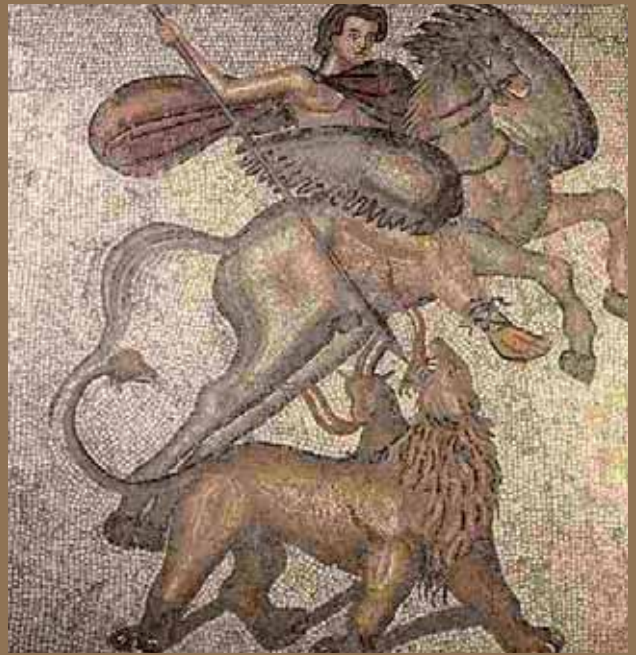


# PARVA GERUNDA

LA GIRONA ROMANA



## Introduction

In the High Roman Empire, ***Res Publica Gerundensium*** was the official name for a *civitas* located in the north-eastern sector of the conventus Tarraconensis, part of *Hispania Citerior*, one of the largest provinces in the Empire. With its capital at *Tarraco*, this province was under the direct rule of the Emperor and governed by a *legatus Augusti pro praetore*.

It must be remembered that the term *civitas* does not correspond to "city", but was actually something quite different. A *civitas* was made up of a walled urban centre called *urbs* or *oppidum* surrounded by the *ager* or *territorium*, a geographic area of variable dimensions clearly delimited by the sea or by the boundaries with other *civitates*. The *ager* included the croplands, pastures, quarries, and woodlands that constituted the main base of the *civitas* economy, as well as the *villae* (farmhouse estates that exploited the resources of the territory) and, in some cases, *vici* (secondary urban settlements).

The *civitas* was governed from the *oppidum* with a large degree of autonomy. The *oppidum* was also the place of residence for the magistrates and the *ordo decurionum*, as well as the place where elections were held every year, religious rites were carried out in honour of the gods, the emperor and his family. Here too was where the elected

magistrates or members of the *ordo* offered *munera* (gladiatorial combats, stage plays, banquets, and so on) for the benefit of the community.

*Gerunda* became a Roman-type city when Augustus granted it the *ius Latii* (Latin Right) in 15-14 BC. Full integration was probably obtained towards the end of the 1st century AD, under the Flavian rule.

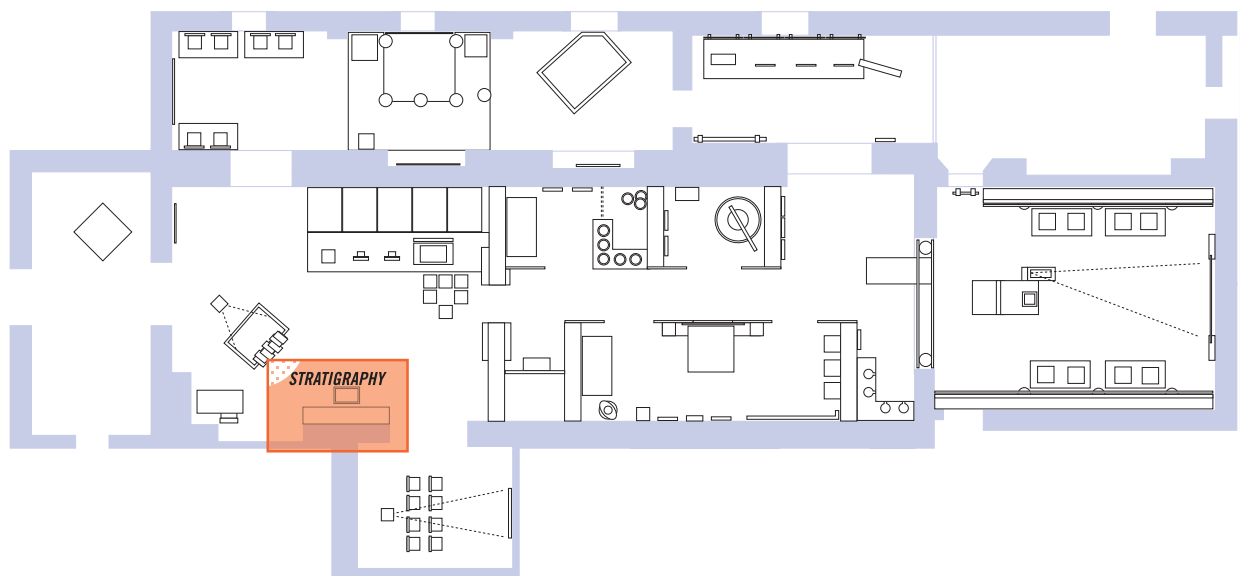
The location of *Gerunda* on the Via Heraclea, which was controlled from the fortified urban centre, was an added value for a rich, well-balanced territory with good communications links and open to the sea. These circumstances help to explain the consolidation of *Gerunda*, its emerging role during the High Roman Empire and later growth during the Late Roman Empire and Late Antiquity. The Via Heraclea, later known as the Via Augusta or Via Publica, then became the main link with *Septimania*, the trans-Pyrenean region that continued under the reign of the Visigoths until it was conquered and occupied by the Moors.

This exhibition is mainly centred on the urban core of *Gerunda*. However, special attention is also given to the suburban space located within a 6-km radius from the centre, given the historical importance of this area for our city.

# Stratigraphy

Strata are the different layers of material that have accumulated over the years in one particular spot. Objects retrieved from any of these layers enable archaeologists to date the structures found therein. Each era has its characteristic materials or “index fossils” fashioned in the style of the age, which changes over time.

The Pastors House excavation, with its extraordinary stratigraphic sequence, has had seminal importance for the early history of Gerunda as it enabled archaeologists to agree on the dating of the two city walls. The first is now known to date from the foundation of the city (1st century BC) and the second from the Tetrarchic period (3rd century AD).



# Roads

From the 4th century BC, Rome gave great importance to building and maintaining a network of roads communicating the capital with the provinces. This network was not only a military instrument of territorial control, but also a vehicle for commerce and an effective tool for Romanizing the territory.

One of the main roads was the Via Augusta, built to replace and improve the former Via Heraclea running from Gadir (Cadiz) to Rome via Gerunda. The via was a complex infrastructure designed to meet diverse requirements, with paved areas, ditches and pipes for draining off rainwater, as well as bridges and tunnels for overcoming geographical barriers.

The main mission of Gerunda was thus to control this via, a strategic function that has left its mark on the history of the city.

Una de les vies principals fou la Via Augusta, construïda per substituir i millorar el vell Camí d'Hèracles que anava de *Gadir*



### Milestone

Cylindrical milestones were firmly placed along the roads with the aim of providing information for travellers and as propaganda for the maintenance carried out by magistrates and emperors.

### Tabula Peutingeriana

The Tabula Peutingeriana is a medieval copy of a 4th-century Roman itinerarium pictum (drawn map) indicating the main roads running through the Empire and many of the distances between the mansiones, with interesting illustrations. The parchment measures 7.40 m long by 0.34 m wide and is conserved in the Vienna Hofbibliothek. The edge depicting Hispania is missing, except for the sector between Aquae Voconiae and the Pyrenees, showing the presence, as expected, of Gerunda.

### Vicarello cup

Aquae Apollinares were thermal baths in Vicarello, in the Latium region near Rome. In this locality, four cylindrical silver cups were found bearing a vague resemblance to milestones, with the names of all the mansiones along the road from Gadir to Rome inscribed on the outer surface, together with the distance in miles (1 Roman mile = 1485 metres) between each mansio. The cups date from the Age of Augustus and bear witness to the shape of the road network before the reforms undertaken by the emperor. Gerunda figures as a mansio located between Aquae Voconiae in the south and Cinniana in the north.

### General map of Roman roads

Map of north-eastern Catalonia showing the main known Roman roads.

### Pompey's Trophies

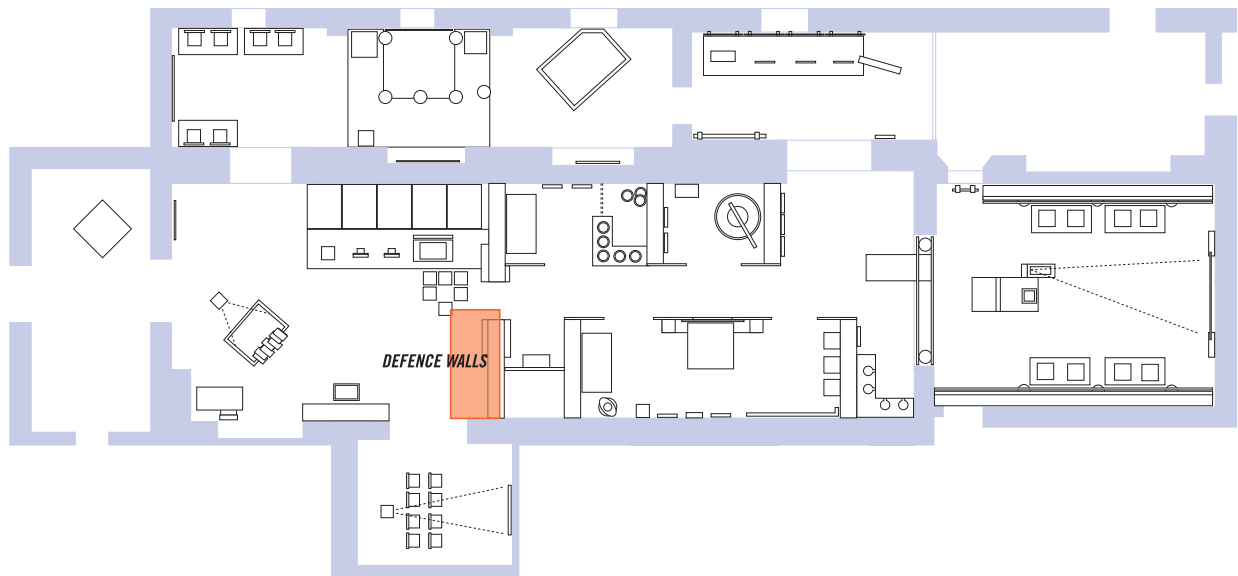
In 72-71 BC, Pompey the Great commissioned this monument at Panissars Pass (just above the watershed between Empordà and Rosselló) to commemorate his victory over Sertorius and his supporters. It soon became a landmark marking the dividing line between Provincia Narbonensis and Provincia Hispania Citerior. The monument straddles a road running underneath, and was an impressive example of an opus caementicium and opus quadratum. It was dismantled during the first half of the 4th century, partly in order to re-use the stone for building the powerful clausurae castles that defended the entrance to the Via Augusta.

### Pont Major

The old bridge over the River Ter was blown up by the Republican Army in 1939 during the Spanish Civil War, unfortunately preventing historians from making a detailed study of this notable Roman construction, which, with some minor repair work, had remained standing for two thousand years. However, the Roman structure can still be made out from old photographs.

# Defence walls

The walls surrounding Roman cities had a symbolic as well as a defensive function, as they delimited the pomerium or sacred perimeter of the urbs. On the foundation of Gerunda, the walls were built with large rough-hewn limestone blocks (opus siliceum), reinforced in the late 3rd century AD by the addition of towers flanking the entrance gates, clearly visible due to the use of large quadrangular sandstone blocks (opus quadratum).



## Plan of Gerunda showing city gates

General plan of Gerunda showing the city gates and the stretches of wall still standing. The five gates did not share the same importance. The main gates were those situated on the north wall (Sobreportes) and the south wall (porta Onnaris) at either end of today's Carrer de la Força, the former cardo maximus of the city and the intra muros stretch of the Via Augusta. Also important was the Rufí Gate opening onto the modern-day Plaça de Sant Domènec and providing a direct link between the road and the upper platform of the enclosure. The east gate, defended by Gironella Tower, and the Forum Gate (later known as the Canonry Gate) linked the city with the Valley of St Daniel and the Gavarres Mountains.

- No. 1 PLACE:** **Sant Feliu.** Stretch of wall dating from the Roman Republic, now integrated into the Carolingian wall face.
- No. 2 PLACE:** **Sobreportes Gate.** North gate of the city, conserving its 1st-century BC foundations and 3rd-century jambs and quadrangular towers, later covered by semi-circular towers in the Late Middle Ages.
- No. 3 PLACE:** **Cathedral.** Remains of the Forum Gate, rebuilt in the 5th century with a tower added on in front.
- No. 4 PLACE:** **Archaeological Walk.** Remains of the 1st-century BC wall face used as the base for the Carolingian walls.
- No. 5 PLACE:** **Alemanys Barracks.** Sandstone blocks and remains of a Roman arch made with marble blocks re-used on part of a Carolingian tower.
- No. 6 PLACE:** **Gironella Tower.** Tower and east gate of the city. The base of the tower dates from the Roman Republic but the elevation is from the Late Empire period.
- No. 7 PLACE:** **Les Àligues courtyard.** Long stretch of wall dating from the Republican period, containing blocks from the 3rd-century stretch re-used for the wall face of a Carolingian tower.
- No. 8 PLACE:** **Plaça de Sant Domènec - Rufí Gate.** Remains of the 3rd-century stretch of wall near the Rufí Gate. The gate had the shape of a bayonet, with a double inside.
- No. 9 PLACE:** **Convent.** 3rd-century stretch of wall.

**No. 10 PLACE: Escola Pia steps.** Fragment of wall dating from the Republican period, used as a base for the Carolingian wall.

**No. 11 PLACE: South gate (porta Onnaris).** South gate of the city, reinforced in the 3rd century with a quadrangular tower, now destroyed.

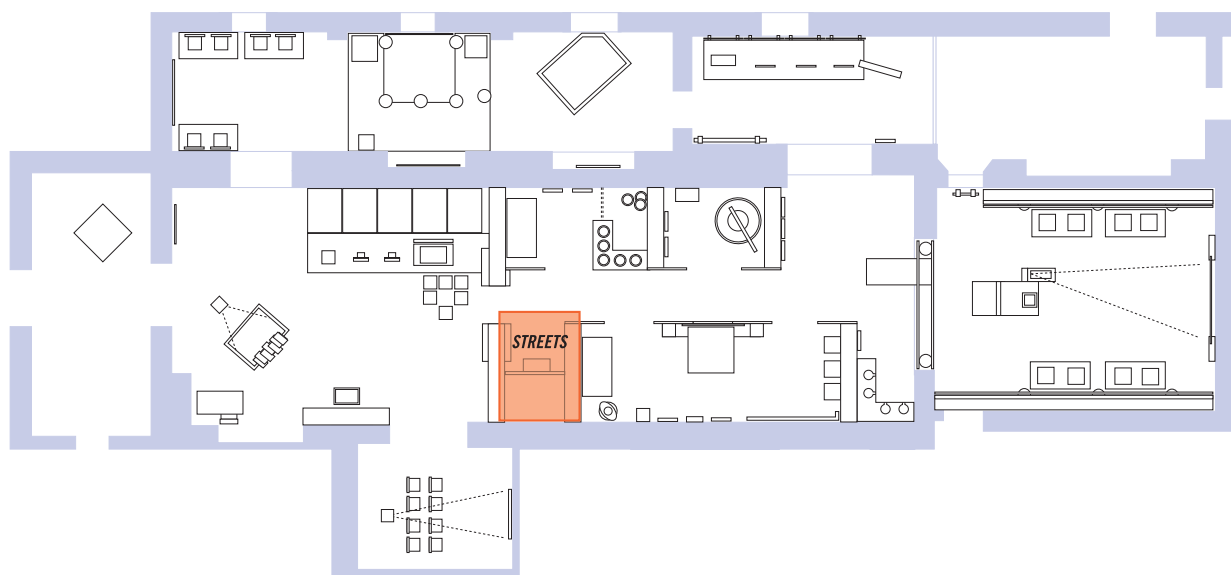
**No. 12 PLACE: Portella Boschmonar.** Sandstone sewer mouth leading directly onto the River Onyar sandbank (now Carrer de les Ballesteries).

**No. 13 PLACE: Tower in Carrer de les Ballesteries.** Carolingian tower with re-used blocks from the 3rd-century wall.



## Streets

The urban centre of Gerunda was made up of an orthogonal network of regularly spaced streets defining the insulae (blocks of houses). We have a lot of information on the original plan of the Força Vella (walled enclosure), which has informed the urban layout until the present day. The site chosen to build the city meant that the rectangular insulae had to be placed along an east-west axis. The complex relief of the setting, with a 60-metre drop over a length of 310 metres, explains why steep ramps and steps were needed to overcome the difficulties in going from the cardo maximus (now Carrer de la Força) to the eastern end of the city. Apart from the Forum square, the city also had several other open spaces, such as Plaça dels Lledoners, which were essential for the functioning of life in the city.





# Tavern and bakery

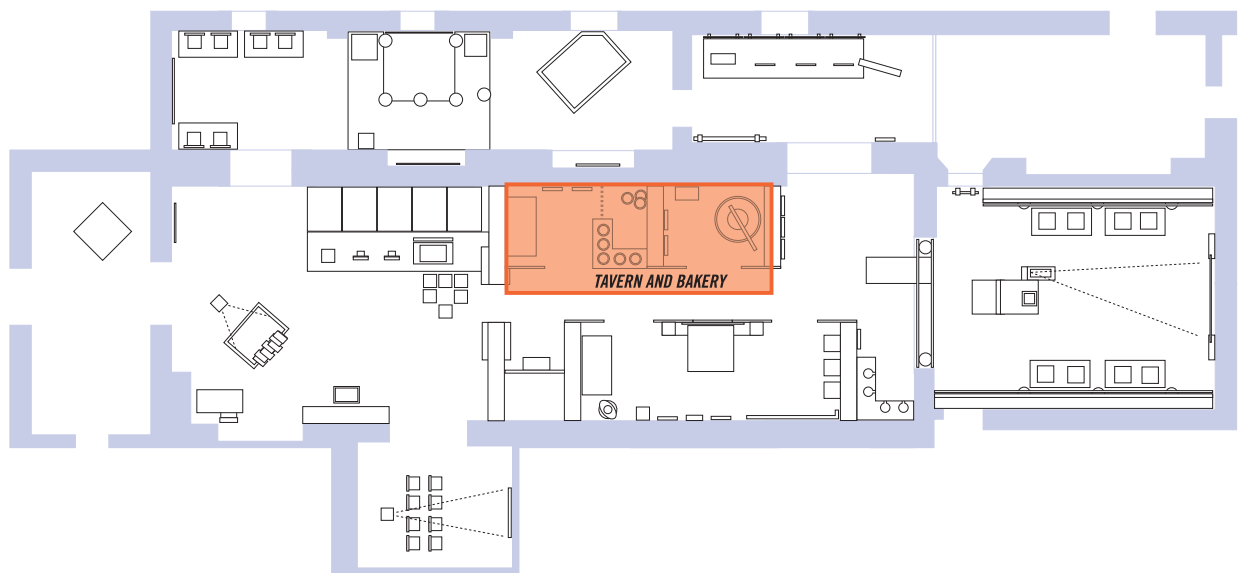
## Thermopolia, cauponae. Tavern.

In the cities, there were many eating and drinking places, which also offered accommodation for travellers. There were also a large number of food shops, simple places equipped with a counter with several sunken dolia (large ceramic recipients), sometimes heated, as well as amphorae and jars containing wine, olive oil and salted fish.

## Bakery (model, photo and quern)

Bread was the staple foodstuff in the ancient world, followed at some distance by wine and olive oil, three basic products that ensured the survival of the community. Bread is frequently found in archaeological excavations of dwelling places, with querns for grinding grain into the flour used for making loaves to be baked in the family oven. In the city, where the population was more numerous, there were large bakeries producing bread at a wholesale scale. In this case, the querns were larger and driven by animal traction, while the bakeries had a greater capacity and included some "industrial" features.

The querns were made of special abrasive stone in order to facilitate grinding. They did not last for very long, however, and had to be replaced when broken or damaged. Querns had two parts, an immobile cylindrical-shaped base (meta) ending in a cone, which was surmounted by a revolving piece (catillus) in the shape of a cone or hourglass.



# Domus

Urban dwellings had different forms, depending on the social status of their occupants, ranging from modest apartments in blocks (*insulae*) to big aristocratic *domus* (houses). The larger *domus* were not just residences but places where many different social or even political and economic activities were carried out. In order to accomplish these functions, the family zones were combined with other areas designed for receiving clients and visitors.



## Personal adornment

Set of objects for personal adornment.

## Domus ground plan

Typical ground plan of a large *domus*, showing spaces for family use and other spaces designed for receiving visitors. All houses had small shrines for honouring the household gods, protectors of the family and the dwelling. The Romans held great respect for their ancestors, whom they honoured by placing busts or wax masks of the dead in the atrium (main entrance to the house). The *domus* was primarily a dwelling place and as such, apart from the large reception rooms, needed spaces designed for everyday living, such as *cubicula* (bedrooms) and kitchens, often placed outdoors to avoid the danger of fire.

## Triclinium scene

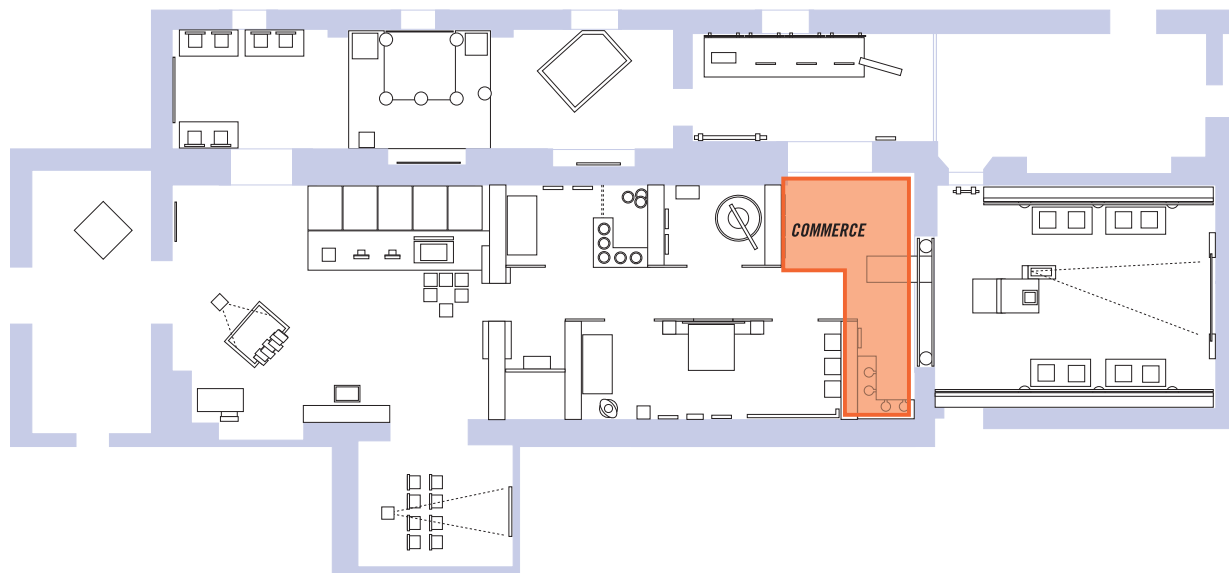
The triclinium (dining room) was one of the most important rooms in the large *domus*. Banquets were the main form of hospitality offered to visitors, during which the guests were placed in a reclining position and in accordance to their place in the social hierarchy. The meal was often accompanied by entertainment in the form of dancing, music, or short dramatised readings.

## Decoration

The urban *domus* could have a modest exterior concealing great opulence within, as evidenced by rich mural paintings, marble colonnades and ornaments, and mosaics (*opus tessellatum*) or marble plaques cut in different shapes and set in patterns that were usually geometric (*opus sectile*). Unfortunately, other materials such as textiles and furniture have not usually been conserved.

# Commerce

The city was not only the political and administrative hub of a territory (*civitas*), but also a centre of commerce and industry, with many different types of establishments covering the basic needs of the inhabitants (bakeries, laundries, markets and so on), as well as others designed for pleasure and entertainment (thermal baths, theatres, brothels, etc.).



## Thermal baths

One of the main defining features of Roman civilization is the practice of hot baths, a custom already present during the Late Republican period. From the 1st century BC onwards, the practice was refined with the invention of hypocausts and concamerationes (double walls) conducting the hot air that made it possible to heat large spaces. The exact site of the Roman public baths in Gerunda is not known, but we have no reason to doubt their existence in a characteristic centrally located building that varied only in size and ornamentation from one place to another. The typical Roman baths comprised an access, a changing room (*apodyterium*), a cold room (*frigidarium*), a warm room (*tepidarium*) and a hot room (*caldarium*), as well as furnaces (*praefurnia*), a service area, and gardens and/or an outdoor zone for practising sports (*palestra*).

## Laundries

*Fullonicae* (laundries and dye works) were lucrative businesses. The Romans rarely laundered their clothes at home, as the method used involved human urine. The importance of this commodity is borne out by the fact that the Emperor Vespasian imposed a tax on human urine in an attempt to benefit indirectly from the laundry business. The strong odours meant that this type of activity was often concentrated in the poorer or outlying districts of the city.





## Brothels

Prostitution was regulated in Ancient Rome. Registered prostitutes were called meretrices, whereas others who did not register in order to avoid paying taxes were known as prostibulae. Brothels were often identified with a large phallus outside, and it was usual to find a list of services and prices.

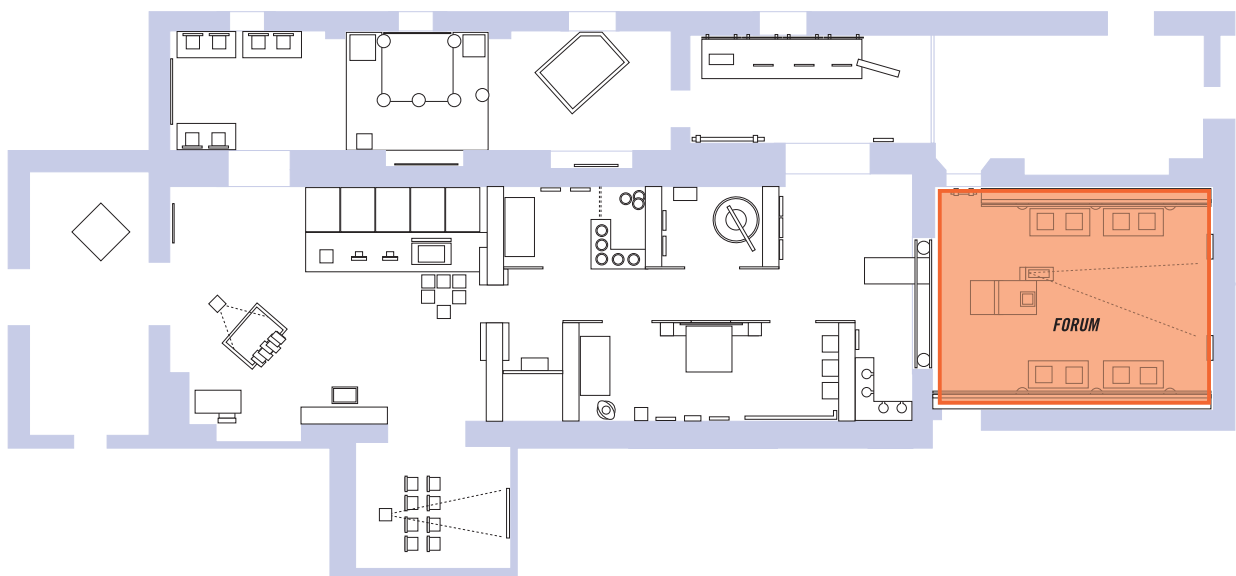
## Latrines

Bathing was a social occupation and so, largely speaking, was the use of the toilet. Many public buildings, especially the thermae, were equipped with latrinae (communal latrines) where conversations could be continued while performing one's bodily needs. A network of pipes ensured a constant circulation of running water, which was used for personal hygiene with the aid of sponges attached to poles.

# Forum

The Forum was the civic square, a large esplanade located in the heart of the city around which the urban fabric was arranged. The main city temples were built here, as well as the most important civil buildings such as the basilica (law courts), the curia, the tabularium (archives) and, very often, the public baths. The Forum was thus the focal point of the religious, political, and economic life of the city and, with its enormous concentration of statues and inscriptions, the guardian of the historical memory of the community. If the city did not have custom-designed buildings, the Forum was also the venue for elections, ludi scaeni (plays), venationes (hunting and slaying of wild animals) and ludi gladiatorii (gladiatorial combats).

The peculiar topography of Gerunda meant that the Forum had to be built on two levels, with the upper terrace reserved for the temple and the lower area presided by the law courts. This distribution has survived the passage of time, with the modern-day Cathedral located on the site of the former Roman temple and today's law courts (Casa Pastors) occupying the same place as the Roman basilica.



### **Plotius Asprenas**

Epigraphic data shows that the official name of the civitas was Res Publica Gerundensium (community of gerundenses). The government was in the hands of the ordo decurionum, made up of the wealthiest members of the community, opted on for life from among the elected municipal representatives, or from within by the existing decurions. The function of the ordo decurionum was to supervise the magistrates and lay down guidelines for municipal government.

The executive power was shared by two clearly differentiated collegia (guilds). The aediles occupied a lower position and were in charge of hygiene, supplies, celebrations, festivals, and the general economy of the city, among other things. The Iluiri occupied a higher position and held judicial powers, as well as convening and presiding over the meetings of the ordo. They were also responsible for public order and, when necessary, the defence of the city. Both collegia were made up of two members who held office for one year after being voted onto the magistracy in elections where all male citizens of full age were permitted to vote. The magistrates had the obligation to fulfil their electoral promises and the right to veto the decisions of their colleagues. They received no economic remuneration and, furthermore, had to pay a summa honoraria on accepting the post. Only the very wealthy could aspire to the honour of magistrate.

### **Figure wearing a toga**

The toga was a heavy, complex robe made of white woven wool, which was used for official events and ceremonies. Emperors, magistrates, and great men are usually depicted wearing a toga in Roman statuary art, and the garment was often used for burials and cremations.



### **Business and trade**

The forum was also a place for doing business. This was often the site of the banking activities, the tabularium (archive) and the tabula ponderaria (official city weights and measures). Some of the temples also guarded legal documents. Business of all types was discussed and concluded in the porticoes and tabernae of the Forum.

### **Judicial practice**

The practice of law was an urban prerogative carried out exclusively by the Iluiri iure dicundo (higher urban magistrates), whose main activity was to act as judges in the basilica located on the Forum. Defendants could appeal the magistrates' decisions to the tribunal of the provincial governor (Ilegatus Augusti) in Tarraco.

### **Religion**

The Forum was not only the main civic square but was also the religious space par excellence. Temples could be built anywhere in the city and its surrounding area (one is known to have existed on the hill at Sant Julià de Ramis). However, official religious ceremonies usually took place at the Forum, site of the main urban temples, which were often dedicated to the Capitoline Triad (Jupiter, Juno and Minerva) during the Republic and to the imperial cult during the Empire.

### **Music**

Music concerts also took place on the Forum square, often combined with drama or acrobatic performances. The lyre and the zither were the most usual solo instruments, while flutes and timpani were played by groups of musicians. Music was appreciated for its own sake but was usually accompanied by drama, dance, or acrobatic performances, or played in the intervals between gladiatorial combats.

### **Drama**

Cities with no theatre building used the public square or large flights of steps as spaces for dramatic representations, which were usually comedies, mime, or circuses. The major Greek plays, on the other hand, were reserved for the more cultivated minorities.

### **Games**

It is common to find simple games engraved on the flagstones in the Forum or the steps leading up to the surrounding porticoes. The games were a pleasant way of passing the time, with players using counters made of earthenware fragments.

### **Ludus**

At some stage in their history, many civitates had one imposing building designed for leisure activities such as a theatre, odeon, amphitheatre or circus. Few cities had two and even fewer had three. If no theatre or amphitheatre was available, entertainment was held in the Forum area or in dismantlable wooden buildings. This was undoubtedly the case of Gerunda.

### **Inscriptions**

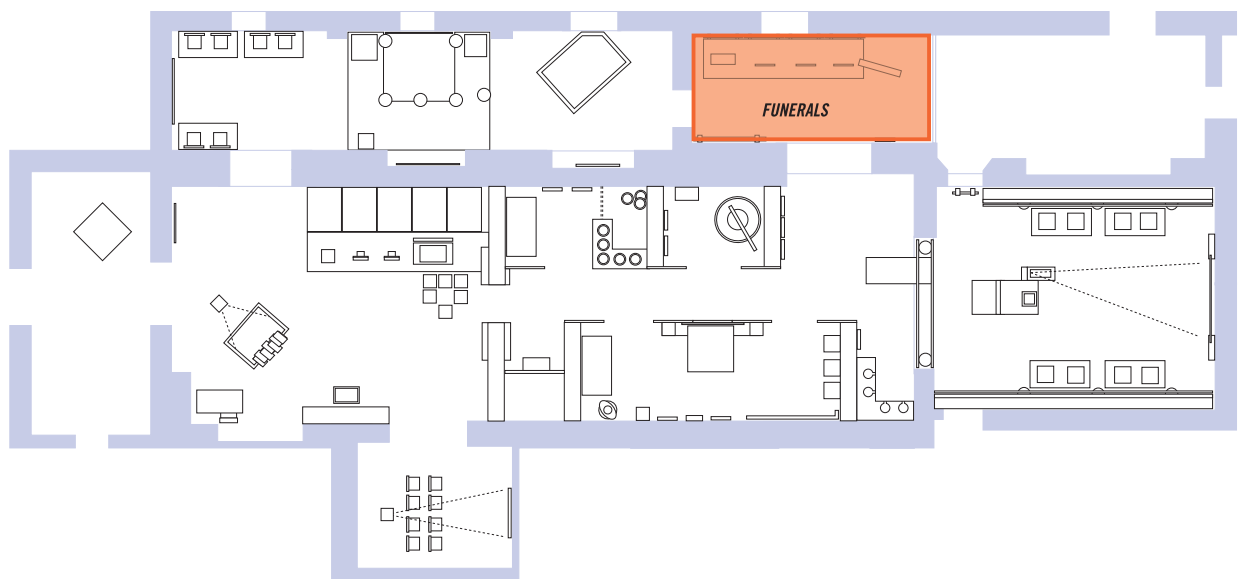
Gerunda is unquestionably poor in epigraphic data, which makes it difficult to delve further into many aspects of its history. We know of the existence of Lucius Plotius Asprenas, who pursued a solid municipal career before joining the army, and of his wife Julia Marcia. We also know of Caius Marius Verus who attained full municipal honours before becoming flamen Provinciae Hispaniae Citerioris, a rank bearing witness to his enormous wealth and prestige, and of Porcia Severa, a benefactor from the neighbouring town of Emporiae.



## **Funerals**

A close, intense relationship existed between the living and the dead. By time-honoured tradition, there was a consensus to bury the dead outside the walls of the city pomerium. However, the constant pious obligations of the living towards the deceased (parentalia, parentatio, lemuria, rosalia, anniversaries, and so on) made it convenient for burial places to be near the city. The Romans believed that true death came only when the deceased had been forgotten, so they placed the tombs along the roads leading to the city, with the titulus (epitaph) facing the thoroughfare. By reading the inscribed texts aloud, travellers would revive the memory of the deceased and thus enable their life to continue in some way. Tombs were considered important as the residence of the deceased, who had to be honoured with visits, libations and funerary banquets on certain dates of the year.

There were two basic ways of disposing of the corpse of the deceased: cremation and inhumation.



### **Cremation**

The cremation ritual took different forms. The corpse could be burned on a pyre or in a grave. The remains were buried in the same spot (bustum) or placed in an urn and deposited in a type of sepulchre called an *ustrinum*. They could also be placed in large or small individual funeral monuments or in a collective columbarium. Cremation, which Tacitus (56-117 AD) described as a *romanus mos* (Roman custom), was the usual practice in this area until the first half of the 2nd century.

### **Mausoleum**

Well-to-do Romans often preferred to be buried on their own property (*in suo fundo*) in a high visible place beside a road, from where their status and wealth could be clearly seen.

It is interesting to note the numerous extant examples of this practice, carried out by the lords (*domini*) of the suburbium of Gerunda. In the north cemetery of the villa at Pla de l'Horta (Sarrià de Ter), there are some damaged remains suggesting the presence of this type of mausoleum. Clearer examples can be seen at La Torratxa (Vilablareix) and Cal Temple (Aiguaviva), where two large tower-shaped aediculae made of *opus caementicium* are conserved in quite good condition.

### **Inhumation**

Inhumation consisted of burying the deceased in a coffin, a sarcophagus, or directly in the ground. For several centuries, the Romans used both inhumation and cremation, but inhumation became the normal practice from the 2nd century onwards. The two rituals were merely different ways of disposing of the corpse during the *funus*, the word used to describe the period between the decease and the family's return to the social status held before the defilement caused by death.



### **Types of burial**

Burial was carried out in different ways, many of which practised in Gerunda. Burials always reflected the historic moment as well as the social position of the family, represented and exalted by funerary monuments of a certain category. However, along with the large, costly, highly decorated mausoleums, there were many other more modest tombs. The epitaph had to be shown whenever possible. The burial expenses of the poor and the weak were met by the community.

Tombs were hugely important for the immortal afterlife of the deceased, who were honoured with visits, libations and funerary banquets on certain dates of the year.

### **Cemeteries in Gerunda**

Much more is known about Roman cemeteries than is commonly thought. The most important were located along the major roads. Archaeological findings confirm the existence of several decorated mausoleums made from sandstone from the Domeny-Taialà area. Until the 3rd century, it was usual to place simple offerings to accompany the deceased, but by the 4th century, this practice was only carried out in exceptional cases.

### **Sarcophaguses**

From the 2nd century AD onwards, inhumation began to replace cremation as a burial system. Wealthy people used sarcophaguses, often decorated with mythological scenes such as the Rape of Proserpine, scenes from everyday life, or the effigy of the deceased. Christians preferred Biblical scenes or symbolic elements such as the Chi-Rho or the Good Shepherd.



## **Suburbium**

The suburbium is the area of the ager nearest to the urban centre, located within a radius of about six kilometres around the pomerium. It was a privileged zone combining the advantages of the urban and rural parts of the civitas. The suburbium was usually the site of the necropolises, neatly arranged along the roads, as well as small industries, quarries, villas, and different types of farming and land cultivation.

The limited size of the city meant that wealthy Romans preferred to build their residences outside the pomerium, in the countryside surrounded by nature but near enough to travel comfortably into the city.

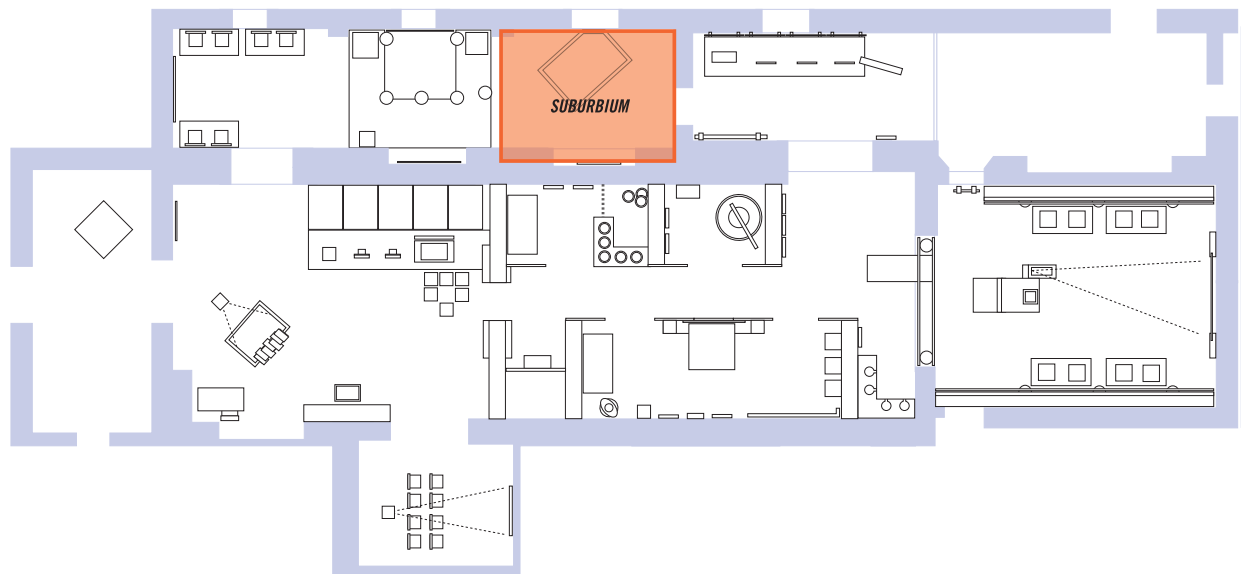
The suburban villa successfully carried out a double function. On the one hand, it was a luxurious noble house and on the other, an agricultural holding in a privileged part of the territory. Even the most sumptuously decorated palaces were at the same time effective working farms.



## Territory showing villas

The Roman villas known in the suburbium of Gerunda are mostly located on the edges of the plain, away from the flood zones and sheltered by the first stretches of slightly raised ground.

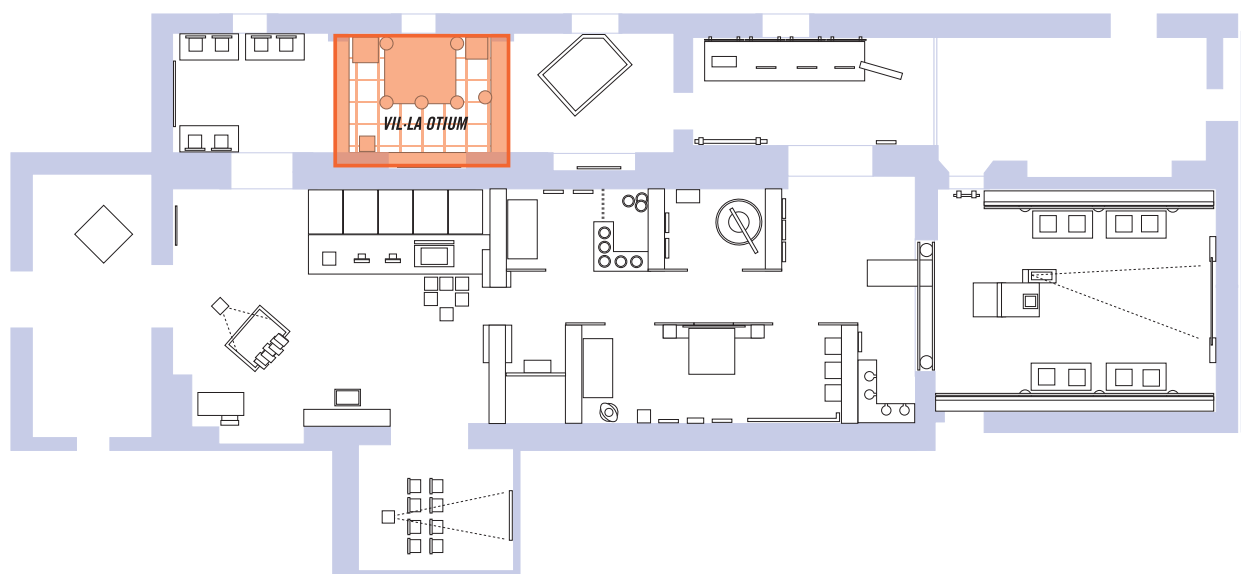
Model of villa museum



## Villa otium

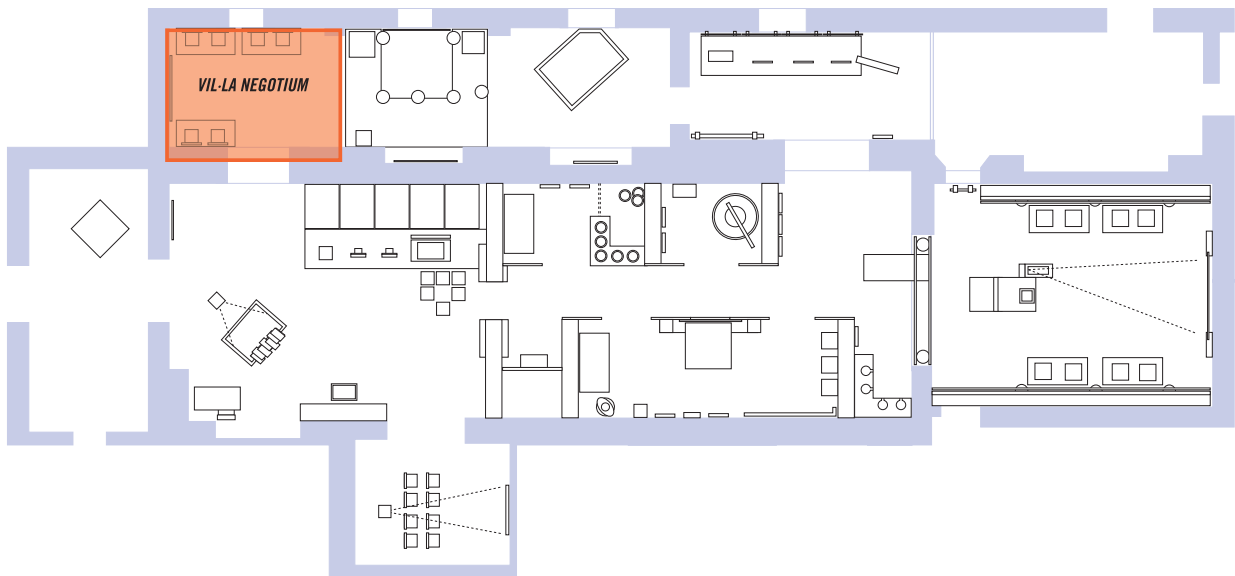
A large part of the villas in the suburbium was given over to reception rooms and spaces designed for the leisure and entertainment of the owners. From the architectural point of view, the idea was to integrate the villas into the landscape by bringing nature into the residential area in the form of gardens, porticoes and the decoration of the main rooms.

The villas of Pla de l'Horta, Vilablareix, Montfullà and Can Pau Birol provide a good example of this wealth, as seen from the location, large reception rooms, thermal baths, and the sumptuous decoration on the mosaic flooring.



## Villa negotium

The villa was not only a place of rest but also, and above all, a unit of territorial exploitation. For that reason, alongside the main dwelling there were many other buildings for all the various activities carried out on the premises, such as wine and oil presses, silos for storing cereals, stables for the animals, and other places containing equipment of a more industrial or artisanal nature such as kilns and looms.



### Cereals

Cereals were one of the basic products in this area. They were kept in large jars (dolia), which were partially buried in the ground and arranged in groups in the open air or in large storehouses.

### Olive oil

The agricultural production of the villas in our area was based on the “Mediterranean triad” of wheat, wine, and olive oil. The larger villas had their own presses for transforming olives into olive oil as well as storage deposits, some of which were of considerable size. Liquids destined for commerce were stored in wooden casks (rarely conserved) or in amphorae.



## Wine

The wine from the north-eastern corner of Hispania was famous in Rome and was the main produce from many villas in the area, especially at the beginning of the Imperial period, with most of the production going to the Italian peninsula. Wine was processed in the villas and often transported in casks to the coast, where it was stored in amphorae before loading onto ships and sending off to its final destination.

## Stock raising

Farm animals in Roman times were not much different to those we find today, including poultry, cattle, sheep and goats. However, it is not always easy to find archaeological traces pertaining to this aspect of farming. Apart from the fauna bones found during excavations, it is often hard to identify stables and enclosures because these were often simple structures built with perishable materials such as wood, which has rarely survived to our days.

## Kilns and forges

Many villas, especially the larger ones, had their own kilns for firing the earthenware vessels they needed (amphorae, dolia, tegulae and so on), as well as forges for making iron tools and glass containers. Each type of kiln or forge had its own characteristic features, depending on the temperature required, the specifications of the material, and the size of the object to be produced.

## Textiles

The villa also produced its own textiles, which were important for making material, and the sacking needed for handling the farm produce. This is known from findings of ceramic pondera used on the looms as counterweights for the yarn.

