

**ENGLISH TEXT  
SUMMARY**

The excavation work at the necropolis in plaça Vila de Madrid (Barcelona) took place from 1954 to 1956, and in 1958 the site was made part of the garden section of the square from which it takes its name. The archaeological site consists of a stretch of Roman road that ran through a cemetery from the 1st to the 3rd century AD. The road probably led into the western gate of the colony, and the graves are situated on both sides of the it. They include *cupae*, altars, *stelae*, conical circular structures, and quadrangular structures with two steps that were probably crowned by an altar or a *stela*. However, the most characteristic features of the Vila de Madrid necropolis are the *cupae*. There are *cupae solidae* and *cupae structiles*, the latter being older and more common. There are also remains of coffins made of *tegulae* or of wood, and simple graves dug in the ground with no type of protection or external markings.

From 2000-2003 new excavation work was carried out to the east of the Roman road, and a circular-based collective funerary structure was found. It is thought to be the funerary enclosure of a *collegium funeraticum* and to have been used from the second half of the 2nd century AD until the middle of the 3rd century AD, a period when both burials and cremations took place. In 2003 the Barcelona City History Museum (MHCB) launched a multi-disciplinary research project on the site, and studies were made in the areas of paleoanthropology, zooarchaeology, carpology anthrology, and palynology, using paleobotanical techniques for identifying phytoliths and analyzing organic remains.

The experts found many animals, some of which had been killed *in situ* and were thought to provide evidence of funeral banquets and of offerings made to the dead. The animals found belonged to the families ovicapridae, bovidae, canidae, suidae, equidae and fowl. As the Roman's did not eat horses or dogs, these may have been used in unknown rituals, or may simply have been buried there.

Of special interest is a ritual pit in which a large quantity of animals were buried and where a Pascual I type wine amphora was found almost complete.

This find seems to be related to the libation ritual. In fact, most of the tombstones and the coffins made of *tegulae* had channels for libations made to the dead on the day of the burial and on later occasions. (The ritual pit was used again later to bury a person, who seems to have been thrown in.)

There was also an interesting funerary *lacus* related to purification rituals. This type of structure has been found in many other *necropoli*. They were previously thought to be connected with farming or fishing activities, but new finds and the latest studies carried out in this area have established links with funerary activities and not with production. As well as the collective, circular-based funerary structure, thought to be a *collegium funeraticum*, traces of other rectangular or square-based funerary enclosures have been detected.

It seems that most of the people buried in this *necropolis* were poor. Most of them were slaves or freed slaves. This becomes clear from the anthropological studies, the remaining funeral inscriptions and the personal belongings that accompanied some of the dead bodies: simple ceramic objects, the occasional pot of ointment, and small items of clothing or personal effects. In most cases there were no belongings at all. However, there were coins, indicating that the rite of Caronte was practiced. Coins have been found inside the cremation urns and on the mouth or chin or in the hand of buried corpses.

During the excavation work at plaça Vila de Madrid (Barcelona) in 2001-2002 and 2003, various human remains from the Roman period (1st-4th century) were retrieved. Most of the corpses on the site had been buried in simple graves that consisted of overlapping holes dug in the ground. Cremated bodies were also retrieved, mainly from the incineration pits, although an urn and a funeral pyre were also found. In each grave the remains of just one person were found although in some graves isolated fragments of other skeletons appeared. These were classified as intrusive remains; it seems that there was no express intention of burying them and that they were already present in the earth used to fill the grave. Most of the corpses were of adults. However, as 38% of the individuals retrieved were children, the level of child mortality was high. It is probable that this percentage does not represent the full extent of child mortality; it is not possible to retrieve all child remains because of conservation difficulties or special rituals or traditions for children (special burial sites, home burials). Even so this is one of the *necropoli* from the Roman period where the greatest number of sub-adult individuals has been found. The age range with the highest mortality rate is from birth to three years, the stage in which the greatest number of illnesses related to environmental, possibly nutritional, pressures were found. Indeed it is a stage in life when the child changes from the maternal diet to an almost adult diet and it can be very difficult to obtain appropriate nutrients in an adequate form.

Life expectancy was low for the rest of the population, especially for women. This was probably due to difficulties experienced during pregnancy, childbirth and the breast-feeding period, and also to weakness caused by repeated and frequent pregnancies. The high mortality rate among young women and children, especially very young children, suggests that the population had a high fertility level.

Morphometric analysis of the characteristics of the adult population indicated a fairly graceful skeleton. Compared with other populations that lived in the

region at about the same time, the men were of medium height and the women were short.

Statistical analysis of the cranial measurements showed that the series retrieved from the Vila de Madrid site in the excavations carried out in 1954 and 2000-2003 were homogeneous; they formed a single cluster. Thus, although the two sets seemed to correspond to different social strata, they probably belonged to a single population substratum. At the same time, the characteristics of this series were closer to those of the Catalan mediaeval population and slightly further from the series derived from the Roman population. The dental analysis also came within the parameters of the Catalan population group. With respect to the type of lifestyle that can be inferred from evidence of illness and from the ridges where muscle was attached to the bone, the series obtained from plaça Vila de Madrid showed anomalies that occur frequently in populations dedicated to manual tasks, for example agriculture, but there was no evidence of excessive muscle formation. It therefore seemed unlikely that they engaged in extremely hard work involving great suffering. As the average age of the population was relatively low, degenerative and accumulative illnesses were not a serious problem. Both the youth of the population and the fact that they carried out physical activity that was not too intense, contributed to their gracefulness.

In conclusion, this was a segment of the late-Roman population of *Barcino*. In order to find out more about the population of this period, it would be recommendable to combine in one single series the information gathered from different excavations of this interesting site: the present series; the craniums studied by Moreno y Turbón in 1980; other remains kept in the collections of Barcelona City History Museum; and information from any new archeological excavations. This would provide a broader understanding of the people who lived in Barcelona at the beginning of the Catalan period.

Animals played a fundamental role in past societies. They were a means of subsistence, a means of production, and a resource that could be interchanged and accumulated. However, they were not only used for economic reasons, to provide food, raw materials and energy for work. As they were an integral part of society, they also played a role in social ideology. Studying them can provide a lot of information, not only about economic questions but also about political, ideological and social matters.

This article contains only a rough description or preliminary study of the fauna recorded in the cemetery at plaça Vila de Madrid (Barcelona). Its objective is to establish the origin of the animal remains and the different activities that produced them in order to ascertain what ritual practices were carried out. With this in mind, when the study was carried out it was decided to group the animal remains according to whether they were directly related to a funerary unit or not. However, in order to establish the extent and degree of involvement of each species in the different activities, each category of animals was also recorded individually.

The results indicated that the animal remains studied in this funerary structure were the result of different activities carried out in the same place over a long period of time. The different activities were grouped according to the place where the remains were found, the anatomical variety of the remains, the traces of ritual processes, and the species involved.

Some ritual practices were found in which offerings were made to the dead person, although this practice was not widespread in this cemetery. Evidence of funeral banquets celebrated within the cemetery was also found. The animals that were most often used in these rituals were sheep, goats, pigs and oxen. Some fowl were also used. These species also had the highest number of traces of processing and of thermal changes. It seems that the top end of the limbs was the part of the body that was most used in offerings to the dead, and also the part that was most frequently consumed in the banquets. Most of the animals killed were adults. In the cases studied here, there was no predominant species

among the domesticated animals. Very few wild animals were found.

Another documented practice is the killing of pets: dogs and perhaps a few birds. In the ritual practices for pets, animals were used in a different way and had a different significance. These remains did not show signs of having been processed, or of changes of temperature. The skeletons were intact and there were much fewer fractured bones than in the animal remains coming from food offerings.

Evidence was also found of rituals involving killings of dogs and libations. These may have been related to the passage of the living into the land of the dead, in which the dog played a protective role. This is the case in burial pit A645, in which the complete skeletons of ten dogs were found, accompanied by the cranium of a horse and six pig fetuses.

The remains of horses were the most problematic when it came to documenting their origin and the activity that produced them. In plaça Vila de Madrid remains of complete skeletons or incomplete bone structures were recorded inside and outside the funerary units. Animals of all ages were found: foals, young horses, adult horses and even new-born foals. It is also worth emphasising that, compared with the other species, the number of horse remains were large: 1,854 (37.47%). Although cases where horse remains appear in funerary contexts are known, they are difficult to interpret. They may correspond to horses killed during funerals as part of a specific ritual, or the necropolis may simply have been used as a horse cemetery. It has still not been confirmed whether they really are the result of ritual practices, or whether their recurring presence is coincidental.

**A STUDY OF THE FUNERARY  
"GARDEN" OF THE NECROPOLIS AT  
PLAÇA VILA DE MADRID BASED  
ON ARCHAEOBOTANICAL RESEARCH**

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**THE INSCRIPTIONS AT PLAÇA VILA  
DE MADRID**

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The following are the results of the archeobotanical analyses carried out on the archeological site of the *necropolis* at plaça Vila de Madrid (Barcelona), and a comparison with data from classical sources and floral representations on Roman monuments. The study is based on the samples that gave positive results: 13 palynological samples, 7 carpological samples, and 6 phytolithological samples. The other samples analysed were either too poor or completely sterile. The carpological studies revealed grape seeds (*Vitis vinifera*), fragments of pine nuts (*Pinus pinea*) and grains of corn (*Triticum aestivum-durum*). The phytolith analysis revealed oleander (*Nerium oleander*), vine raphids, prisms of the type found in pines (*Pinus sp.*), perforated platelets of the type found in artemisia (*Artemisia*) and the daisy family (*Asteraceae*), platelets of the type found in the sedge family (*Cyperaceae*), silica corn skeletons (*Triticum dicoccum*, *T. aestivum-durum*, *Triticum sp.*), and other photolytes from cereals or wild grasses (*Poaceae*).

The palynological studies revealed that the *necropolis* was surrounded by semi-open, anthropised countryside, with trees such as holm oak, oaks, Kermes oaks, junipers/savines/cypresses (*Cupressaceae*) and pines, and bushes such as heathers, rockroses, and ephedras. On the banks of the nearby riverbed grew willows and hazelnut trees, although the hazelnuts might have come from cultivated land like the olive tree or wild olive (*Olea europaea*). The list is completed by the herbaceous species typical of places frequented by humans and animals, known as "weeds". Both the geological and palynological studies (palinofacies) indicated that this *necropolis* had been flooded at least once. This was suggested by the presence of aquatic plants (*Myriophyllum*), hygrophytes (*Cyperaceae*), of a paly-nomorph (*Pseudoschizaea*), and even of microscopic freshwater algae.

A direct relation was found with funerary iconography and literary sources. The pollen and phytolith analyses identified the *Rosaceae* family (which includes roses –*Rosa spp.*– and fruit trees, such as cherry trees, apple trees and pear trees); pine nuts and pollen (the pine tree was consecrated to Attis,

the god of death and resurrection); the remains of small fruit seeds and the phytoliths and pollen of cereals that were placed on graves as an offering; the pollen of the holm oak (*Quercus* of the type *ilex-coccifer* was the tree of life, of strength and of prosperity, the link between this world and the next); small fruit seeds; vine phytoliths and pollen (*Vitis vinifera*: wine was the drink of immortality, and the god Bacchus, was the protector of gardens); phytoliths of oleander (*Nerium oleander*: an ornamental but toxic bush, related with death); and the *Liliaceae* family (which includes ornamental bulb plants, such as the genera *Asphodelus*, *Allium*, *Lilium*, *Tulipa*, *Scilla*, *Muscari*, *Hyacinthus*).

This archeobotanical study is one of the few that have been carried out in cemeteries and the information obtained was clearly not specific enough, although it was quite significant. The only effective way of approaching this type of research is by using the whole range of paleobotanical studies and, whenever possible, studies from other disciplines (isotopic studies etc.). It is also essential to obtain as many samples as possible by the flotation or sieving of the greatest possible amount of sediment. In other words, an archeological expert is needed permanently on site during the excavation work so that sediments can be sieved and archeobotanical remains selected for carpological and anthroecological analysis.

Up to and including the last archeological excavations about thirty inscriptions have been found in the *necropolis* at plaça Vila de Madrid (28 to be exact or 30 if one double-sided inscription is counted as two). Most of these belong to the most recent period of burials, datable to the close of the 2nd century and the beginning of the 3rd century AD, a phase that is now on show outside in the gardened zone.

Most of the monuments that can be seen there are altars, *cupae* made of Montjuïc earthenware and Roman concrete burial mounds of the types analysed in the corresponding chapter of this volume.

Both the tombs and the inscriptions indicated a common range of social status; they were written in memory of members of the dependent classes. Indeed, most of the documentation refers to freed slaves and slaves and belongs to the time period mentioned above (second half of the 2nd century to the beginning of the 3rd century). However, some older pieces were found that must belong to the initial phase of the *necropolis*.

So far, only three inscriptions have been dated to the period between the founding of *Barcino* and the beginning of the Julio-Claudian dynasty. They belong to the oldest phases of the *necropolis*, about which little was known until the most recent archaeological field work was carried out.

The evidence in plaça Vila de Madrid showed that in the course of the 2nd century AD an increasing number of *cupae* in Montjuïc earthenware appeared around *Barcino*. However, most of the inscriptions retrieved so far from the *necropolis* at plaça Vila de Madrid date from the close of the 2nd century and the beginnings of the 3rd century AD when there was an increase in the re-use of structures.

In 1962, Barcelona City History Museum carried out excavation work on the filling of tower 16 of the late-Roman wall of *Barcino*. The excavation work was directed by Josep de C. Serra-Ràfols and lasted until the end of 1963. Once the team had found a way through the mass of *opus caementicium*, they discovered a deposit of 12 broken *amphorae* arranged one next to the other in three rows. The records of the find contained only a few notes by the director of excavation work and some photographs taken by the museum photographer, Sr. Rovira, before the pieces were taken out. There was no plan showing the exact location of the amphorae, nor any notes indicating at what level they appeared. The first thing that was done in this study was to establish the position of the deposit of *amphorae* as precisely as possible, as a necessary preliminary to discovering how it was used and how it related to the surrounding structures. This process revealed the existence of another structure, now in very bad condition, under the late-Roman tower. It consisted of a wall which is still visible on the inside of the north part of the tower and which re-appears on its south-western inside corner under a filling of late-Roman *opus caementicium*. It seemed probable that this was the spot where the deposit of *amphorae* had been located and this was confirmed by signs that excavation work had been carried out with the intention of extracting something from under the *opus caementicium* on the western profile nearest to the corner. Indeed, just underneath there was a trench dug in the geological substratum that turned out to be just the right size for the largest *amphorae*. In this way, once the *amphorae* had been situated, as shown in the plan put forward in this study, it was possible to deduce that the deposit was structurally related to the wall that was built before the late-Roman tower, and that it should not be related in any way to the later construction, which in any case is very distant chronologically from the dates attributed to the deposit.

It is very likely that it was used as a drainage system, and must therefore have been situated either under the structure it was intended to drain, or just to the side of it. Unfortunately, due

to the changes made in this spot when the late-Roman defensive structure was built, all that can be said is that the deposit of *amphorae* might have had some relation to the foundation walls of the town, if only because of its closeness to them.

The drainage system would probably have been made up of a ditch or trench containing *amphorae* surrounded by very sandy earth. The *amphorae* included a North African *amphora* of the African I/Keay III type and eleven Andalusian *amphorae*: one of the Dressel 14 type; three of the Beltrán II A type; and seven of the Beltrán II B type, including some of the later variant known as Puerto Real 1B. It would therefore seem that the drainage system was installed in or about the last quarter of the 2nd century AD.

The ceramic material found during the excavation did not contribute much more to the dating process, except for the neck of a North African *amphora* that was classified as type Keay XXV and probably came from the filling of *opus caementicium* on the late-Roman walls of the tower.

The excavation of a site on Sant Honorat Street revealed several pits that had been re-used as rubbish tips when they lost their original function. One of the pits contained an interesting collection of materials: ordinary glazed and unglazed ceramic ware; some *pisa arcaica* unknown in Barcelona up to that time; and some pieces of crockery glazed in green, also previously unknown in Barcelona. The collection also included some coins (Jaime I *dineros* from the Barcelona mint, with a *terminus post quem* of 1222), some imported Arab ceramic material decorated using the partial *cuerva seca* technique, and a jar with a border decoration consisting of repeated prints of the word *al-muk* that dated from the second half of the 12th century.

Thermoluminescent dating of some of the pieces enabled the whole collection to be dated to 1230-1260.

Examination of the materials revealed earthenware decorated in blue and/or green and manganese, which was named *pisa arcaica*, following the nomenclature used in other countries. Together with this range of products there were many recipients made of ordinary glazed ceramic ware and a good selection of tableware, bowls and serving dishes. There was also a monochrome glazed range of products mostly in green known as *vajilla verde* and sometimes described as green tableware or green family ceramics.

Both *pisa arcaica* and *vajilla verde* appeared in Barcelona at the same time. This also happened in Italy and France. Archeometric studies carried out in Barcelona (published in this same volume) proved conclusively that both types of earthenware, together with simpler pieces such as ordinary ceramic bowls, were produced in the workshops of the city. The recent discovery of a kiln in a neighbourhood that was once situated outside the walls of the mediaeval city played an important part in this discovery. The results of archeometric analysis of the ceramic pieces found in or near the kiln were compared with the results obtained from sample pieces from the excavation on Sant Honorat Street, revealing that the pieces were chemically identical and confirming that they came from

### 13TH CENTURY PISA ARCAICA AND GLAZED CERAMIC WARE IN BARCELONA. AN ARCHEOMETRIC STUDY

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Barcelona. The discovery of *vajilla verde* in Barcelona added to the list of known centres in Tunisia and Sicily, also identified using archeometric tests. *Pisa arcaica* products are very different from the typical *pisa catalana* ware produced in the late 13th and 14th centuries, but they may constitute the beginnings of this type of production in Barcelona. It is worth highlighting here the visible influence of early maiolica crockery on the forms and decorative motifs of the Barcelona collection. It suggests that the new centre of production in Catalonia reflected the growing influence of Italian work based on techniques and forms originating from the Islamic world. This can be seen in the type of ceramic ware produced. The traditional theory that Catalan *pisa* production (sometimes wrongly called “Manresa ceramics”) originated in Valencia has already been challenged in other studies. Furthermore, the decorative motifs of Catalan ceramic ware show clear similarities with 14th-century Italian products from Gela, Genoa and Liguria.

A collection containing *pisa arcaica*, *vajilla verde* and ordinary glazed ceramic ware found in the archeological excavations at Sant Honorat street confirmed the fact that these types of crockery were already being produced in Barcelona in the 13th century. This was made possible by archeometric studies that confirmed their resemblance to items produced at the kiln in Hospital Street. The items were studied using x-ray fluorescence and x-ray diffraction analysis techniques and a small group was selected for study using a scanning electronic microscope. The results revealed that three large chemical groups thought to be from Barcelona were present in most of the ceramic work analysed. A second, more modern, category of Barcelona produce was also identified and there were three groups of products of uncertain origin. In the technological study the differences between *pisa arcaica* and *vajilla verde* products were examined. It was found that, while most *vajilla verde* and ordinary glazed work was not very calcareous, *pisa arcaica* contained relatively high levels of CaO. This is probably due to the fact that the old ceramic artisans wanted to obtain a lighter-coloured clay for *pisa arcaica*, to improve the appearance of the final result by enhancing the effect of its characteristic opaque glaze.

X-ray diffraction studies of the crystal groupings present in the different items made it possible to estimate the firing temperatures used. Thanks to this, it was established that *vajilla verde* and ordinary glazed work had relatively low firing temperatures, whereas *pisa arcaica* had higher and more homogeneous ones. X-ray diffraction techniques also identified some of the chemical changes and/or processes of contamination that had taken place in the clay. The diffractogram of some ceramic pieces revealed the presence of analcime.

The chemical composition of glazed *vajilla verde* and *pisa arcaica* and the early production techniques used were also the object of study. The results of these studies showed technological differences between *vajilla verde* made in Barcelona and *vajilla verde* from other places, especially with regard to the origin of the green colour used. Studies of

*pisa arcaica* carried out by scanning electronic microscopes have revealed its microstructure and the composition of the glazes, giving special insight into the techniques used to produce the opaque white background that is characteristic of this type of crockery.