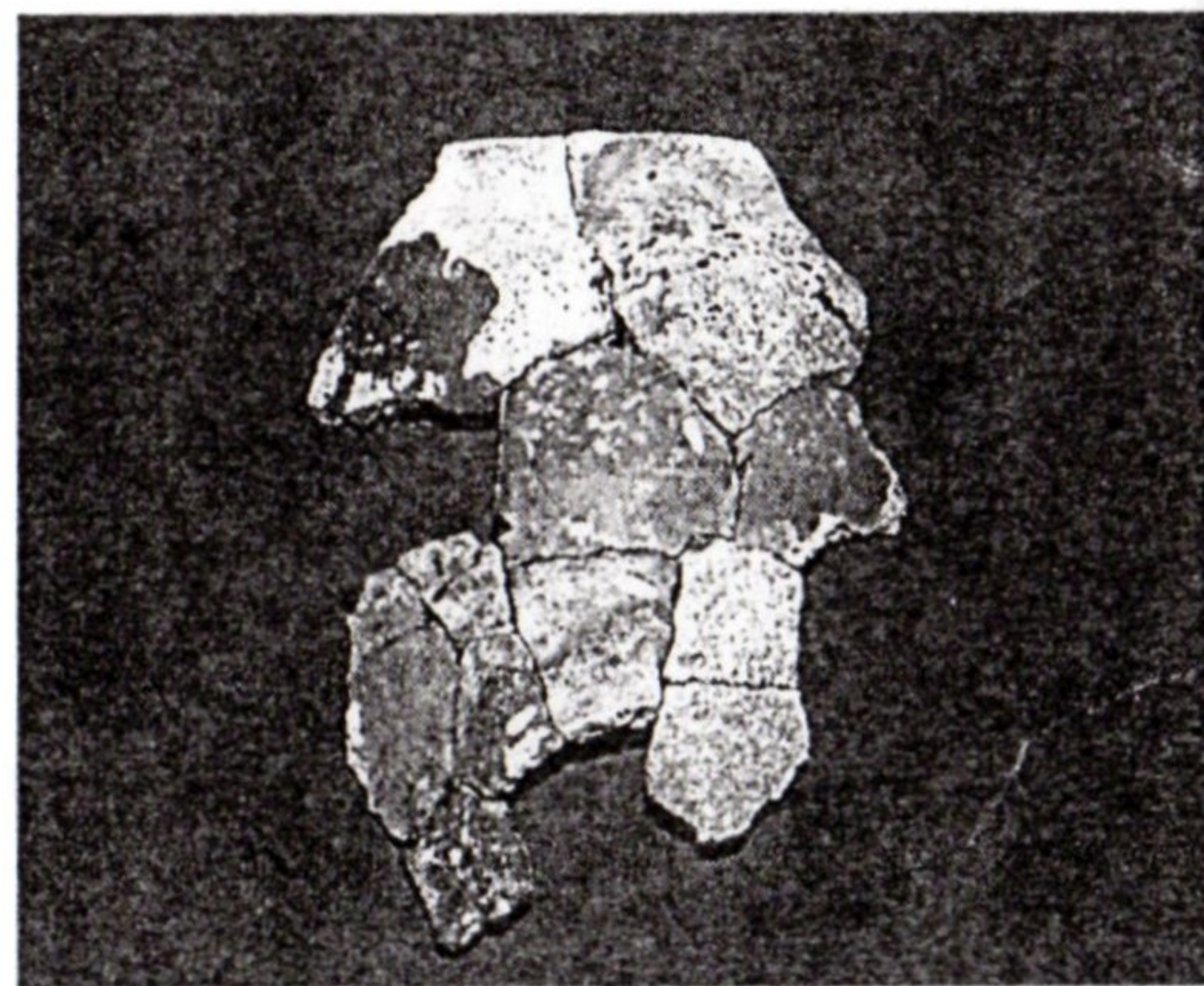


Photo 4 Upper part of pot no. 2

The fragments appear to have accumulated in certain areas where their dispersion has been halted, such as in the hollows, the base of the rift in Sector 2, or against the cave wall in the same sector.

Some areas only have fragments of one pot, such as the slope above Sector 1 (pot 3), Sector 4 (pot 4) or the gour pool of Sector 1 (pot 1). On the other hand, some areas contained fragments of two or three different pots.

The study of the dispersion has enabled the reconstruction of the original locations of the pots, following three criteria: highest known location of the fragments (supposing that the fragments are generally dispersed down-slope), location of the greatest number of fragments, and position of the fragments of the base (in principle the least mobile part of the pot).

In this way it has been seen that the different pots were located each in a different position. Pot 1 would probably have been in the area of Sector 1 between the hollow and the gour pool, where two large portions of its base were located, apparently in situ. As it fractured, many fragments fell into the hollow, while others fell into the gour pool, or towards Sector 2. Only two fragments reached Sector 3.

Pot no.2 would have been a short distance away in Sector

2. Many fragments from it fell into the rift, while other pieces reached the hollow of Sector 3.

The smaller pot no.3 could have been at the top of the slope above Sector 1. It might have broken when it fell from this ledge. A few pieces were found on the slope, while the majority were collected from the hollow. Only one large fragment travelled any further, to Sector 2.

The base of the fourth pot was found in Sector 4, while other fragments had fallen from there into Sector 5. Not much of the rim was found, but a few pieces were located in the hollow of Sector 3. As we can suppose that the base marks the original location of this pot, it is hard to explain how the fragments of rim reached Sector 3, for although it is lower, it is not connected by any direct slope which the fragments might have slid down.

Regarding Pot no.5, the few fragments which have been found also came from Sector 3.

It seems that pots 1 and 2 first broke into large-sized fragments, some of which stayed in their immediate surroundings, while others fell to a secondary location. Then, if they reached a protected area, such as the base of the rift in Sector 2 or the pool of Sector 1, they remained more or less intact. If they landed in a more exposed site, they were later broken up again into smaller pieces.

Of pot no.1, 173 fragments were collected, and the average size of the fragments found in the hollow of Sector 1, which is on the route through the cave, were noticeably smaller than pieces collected from other areas.

Pot no. 3 also produced a large number of small fragments from the same hollow. On the other hand, pot no. 2 was broken into fewer, larger pieces, either because of its compact fabric and strong walls, or because it was mostly found in a protected area; the rift of Sector 2.

5. The pottery in its context

The search for parallels of the pottery is handicapped in two ways: its simplicity and lack of decoration or other characteristic elements, and the generally insufficient information about the regional pottery sequence.

Large jars like no.1 are found in many caves in the region, often varying in size, shape or decoration, but with enough similarity for them to be recognised as a single type. Their decorative elements include cordons with or without finger-nail impressions, and finger-fluted clay applied to the lower part of the pot. In this respect the example from Las Grajas is atypical in that it has neither cordons or nail impressions.

Regarding their dates, these pots are traditionally considered as a constant, appearing in different periods: they have been documented in sites ascribed to the Chalcolithic - as in level IV of Cueva Castanera (Ruiz 1996) or the burial level in Cueva de las Pajucas (Apellániz 1967); as well as Bronze Age - level II of Cueva del Tarrerón (Apellaniz and Nolte 1979), and even in important Late Iron Age sites - Cueva del Asplo (Serna and others 1994). It is possible this is due to the lack of a detailed study which might classify the pottery into different sub-groups and allocate each to a particular age.

In Matienzo two other caves are known to have large vases of this type: Cueva de Reyes (Smith, in press) and Cueva del Cofresnedo (Begines 1966). In the former, fragments of at least three pots were found with the classic decorations mentioned above: cordons, nail marks, finger-fluted clay and perforations. A hoard of iron implements from the same cave were assigned to the Late Iron Age, but they were found in a slightly different area of the cave from the pottery, so this could not be associated directly with the hoard. In Cofresnedo, fragments were found from other similar pots, and the cave also contained human remains and metal artifacts considered as typical Late Iron Age grave-goods. But here again, whereas some pottery was together with the artifacts, this large kind of jar was found in a different part of the cave (Smith 1983).

On the other hand, this pottery we are describing from Cantabria bears an obvious resemblance to the British Deverel-Rimbury ware, which is characteristic of the Middle Bronze Age in Southern England, and which continued in evolving styles into the Early Iron Age. But as far as our present knowledge goes, any possible links between the Spanish and British pottery sequences are purely speculative.

The remaining vessels from Las Grajas have such simple undecorated forms that in the search for parallels we only find vague similarities with some of the pottery from certain sites. One such site is Cueva de Cofiar (in Soba, to the south of Matienzo), where pottery was found in a burial context and assigned to the Late Bronze Age (Bohigas and others 1992). Another burial cave which has a pot reminiscent of Las Grajas no. 4 is Aldeacueva, in Carranza, to the east of Matienzo (Apellaniz 1967). But we must emphasize that there is no evidence of burials in Las Grajas.

Despite this lack of definite parallels with Bronze Age forms, it is clear that none of the pottery has any of the characteristic forms of the Late Iron Age: globular forms with the rim turned outwards, small "S"-shaped profiles, and combed or burnished surfaces (Morlote and others, in press; Ruiz, in press).

We therefore suspect that the pottery from Las Grajas is most likely to belong to the Late Bronze Age, assuming that it was all deposited at the same time, even though this period is not reflected in the radiocarbon dates. This question would be resolved by dating the pottery directly.

6. Lithic material

Only one flint has been found, a microlithic flake, with a few retouches on its ventral face forming an endscraper. Made with local grey flint, the line of the edge is irregular, and in general its manufacture is atypical. It was found in the area around the hollow of Sector 3, associated with abundant charcoal and a few pottery fragments.

7. Faunal remains

Animal bones are found scattered over much of the cave floor, although many of these must be recent. However, in the area of sectors 1-3 a total of 63 bones could be identified as prehistoric because of their "patina" or covering of calcite.

Most of these prehistoric bones belong to a single example of *Bos taurus*, which an examination of its molars revealed as being of adult age. Of that animal came 17 fragments of jaws and teeth, parts of two ribs, and 14 limb bones. A radiocarbon date was obtained for one of these bones.

A large number of tiny bone fragments were found in Sector 3; altogether 211 pieces between 3 mm and 22 mm long. Also in Sector 3 there was a portion of jaw, belonging to a probably young *Sus*.

A portion of sheep or goat jaw was found in Sector 4 together with the pottery. And other *Bos* jaws were located on the right at the base of the entrance slope.

Only one of the bovid bones appears to have been fractured artificially. This piece of radiocubit also shows marks where the meat has been cut away. Similar marks are seen on a rib, femur and fragment of jaw. These are all fine parallel incisions, oblique to the axis, apart from deeper incisions in the jaw made by a metallic blade.

In figure 3 it can be seen that the prehistoric fauna was found mainly in Sector 1, and also in Sectors 2 and 3. Despite being evidently in a secondary position, it seems that they can only have moved a short distance from their original position. It can therefore be proposed that they were deposited between the hollow and the gour pool. In that case their position coincides with the hypothetical location of the large pot no. 1.

8. Sediment Analysis

The analysis of the sediments filling the hollows of Sectors 1 and 2 complements the archaeological study.

Both hollows have a thin superficial layer of clay and marl, deposited by intermittent wash over the flowstone slope connecting these sectors.

As well as the pottery fragments, charcoal or animal bones already mentioned, level one also contains microfauna, possibly from owl pellets, and fragments of *Helix* shells. These are within a clay sediment formed from the insoluble fraction of the limestone, and including quartz particles with highly polished surfaces and iron hydroxide nodules. Calcite crystals and travertine are a secondary product, derived from the cave walls or from the massive central stalagmite.

In Sector 3, the second level is formed of calcareous silt with ash. It can be interpreted as the result of the thermic effects of a fire in the hollow, with further evidence of fragments of burnt limestone.

The chemical analysis of this sediment shows a high proportion of potassium and calcium, which could be produced by the combustion of bones, while the low levels of organic matter and phosphorus could have the same cause.

A full discussion of the sedimentology is given in Ruiz and Smith (1995).

Table 1. Sediment components and chemical analysis (Sector 3)

Sediment components	Relative Frequency
Sand	63.5 %
Silt	27.0 %
Clay	4.5 %
Chemical analysis	
Ph	8.61
Organic matter	2.8
Phosphorus (mg/kg)	102
Calcium (mg/kg)	1966
Magnesium (mg/kg)	1037
Potassium (mg/kg)	231

9. Absolute dating

Three radiocarbon dates have been obtained from the cave, all three samples being processed by Beta Analytic Inc., Miami. The first was a large piece of charcoal, of a branch possibly used as a torch. This was found beneath a large pottery fragment in Sector 2. The second sample was the femur of a bovid from the surface of the hollow in Sector 1. The last was of small pieces of charcoal collected from the sediment in Sector 3.

Table 2. Radiocarbon Dates:

Lab ref.	Age	Calibrated	1 sigma	2 sigma
1 Beta-77484	850 +/-70	1215 AD	1065-1075/1155-1265	1025-1290 AD
2 Beta-80370	3710 +/-60	2025 BC	2130-1945	2195-1890 BC
3 Beta-88447	1950 +/-60	70 AD	5-120 AD	50 BC-220 AD

Financial support towards the cost of these dates was given by the Asociación Cantabra para la Defensa del Patrimonio Subterráneo and the William Pengelly Cave Studies Trust.

10. General results

Although Cueva de las Grajas is not suitable as a habitat, we have been able to document its use at different moments.

First, in the early second millenium BC, a bovid and possibly a sheep and pig were left in the cave after being butchered. We do not know if these were the remains of a meal, or some kind of ritual deposit.

We suppose that some thousand years later, a number of pots were deposited in the same part of the cave. This may not be a coincidence, as there are animal bones in other parts of the cave which have not been studied. Each pot was located on a particular ledge or in an alcove within this one area.

Again we do not know the reason for this deposit. We have no evidence that the pots were used for storing food (the perforations in the large jar certainly show it never held liquids), or were the grave-goods of a burial in the cave (no human bones have been identified). Given our present knowledge, one explanation could be that they were an offering, as a ritual of religious beliefs in which the cave might have some significance.

By the first century AD these pots had been broken up, at least partially, and some of the fragments were lying in the sediment of sector 3, where a fire had been made too.

Finally, more charcoal, possibly from a torch, was left behind during a visit to the cave nearly 800 years ago. The pottery may have been further broken up at this time, as the charcoal was found beneath a fragment.

Perhaps the clearest result of our study has not been so much the archaeological information obtained as the fact of its complexity. Although at first sight the fauna, pottery and charcoal formed a single unit, the radiocarbon dates have shown they are really each of a different age. In conclusion, this makes it difficult to provide a simple explanation for the sequence of events occuring in the cave.

APPENDIX: DESCRIPTION OF THE POTTERY

No.1

175 fragments of this pot were collected and about 10 more were left in the cave, trapped in the flowstone in the gour pool of Sector 1. Even so it can be calculated that these only make up about 40% of the total pot.

Although a physical reconstruction of the pot is therefore virtually impossible, they do allow an assessment of its size and shape. The diameter of the mouth is 40 cm and the top of the rim is semi-circular. Its height has been estimated at 70 cm, and its maximum diameter (at about two thirds of its height) about 50 cm. The base, all of which was recovered, has a diameter of 15 cm, and the walls vary in thickness from 0.7 to 1.3 cm. The fabric contains calcite and quartz grits, and mica is also present.

Most of the pot, including the base, was covered by two layers of clay. The interior was applied directly by the fingers, with mainly vertical fluting. Later, over this another layer of red clay was applied and the surface was smoothed. As this layer was not fired it is now quite soft and rubs off easily. Its colour is due to iron oxides in the clay.

The upper part of the walls are smooth, without any decoration apart from a number of faint horizontal bands. However these bands are so faint and irregular that they might be the result of the method of manufacturing the pot, rather than an attempt at decoration. The pot would have been built up by adding circular rolls of clay and what look like the fingermarks made by pressing the rolls together can be seen on the inside wall.

10 fragments have been found with perforations; these are found in both the lower and upper parts.

No.2

25 fragments have been found of this barrel-shaped pot, of which the base has not been found. The diameter of the mouth is 24 cm and the rim turns slightly outwards with a straight top. As the base is missing, its height cannot be estimated.

The walls are about 9 or 10 mm thick, with little variation, and the orange-brown surface was well finished with a spatula, and it has a burnished appearance in places. Its compact fabric has calcite grits which are often quite large.

No.3

This is a small pot; diameter of the mouth 11 cm and the base 8.2 cm. It stood about 12 cm high, and the walls turned inwards in its upper part, as far as the rim which turned slightly outwards again. The rim has a simple form of decoration, consisting of short vertical lines both on the inner face and the outer. These are about 3-4 mm apart, and with a maximum length of 2 cm. The outer walls were smoothed with a spatula. The fabric is compact, with particles of quartz and manganese.

No.4

The diameter of the mouth is 28 cm, and of the base 17 cm. It stood about 28 cm high. The walls, which would have been quite straight, vary in thickness between 10 and 12 mm. The fabric has a large proportion of coarse grits, including quartz and calcite, and the reddish-brown outer surface was smoothed with a spatula.

No.5

We only have two small fragments of this, one from the rim and one from the wall. They belong to a well-made pot with a burnished surface. The diameter of the mouth is about 20 cm, and the thickness of the wall 4 mm. The fragment of the rim suggests that this pot might have been carenated.

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