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Miners' tombs help date early work at Rio Tinto

Discovery of ancient graves on a hilltop overlooking present-day mining operations at Rio Tinto in Southern Spain has shed light on communities of miners and metallurgists who worked there some 6 000 years ago.

As part of the fieldwork in a new project to unravel the history of the Iberian Pyrite Belt, IAMS teams, led by Professor Beno Rothenberg and Professor Antonio Blanco-Freijsiro, have followed up a number of finds of prehistoric materials and installations made by local people.

At Rio Tinto it was learned that a dolmen and a cist cemetery had been found by youngsters from Nerva, a village on the flanks of a hill on the fringe of the modern mine plant.

Although the dolmen had been cleared of pottery and other relics by the villagers, its structure was well preserved, and was identified as a "passage grave", typical of the Late Neolithic and Early Copper Age in this part of Europe.

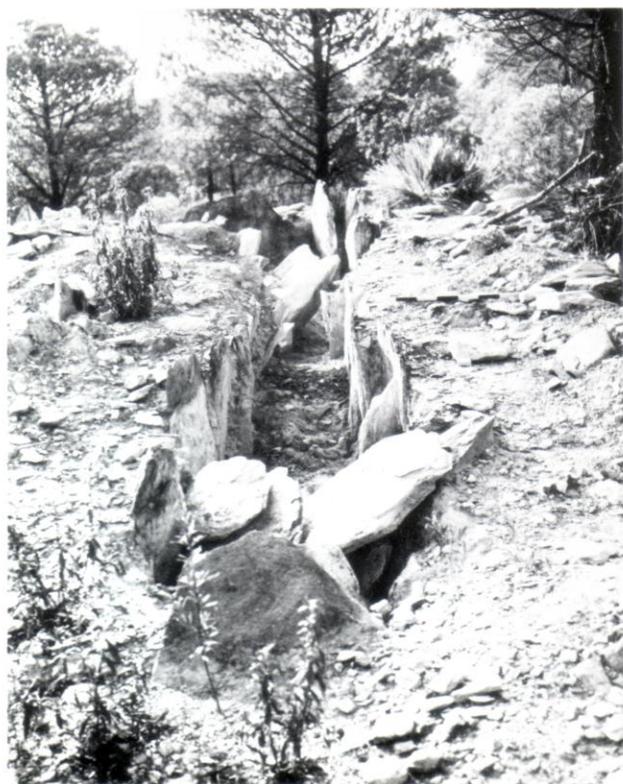
Consisting of a chamber, built of large, flat rocks set on edge, the tomb was entered by a narrow passage,

similarly constructed. Originally both tomb and passage were capped by other flat rocks which were found lying around in the vicinity. The structure was covered by a round mound of earth, some 13 metres in diameter, its circumference marked by boulders.

Built as a communal grave for a family or small community, the dolmen's passage was kept open to accommodate more bodies when the burial chamber itself was full.

Between the end of the passage and the burial chamber, a gateway had been carefully constructed and here a pile of large, smooth, egg-shaped pebbles was found blocking the entrance. This was a unique discovery: there was no obvious explanation for the presence of these stones but it was felt possible that they were associated with some kind of burial ritual rites practised at the time.

"This dolmen clearly belongs to the earliest forms of



Left: The burial chamber of the Rio Tinto dolmen is seen in the centre of the mound at the end of the passage

Below: These egg-shaped pebbles were found in the passage. There is as yet no conclusive explanation why they were placed there





The hill at Rio Tinto on which both the dolmen and the cist cemetery were found. To the left is the village of Nerva, and in the foreground is the oldest part of the modern mine workings

megalithic burials known to us”, reports Professor Rothenberg, “and is contemporaneous with the first urban settlements of Iberia.

“The Rio Tinto dolmen is similar to four others which we have examined at the Early Copper Age mine of Chinflon, in the mountains a few miles to the south, and it is this type of structure which we can see spreading northwards across the continent, through known mining areas in Portugal, Brittany, and beyond the English Channel into Cornwall and Ireland.

“There is no doubt in my mind that these were the tombs of some of the world’s earliest miners. Grooved stone picks and other mining tools have been found in the hills around Rio Tinto and these belong to a primitive mining technology which was developed during this stage of megalithic building in Iberia.

“Their discovery in close proximity to the dolmen is a clear indication of mining activity at Rio Tinto in probably the 4th millennium BC.

“Even so, I feel that these finds do not represent the very beginnings of metallurgy in Iberia. I believe that the history of metals in the Peninsular starts at an earlier phase of the Neolithic period. Our continued investigations are aimed at finding evidence for this assumption.”

Cist burial

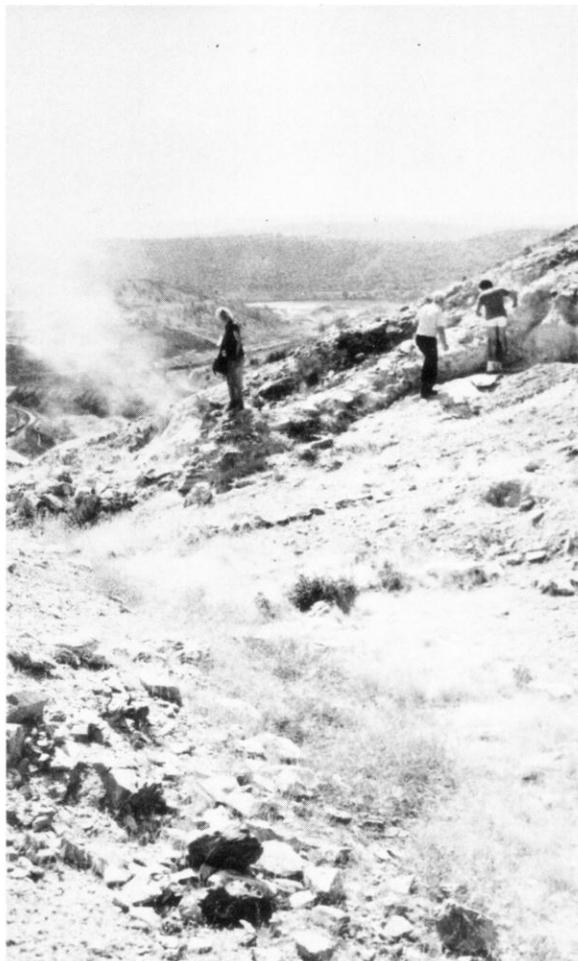
In 1981, IAMS fieldworkers inspected a cist burial site which had been excavated by a young man from Nerva (see IAMS Newsletter No. 2, 1981); its size and shape were recorded, and drawings and photographs were made of pottery and stone tools recovered from the grave.

A follow-up visit has revealed the remains of eight further graves and an examination of sherds found at the site indicates that this was a cemetery of people of the El Argar culture, dating to the Early Bronze Age –

continued opposite



Cist burial at Rio Tinto. The simple stone coffin was built straight into the ground



*Underneath this small heap of stones, a finely cut pit was found containing the debris of Argaric silver smelting
Right: More remains of ancient Iberian silver smelting and a workshop were discovered here at Las Arenillas*

2nd millennium BC.

Unlike the dolmen, which were communal tombs, these were individual burials in simple stone coffins, built into the ground. One, however, larger than the rest, had probably contained the bodies of a man and his wife, and alongside it was a much smaller one which may well have been for their child.

A heap of stones, disturbed and abandoned by local treasure hunters, was noticed in the vicinity of the cemetery and excavated by the IAMS team. Beneath the stones they found a small oval pit, cut into the bedrock. In its hard "fill" were many sherds identical to the Argaric ware found in the cists. There were also nodular lumps of slag, and part of a tiny clay crucible, no more than 8 cm. in diameter, with metallic encrustation. Analysis showed that this crucible had been used, not, as at first thought, for copper casting, but for silver making, and may well be the earliest cupel found to date.

Following an ancient well-paved path on the southern outskirts of Nerva, the IAMS explorers came upon a stone fence encircling a hill between Nerva and the Rio Tinto mine.

"The whole area above this fence was found to be covered by ancient ruins", says Professor Rothenberg. "It quickly became obvious that treasure seekers had indeed located many pieces of metal, but as these turned out to be 'worthless' lead or litharge, they left them alone.

"There was also much slag of different types, heavy pieces of speiss and even pieces of metallic silver. A large number of sherds indicated an Iberian-Rome date, though remains of earlier periods may yet be found.

"Among items of special interest, we found jewellery and tools, a seal, coins, a silver ingot and four large iron bars, as well as finely decorated Iberian and Roman pottery.

"The metallurgical remains and workshops visible all over the hill indicate a large-scale silver-working site, from cupellation to finished silver objects. Whilst the huge slag deposits of Rio Tinto are mainly the debris of primary smelting of silver, copper and iron, the remains on the hill near Nerva represent a technological follow-up, and their study promises new archaeometallurgical information of great importance."

Bristol conference on history of zinc and brass

The recent successful excavation of medieval zinc furnaces in India (featured in IAMS Newsletter, June 1984) lends special interest to a conference on the history of zinc and its principal alloy, brass, to be held on June 7-9 next year.

Appropriately, the venue will be Bristol where the English pioneer, William Champion, designed and built his zinc smelting furnace in 1738. The event is being organized by the University of Bristol in conjunction with the Historical Metallurgy Society and the British Museum.

Work done in Bristol over the past 20 years has gone a long way to establish the history of brass-making there and its origins on the continent. Efforts are being made to preserve the remains of the industry and its products.

As well as papers describing the progress of these endeavours, important work on Roman and medieval brass-making will be discussed.

There will also be a visit to the site of Champion's Warmley Company and the Salford brass battery mill.

Further details can be had from Dr. Paul Craddock, Research Laboratory, British Museum, London.