An Architectural Reassessment of a 'Villa Rustica' Near Serdica

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Abstract. This article focuses on the search for answers concerning the architecture of villas located around the Roman city of Serdica. My thesis is that a villa rustica is a place for trade and business, and not only for agricultural production, as they have been considered up to now. I highlight the boundary between public and private space within the architecture of the villa. It is my position that both in its architectural composition and aesthetics, these villas are also intended for visitors. My reassessment of villa rustica architecture is conducted on a case study of a villa now situated in the residential quarter of Obelia in Sofia, the capital of Bulgaria. Through graphic reconstruction, the villa is represented in one possible use, as a stud farm. I suggest its role as one of logistical supply to mansio and mutatio along the Via Diagonalis trans-provincial road. The redefinition of the Villa Obelia is conducted by recreating the whole building in graphic form. The 'villa rustica' is a widespread architectural archetype in the Roman Empire, so consequently the paper offers a new opportunity for discussion about villas in their generality.

Keywords: Roman empire, stud farm, antiquity, horse, Via Diagonalis, province Thrace, Sofia, villa rustica

This research has been undertaken in the light of a general trend in material history where the innovative discourse adds value to everyday life, and sheds light on what was once considered inconspicuous and unprestigious (Wallace-Hadrill 1991, xi). In an extensive study on the mundane and material culture of everyday life in antiquity, the renowned

archaeologist and researcher Guy Sanders, a specialist on the archaeology of Corinth, tackles the notion that because ceramic vessels are abundant in almost every archaeological find from the Roman era, it gives the illusory impression that every inhabitant of the empire owned them and "pottery equals people" (Sanders 2016, 2). He proves exactly the opposite that ceramics are used by a very small privileged part of the ancient population because their cost was prohibitive (Sanders 2016, 3). Following the same logic, I point out that just because archaeological discoveries of villas in the vicinity of Roman Serdica are numerous, it does not mean that they were an ordinary asset.

My visits to the villa rustica archaeological sites in Sofia showed they are now abandoned places, and in some cases the ancient traces have been obliterated. The neglect of antique remains from the peripheral urban areas of Sofia contrasts starkly with the architecture of the original Serdica town, which is very well preserved, in the centre of Sofia. My explanation for the long-time neglect of the villa rustica as part of a precious ancient architectural heritage, comes down to understanding what is valuable and what should be preserved, and what is not. Indeed, most villas lack marble columns, fountains and sculptures – all of elements that make the architecture spectacular. Older publications in Bulgarian scientific literature often define these places as: "a modest villa … not a very wealthy owner" (Stancheva 1981, 67), "a villa like hundreds in the Empire" (Velkov 1938, 413). This signifies the prevailing attitudes towards the villa rustica as a low-status form of architecture. In this study, I take the exact opposite position. In the context of the material world of antiquity, and through a focus on architectural analysis, I portray the villa rustica as a symbol of prosperity, a sign of the elite affiliation of its owners, and their possession of enormous wealth.

Up to now, the published archaeological evidence on the villas around Serdica is the result of rescue excavations provoked by the incidental events of human activity, such as construction or land cultivation. Interpretations concerning the architecture are mainly based on an archaeologist's understanding of architecture, because architects were very rarely included in the initial analysis of villa remains. My opinion is that the interpretations reflect once modern theories on architecture – notably Modernism and its doctrines on the division of functionalities. What this research offers is a strong architectural perspective on the interpretation of villas near Serdica. Using architectural knowledge, I take a more detailed look at the aesthetics, and the configuration of spaces in daily use at one of them – a villa in the residential district of Obelia.

To recap, the aim of this research is to reassess the archaeological remains of the villa rustica in the vicinity of Serdica using architectural knowledge. Graphic analysis will aid in conceptualising this villa rustica with respect to its geographical location and historical context. The villa rustica architectural model is widespread across the Roman Empire, and in

this paper I tackle the notion that it is simply a place for agrarian production. The main thesis I defend, is that the villa rustica is a multifunctional building where the boundary between public and private space is clearly expressed in its architecture. To redesign means to reassess previously published archaeological data for the villa rustica, not simply to describe and rearrange already existing information, but to contribute to architectural knowledge by conducting an analysis of the data using the tools of architecture.

The first step is the collection of a database concerning villa rustica architecture near the Roman town of Serdica. Currently, the villas' locations are within the built environment of the modern city of Sofia. Some of the villas' archaeological remains are located among the prefabricated concrete apartment buildings in residential quarters built in the Socialist era, some are located in the territory of the satellite settlements belonging to the metropolitan municipality, and the remainder leave no traces and are completely lost. The conclusion I drew from my on-site visits is that data in situ is fragmented, incomplete or totally missing because of urbanisation. Therefore the basic database of villas near Serdica is collected from Bulgarian scientific publications which span a century.

Another important research tool is ancient texts, where the main topic is the organisation of a villa rustica. One can find detailed information on agricultural holdings in writings from antiquity by the Roman authors Cato, Varro and Columella (Cato, Varro and ad. 1957). Cato and Columella wrote treatises on various agricultural matters concerning crop production, fruit growing, and cereals and forage. While they touch on animal husbandry in antiquity, it is M. Terentius Varro that focuses on the rearing of horses, sheep, and oxen. I did a comparative analysis on their texts and contemporary knowledge about agricultural building use in order to fix the planning and architectural parameters that remained sustainable and unalterable.

The second step is to find a method of redesigning the farm, which involves composing a design assignment. In this study, I draw attention to the connection between villas and the transport infrastructure, which is evidenced by the proximity of villas in the Serdica valley to the large trans-provincial Via Diagonalis road. In my view, the villa provides logistical support to the stations along the road, meaning that the villa's main business activity is the provision and maintenance of transport animals. For the most part, this involves the breeding of riding horses, but also includes animals for drawing carts and carriages. The design assignment includes basic rules in order to test if it is possible for this scenario to take place in the villa rustica. It is important to select a case study among the villas around Serdica which might serve as a pilot project for the reconsideration of other villas.

The third step is to establish the villa's configuration, specifically the boundary between public and private space. The villa rustica as an

architectural archetype of Rome, is considered as a place for agricultural production in the vicinity of towns, but it is my contention that it is a place for several activities. Like most large private homes in towns, it is a place for living, working, and exhibiting goods. The villa is a place where agricultural products are examined, demonstrated, and tested, and where deals are signed and payments made. Therefore certain spaces within it are intended for invited guests and clients, and for public access to outside visitors. The villa rustica represents an architectural model of business enterprise from antiquity. An important task for this research is to derive economic indicators that describe quantitatively the farm's capacity for production. The ultimate task is to consolidate the conclusions and outline guidelines for further research.

Civitas Serdica

Serdica is a Roman town and its archaeological traces are now located in the central urban part of Sofia, the capital of Bulgaria. The ancient town and its adjacent area are positioned in a valley of about 1,100 square kilometres which has an elliptical shape (75×20km), surrounded and protected by a ring of high mountains. The altitude of 550 meters makes the area unfavourable for the cultivation of wheat, olive trees or vineyards that are plants related to the everyday menu in Roman antiquity. But the continental climate, with an average January temperature of -1.8°, makes the climate conditions very suitable for livestock breeding. The climate is complemented by a network of many small rivers that cross the ellipse, and drain into the Iskar River, a large non-navigable river. The living conditions in the area around Serdica are favourable for permanent settlement because of a raised water-table, that in many places offers easy access to drinking water through wells. Of particular importance from an architectural standpoint is the large quantity of clay in the region, which formed a vital supply of building materials for bricks and roof tiles. Serdica's was famed in Antiquity due to legends associated with its healing hot mineral springs. They are in great abundance, and available to inhabitants of the ancient town and its vicinity.

It is relevant here to highlight some key moments in the history of Roman Serdica, that have a direct bearing on the emergence, existence and disappearance of the Villa Rustica archetype near Serdica. Firstly the settlement was in the Roman province of Thrace, which became an official part of the Roman Empire under the rule of Emperor Claudius in 46 AD. Before the Roman conquest, the area belonged to the lands of the Thracians. They are first mentioned in Homer's Iliad as warriors and equestrians. He pays special attention to their horses (Homer 1924, 435): *"here apart be the Thracians, new comers, the outermost of all [435] and among them their king Rhesus, son of Eïoneus. His be verily the fairest horses that ever I saw, and the greatest, whiter than snow, and in speed like the winds. And his chariot is cunningly wrought with gold and silver, and armour of gold brought he with*

him, huge of size, a wonder to behold." In the following centuries, Thracian kingdoms did not leave traces of urban structures in the present area of Serdica. However, it is fair to say that until the 3rd century AD, the image of the divine horseman was a powerful symbol of Thracian culture, religion and military power. Horse breeding, the production of carts, reins and other gear were a traditional part of Thracian economy. It is quite logical to suggest a continuity of these businesses into the Roman period due to the favourable climate and accumulated husbandry experience.

The construction of roads in the province of Thrace is associated with the rule of Emperor Nero (55-68 AD). The most important was the trans-provincial road, the Via Diagonalis from Singidunum (now Belgrade, Serbia) to Byzantium (now Istanbul, Turkey). It was supported at almost equal intervals by hostels (mansio) and way-stations (mutatio) for changing horses. According to the Tabula Peutingeriana (Irechek 1932, 10) (Deliradev 1941, 19-26), in the area of Serdica there were a total of five stops from west to east: the Meldia mansio, the Scretisca mutatio, Serdica itself, the Extuomne mutatio, and the Bugaraca mansio. For this research their identification matters because our villa is studied as a logistical centre for these stops on the highway.

One important moment in Serdica's history is when the settlement officially acquired the status of town with its own territory (municipium) from Emperor Trajan. It happened soon after the victorious wars in Dacia, probably around the year 110 AD.

"Marcus Aurelius Antoninus Augustus and Lucius Aurelius Commodus Augustus established the town walls of Serdi" reads an inscription from the end of 2nd century. This means that between the years 176-180, when both emperors were in power, the town was clearly defined, and received its Roman border-wall. The area of Serdica within the town wall was about 15 ha. Until this time, the town was open and therefore easily accessible. (Popova 2019, 174) The earliest suggestion for the emergence of the villa rustica around Serdica is the end of the 2nd century, and this determines the start of our frame of study.

The reign of Emperor Aurelian (270-275) saw an administrative restructuring throughout the empire, and Serdica became capital of the province of Dacia Mediterranea. It is important for this research because the city was given additional and significant administrative functions. The transition and raising of status boosted the emergence of more villas. This phenomenon is well studied in a survey of the distribution of villas around towns in the Roman province of Britannia, which can be used as an example of the changes wrought in the area around Serdica. In his study on the subject, Prof Martin Millet concludes that in general the towns most attractive to villas were not those of the largest size, but those which fulfilled a major administrative role. He states that this is because size is most likely correlated with the economic success of the towns, while administrative status is linked with their social and political pull. Therefore this result

supports the idea that the villas were most appropriately located close to the administratively important towns (Millet 1991, 172).

Serdica flourished during the reign of Emperor Constantine (306-337) and especially during his residence in the town. It seems that the first half of 4th century was the peak of new villa construction around Serdica. In his survey of south western Bulgaria, which also includes the area around Serdica, the Bulgarian archeologist prof. Ventzislav Dinchev found that this area contained almost half of all the villas found in Bulgaria (Dinchev 1997, 133). The key historical moment which closes the research time frame is the Hun invasion (441-447), which is associated with the destruction of town and the termination of villae rusticae in its vicinity.

The Sofia valley is a natural crossroads and therefore many tribes have passed through, and caused serious destruction in Antiquity. On the other hand, its location attracted a lot of permanent inhabitants. It is logical that villa density increased with the proximity to the town, which is the centre of a territory. It is my opinion that here in the vicinity of Serdica there was another pole. The major trans-provincial road, the Via Diagonalis, had a powerful pull that disturbed villa distribution in the Serdica valley. The first information about roads in the area of Serdica dates from the end of the 19th and the beginning of the 20th century (Irechek 1932, 4-53). There is evidence that, at that time, traces of the Via Diagonalis highway were still visible. More recent publications largely refer to them, probably because of their high degree of credibility. Since then, urbanisation, as in the case of the villas' archaeology, has obliterated any traces of the road.

Serdica and the Via Militaris

Because it was positioned at the intersection of several important mountain roads, Serdica naturally became a transport hub. There are no navigable rivers in its territory and for that reason land transport is the only option for travel and communication. The most major Roman road that passed through the Serdica valley was the Via Diagonalis, an inland, trans-provincial transport corridor which connected the Danube river with Byzantium. Another road passed through Serdica on a north-south axis. It came from Stobi (now Skopje, North Macedonia), through Ulpia Pautalia (now Kyustendil, Bulgaria), passed through Serdica and followed the course of the Iskar river, crossing the Danube at its confluence, into province of Dacia. A third road connected Serdica with the Via Egnatia through the Rhodope Mountains (Deliradev, 1941, 30). The latter two both appear to be secondary to the Via Diagonalis and it is possible that these roads were not as developed architecturally as the main highway.

There were a large number of buildings that provided security, safety and convenience for travellers. At larger building complexes, usually near a settlement, accommodation could be found at hostels (mansio), which were the usual roadside halts for the night. They are situated at intervals of one day travel (30-35km) from each other. As mentioned above, there are three

such stops along the Via Diagonalis in the Serdica valley, all of them marked on the ancient Tabula Peutingeriana map. Serdica itself is appointed as a civitas and halt on the road, to the west it is the Meldia mansio located 35km from Serdica, and to the east the Bugaraca or Buragara mansio is situated 25km from Serdica. Horses were changed along the way in several way-stations (mutatio). In the Serdica area there are two such way-stations – Scretisca located 16 km to the west from Serdica, and Escoamne12km to the east from Serdica (Deliradev 1941, 19-25). It is possible that there were inns (tabernae) next to stations offering food and drink along the road. Additionally numerous defensive buildings may have been dotted along the road like forts (castella), administrative buildings (praesidia) and watch-towers (turres), but they are not shown in the fragment of Via Diagonalis that shows the Serdica area.

All of this infrastructure required maintenance and a permanent supply of goods, food, draught animals, and fresh horses. Director of the CNRS, Mireille Corbier, saw the role of towns as bearing responsibility for many of the transport needs in their local area. She gives the example of the requisitioning of carts, mules, donkeys and even oxen for the transport of angaria (postal officers) or vehiculatio (officials on public business). She states in her research that "each city, Italian or provincial was liable to be requisitioned within the limits of its own territory, beyond which another community had to take on the relay" (Corbier 1991, 215).

In my view, it cannot be argued that the speed of travel was highly variable, because there are serious indications that traffic on major roads was organised. The almost equal distances between stations makes for a scheduled trip. The rhythm of stops at mutatio and mansio is a guarantee of maximum speed of travel. Obviously, these stations cannot exist on their own, as they depend on logistics, and herein I found a role for these villas. At least some of the travel between villas and the town of Serdica, a significant stopover for travellers and caravans, was most easily achieved on foot, as the distances travelled were generally short. Beyond that, goods might be carried by pack animals, and the remainder used carts drawn by a couple of oxen or horses, especially journeys involving bulky loads.

The Villa Obelia

Bulgarian academic literature contains information on twelve villas in the area adjacent to Serdica. The first publications on these suburban villas dates back to the first half of the 20th century, from 1922 (Velkov 1926, 145-59) and 1938 (Velkov 1938, 407-14). These articles are very short and report on three villas: one in south from the ancient town, in the grounds of the Alexandrovska University Hospital, and second in north direction, in Orlandovtsi neighbourhood and third in east, near the Iskar Train Station. The most recently discovered villa rustica was only identified in 2014, very close to the northern suburb of Mirovyane (Cholakov and

Raycheva 2017, 437). It is quite possible that there are more villas around Serdica which still remain undiscovered.
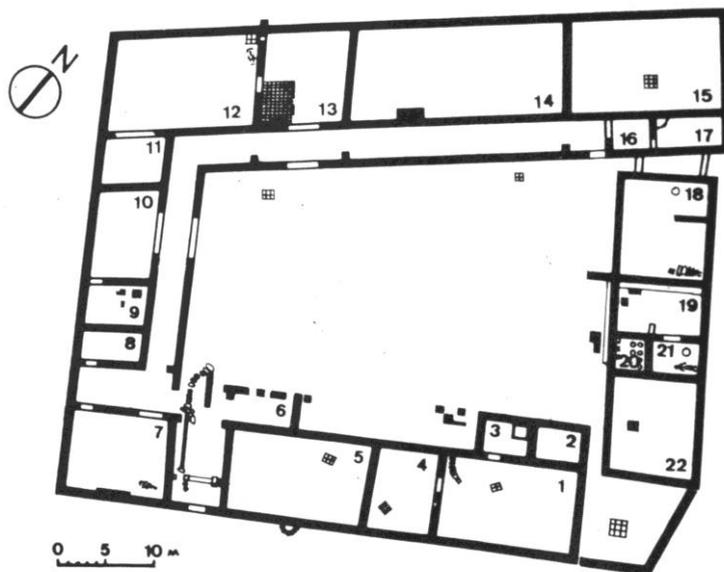

Fig. 1 Plan of the villa rustica in the Obelia residential district, Sofia, Bulgaria (after Magdalina Stancheva 1981)

In this paper I will take a close look at one of them, the Villa Obelia. I selected this as my case study because of the wealth of documented archaeological information, and its accompanying graphic data. It was excavated by the renowned archaeologist Magdalina Stancheva, the curator of the Sofia Regional Historical Museum, between 1961 and 1964. In 1981 she published an extensive article with data where the text is supported by a plan of building (Stancheva 1981, 54). This study, along with its text, has become the main point of reference for subsequent articles dedicated to the villa (Fig.1). The villa remains are located north-west of the ancient city of Serdica, which now forms part of the modern urban residential complex of Obelia. For convenience, I will use its contemporary topographical name, and call it the 'Villa Obelia'. It was originally located very close to the Via Diagonalis, but did not abut the road as mutatio and mansio stations did.

This ancient farm has a trapezoid shape with one chamfered corner. In the centre of the complex there is a large courtyard and the buildings are positioned on its periphery. It was constructed in two phases. The first phase was built at the beginning of the 3rd century, when a building was constructed on three sides of the yard, leaving the east side open to a small river. During the second phase of construction, a building was added to this part, probably the owner's house. There remained an opening giving access

to the river. According to the archaeologist, this small opening was closed shortly before the final demolition of villa. (Stancheva 1981, 54)

The main approach to the villa is on the opposite side where a framed door leads to the road. The rooms around the yard are of different sizes. It is my suggestion that the two long wings, oriented east-west, are for animal husbandry (13,14,15, 1, 4 and 5 in fig.1), locations 10, 11and 7 (fig.1) are warehouses, while 16 and 17, 3 and 2 (fig.1) were premises for farm workers. A fallen facade wall to the south-east defines the height of the villa buildings (up to the cornice) as about 4 meters. Stancheva suggests that the villa was one-story. (Stancheva 1981, 56-61)

In 1982, another archaeologist, Dimitar Nikolov, published an article critical of Stancheva's findings. He defends different interpretations of published archaeological data on the dating, functional and spatial composition of the Villa Obelia. Nikolov believes that the villa was built before the middle of the 3rd century AD. His most important hypothesis is that the building is a two-storey construction, and all its parts were built at the same time. (Nikolov 1982, 74)

A short article on the villa was published in 1982 by Vesela Mladenova, together with a three-dimensional graphic of building by the architect I. Furkov (Mladenova 1982, 11). Later, the archaeologist and researcher Ventzislav Dinchev compiled and published an encyclopedic survey of villas within the boundaries of modern Bulgaria. There, he classifies them into two types according to a criteria of absence or presence of a 'representative residential area' (Dinchev 1997, 115). Specific to the Villa Obelia, he finds an architectural transformation during its existence, namely its 'representative residential area', this most probably being the building by the river. For this reason, the Villa Obelia was initially placed in the group of villas with no representative residential area, and then into the second group with one (Dinchev 1997, 115).

The conclusion from the reviewed literature is that the data on the Villa Obelia overlap in different publications, which can be explained by the fact that, after Magdalina Stancheva, no new archaeological excavations have been done. My conclusion is that the architectural analysis remains at the level of the original publication, which in turn is basically two-dimensional, and only in plan. Because architecture is constituted in three-dimensional space, the lack of a vertical analysis of building renders this architectural interpretation insufficient and incomplete.

My analysis of the Villa Obelia's plan leads to several of my findings. First of all, the openings shown between the buildings, which most likely were doors, form groups of rooms that are connected to each other within the villa. This special connectivity determines separate sections isolated from each other. I suppose that each section was intended for one function or agricultural or operational process isolated from the rest. Second, the separation of activities and fragmentation of space into smaller premises is a sign of the simultaneous existence of multiple functions, as well as of the

intended high status of the building when it was constructed. Since the concentration of many activities in one and same room signifies poverty, like the example provided by Prof.Sanders (Sanders 2016, 8-9), the Villa Obelia, on the contrary, is distinguished by an abundance of spaces of different sizes and accessibility. Third, Stancheva showed evidence of finding in situ wooden fittings, as well as tools for carpentry, and many architectural elements made of wood (Stancheva 1981, 61). Based on this, I suggest not only a wooden roof structure, and wooden columns, but also wooden partition walls especially in the stock breeding areas.

Research Methodology

The key task is to compose an architectural design assignment comprising of rules according to which the villas are reconstructed. Architectural analysis works with three-dimensional projections of a building that brings the reconstruction closer to reality. Therefore in this study the basic task is to redesign the Roman villa in plan, including cross-sections and facades. This means reassessing the available published archaeological data and drawing new conclusions. The proximity of villa estates to the Via Diagonalis provokes my suggestion that the villas play a role in logistical supply to stations, and in maintaining road infrastructure. Therefore, I'm restricting this reconstruction to the functional limits of a villa dedicated to breeding the most common transport animals – horses. The redesign tests whether it is a feasible use of one villa rustica near Serdica, namely the Villa Obelia.

The first important rule integrated into the architectural design assignment for the reconstruction of villas, is my understanding that a villa is a farm with a specialised breeding program for one kind of animal, but not as strictly as it is in present agricultural buildings. The natural and climatic characteristics of Serdica's habitat, which I mentioned above, define stock breeding as the main focus of local agriculture, primarily because of the high altitude (550m). In antiquity, an entirely specialised animal breeding program was an unlikely economic model, not least because of climate uncertainty. The sustainable operation of villas requires divided stock breeding, one of large scale for trade, and the other in smaller quantities to meet the daily necessities of large agrarian estates, as provision for ploughing, transportation, and the production of food. Evidence for this additional animal breeding is supported by the archaeology at the Villa Obelia (Stancheva 1981, 69). Therefore the variety of different animal rearing sectors is determined as a compulsory component of the design assignment.

The first anchor sector among the functional configurations is for sheep breeding (2 in fig.2). This is evidenced by many specific tools such as wool shears, spindles and a large loom (Stancheva 1981, 63). In antiquity, sheep were reared for milk, wool, and meat. The**e** second constant is the

breeding of cows and oxen (4 and 5 in fig.2), for which there is also evidence in the archaeological record (Stancheva 1981, 69), but it cannot be said that this is a major function because of our inability to determine the amount of animals catered for. The third anchor is a group of premises designed for transport animal breeding (3 in fig.2). Most likely this was for riding horses and draught horses used for drawing carts and carriages. Additional premises are necessary for the transportation needs of villa on every day basis. "Owners of large villa estates wishing to sell surplus wool or meat, or leather at a market would not prefer to rent animals to transport it, but rather would use their own. It is likely that most private transport of these commodities then could be done in-house." (Adams 2007, 13) The horses are mainly used for quick and frequent connections between the villa and town of Serdica, where the owner probably lives, and from where he manages and controls his urban property. Horseback riding requires rooms for a large amount of equipment.

Separate spaces in villas are needed for oxen and ox-drawn carts which are used for the transportation of heavy and bulky loads to market places or directly to large town-houses (11 in fig.2). An indicator of the use of heavily laden vehicles, is the presence of large openings in the buildings of up to 4.2 meters, which allows for the entering and loading of a cart (Stancheva 1981, 55). Oxen are traditionally used in ploughing as well. It seems that the rearing of horses and oxen in the villa is a must. The most logical place for the transport animal sector in our functional composition is next to the villa's main gate (3 in fig.2).

The second group of rules that must be integrated into the design assignment, is modern knowledge of farm buildings. There are four main principles that are as true today, as they were in ancient times. There are similar concerns at work in positioning a villa rustica, as there are positioning a contemporary agricultural farm in the landscape. There is a consensus among the architects of modern agricultural buildings on the appropriate geographical location of farm buildings (Moskov 1981, 10). The first principle is that buildings housing animals are best oriented with their long sides facing east and west, thus avoiding higher temperatures of a north and south facing building. The empirical data from villas in the Serdica area shows that the premises for animal breeding, to a very large extent, conform to this rule. The second principle is the distance of the villas from town, insofar as they are not located in close proximity to urban dwellings. This is to be understood as a requirement for certain standards of hygiene, paralleling contemporary recommendations to leave a sanitary buffer zone between agrarian farms and a town. The third principle concerns locating a villa rustica near or in the middle of cultivatable land, adjacent to fresh water, all-the-while taking into consideration local natural features

such as terrain and slope. Also, local climate features like wind strength and direction and the hours and strength of sunshine must be considered. All these factors must be taken into consideration when planning a livestock farm nowadays, especially when it comes to farming for commercial purposes. Both now and in antiquity, terrain must be flat, without steep hills, and with a slight slope for natural water collection and drainage. The final main principle at play is the connection of an agricultural complex to an existing road network, as the commercial viability of the farm is its raison d'être.

Similar structural elements are also found between ancient villas and modern agricultural complexes. The courtyard is of dominant importance, and an essential part of the villa's functional configuration, because it is used all year round for different agrarian activities. The courtyard is place for temporary storage of agricultural product, for its processing, sorting and drying, for storing agricultural tools and their repair, for the shearing and milking of sheep, and for training horses. The courtyard was a useful storage space for firewood, and served numerous domestic functions besides.

Another feature of the unique configuration of a villa rustica is its main entrance – the gate. On an agricultural estate the gate does not only serve as a functional structure organising the management and technical access links between sections, but also as its own architectural element with signs and symbols. The entrance of a building in antiquity is extremely important, playing on the "visual and emotional perception of the visitors, preparing them for their passage through the gates, and forging a connection between the outside and the inside." (Ruseva 2013, 72). In my opinion, it is reasonable to expect that there is a space for parking and manoeuvring carts and carriages, and for assembling large groups of people at the entrance of the villa complex.

There are also similarities between the main types of composition of ancient villas and modern farms. In modern designs for agricultural buildings, just as in the empirical database of villae rusticae in the area around Serdica, there are two types of building arrangement, pavilion and compact, each of which has its advantages. The pavilion type which consists of many separate buildings is more expensive, occupies more territory, and working hours are drawn out. The compact type (as in the Villa Obelia), is a closed structure around a courtyard. These villas offer better security against attack, and make for more efficient work and production.

Another reason our contemporary knowledge of agricultural buildings is useful in reconstructing an ancient farm is the fact that the biological parameters of rearing agrarian animals have not changed significantly in two thousand years. This is clear when we consider the identical area and spatial and microclimatic requirements of buildings

intended for animals. Additionally, in the literature for agricultural buildings, the standards are defined using averages. The breeding of each agrarian animal corresponds to specific rules and a set inner distribution of space. The similarities between ancient and present standards in designing of stud farms are confirmed in the works of Cato, Varro, and Columella (Cato, Varro and ad. 1957). As I have redesignated the Villa Obelia as a stud farm, this research is based on the premise that the biological characteristics of horse breeding have remained basically unchanged across the ages.

Villa Obelia as a stud farm

The next step of study is to redesign the Villa Obelia according to the rules of the design assignment set out above. The graphic reconstruction of Villa Obelia presents the ancient agricultural farm as mainly a place for the business of breeding, training and trading horses (Fig.2). The reason I have focused on horse breeding, is the widespread and important role of horses in the Roman Empire. They were used as transport animals, for military purposes, and for spectacles such as horse and chariot races. Supplementary sectors for breeding additional animals suggest the Villa Obelia as a multifunctional agrarian farm. The second group of animals is smaller and consists of a sheep breeding section and an ox breeding section. The presence of these domestic animals is confirmed by archaeological evidence (Stancheva 1981, 62).

The Roman author Marcus Terentius Varro (116 BC-27 BC), in his treatise on animal husbandry, sets aside a chapter dedicated to horse-rearing. He breaks it down into four main activities, feeding, breeding, rearing young animals, and animal welfare. Regarding stables, he emphasises that the ground should not be damp, windows and doors should be closed, and there should be barriers between animals so that they cannot fight. He also recommends lighting a fire for warmth (Varro 1957, 145).

Horses are usually housed in stalls, where they rest and feed. These are arranged in two rows with a lane of 3 meters between them. Thus the most appropriate building width is around 9-10 meters (1 in fig.2). The stalls are partitioned with wooden divides. The placement of interior supports and columns in the stables is preferred, as they are easily combined with furnishings, and even support the construction of the stalls. The stalls where stallions are raised, are generally 3×3.3 meters, while work-horses, usually used to draw carts and carriages, can be kept in groups of 2 or 3 (Tsankov 1999, 7.1). Stallions are free within their stalls, whereas work-horses are permanently tethered. The width of group stalls is 1.5-1.65 meters for every horse, with a length of 2.9-3.1 meters (Moskov 1981, 119). In order not to disturb each other, the horses are separated by a thick

wooden barrier. Young horses up to 18 months old are kept in group stalls measuring 4-4.5 sq. m. per animal. For breeding purposes, mares are housed individually in separate stalls, 3×2.8-3 meters long, with their foals.

Backing, or breaking a horse is the result of lengthy training which starts from an early age. In part 7 of his agricultural trilogy, Varro states that "young horses must first get used to the reins, then by the age of three, a small boy should start riding them." (Varro 1957, 145) In addition, he points out that horses are trained differently, according to their ascribed role as military mounts, for draught, or for sport. The courtyard of Villa Obelia is perfectly suited as a training arena (12 in fig.2), and conforms to the circular standard size for training with a diameter of 21-24 meters, or as a rectangle measuring 21-24×39-42 meters (Moskov1981, 118).
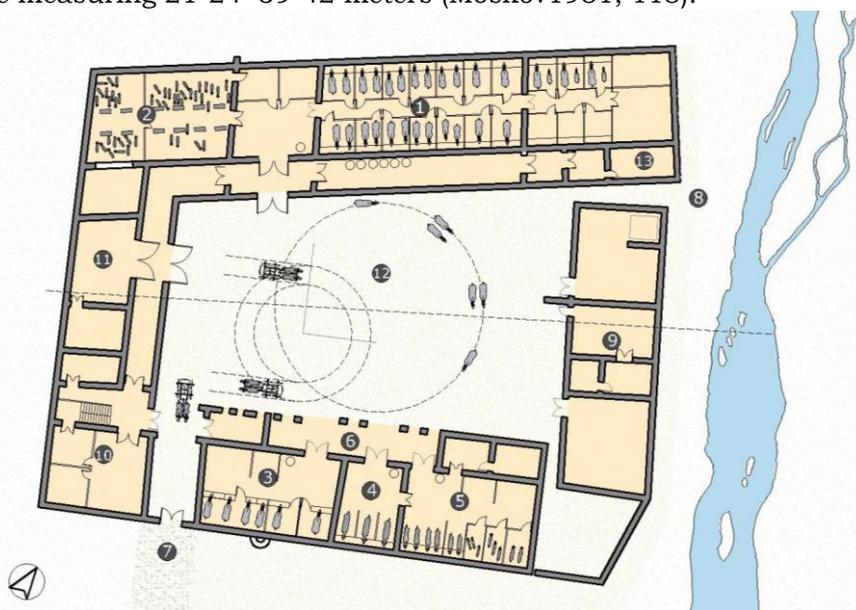

Fig.2 The Villa Obelia as a horse breeding farm,
Illustration by Dimitrina Popova

The architecture of a stable should also provide a suitable microclimate. It is important that the room temperature does not go beyond 10°C to 15°C (Moskov 1981, 122). Stables should be lit naturally, but the windows need to be high up so that no direct sunlight shines in the eyes of the animals. Good ventilation is also required. From this we can surmise that the Villa Obelia had windows on the exterior facades, and that they are at a ratio of 1/10 to 1/20 of the surface area. The building height up to cornice is 4 meters, as evidenced by the archaeology (Stancheva 1981, 60). The roof structure is wooden and it is quite possible that the attic space was used to store straw (Fig.3).

Alongside the main stalls for horses, additional premises are necessary for a successful operation. A significant space is designated for storehouses which are usually located near the main entrance. They are furnished with wooden shelves for tack and harness, which must be kept dry, therefore these premises are heated and ventilated. Below is my rendering of the villa building in plan, cross-section and facade from the courtyard.

Fig. 3 Cross section and facade from the court yard,
author Dimitrina Popova

Results

The graphics reconstruct the Villa Obelia as a stud farm, and serve to illustrate the rhythm of daily life. The total built area of the villa is 3,500 sq. m. which includes the building and the courtyard. During the first stage of its existence, the courtyard was 1,420 sq. m. and the building was 1,980 sq. m. When the additional residential wing was constructed along the east side by the river, the courtyard decreased in area, while the built area increased to 2,350 sq. m. Of course, the agricultural premises take up significantly more area than the residential buildings. Assuming the proportion of arable land to be about 8-10 times the total built area of the villa, the estate is presumed to cover roughly 35 decares (35,000 sq. m.).

The redesign of Villa Obelia shows an agricultural stud farm that provides for the maintenance, training, demonstration and sale of animals. The results are expressed in quantitative parameters for breeding horses in its capacity as a business enterprise. With respect to the spatial composition, and breeding requirements, I have identified the following quantitative parameters: 6 stallions, 8 working horses for drawing carts and carriages, 8 young horses, and 6 mares with youngsters, making 34 in total. In addition, in order to cover all daily needs, the housing of sheep, draught animals and cattle are allocated to separate smaller sections within the building. The latter transform the Villa Obelia into a multifunctional farm. Data for average production of wool and milk is based on a manual for agricultural buildings (Tsankov 1995, 4.1). The estimated production of wool for one year is 290kg, with a further yield of 5,200 litres of sheep's milk. For its own use, the estate has 2 stallions and 4 working horses for carts and carriages, 3 oxen for land cultivation and for transporting of bulk goods, and

4 dairy cows that provide about 45 litres of milk per day or 16,000 litres per year. Although the numbers might look to some extent variable, they set limits of scale for the agricultural business.

In this scenario, animal husbandry occupies most of the farm and premises. The permanent residence of the owner and his family is the east wing along the river bank (9 in fig.2). In summary, our villa rustica is certainly a multifunctional farm, where agrarian production is structured by proportion. In one area, the villa covers its own needs, while the larger area is intended for commerce, in strong competition with at least ten more villas that exist synchronously in the district around Serdica. It is reasonable to surmise that the abandonment of villas is not always entirely result of barbarian invasion. It could also be a gradual decline due to business failure in a competitive market environment.

Architectural Analysis

The benefit of taking an architectural approach to the archaeological data, is that I have been able to demonstrate how a supposedly simple agricultural concern, can, in fact, serve as both a residence and a business open to the public. It is my view that villae rusticae in the area around Serdica play a significant role in local logistics and business, because by viewing the architecture, I find indications that it offers wider access to visitors and clients as much as any other public building.

The main points of architectural analysis considered in tracing a boundary between public and private space in the Villa Obelia, are conducted theoretically, and in resonance with some of the theses of the British scientist and classical archaeologist Prof Andrew Wallace-Hadrill. In his article "The Social Structure of the Roman House" (Wallace-Hadrill 1988, 43-97), he examines the architectural language of Roman urban residences and argues that they are mainly intended for public access in parts of their spatial configuration. According to him, the clear distinction between private and public in architecture is achieved by contrasts of scale, access and visibility (Wallace-Hadrill 1988, 54-8). In my study on the villa rustica, I focus on the parts of building structure which are in extra-large scale, easily accessible and visible, as these are the characteristics of architectural spaces intended for a wider audience. These requirements set out the boundary where the presence of external visitors is allowed, and where they are not. In stark contrast are the premises that define the social border for low-ranking inhabitants of villa. These rooms are hidden and difficult to access through corridors and doors. The buildings between these two extremes are also structured by hierarchy. The very large scale of the courtyard makes it very distinctive and dominant in the villa. The large-scale premises in the building are intended for the agricultural business, and the owner's wing, the mid-size buildings accommodate warehouses and service premises, and the small-scale construction are dedicated to the housing needs of servants and slaves.

In the architecture of a Roman townhouse Wallace-Hadrill reveals the use of the expressive language of public buildings, such as the peristyle courtyard, the column, and the scenographic view of nature (the sea in his case study) (Wallace-Hadrill 1988, 90). It is through their synergy that an elegance in the architecture is accomplished. Through identical syntactical analysis, I explore the space in the villa rustica starting with the idea that "partly the distinction between public and private will lie in scale" (Wallace-Hadrill 1988, 59). In my view it is the extra-large scale of courtyard, which provides enough free space to accommodate large groups of visitors to see the goods and animals for sale. In the presence of large empty areas in the immediate vicinity of villa, the owner and architect choose to construct the grand courtyard. As I note above, some of the villas synchronous to villa Obelia are pavilion-type and are not protected by a wall. It is quite possible that the area in the vicinity of Serdica was peaceful and secure. It could therefore be said that the enclosed villa type is not a matter of protection, but of farm organisation. In my opinion, the reasons for constructing a big courtyard go beyond functionality, and lie in its ability to transport clients and traders into a world of monumentality. Wallace-Hadrill states this as the owner's ability to meet high-ranking dignitaries in his house, which denotes his own high standing in the hierarchical Roman society. "Position in the rank-order is dictated by the number of visitors received: it is because they are involved in public life" (Wallace-Hadrill 1988, 54).

It is my view that the design of courtyard is deliberately designed to have an aesthetic impact through its symmetrical axial composition. Its shape is trapezoidal and the wide side is open to a framed multi-layered landscape including mountains, a forest, pastures and the river. In the second phase of the villa's construction, in its axis and with its grand panoramic view, the owner's house is remotely positioned (9 in fig.2). The architectural composition resembles theatrical décor, where the courtyard represents the stage for a dramatic show. This arrangement of our villa rustica is identical in great detail to the arrangement of the townhouse described by Wallace-Hadrill. Specifically, he states that "It is on this axis that the master of the house would present himself to the public." (Wallace-Hadrill 1988, 90). I add that in this lavish décor, products for sale, horses, wool, milk, meat, leather and textiles, are put on display and demonstrated to clients. The owner of this courtyard is able to exhibit his growing significance and worth in a luxurious architectural setting. The success of an agricultural business as a going concern is reflected in its clientele, and therefore the underlying motive of the owner is to symbolically affirm this status through architecture.

Another element of the architectural language is the colonnade in the courtyard, where potential clients are probably positioned (6 in fig.2). Columns have a strong architectural association with public life. (Wallace-Hadrill 1988, 64). Columns, whether in an atrium or a colonnade or within a room, have the effect of marking out that space as prestigious. (Wallace-

Hadrill 1988, 68). The Villa Obelia's colonnade, much like in the ancient Greek stoa, probably accommodates the manager's business premises.

An important structural component, with its allusion to a public building, is the gate of the Villa Obelia (7 in fig.2). Our ancient agricultural building has two entrances, one through a gate which leads to the road, and a second, almost invisible, which links the buildings with the river and pastures (8in fig.2). The presence of two entrances to the Villa Obelia means that there are two ways to enter the farm. The one to the river is hidden, a working entry, intended for animals and servants, and the other gate onto the road is for public consumption, framed with white marble, appropriate for high-ranking guests and merchants.

In this manner, villa rustica architecture channels entry and exit. The main gate of the Villa Obelia probably remained open during the day for passing public, much like the doors of urban houses (Wallace-Hadrill 1988, 31). In his article, Nikolov questions why this solid gate is needed when the building is widely open to the river.(Nikolov 1982, 74) Here I suggest a new answer: the presence of this gate, just like the grand scale and trapezoidal form of the courtyard, is not so much based on functionality, but on its symbolic role. The impressive gate signals the importance and rank of the owner to the visitors passing through it.

In conclusion, from the environs of the Roman town of Serdica, where the Villa Obelia is located, one has vistas that are not available in the centre. This study differs from the mainstream understanding of the villa rustica. The Villa Obelia is presented as a business centre, for production and its control, for the exhibition of goods, and for deals and contracts. Like the Roman town house, parts of the Roman villa rustica were designed to invite and welcome public, while in other parts the architecture set social boundaries. As architecture is a way of organising social hierarchy through configuring space, architecture is one of the tools used in constructing Roman society. Therefore the villa rustica, as presented and revisited here, works as a micro model of everyday life in the social and economic world of the Roman Empire.

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